Appendix D
Cultural Resources Information

ESA

Public Version

Santa Ana River Conservation and Conjunctive Use Program

Cultural Resources Assessment Report

Prepared for
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708

September 2018

ESA

Public Version

Santa Ana River Conservation and Conjunctive Use Program

Cultural Resources Assessment Report

Prepared for:
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708

September 2018

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Principal Investigator:
Monica Strauss, M.A., RPA

Report Author:
Michael Vader, B.A.
Michael Bever, Ph.D.

Project Location:
Corona North, Lake Matthews, Prado Dam, Riverside East, Riverside West, Ontario, and Steele Peak (CA) USGS 7.5-minute Topographic Quads; Section 15 of Township 1 South, Range 8 West; Sections 29 and 30 of Township 2 South, Range 5 West; Section 7 of Township 3 South, Range 4 West; Sections 5, 7, 8, 9, 18 of Township 3 South, Range 5 and 6 West; Sections 2, 10, 11 and unsectioned areas of Township 3 South; Range 7 West; Section 4 of Township 4 South, Range 5 West; Sections 1 and 2 of Township 4 South, Range 7 West; Sections 26, 27, 28, 31, 32 Township 4 South, Range 8 West;

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300
www.esassoc.com

ESA

Irvine	Sacramento
Los Angeles	San Diego
Oakland	San Francisco
Orlando	Santa Monica
Pasadena	Seattle
Petaluma	Tampa
Portland	Camarillo

D150283.11

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

Cultural resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources are confidential. The legal authority to restrict cultural resources information is in subdivision (r) of Section 6254 and Section 6254.10 of the California Government Code, subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations, Section 304 of the National Historic Preservation Act of 1966, as amended, and Section 9 of the Archaeological Resources Protection Act. This report has had the confidential cultural resources location information redacted and is suitable for public distribution.

Table of Contents

Santa Ana River Conservation and Conjunctive Use Program - Cultural Resources Assessment Report

Page

List of Figures

List of Tables

EXECUTIVE SUMMARY

Santa Ana River Conservation and Conjunctive Use Program - Cultural Resources Assessment Report

Environmental Science Associates (ESA) has been retained by six southern California water management agencies including Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), and Western Municipal Water District (WMWD) and the Santa Ana Watershed Project Authority (SAWPA)(Partner Agencies), to conduct a cultural resources assessment for the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP or Program) in support of an Environmental Impact Report (EIR) being prepared pursuant to the California Environmental Quality Act (CEQA). SARCCUP is a watershed-scale collaborative program designed to improve the Santa Ana River watershed's water supply resiliency and reliability by implementing five watershed-wide projects that would increase available dry-year yield (DYY) from local groundwater basins. These five projects include the IEUA Well Refurbishment and Treatment System Project (IEUA Well Refurbishment Project), Arlington Production Wells and Pipeline Project (Arlington Project), WMWD Pump Station Project, ID-4 Colorado River Aqueduct (CRA) Crossing Refurbishment Project (ID-4 CRA Project), and the Santa Ana River Arundo Removal (Arundo Removal Project). SARCCUP will allow the Partner Agencies to combine groundwater resources and water conveyance infrastructure for the benefit of the watershed as a whole. The Partner Agencies would utilize existing and new facilities to convey additional surface water supplies to groundwater banking facilities, recharging the underlying groundwater basins throughout the watershed. IEUA is the lead agency pursuant to CEQA.

To identify cultural resources within the SARCCUP project areas, records searches were conducted at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) and Eastern Information Center (EIC) on July 9 and July 25, 2018, respectively. The CHRIS records searches included a review of all previously recorded cultural resources and studies within ¼- radius of the Arundo Removal Project and ½ -mile radii of the remaining four project areas.

The records search results indicate that three cultural resources studies have been conducted within a ½-mile radius of the IEUA Well Refurbishment Project area. None of the three previous studies include the Project area, indicating that it has not been subject to previous cultural resources survey. The records search results indicate that no cultural resources have been previously recorded within the IEUA Well Refurbishment Project area, nor within a ½-mile radius around the IEUA Well Refurbishment Project area.

The records search results indicate that 249 cultural resources have been previously recorded within a ½-mile radius of the Arlington Project. Of the 249 previously recorded resource, 17 are located within or immediately adjacent to (within 100 feet of) the Arlington Project area. These 17 resources include one prehistoric archaeological site (P-33-000496) and 16 historic architectural resources (P-33-004495, -004791, 007899, -007900, -008407, -009518, -010974, -011251, -011632, -017542, -024194, -025594, -025595, -025596, -025597, and -028079).

The records search results indicate that 15 cultural resources have been previously recorded within a ½-mile radius of the WMWD Pump Station Project area. Of the 15 previously recorded resource, 14 are prehistoric archaeological sites (P-33-001839, -003274, -003275, -003276, -003592, -003634, -003635, -003636, -003637, -003639, -003640, -016645, -016646, and -016647) consisting primarily of bedrock milling features, and one is a prehistoric isolate (P-33-012326). None of the 15 previously recorded resource are located within or immediately adjacent to the WMWD Pump Station Project area.

The records search results indicate that 11 cultural resources have been previously recorded within a ½-mile radius of the ID-4 CRA Project area. Of the 11 previously recorded resource, eight are prehistoric archaeological sites (P-33-004392, -004393, -004394, -004395, -004417, -004418, -016067, and -021038) consisting primarily of bedrock milling features, two are historic-period archaeological sites (P-33-004412 and -010949), and one is a historic architectural resource consisting of the Colorado River Aqueduct (P-33-011265). One resource, the Colorado River Aqueduct (P-33-011265), overlaps the ID-4 CRA Project area.

The records search results indicate that 49 cultural resources have been previously recorded within a ¼-mile radius of the Arundo Removal Project. Of the 49 previously recorded resource, 17 are located within the Arundo Removal Project area itself. These 17 resources include three prehistoric archaeological sites (P-33-000621, -000622, and -000652), four historic-period archaeological sites (P-33-002802, -003354, -003357, and -003694), two multicomponent archaeological sites (P-33-000127 and -001451), six historic architectural resources (P-33-003361, -006524, -016848, -017221, -024052, and -024146), and two historic-period isolates (P-33-012736 and -017220).

The IEUA Well Refurbishment Project area has been previously graded and is the central portion of it is developed with a paved area containing ammonium hydroxide and sodium hypochlorite facilities. No cultural resources were identified within the IEUA Well Refurbishment Project area as a result of the cultural resources survey.

The Arlington Project is located in a developed urban setting within the City of Riverside dominated by residential and commercial development. The mapped location of the previously recorded prehistoric archeological (P-33-000496) that overlaps the Arlington Project area, was visited as part of the survey, but the entirety of the site's mapped location was developed with a residential subdivision and the site's surface manifestation is presumed to have been destroyed. Of the 16 previously recorded historic architectural resources adjacent to the Arlington Project area, nine (P-33-004495, -008407, -009518, -011251, -024194, -025594, -025596, -025597, and -028079) were relocated and largely matched previous descriptions provided in their respective

California Department of Parks and Recreation (DPR) forms. These nine historic architectural resources do not overlap the Project alternatives, but are located within 100 feet of the pipeline alternatives. Seven (P-33-004791, -007899, -007900, -010974, -011632, -017542, and -025595) of the previously recorded historic architectural resources could not be relocated and appear to have been destroyed by recent development. No newly identified cultural resources were documented within Arlington Project area as a result of the survey

The WMWD Pump Station Project area is located within a residential area within the City of Riverside, and is comprised of a vacant lot with a northwest-southeast trending drainage bisecting its central portion. The northern portion of the lot has been previously graded flat and was largely free of vegetation. The southern portion of the site is comprised of a generally flat landform with sparse non-native grasses. The central portion of the WMWD Pump Station Project area is comprised of drainage with thick willow scrub vegetation, which obscured the ground surface visibility. No cultural resources were identified within the WMWD Pump Station Project area as a result of the cultural resources survey.

The ID-4 CRA Project area is located at the base of an earthen ramp that slopes down to a segment of the CRA, and encompasses a number of pumps and a pipe that crosses the CRA. The earthen ramp was inspected for the presence of archaeological resources and the CRA (P-33-011265), the one historic architectural resource within he ID-4 CRA Project area, was photographed. No newly identified cultural resources were identified with the ID-4 Project area as a result of the survey.

The results of this cultural resources assessment conclude that the neither the IEUA Well Refurbishment Project, the Arlington Project, the WMWD Pump Station Project, the ID-R CRA, Project, nor the Arundo Removal Project would impact historic architectural resources that qualify as historical resources pursuant to CEQA. No further work associated with historic architectural resources is recommended. However, the IEUA Well Refurbishment Project, the Arlington Project, the WMWD Pump Station Project, and the Arundo Removal Project do have the potential to impact known or unknown archaeological resources that may qualify as historical resources or unique archaeological resources pursuant to CEQA. Therefore, recommended mitigation measures are provided in the *Conclusions and Recommendation* section at the close of this report.

Santa Ana River Conservation and Conjunctive Use Program

Cultural Resources Assessment Report

Introduction

Environmental Science Associates (ESA) has been retained by six southern California water management agencies including Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), and Western Municipal Water District (WMWD) and the Santa Ana Watershed Project Authority (SAWPA)(Partner Agencies), to conduct a cultural resources assessment for the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP or Program) in support of an Environmental Impact Report (EIR) being prepared pursuant to the California Environmental Quality Act (CEQA). SARCCUP is a watershed-scale collaborative program designed to improve the Santa Ana River watershed's water supply resiliency and reliability by implementing five watershed-wide projects that would increase available dry-year yield (DYY) from local groundwater basins. These five projects include the IEUA Well Refurbishment and Treatment System Project (IEUA Well Refurbishment Project), Arlington Production Wells and Pipeline Project (Arlington Project), WMWD Pump Station Project, ID-4 Colorado River Aqueduct (CRA) Crossing Refurbishment Project (ID-4 CRA Project), and the Santa Ana River Arundo Removal (Arundo Removal Project). SARCCUP will allow the Partner Agencies to combine groundwater resources and water conveyance infrastructure for the benefit of the watershed as a whole. The Partner Agencies would utilize existing and new facilities to convey additional surface water supplies to groundwater banking facilities, recharging the underlying groundwater basins throughout the watershed. IEUA is the lead agency pursuant to CEQA.

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA, Principal Investigator; Michael Vader, B.A, report author and surveyor; Michael R. Bever, Ph.D., RPA, report contributor; Fatima Clark, B.A., surveyor, and Jason Nielson, GIS specialist. Resumes of key personnel are included in **Appendix A**.

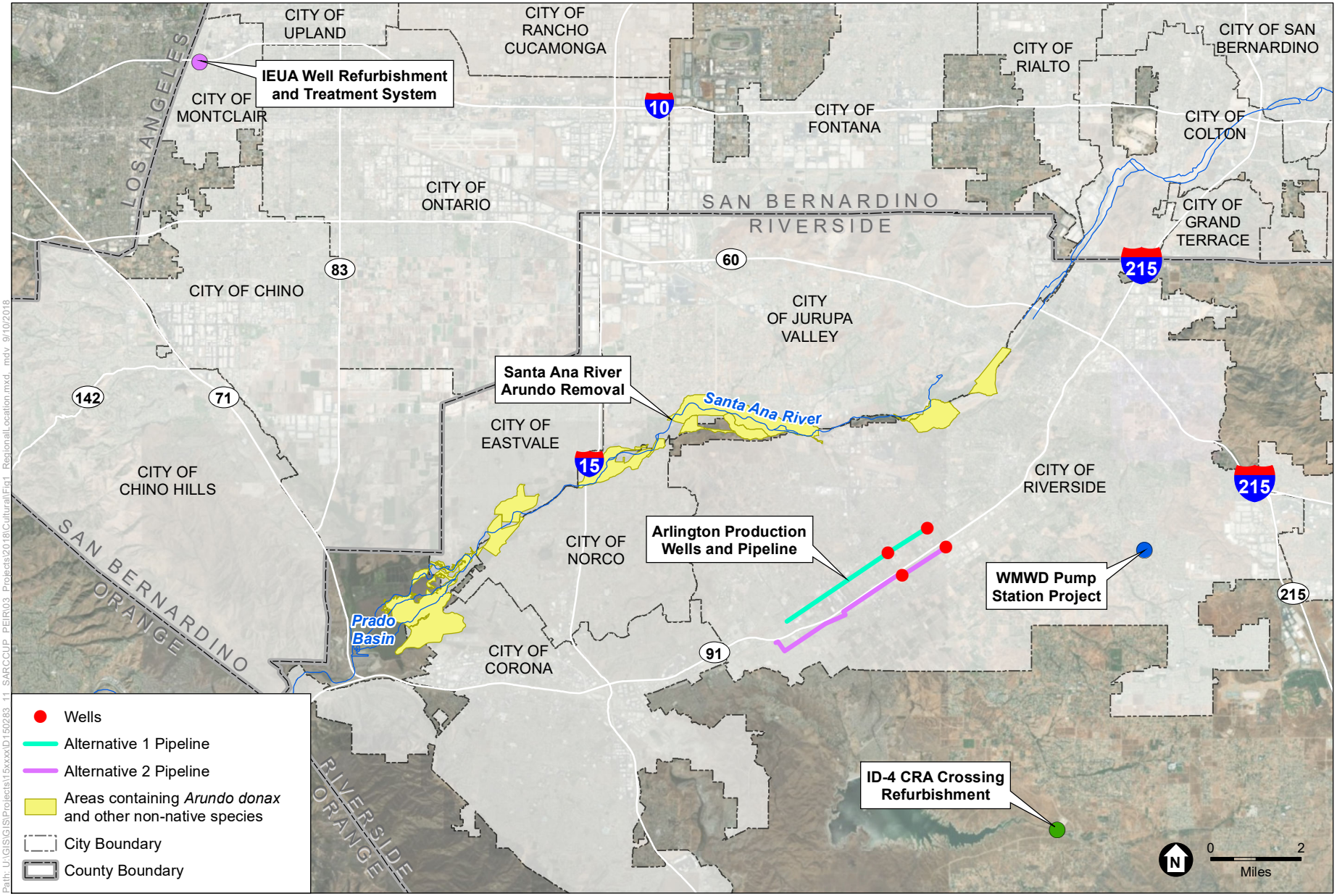
Project Location

The five SARCCUP projects occupy five discontinuous areas in western Riverside and San Bernardino counties, including the City of Riverside (Arlington and WMWD Pump Station projects), the City of Montclair (IEUA Well Refurbishment Project), and the cities of Corona, Norco, Eastvale, and Jurupa Valley (Arundo Removal Project), as well as unincorporated portions of Riverside County (ID-4 CRA and Arundo Removal projects) (**Figure 1**). The IEUA Well Refurbishment Project is located within Section 15 of Township 1 South, Range 8 West on the Ontario, CA 7.5-minute USGS topographic quadrangle; the Arlington Project is located with Sections 5, 7, 8, 9, 18, and unsectioned portions of Township 3 South, Range 5 and 6 West on the Riverside West, CA 7.5-minute USGS topographic quadrangle; the WMWD Pump Station Project is located within Section 7 of Township 3 South, Range 4 West on the Riverside East, CA 7.5-minute USGS topographic quadrangle; the ID-4 CRA Project is located within Section 11 of Township 4 South, Range 5 West on the Steele Peak, CA 7.5-minute USGS topographic quadrangle; and the Arundo Removal Project is located within Sections 1,2, 10, 11, 25, 26, 27, 28, 29, 30 31, 32, of Township 2 and 3 South, Range 5, 6, and 7 West on the Riverside West, Corona North, and Prado Dam, CA .5-minute USGS topographic quadrangles (**Figure 2**).

Project Description

The Partner Agencies currently rely on water imported from the Sacramento-San Joaquin Bay Delta (Delta) and the CRA to meet demands within their service areas. Currently, the agencies rely on imported water at the following percentages: IEUA – 25 percent; EMWD – up to 75 percent; SBVMWD – 25 percent; WMWD – 25 percent; OCWD – 15 to 30 percent. The curtailment of imported supplies from the Delta due to natural or manmade interruptions has the potential to impact water supply reliability in the Santa Ana River watershed. The snowpack in the Sierra Mountains, water levels in Lake Mead, and groundwater storage levels throughout California have recently experienced historic lows. Implementation of SARCCUP would increase DYY from local groundwater basins in the watershed to offset future reductions in water supply, whether due to climate change or natural or manmade supply cutbacks.

The regional water conveyance infrastructure provides the ability for water to be recharged, extracted, delivered, or exchanged between the partnering agencies The infrastructure is interconnected amongst the partner agencies in the counties of San Bernardino, Riverside, and Orange. Additional infrastructure is needed to facilitate the movement throughout the region. Regional water infrastructure would be used when needed to move water between sub-watersheds for recharge or delivery following the SARCCUP delivery model.



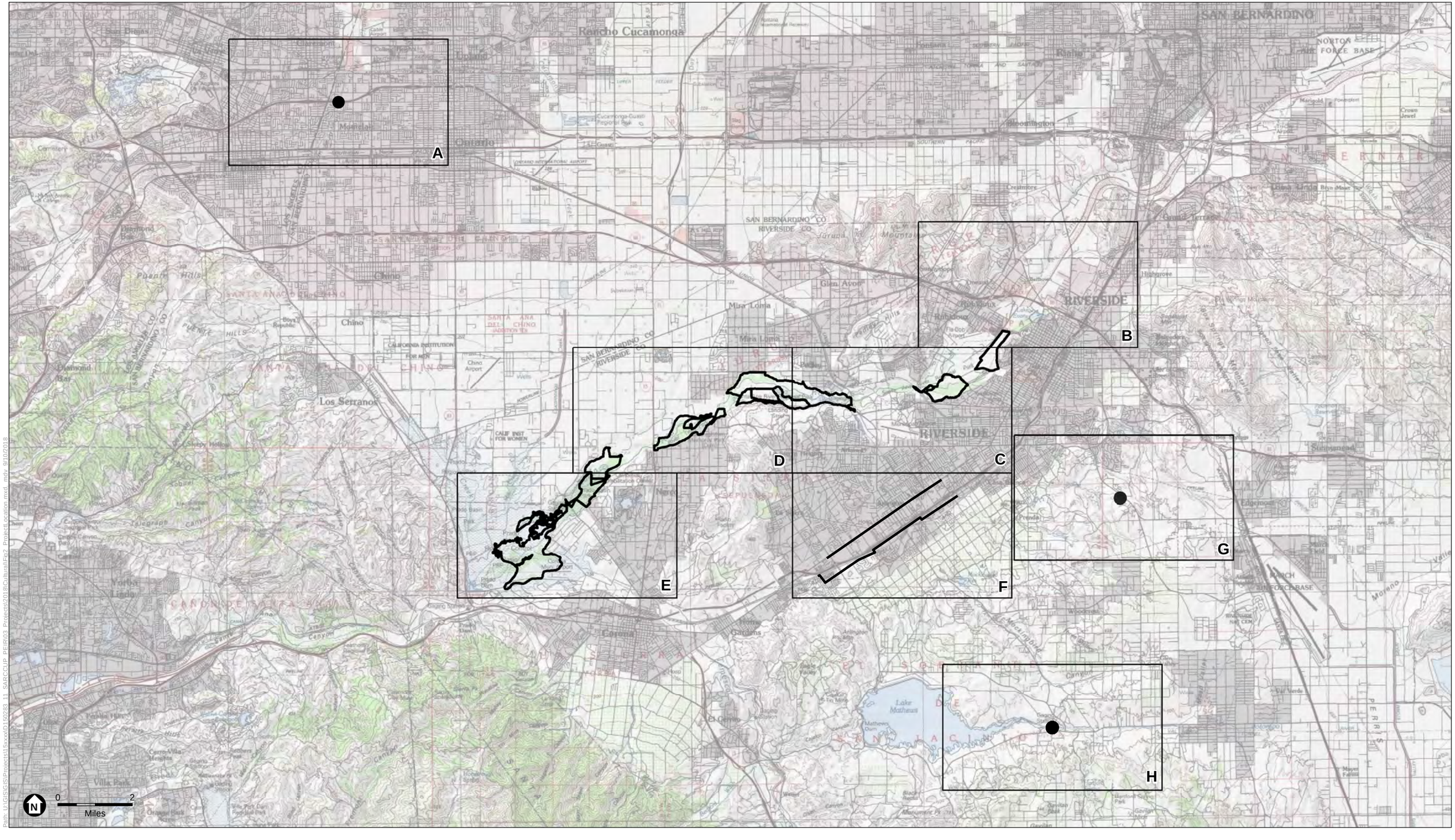
Path: U:\GIS\GIS\Projects\15xxxx\D150283_11_SARCCUP_PEIR\03_Projects\2018\Cultural\Fig1_RegionalLocation.mxd_mdv_9/10/2018

SOURCE: ESRI; Riverside County; San Bernardino County

SARCCUP

Figure 1
Regional Location

ESA



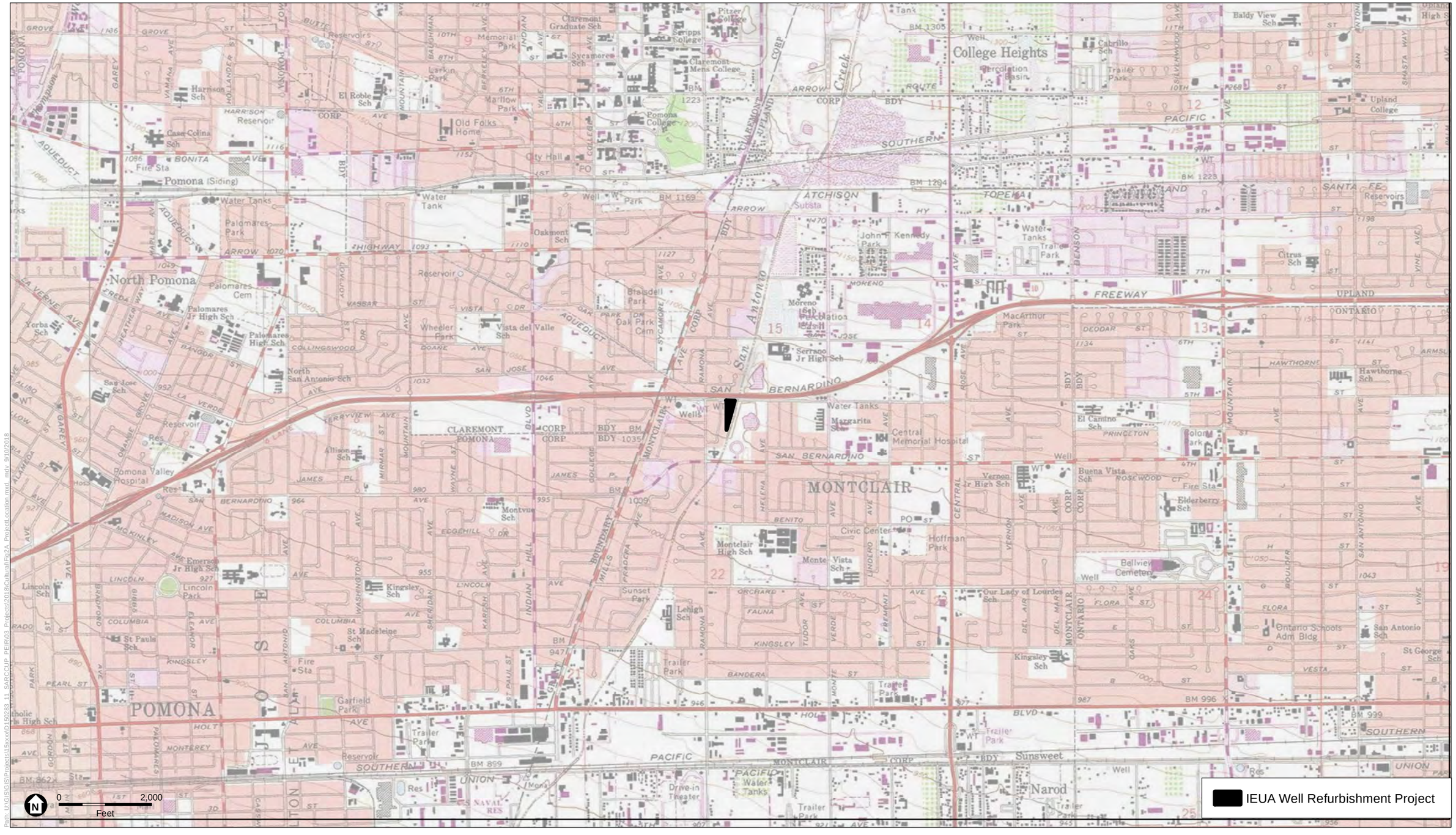
Path: U:\GIS\GIS\Projects\15xxx\D150283 11 SARCCUP PEIR\03 Projects\2018\Cultural\Fig2 ProjectLocation.mxd, mdv 9/10/2018

SOURCE: ESRI

SARCCUP

Figure 2
Project Location

ESA



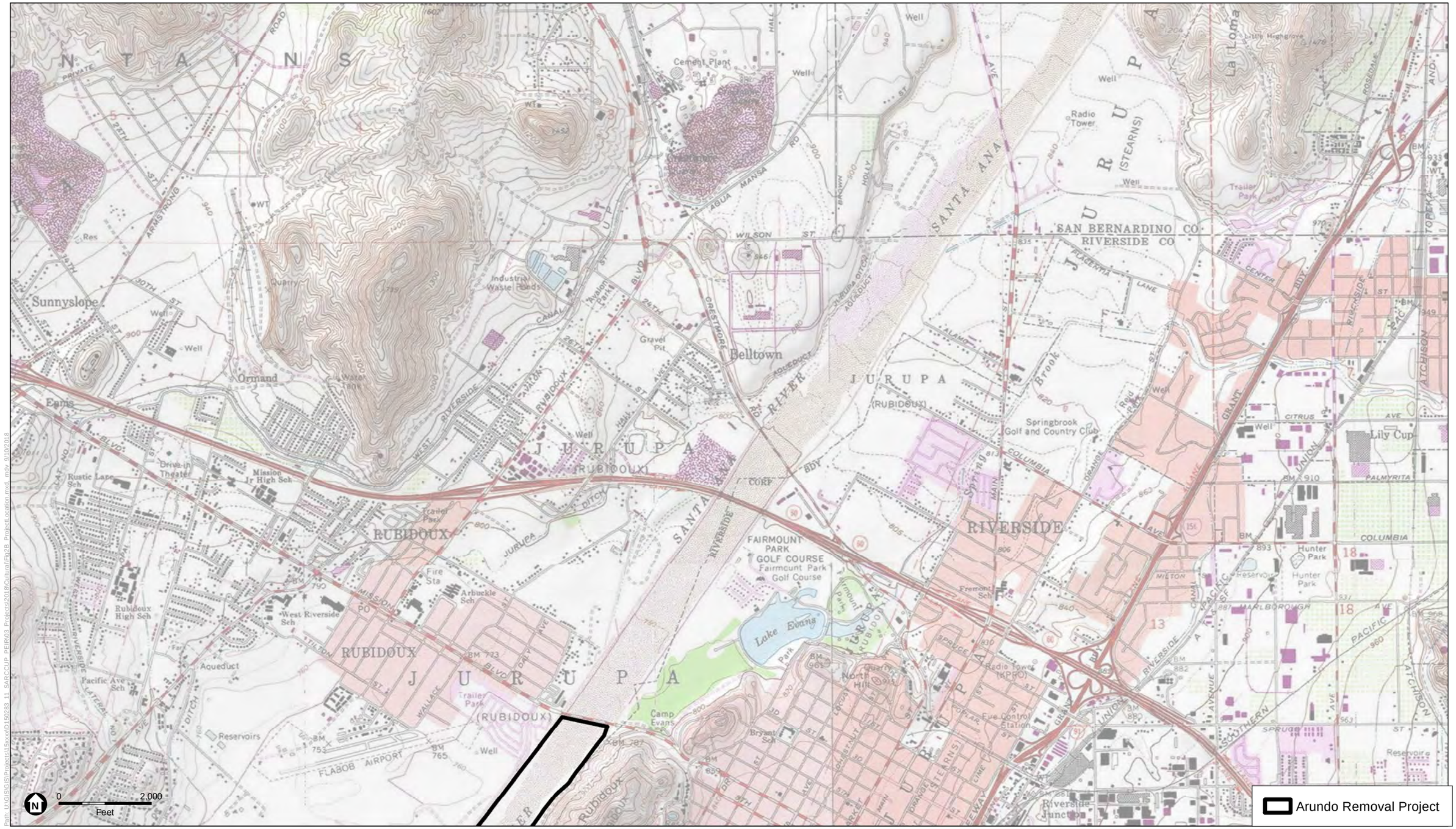
Path: U:\GIS\GIS\Projects\15xxxx\D150283 11_SARCCUP PEIR\03_Projects\2018\Cultural\Fig2A_ProjectLocation.mxd_mdv 9/10/2018

SOURCE: ESRI

SARCCUP

Figure 2A
Project Location

ESA



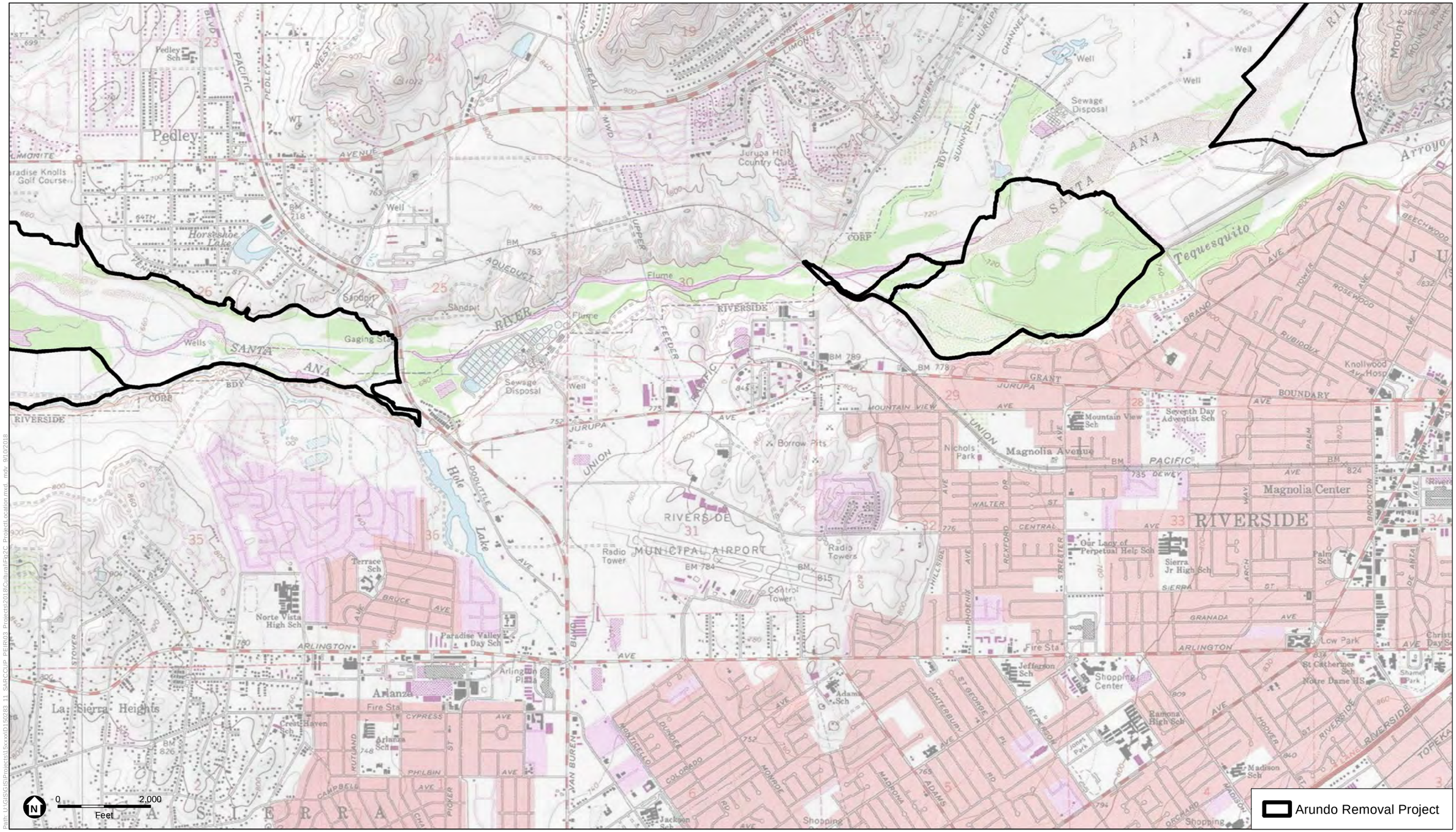
SOURCE: ESRI

SARCCUP

Figure 2B
Project Location

ESA

Path: U:\GIS\GIS\Projects\15xxxx\D150283_11_SARCCUP_PEIR\03_Projects\2018\Cultural\Fig2B_ProjectLocation.mxd, mdv 9/10/2018

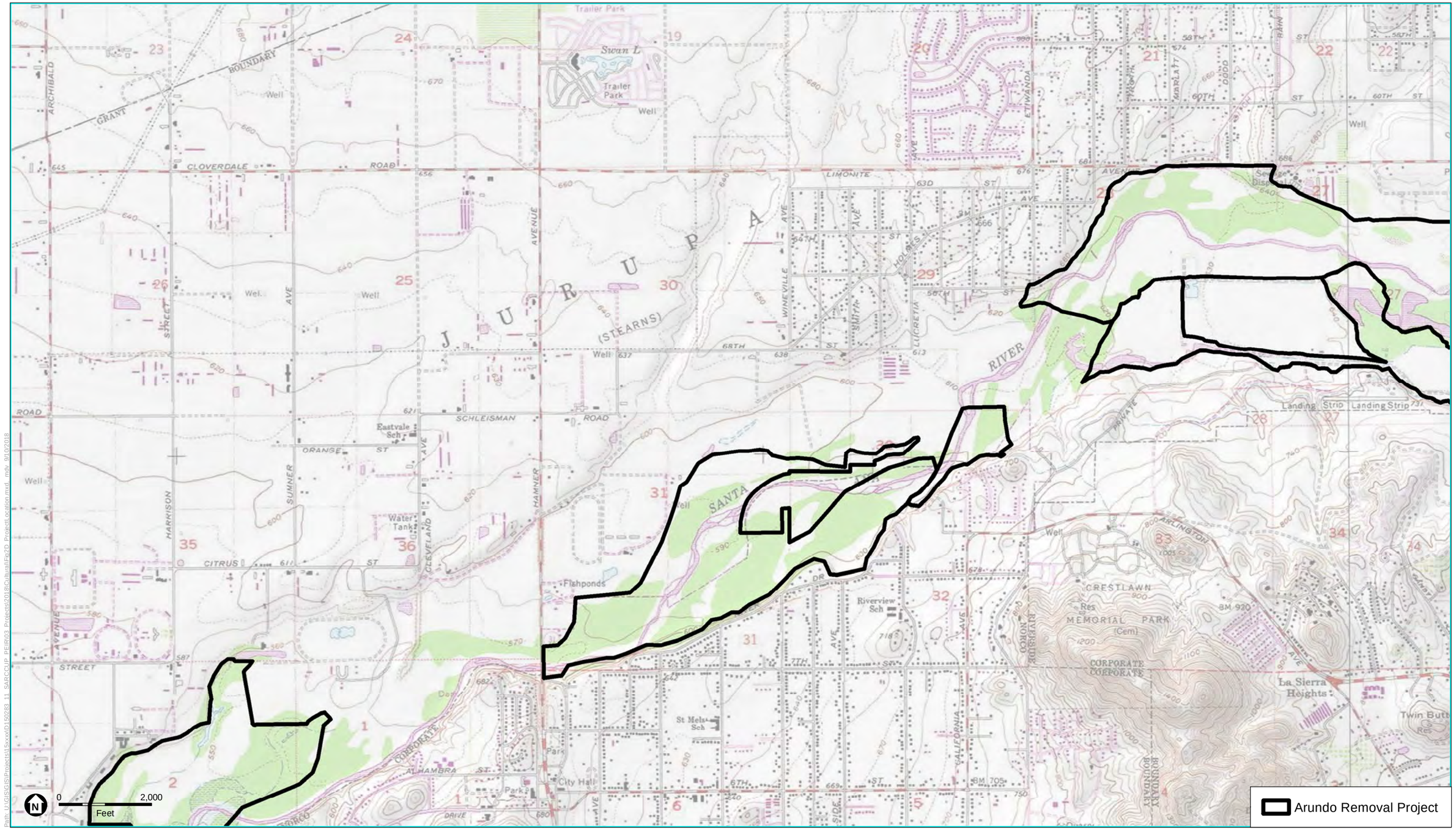


SOURCE: ESRI

SARCCUP

Figure 2C
Project Location

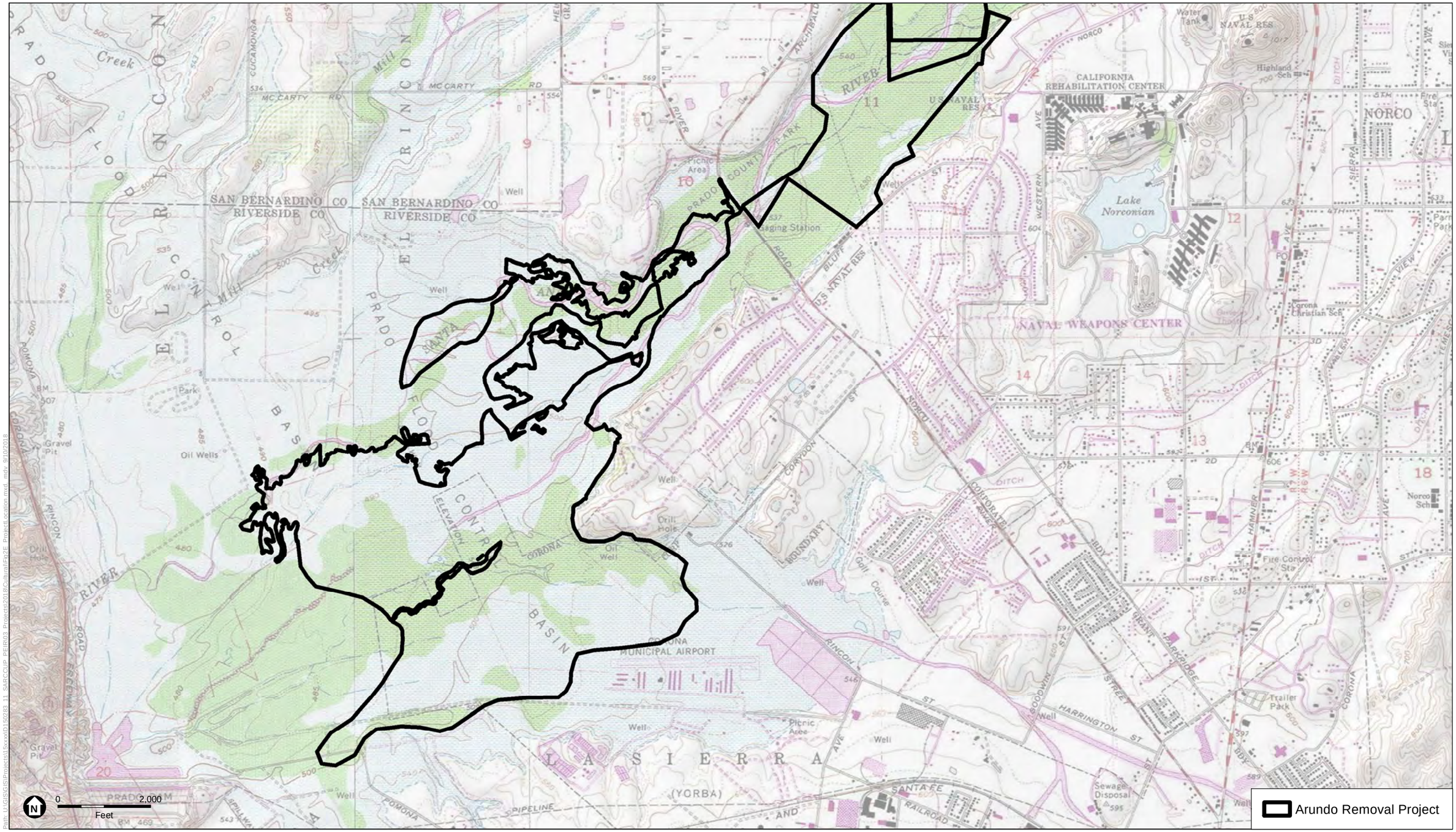
ESA



SOURCE: ESRI

SARCCUP

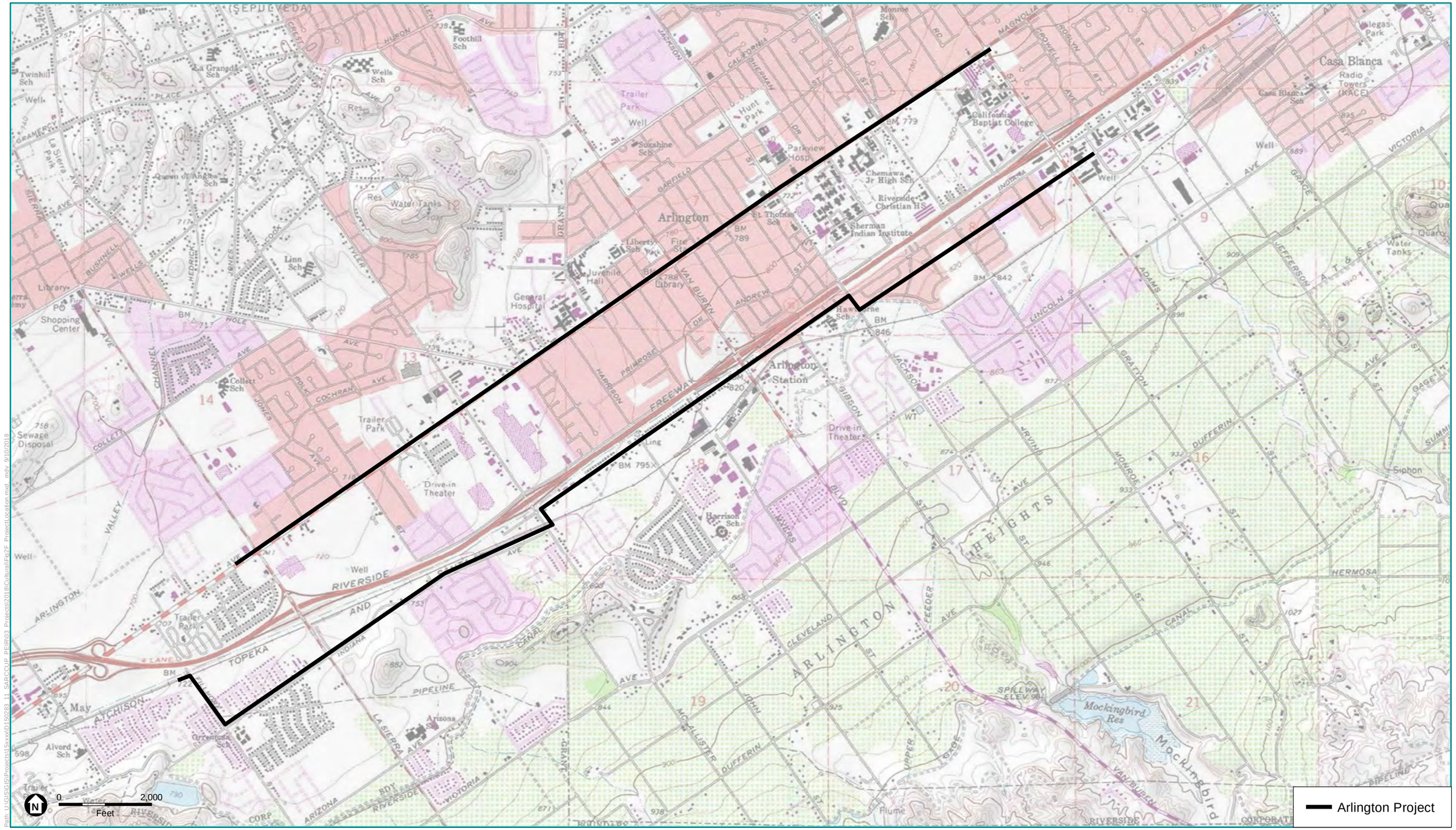
Figure 2D
Project Location



SOURCE: ESRI

SARCCUP

Figure 2E
Project Location



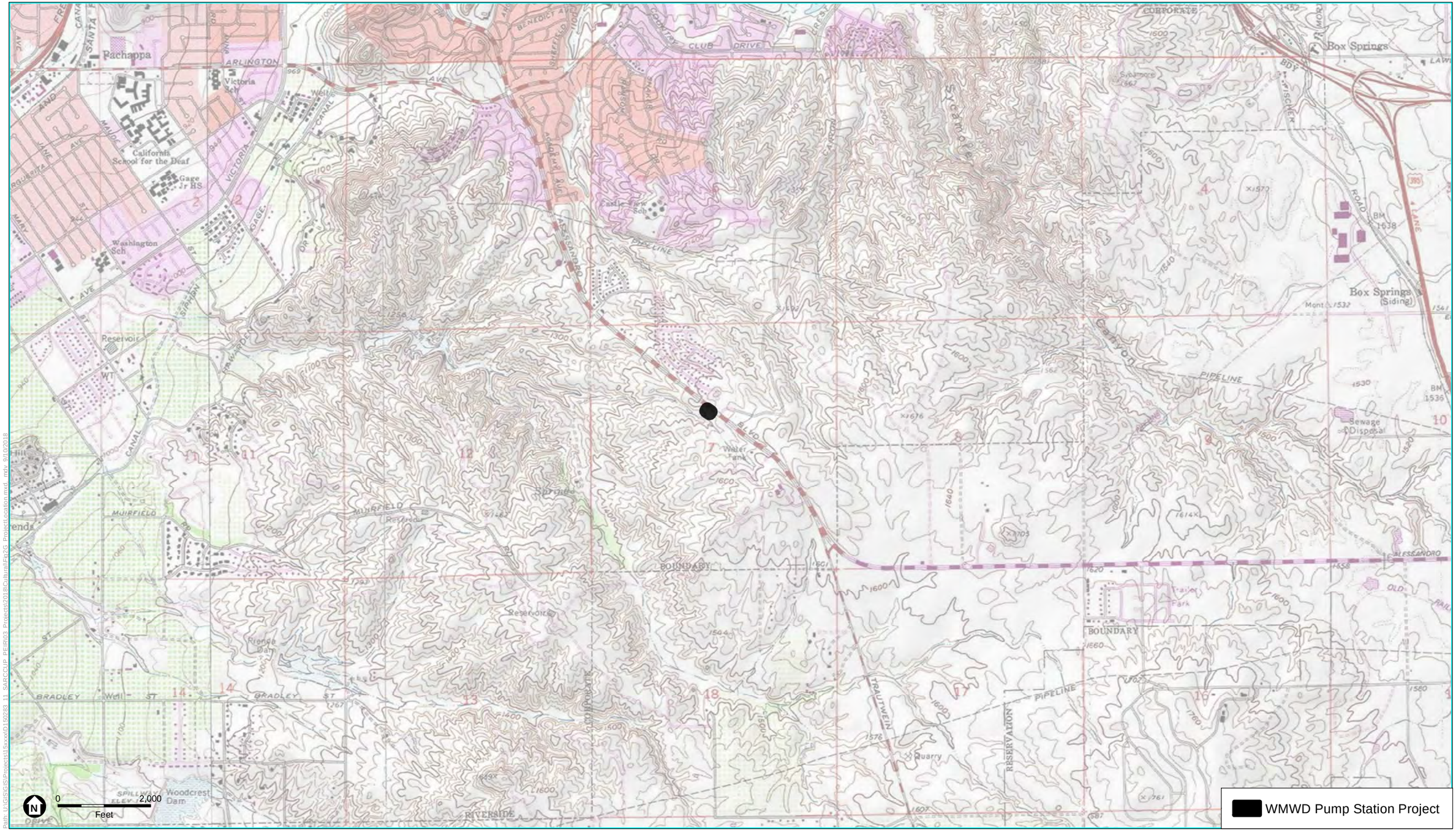
SOURCE: ESRI

SARCCUP

Figure 2F
Project Location

ESA

Path: U:\GIS\GIS\Projects\11_SARCCUP_PEIR\03_Projects\2018\Cultural\Fig2F_ProjectLocation.mxd, mdv 9/10/2018

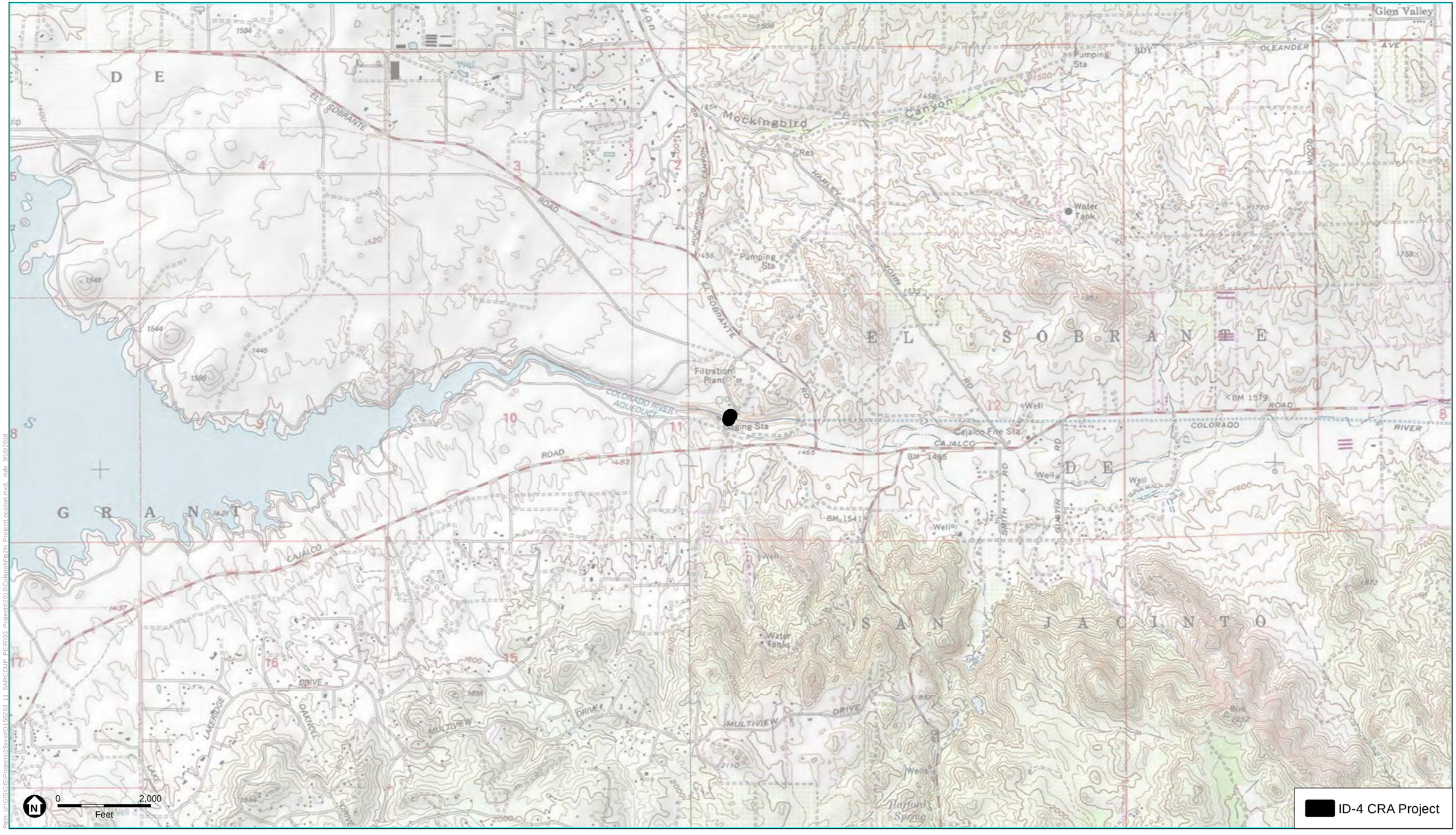


Path: U:\GIS\GIS\Projects\15xxxx\D150283_11_SARCCUP_PEIR\03_Projects\2018\Cultural\Fig2G_ProjectLocation.mxd, mdv 9/10/2018

SOURCE: ESRI

SARCCUP

Figure 2G
Project Location



Path: I:\GIS\GIS\Projects\15xxxx\D150283 11 SARCCUP PEIR\03 Projects\2018\Cultural\Fig2H ProjectLocation.mxd, mdv 9/10/2018

SOURCE: ESRI

SARCCUP

Figure 2H
Project Location

Water delivered to partner agencies can be accomplished by three main mechanisms: direct delivery; storage exchanges; and in-lieu exchanges. It is assumed that Partnering Agencies with a groundwater bank in their service area will access that bank first because of the low extraction and conveyance energy required. Each Partnering Agency has a preferred groundwater bank to access and extractions from that preferred bank will occur as long as the supply in its account does not have a zero balance. When an agency does not have enough storage in its own account, and no other accounts within the bank are available for a transfer, a direct delivery from another basin can occur. Direct deliveries from a non-local basin are constrained by conveyance connectivity and capacity. If groundwater storage has been exhausted for an agency in its own basin, either storage exchange or in-lieu exchanges may be needed.

When storage for a Partnering Agency drops below a set threshold (target volume in a bank), it will trigger the need for more water via a storage exchange. The storage exchange will move water from an account of one agency to that of another.

The MWD system can be used for in-lieu exchanges between Partnering Agencies. Instead of physically pumping the water from a bank, the overlying agency can provide their portion of water received from the State Water Project (SWP) and then pump the underlying groundwater for their use. In essence, one agency receives SWP water in lieu of SARCCUP water, while the other agency reduces its MWD delivery and increases its SARCCUP delivery. The in-lieu exchanges, on the backbone of the regional delivery system, offer the most effective way to deliver SARCCUP water among partner agencies.

To facilitate conjunctive use, the Partnering Agencies would utilize their existing infrastructure or construct new infrastructure to create a conveyance network between their respective groundwater basins. New infrastructure would consist of groundwater wells, pipelines and pumping stations constructed within various district service areas throughout the watershed. Responsibility for implementing SARCCUP has been divided among the members. The five SARRCUP connected projects (IEUA Well Refurbishment Project, Arlington Project, WMWD Pump Station Project, ID-4 CRA Project, and Arundo Removal Project) would build new infrastructure and improve existing infrastructure to meet the goals of the Program. The following paragraphs describe the five projects in detail.

IEUA Well Refurbishment and Treatment System Project

IEUA will design and construct a new treatment system for an existing groundwater well, number 34, to extract up to 3,000 AFY from the Chino Basin. Well 34 is located within the City of Montclair, in the County of San Bernardino. Construction activities include installation of a conveyance pipe from Well 34 and distributed to 8 concrete slabs. Each 20 by 50-foot pad will be equipped with tanks containing ion exchange and activated carbon media. The pipe would connect to existing sewer lines within Palo Verde Street (**Figure 3**).

SOURCE: ESRI; San Bernardino County

SARCCUP

Figure 3

IEUA Well Refurbishment and Treatment System

ESA

Arlington Production Wells and Pipeline

WMWD would construct two production wells and a conveyance pipeline in connection with the Arlington Recharge Facility. Two alternatives pipelines are proposed within the City of Riverside (**Figure 4**). The first pipeline alternative would install a well at the intersection of Magnolia Avenue and Jackson Street (Well AD-6). The well would be installed within a grass field adjacent to the Sherman Indian Museum. A second well would be installed at the intersection of Magnolia Avenue and Adams Street (Well AD-7) within a grassy area adjacent to CVS Pharmacy. The first alternative pipeline would run from the well at Magnolia Avenue and Adams Street and extend underground west along Magnolia Avenue just past La Sierra Avenue with the road right-of-way (ROW).

The second pipeline alternative, would install a well located just off Jackson Street near its intersection with Indiana Avenue (Well AD-6). The well site is surrounded by residential development. A second well (Well AD-7) would be installed at the intersection of Auto Center Drive and Motor Circle within an automobile park. The second alternative pipeline would start at the intersection of Auto Center Drive and Motor Circle and run west underground along Auto Center Drive, north on Adams Street, west on Indiana Avenue to Fillmore Street within the road ROW.

WMWD Pump Station Project

WMWD will design an interconnection and pump station for a potable water well. The pump station will be designed to move 10 cfs from the Riverside or Bunker Hill groundwater basins. Additionally, WMWD will relocate the existing Crest Booster Station and construct a new pump station and associated pipelines in the Riverside-Arlington Basin. Both facilities would be located off the intersection of Alessandro Boulevard and Overlook Parkway within an undeveloped vegetated area (**Figure 5**). Access to the two proposed facilities would be provided by a shared driveway located off of Caulfield Court cul-de-sac.

Path: U:\GIS\GIS\Projects\15xxxx\D150283_11_SARCCUP_PEIR\03_Projects\2018\Figures\Fig3-3_Arlington.mxd_landerson_8/1/2018

SOURCE: ESRI; Riverside County; San Bernardino County

SARCCUP

Figure 4

Arlington Production Wells and Pipeline

ESA

SOURCE: Mapbox Satellite Streets; Riverside County

SARCCUP

Figure 5

WMWD Pump Station Project

ESA

ID-4 Colorado River Aqueduct Crossing Refurbishment

WMWD owns and operates the ID-4 non-potable water supply system, which currently supplies 1,000 AFY of water from the CRA to agricultural and irrigation customers within the Gavilan Plateau. This Project supports the SARCCUP conjunctive use of between the partnering agencies within the Riverside-Arlington Basin.

WMWD would implement one of two refurbishment alternatives to ensure the ID-4 Crossing pipe located at the existing CRA intake facility is protected (**Figure 6**). The existing ID-4 Crossing pipe/CRA intake facility is located in unincorporated Riverside County at the foot of the CRA, stemming from Lake Matthews, approximately 600 feet north of the intersection of Kirkpatrick Road and Cajalco Road.

Alternative 1

Split casing and sump tank – WMWD would implement a lightweight split casing that covers the ID-4 crossing over the CRA to direct minor or moderate leaks to the proposed sump fiberglass-reinforced plastic (FRP) tank on the existing workspace.

Alternative 2

Reinforcement with fiberglass wrapping and HDPE or CIPP lining – WMWD would reinforce the crossing pipe with fiberglass material outside and with flexible high-density polyethylene (HDPE) or Cured-in-Place Pipe (CIPP) inside. The pipe would be triple layered including its original steel pipe.

SOURCE: Mapbox Satellite Streets; Riverside County

SARCCUP

Figure 6

ID-4 CRA Crossing Refurbishment

ESA

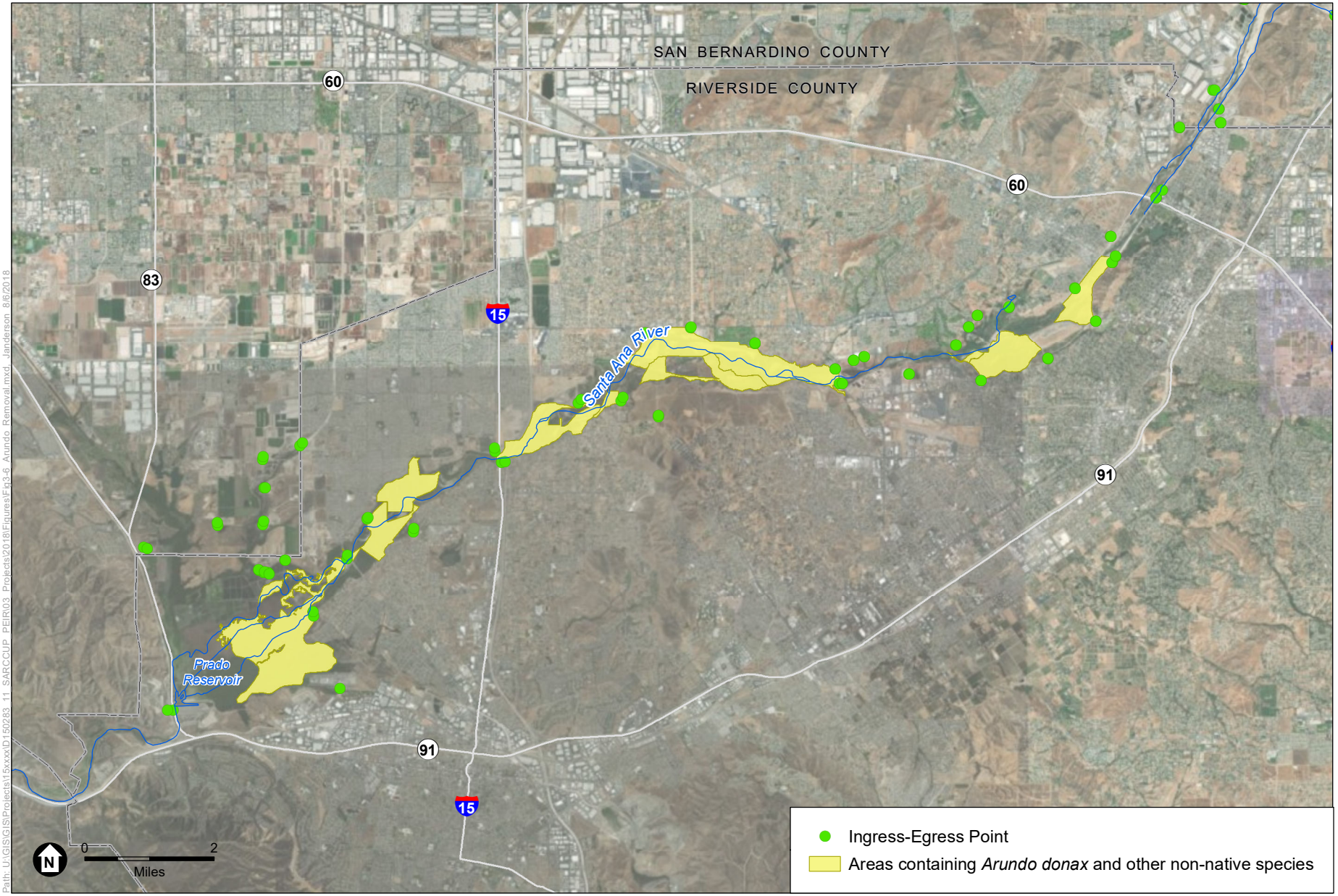
Arundo Removal Project

Approximately 640 acres of arundo would be removed along the Santa Ana River and its tributaries (**Figure 7**). The Arundo Removal Project would occur at locations along the Santa Ana River between Prado Basin and the State Route 60 crossing in Riverside. Arundo removal includes eradication of arundo and other invasive exotic plants, including tamarisk (Tamarix spp.); perennial pepperweed (Lepidium latifolium); tree of heaven (Ailanthus altissima); castor bean (Ricinus communis); various palms, (Phoenix canariensis) and (Washingtonia robusta); pampasgrass (Cortaderia selloana); and others.

Several techniques and types of tools and equipment would be used to remove giant reed including: removal by hand using loppers, chainsaws, brush cutters, tractor-mounted mulching mowers, arm-mounted tractor/cutter and other approved power equipment. Spraying with an herbicide approved for use in the vicinity of aquatic environments may also be utilized. Care is taken to minimize impacts to native habitat that could result from the transport of personnel and equipment conducting removal activities. Where removal is done by hand, stockpile areas are established in order to chip the stalks after surgical removal. A biologist or other approved specialist supervises removal from sensitive habitat. Small piles of arundo cane no higher than 3 feet can be left in areas where access is poor as long as the piles are above the high-water line and dried. In most areas the material is chipped and scattered on site to decompose and used as mulch.

The methods used for treating giant reed stands are different, depending on the makeup of the stands. Pure stands of invasive plants containing only non-native plants typically utilize tractor-mounted mulching mowers. Impacts to any associated native plants are avoided. Mixed stands of invasive plants occur in or among willows (*Salix* ssp.), cottonwoods (*Populus fremontii*), mulefat (*Baccharis salicifolia*), and other native riparian vegetation. No removal or spraying of native vegetation is allowed. All native plants and animals would be protected from damage by equipment, personnel, and all other giant reed control activities. Native shrubs and trees may be trimmed to provide access and to protect them from incidental spraying with herbicide but only under close supervision by a qualified biologist or specialist. Hand removal is the only method allowed in mixed stands or when sensitive species are encountered in the area.

Access to invasive control sites would be on existing roads and trails. Where new trails must be cut to gain access, native vegetation would be trimmed, not removed.



SOURCE: ESRI

SARCCUP

Figure 7

Santa Ana River Arundo Removal

ESA

Setting

Natural Setting

The setting of the five SARCCUP projects varies based on their locations. The IEUA Well Refurbishment Project, the Arlington Project, and the WMWD Pump Station Project are located in developed and urban areas within the cities of Montclair and Riverside. These three projects are surrounded by residential and commercial development with very little, if any undisturbed areas containing intact native soils. The ID-4 CRA Project is located immediately south of EMWD headquarters south of Cajalco Road approximately 1 mile east of Lake Matthews. The ID-4 CRA Project area is comprised ID-4 CRA crossing pipe, as segment of the CRA, and various pumps. The Arundo Removal Project encompasses an approximately 16-mile long segment of the Santa Ana River channel from, which is characterized by thick vegetation punctuated by clearings.

Prehistoric Setting

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 8,000 before present [B.P.]), the Middle Holocene (8,000 to 4,000 B.P.), and the Late Holocene (4,000 B.P. to A.D. 1769). Within this general timeframe, the archaeology of southern California is typically described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 years B.P. (Byrd and Raab, 2007). In western Riverside County, few Early Holocene sites are known to exist. One exception is site CA-RIV-2798, which contains deposits dating to as early as 8,580 cal. B.P. (Grenda, 1997). During the Early Holocene, the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources.

The primary Early Holocene (11,000 to 8,000 B.P.) cultural complex in southern California is the San Dieguito Complex, which dates between approximately 10,000 and 8,000 B.P. The people of the San Dieguito Complex inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Warren, 1967). Leaf-shaped and large-stemmed projectile points, scraping tools, and crescentics are typical of San Dieguito Complex material culture.

During the Middle Holocene (8,000 to 4,000 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. Around 7,000 B.P., millingstone cultures appeared, characterized by the collection and processing of plant foods, particularly acorns, the hunting of a wider variety of game animals, and trade with neighboring regions intensified (Byrd and Raab, 2007; Wallace, 1955). A number of Middle Holocene sites are

located in the San Bernardino Mountains and Cajon Pass, including the Sayles Complex and the Crowder Canyon sites (Brock et al., 1986).

The Middle Holocene La Jolla Complex is essentially a continuation of the San Dieguito Complex. La Jolla groups lived in chaparral zones or along the coast, often migrating between the two. La Jolla peoples produced large, coarse stone tools, but also produced well-made projectile points, and milling slabs. The La Jolla Complex represents a period of population growth and increasing social complexity, and it was also during this time period that the first evidence of the exploitation of marine resources and the grinding of seeds for flour appears, as indicated by the abundance of millingstones in the archaeological record (Byrd and Raab, 2007).

Contemporary with the La Jolla Complex, the Pauma Complex has been defined at coastal and adjacent inland sites in inland Riverside County (True, 1958). The Pauma Complex is similar in technology to the La Jolla Complex; however, evidence of coastal subsistence is absent from Pauma Complex sites (Moratto, 1984). The Pauma and La Jolla Complexes may either be indicative of separate inland and coastal groups with similar subsistence and technological adaptations, or, alternatively, may represent inland and coastal phases of one group's seasonal rounds. The latter hypothesis is supported by the lack of hidden and deeply buried artifacts at Pauma sites, indicating that these sites may have been temporary camps for resource gathering and processing.

During the Late Holocene (4,000 B.P. to A.D. 1769), native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps (Byrd and Raab, 2007). Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Around 1,000 B.P., an episode of sustained drought, known as the Medieval Climatic Anomaly (MCA), occurred. While the effects of this environmental change on prehistoric populations are still being debated, it did lead to a change in subsistence strategies in response to the substantial stress on resources (Jones and Schwitalla, 2008).

Although the intensity of trade had already been increasing through the Late Holocene, it reached its zenith in the Late Holocene, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl (Byrd and Raab, 2007). Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

Ethnographic Setting

The five SARCCUP project areas encompasses regions associated with two ethnographic groups: the Gabrielino-Tongva, and the Cahuilla. The following paragraphs provide a detailed description for both groups.

Gabrielino-Tongva

The IEUA Well Refurbishment Project and the western portion of the Arundo Removal Project components are located in a region traditionally occupied by the Takic-speaking Gabrielino-Tongva. The term "Gabrielino" is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Many contemporary Gabrielino identify themselves by the name "Tongva." Prior to European colonization, the Gabrielino-Tongva occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). Their neighbors included the Chumash to the north, the Juaneño to the south, and the Serrano and Cahuilla to the east. The Gabrielino-Tongva are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language was part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino-Tongva were hunter-gatherers who lived in permanent communities located near a stable water and food supply. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino-Tongva are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Villages are reported to have been the most abundant in the San Fernando Valley, the Glendale Narrows area north of downtown, and around the Los Angeles River's coastal outlets (Gumprecht, 2001).

Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry.

Gabrielino-Tongva society was characterized by patrilineal, non-localized clans, each clan consisting of several lineages. The Gabrielino-Tongva inhabited large circular, domed houses constructed of willow poles thatched with tule (Bean and Smith, 1978). These houses could sometimes hold up to 50 people. Other village structures of varying sizes served as sweathouses, ceremonial enclosures, and granaries.

At the time of Spanish contact, many Gabrielino-Tongva practiced a religion that was centered around the mythological figure *Chinigchinich* (Bean and Smith, 1978). This religion may have been relatively new when the Spanish arrived, and was spreading at that time to other neighboring Takic groups. The Gabrielino-Tongva practiced both cremation and inhumation of their dead. A wide variety of grave offerings, such as stone tools, baskets, shell beads, projectile points, bone and shell ornaments, and otter skins, were interred with the deceased.

Coming ashore on Santa Catalina Island in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino-Tongva; the 1769 expedition of Portolá also

passed through Gabrielino-Tongva territory (Bean and Smith, 1978). Native Americans suffered severe depopulation and their traditional culture was radically altered after Spanish contact. Nonetheless, Gabrielino-Tongva descendants still reside in the greater Los Angeles and Orange County areas and maintain an active interest in their heritage.

Cahuilla

The Arlington Project, the WMWD Pumps Station Project, the ID-4 CRA Project, and the eastern portion of the Arundo Removal Project components are located in a region traditionally occupied by the Cahuilla.The Cahuilla spoke a language belonging to the Cupan group of the Takic subfamily (Bean, 1978). The Cahuilla are generally divided into three groups based on their geographic setting: the Pass Cahuilla of the Beaumont/Banning area; the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains; and the Desert Cahuilla from the Coachella Valley, as far south as the Salton Sea. The Cahuilla occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges.

Villages were placed near canyons that received substantial precipitation or were adjacent to streams and springs (Bean, 1978). House structures of the Cahuilla ranged from "brush shelters to dome-shaped or rectangular structures 15-20 feet long" (Bean, 1978). Cahuilla social structure revolved around clans and exogamous moieties (components connected through inter-marriage). Hunting, in conjunction with the exploitation of a variety of available resources, governed the Cahuilla subsistence strategy. The material culture of the Cahuilla was extensive and varied, and included pottery, ornamental items, and a number of knapped stone tools.

Prior to European contact, population estimates for the Cahuilla range from 3,600 to as high as 10,000 persons. Due to European diseases, such as smallpox, the Cahuilla population was decimated during the 19th century. However, unlike other Native American populations in southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until 1891 that the Cahuilla culture and its population began to succumb to the pressure of European and, later, United States governing bodies (Bean, 1978).

Today, there are nine federally recognized tribes in California who share Cahuilla tribal affiliation, language, and culture, including the Agua Caliente Band of Cahuilla Indians (Agua Caliente), Augustine Band of Cahuilla Indians (Augustine), Cabazon Band of Mission Indians (Cabazon), Cahuilla Band of Mission Indians, Los Coyotes Band of Cahuilla and Cupeño Indians (Los Coyotes), Morongo Band of Mission Indians (Morongo), Ramona Band of Cahuilla Indians (Ramona), Santa Rosa Band of Cahuilla Indians (Santa Rosa), and Torres-Martinez Desert Cahuilla Indians (Torres-Martinez).

Historic Setting

The first European presence in what is now southern California came in 1542, when Juan Rodriguez Cabrillo led an expedition along the coast. Europeans did not return until 1769, when the expedition of Gaspar de Portola traveled overland from San Diego to San Francisco. Juan Bautista de Anza is credited with the discovery of an inland route from Sonora to the northern coast of California in 1774, bringing him through much of present-day Riverside and San Bernardino counties (Greene,

1983; Rolle, 2003). With the opening of the overland route, Spanish pueblos were established, evolving into the Spanish system of governance.

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples (Horne and McDougall, 2003). The purpose of the missions was to encourage, by any means necessary, the assimilation of Native populations to adopt the Spanish custom, language, and religion. The mission strategy relied upon an agricultural economy and as such, locations selected for the construction of a mission depended upon three factors: arable soil for crops, an adequate supply of fresh water, and a large local Indian population for labor (Rolle, 2003).

In 1821 Mexico, which included much of present-day California, became independent from Spain, and during the 1820s and 1830s the California missions were secularized. Mission property was supposed to have been held in trust for the Native Californians, but instead was handed over to civil administrators and then into private ownership as land grants. After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall, 2003). Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios (native Hispanic Californians), many of whom became wealthy and prominent members of society.

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized the right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California. The increased population provided an additional outlet for the cattle industry that had was established during the Spanish and Mexican periods. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams, 1946; Dinkelspiel, 2008). This event, coupled with the burden of proving ownership of their lands, caused many Hispanic-Californian landowners to lose their lands during this period (McWilliams, 1946). Former ranchos were subsequently subdivided and sold for agriculture and residential settlement.

The first transcontinental railroad was completed in 1869, connecting San Francisco with the eastern United States. Newcomers poured into northern California. Southern California experienced a trickle-down effect, as many of these newcomers made their way south. The Southern Pacific Railroad extended this line from San Francisco to Los Angeles in 1876. The second transcontinental line, the Santa Fe, was completed in 1886 and caused a fare war, driving fares to an unprecedented low. Settlers flooded into southern California and the demand for real

estate skyrocketed. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities. The subdivision of the large ranchos took place during this time (McWilliams, 1946; Meyer, 1981).

Santa Ana River

The Arundo Removal Project would include Arundo removal along segments of the Santa Ana River and its tributaries. Proposed activities along the Santa Ana River would occur at locations between Prado Basin and State Route 60.

During the Late Prehistoric Period it is estimated that the Santa Ana River watershed supported a population of 15,000 individuals associated with the Gabrielino-Tongva, Luiseño, and Serrano ethnographic groups (Mitchell, 2006). European exploration of the watershed began in 1769 when Portola's expedition established a campsite at the confluence of the river and Santiago Creek in present-day Orange County. Portola's group named the river after the Santa Ana Mountains, which were named in honor of Saint Anne's Day (City of Santa Ana, 2006; Mitchell, 2006). During the Spanish Period, Mission San Juan Capistrano claimed much of the land in the lower watershed of the river and Mission San Gabriel claimed the upper watershed, which encompasses portions of the Arundo Removal Project (City of Santa Ana, 2016).

During the Mexican Period a number of ranchos were granted that bordered or bisected the upper watershed of the Santa Ana River including: Rancho La Sierra de Sepulveda granted in 1846 to Vincent Sepulveda and located in the vicinity of the present-day cities of Norco and western Riverside; Rancho La Sierra de Yorba granted in 1846 to Bernardo Yorba and located in the vicinity of present-day Jurupa Valley; Rancho El Rincon granted to Juan Bandini in 1839 and located within present-day Prado Basin; Rancho Santa Ana del Chino granted in 1841 to Antonio Marie Lugo and located in the vicinity of present-day Chino Hills; and Rancho San Bernardino granted in 1842 to Jose del Carmen Luco which encompassed much of present-day San Bernardino Valley (Mitchell, 2006). The economies of the ranchos largely centered around cattle, supplying hides and tallow which were the primary Californian exports during the Mexican Period.

With the gold rush of 1849 and California's incorporation into the United States in 1850 the Santa Ana River watershed changed dramatically as American immigrants trickled down from the northern Californian gold fields and began to establish towns and farms along the river and its tributaries, which provided reliable water sources for irrigation (Mitchell, 2006). Lumber for the construction of the new towns was provided by the burgeoning timber industry in the San Bernardino Mountains. However, during a series of floods that occurred in 1862 the unintended consequences of the clear cutting of timber were realized as a 300,000-cubic foot debris flow washed down from the mountains and into the river, destroying many towns downstream (Mitchell, 2006). During the 20th century the periodic flooding of the river became of greater concern as the population surrounding it increased. In 1938, a flash flood that left 19 dead and 2,000 homeless served as the impetus for the construction of the Prado Dam (City of Santa Ana, 2006). The construction of the dam paved the way for a building boom after World War II, with residential subdivision replacing agricultural operations (City of Santa Ana, 2006).

City of Montclair

The IEUA Well Refurbishment Project would be implemented within the City of Montclair. Montclair is a small city located northeast of Pomona (incorporated in 1888) and west of Ontario (incorporated in 1891). During the latter part of the 19th century the area featured very little development and much of the land was used for livestock grazing. The first development in the area was undertaken by Edward Fraser in 1887, who built a residence, store buildings, a hotel, and livery stable (Reeder Heritage Foundation, 2010). Fraser named his town Marquette and attempted to lure investors to the town with train excursions and advertisements, which stated "there was 'an abundant supply of pure water,'". However, it was not until approximately twenty years later when Emil Firth, a land speculator, purchased a thousand acres for $250,000 did the town become successful (Reeder Heritage Foundation 2010).

Firth began to subdivide the land into large five to ten acre lots. Like many other towns in the foothills of the San Gabriel Mountains, the land was used to cultivate citrus (Reeder Heritage Foundation, 2010). A 1908 *Los Angeles Times* advertisement stated that one of Firth's towns, Monte Vista, had "two railroad lines, an electric line surveyed, [and] three packing houses in operation," and that everything had already been done for you including "piped water, road construction, [and] building the neighborhood" (Los Angeles Times, 1908). Firth is also accredited with constructing some of the earliest reservoirs for irrigation in the area (Reeder Heritage Foundation, 2010).

After World War II, Monte Vista remained dedicated to citrus production, but with the influx of veterans the town began to grow. In the late 1950s, Interstate 10 was completed, connecting Monte Vista with the City of Los Angeles. In 1956, the City of Monte Vista was incorporated; however, in 1958, Monte Vista was forced to change its name to Montclair due to confusion with Monte Vista in northern California (Reeder Heritage Foundation, 2010).

City of Riverside

Historic settlement in Riverside County was anchored by the settlement of its primary city, Riverside. Riverside began as a "colony" established by easterners John W. North and James P. Greves. They and a group of associates arrived in California in 1870 seeking a suitable site for the establishment of a new town based on ideals of clean living and rectitude inspired by North's fiery Methodist upbringing. After scouting numerous sites throughout the state, they reached the future site of Riverside. Deciding to establish their town there, North and several other principals established the Southern California Colony Association. Los Angeles surveyors Goldsworthy and Higbie soon arrived to establish a mile-square town site. This remains the center of Riverside (Brown, 1985).

Canal construction commenced to transport water from the adjacent Santa Ana River to the new town's farmland. Citrus trees were soon planted and, with the arrival of navel orange trees secured by prominent Riverside resident Eliza Tibbets in 1874, the citrus industry boomed in the ideal climate of Riverside. Disputes over water rates led to the incorporation of Riverside as a city in 1883. Ten years later, Riverside County was incorporated from portions of San Bernardino and San Diego counties.

Combined with the arrival of the railroad, the success of Riverside as a citrus and resort town both made and attracted many wealthy residents and visitors to the area. Thanks to the development of refrigerated railroad cars, by 1895 Riverside had the highest per capita income in the United States. The railroads were a key driver of settlement throughout the region. By granting access to a large market for citrus, the railroad sparked the climate of growth. The first major railroad to arrive in what would become Riverside County was the Southern Pacific in the mid-1870s. Its easterly journey from Los Angeles to Riverside and the rest of the county bolstered the population and economies of existing communities along the tracks. By 1886 the Santa Fe (then called the Atlantic and Pacific) began to arrive in the area, laying track in the north-south direction to compete with its rival the Southern Pacific. This boom in railroad construction saw the long-waited expansion of feeder lines to many more remote communities in the Riverside area, further growing the region (Brown, 1985). However, with the rise of the automobile after World War II, the influence of the railroad on the city's economic growth declined. While rail was still used to ship product, it had ceded its primacy in the development of Riverside County to the automobile.

Riverside, like much of California, experienced an economic boom in the years following World War II. It "expanded and diversified its industries, became a center of higher education, trebled in population" and annexed large swaths of unincorporated land into the City (Patterson, 1971). Between 1950 and 1960, the population of Riverside increased by 80% to 83,714 (Patterson, 1971). Numerous industries either grew or established themselves in the region, one of which was home building. Southern California's "longest and most substantial" boom in home building and subdividing occurred in 1950, in tandem with the rise of automobile, which itself grew in importance as an industry with the establishment of numerous automobile dealerships and commercial areas oriented toward the automobile (Patterson ,1971). The establishment of both the Riverside branch of the University of California in 1954 and California Baptist University in 1950 to meet the greater demand for college education, along with increases in enrollment at Riverside City College and La Sierra University, increased the importance of the higher education industry (Patterson, 1971). Another industry to expand in Riverside was the banking industry, exemplified best by Citizens National Bank, which, along with other banks such as Bank of America, opened numerous branches in the Riverside area. The growth of banking was linked to the rise in home-building and commercial growth, and in turn to population growth (Patterson, 1971). Many other industries grew in the Riverside area. Aircraft manufacturer Rohr Corporation arrived in 1952; maker of rocket guidance instruments Bourns Incorporated arrived in 1950. W. Atlee Burpee Seed Company's western distribution center opened in Riverside, as did large accessory-maker Hoffman & Son. Numerous smaller manufacturers and service-providers also established themselves in Riverside in this era.

Colorado River Aqueduct

The ID-4 CRA Crossing Refurbishment is located east of Lake Mathews and directly adjacent to the Colorado River Aqueduct. The aqueduct was constructed in the 1930s by the Metropolitan Water District of Southern California in order to transport water from the Colorado River to the Los Angeles metropolitan area. The aqueduct stretches from Lake Havasu on the Colorado River to Lake Matthews, south of Riverside (Hamilton and Beedle, 2005). Construction of the aqueduct

began in 1933 and the first delivery of water occurred in 1941. Approximately 3,500 men and women were employed in constructing the aqueduct during the Depression era. The completed aqueduct crosses 242 miles of desert and delivers approximately one billion gallons of water a day. Related projects included roads and electrical power transmission lines. Most project-related work was conducted out of temporary camps; however, permanent structures, such as the Iron Mountain pumping station, supported a higher number of longer-lasting settlements. The aqueduct is still in use.

Regulatory Framework

Numerous laws and regulations require state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly

demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Weeks and Grimer, 1995) is considered to have mitigated its impacts to historical resources to a less-than-significant level (*CEQA Guidelines* Section 15064.5(b)(3)).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,

- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on

or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a

confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

City of Riverside

General Plan

The Historic Preservation Element of the City of Riverside's General Plan includes the following objectives and policies relevant to SARCCUP:

Objective HP-1: To use historic preservation principles as an equal component in the planning and development process.

> **Policy HP-1.1:** The City shall promote the preservation of cultural resources to ensure that citizens of Riverside have the opportunity to understand and appreciate the City's unique heritage.
>
> **Policy HP-1.2:** The City shall assume its direct responsibility for historic preservation by protecting and maintaining it's publicly owned cultural resources. Such resources may include, but are not limited to, buildings, monuments, landscapes, and right-of-way improvements, such as retaining walls, granite curbs, entry monuments, light standards, street trees, and the scoring, dimensions, and patterns of sidewalks, driveways, curbs and gutters.
>
> **Policy HP-1.3:** The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and federal cultural resources protection and management laws in its planning and project review process.
>
> **Policy HP-1.4:** The City shall protect natural resources such as geological features, heritage trees, and landscapes in the planning and development review process and in park and open space planning.
>
> **Policy HP-1.5:** The City shall promote neighborhood/city identity and the role of historic preservation in community enhancement.
>
> **Policy HP-1.6:** The City shall use historic preservation as a tool for "smart growth" and mixed use development.
>
> **Policy HP-1.7:** The City shall ensure consistency between this Historic Preservation Element and all other General Plan elements, including subsequent updates of the General Plan.

Objective HP-2: To continue an active program to identify, interpret and designate the City's cultural resources.

> **Policy HP-2.1:** The City shall actively pursue a comprehensive program to document and preserve historic buildings, structures, districts, sites (including archaeological sites), objects, landscapes, and natural resources.

Policy HP-2.2: The City shall continually update its identification and designation of cultural resources that are eligible for listing in local, state and national registers based upon the 50-year age guideline for potential historic designation eligibility.

Policy HP-2.3: The City shall provide information to citizens, and the building community about what to do upon the discovery of archaeological resources and burial sites, as well as, the treatment, preservation, and repatriation of such resources.

Objective HP-3: To promote the City's cultural resources as a means to enhance the City's identity as an important center of Southern California history.

Policy HP-3.1: The City shall conduct educational programs to promote an understanding of the significance of the City's cultural resources, the criteria for historic designation, historic design review processes, building permit requirements, and methods for rehabilitating and preserving historic buildings, sites, and landscapes.

Policy HP-3.2: The Planning Division shall promote an understanding and appreciation of the importance of historic preservation by the City's departments, boards, commissions, and elected officials.

Objective HP-4: To fully integrate the consideration of cultural resources as a major aspect of the City's planning, permitting and development activities.

Policy HP-4.1: The City shall maintain an up-to-date database of cultural resources and use that database as a primary informational resource for protecting those resources.

Policy HP-4.2: The City shall apply the California State Historical Building Code to ensure that City building code requirements do not compromise the integrity of significant cultural resources, at the property owner’s request.

Policy HP-4.3: The City shall work with the appropriate tribe to identify and address, in a culturally appropriate manner, cultural resources and tribal sacred sites through the development review process.

Objective HP-5: To ensure compatibility between new development and existing cultural resources.

Policy HP-5.1: The City shall use its design and plot plan review processes to encourage new construction to be compatible in scale and character with cultural resources and historic districts.

Policy HP-5.2: The City shall use its design and plot plan review processes to encourage the compatibility of street design, public improvements, and utility infrastructure with cultural resources and historic districts.

Objective HP-6: To actively pursue funding for a first-class historic preservation program, including money needed for educational materials, studies, surveys, staffing, and incentives for preservation by private property owners.

Policy HP-6.1: The City shall provide financial incentives to promote the restoration, rehabilitation, and adaptive reuse of cultural resources.

Policy HP-6.2: The City shall use financial resources from state, federal and private programs that assist in the identification, designation and preservation of cultural resources.

Policy HP-6.3: The City shall ensure adequate funds in its budget for the staffing and maintenance of a historic preservation program in compliance with the California State Office of Historic Preservation's Certified Local Government program.

Objective HP-7: To encourage both public and private stewardship of the City's cultural resources.

Policy HP-7.1: The City shall apply code enforcement, zoning actions, and building safety/construction regulations as tools for helping to protect cultural resources.

Policy HP-7.2: The City shall incorporate preservation as an integral part of its specific plans, general plan, and environmental processes.

Policy HP-7.3: The City shall coordinate historic preservation with other activities within its government structure.

Policy HP-7.4: The City shall promote the preservation of cultural resources controlled by other governmental agencies, including those related to federal, state, county, school district, and other agencies.

Municipal Code

Title 20 of the City of Riverside's Municipal Code established the authority for preservation, the composition and administrative requirements of the Cultural Heritage Board, criteria for evaluating projects affecting cultural resources, and procedures for protecting and designating significant cultural resources. City approval is required to alter, demolish, or relocate historic resources. This process for preserving cultural resources is a major consideration in the City's planning and permitting actions.

City of Montclair

Chapter 11.56 of the City of Montclair's Preservation Ordinance provides guidelines for the preservation restoration and protection of historic and cultural resource within the city. The purpose of the ordinance is to:

- Encourage public knowledge, understanding, and appreciation of the city's past;
- Strengthen civic and neighborhood pride in the beauty and architecture of the past;

- Preserve diverse architectural styles and designs reflect phases of the city's heritage;
- Promote he enjoyment and use of cultural resources appropriate for the education and restoration of the city;
- Encourage new construction and exterior modification of historical building that compatible with the historical character of such buildings;
- Protect and enhance property values and provide possible added benefits to the city and its inhabitant through the exploration of creative financial incentives for preservation;
- Encourage the adaptive recycling or reuse of existing historic landmarks.

Archival Research

Methods

Records Searches

To identify cultural resources within the SARCCUP project areas, archival research was conducted. Archival research included records searches conducted at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) and Eastern Information Center (EIC) on July 9 and July 25, 2018, respectively.

The CHRIS records searches included a review of all previously recorded cultural resources and studies within ¼- radius of the Arundo Removal Project and ½ -mile radii of the remaining four project areas. In addition, the California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), and the California Historical Resources Inventory (HRI) listings were reviewed for resources within or immediately adjacent to the project areas.

Historic Map and Aerial Photograph Review

Historic maps and aerial photographs were examined to provide contextual information about the historic land uses of the five SARCCUP project areas. USGS topographic maps were reviewed, as were historic aerial photographs provided by historicaerails.com (2018).

Results

IEUA Well Refurbishment and Treatment System Project

Records Search

The records search results indicate that three cultural resources studies have been conducted within a ½-mile radius of the IEUA Well Refurbishment Project area. None of the three previous studies include the Project area, indicating that it has not been subject to previous cultural resources survey. The records search results indicate that no cultural resources have been previously recorded within the IEUA Well Refurbishment Project area, nor within a ½-mile radius around the IEUA Well Refurbishment Project area.

Historic Map and Aerial Photograph Review

Available historic topographic maps for the IEUA Well Refurbishment Project include the 1900 and 1903 Cucamonga 15-minute topographic quadrangles, and the 1954 and 1967 Ontario 7.5-minute topographic quadrangles. Historic aerial photographs from the years 1938, 1948, 1959, 1966, 1972, 1980, 1994, and 2012 were also reviewed.

The 1900 and 1903 Cucamonga topographic maps show the IEUA Well Refurbishment Project Area adjacent to a braided segment of the San Antonio River midway between the communities of Claremont and Ontario, though Montclair is not depicted in the maps. The maps also depict a number of north-south and east-west roads in the vicinity of the IEUA Well Refurbishment Project area. The 1954 topographic map shows the IEUA Well Refurbishment Project area located immediately west of San Antonio Creek within an orchard. The map shows the vicinity around the IEUA Well Refurbishment Project area is dominated by orchards, and the San Bernardino Freeway is indicated immediately to the north. The 1967 topographic map shows that San Antonio Creek has been channelized and the orchard depicted in the 1954 topographic map is no longer present, having been replaced by residential subdivision. In fact, all of the orchards depicted in the vicinity of the IEUA Well Refurbishment Project area in the 1957 map have been replaced by residential development tint the 1967 map.

The historic aerial photographs largely reflect what is depicted in the topographic maps. The 1938 and 1948 aerial photographs show the IEUA Well Refurbishment Project area located immediately west of San Antonio Creek and is surrounded by orchards. The photographs show that the orchards do not extend into the IEUA Well Refurbishment Project area, but a large water tank is located in the northern portion of the project area. The 1959, 1966, 1972, and 1980 aerial photographs show the immediate vicinity around the IEUA Well Refurbishment Project area has been developed with residential neighborhoods and San Antonio Creek has been channelized. Although the photographs depict a large degree of development in the vicinity, no development has occurred within the IEUA Well Refurbishment Project area and the water tank depicted in the 1938 and 1948 photographs is still present. The 1994 aerial photograph shows that the water tank has been removed, but the IEUA Well Refurbishment Project area remains undeveloped. The 2012 aerial photograph shows that the IEUA Well Refurbishment Project area has been graded, and two structures have been constructed in the southern portion of the project with a paved access road running from Palo Verde Street north of the project to the two structures.

In sum, the historic map and aerial photo review indicates that the IEUA Well Refurbishment Project area and its vicinity were occupied by orchards during the first half of the 20th century. Although no orchards appear to have existed in the IEUA Well Refurbishment Project area, a water tank was present within the project area itself from at least 1938 through 1994. Beginning in the late 1950s, the vicinity around the IEUA Well Refurbishment Project area was developed with residential subdivisions. The IEUA Well Refurbishment Project area remained undeveloped until 2012 when it was graded and two structures were constructed in its southern portion.

Arlington Production Wells and Pipeline

Records Search

Previous Cultural Resources Studies

The records search results indicate that 45 cultural resources studies have been conducted within a ½-mile radius of the Arlington Project area (**Table 1**). Of these 45 previous studies, 42 included some form of field study including survey, excavation, or monitoring. Approximately 40 percent of the ½-mile records search radius has been included in previous cultural resources surveys. Of the 42 previous field studies, 10 (RI-03822, -05297, -05393, -05754, -05965, -08247, -09787, -09875, and - 10002) overlap the Arlington Project area. Approximately 50 percent of the Arlington Project area has been previously surveyed.

TABLE 1 PREVIOUS CULTURAL RESOURCES STUDIES WITHIN ½ MILES OF THE ARLINGTON PROJECT AREA

Author	EIC # (RI-)	Title	Date
Bai "Tom" Tang and Michael Hogan	08247	*Identification and Evaluation of Historical Properties, Arlington Desalter System Expansion Project, City of Riverside County, California*	2009
Bai "Tom" Tang and Michael Hogan	08247*	*Identification and Evaluation of Historical Properties, Arlington Desalter System Expansion Project, City of Riverside County, California*	2009
Bechtel, Elisa and Gini Austerman	10159	*Cultural Resources Assessment Hawthorne Elementary School Project Assessor's Parcel Number 233-180-007 & 233-170-001 City of Riverside County, California*	2017
Belcourt, Tria	10026	*Phase 1 Cultural Resources Assessment: Primrose Residential Development Project City of Riverside, Riverside County, California*	2016
Bonner, Wayne H.	08854	*Letter Report: Cultural Resources Records Search and Site Visit Results for Sitemaster, Inc. Candidate CA103 (Sun City Eon)*	2012
Brunzell, David	09666	*Cultural Resources Assessment of the Lisbon Monopole Project, City of Riverside, Riverside County, California (BCR Consulting Project No. TRF 1609)*	2016
Bupp, Susan L.	08988	*Supplemental Archaeological Survey Report For SR-91Corridor Improvement Project, City Of Corona, Riverside County, California, California Department Of Transportation, District 8*	2013
Carleton S. Jones	03604	*The Development of Cultural Complexity Among the Luiseno:*	1992
Carrie D. Wells, Sarah A. Williams, and Kathleen A. Crawford	09196	*Cultural Resource Records Search and Site Visit Results for T-Mobile West, LLC Candidate IE04195A [CM195 LB148 (Magnolia)], 9129 Magnolia Avenue, Riverside, Riverside County, California*	2014
Chandler, Evelyn N., Valerie M. Van Hemelryuck, and Roger D. Mason	04628	*Archaeological Survey of Van Buren Station Located in the City and County or Riverside*	2001
Crawford, Kathleen	09343	*Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate IEO4195A [CM195 LB148 (Magnolia)], 9129 Magnolia Avenue, Riverside, Riverside County, California*	2014
Del Chario, Kathleen	02778	*An Archaeological Assessment of the Riverside VOA Housing Site, Riverside County, California*	1990
Dice, Michael H.	08416	*Cultural Resource Survey for the Cedar Glen Project. Community of Arlington, City of Riverside, California. A Section 106 Compliance Document.*	2010
Duke, Curt	07237	*Archaeological Resource Assessment for AT&T Wireless Services Facility No. D029.2, Riverside County, California*	2002
Frank, Myra L.	10002*	*Final Preliminary Cultural Resources Report for the Arlington Redevelopment Plan Amendment No. 2 Environmental Impact Report*	1999
Gardner, Michael C.	00031	*The Arlington Channel Flood Control Project: Expected Impact On Archaeological Resources*	1971
Hanna, Jr., David C., Jason Miller, and Alex Wesson	06872	*Cultural Resources Survey of the Proposed Perry Cellular Site, FCC CA-8551, at 3834 Megginson Lane, City of Riverside, Riverside County, California*	2004

Author	EIC # (RI-)	Title	Date
Hogan, Michael, Bai "Tom" Tang, and Casey Tibbet	05965*	*Archaeological Sensitivity Assessment, La Sierra/Arlanza Redevelopment Project, In the City of Riverside, Riverside County, California*	2003
Hogan, Michael, Bail "Tom" Tang, and Casey Tibbet	05965*	*Archaeological Sensitivity Assessment, La Sierra/Arlanza Redevelopment Project, In the city of Riverside, Riverside County, California*	2003
Jeanette McKenna	08599	*A Summary Report on the Proposed Improvements at the Arlington High School Campus in the City or Riverside, Riverside County, California*	2010
Losee, Carolyn	09391	*Cultural Resources Investigation for Trileaf 614416 "Stotts" 3721 Jackson Street, Riverside City & County, California 92503*	2015
Love, Bruce and Bai "Tom" Tang	04073	*Cultural Resources Report: California Baptist College Master Plan: Case No. CU-027-667 (Revised), City of Riverside, Riverside County, California*	1998
Love, Bruce and Bai "Tom" Tang	05854	*Historic Building Evaluation, 3751 Everest Street, Arlington Area, City of Riverside, Riverside County, California*	2001
Love, Bruce, Bai "Tom" Tang, and Daniel Ballester	05393*	*Identification and Evaluation of Historic Properties, La Sierra Commuter Rail Station Parking Expansion, City of Riverside, Riverside County, CA*	2001
Love, Bruce, Bai "Tom" Tang, Michael Hogan, and Mariam Dahdul	04399	*Identification and Evaluation of Historic Properties RCTC Van Buren Metrolink Station, City of Riverside, Riverside County, California*	2000
Marvin, Judith, and Deborah McLean	05297*	*Historic Property Survey Report for the State Route 91/Van Buren Boulevard Interchange Project, City of Riverside, Riverside County, California*	2004
Mason, Roger D. and Wayne H. Bonner	10057	*Cultural Resources Records Search and Literature Review for a Pacific Bell Mobile Services Telecommunications Facility: CM 149-08 City of Riverside, California*	1998
McKenna et al.	05036	*A Phase I Cultural Resources Investigation for the Proposed Alvord High School Site at the Frost Reservoir on Indiana Avenue in the City of Riverside, Riverside County, California*	2005
McKenna et al.	05056	*A Phase I Cultural Resources Investigation for the Proposed Corona Feeder Master Plan Project Area, Riverside County, California*	2003
McLean, Deborah	03863	*Cultural Resources Assessment - La Sierra University Specific Plan*	1994
McLean, Deborah K.B	06893	*Negative Property Survey Report: SR-91, Post Mile 11.5-12.1, Riverside County*	2002
Mermilliod, Jennifer	08777	*Recordation of Harden Square Ceramics and Sculpture Building, California Baptist University, Riverside, Riverside County, California*	2011
Mermilliod, Jennifer	09515	*Cultural Resources Survey California Baptist University Specific Plan 8432 Magnolia Avenue Riverside, Riverside County, California Planning Case # P11-0342*	2012
National Park Service, HAER	04813	*California Citrus Heritage Recording Project: Photographs, Written Historical and Descriptive Data, Reduced Copies of Measured Drawings for: Arlington Height Citrus Landscape, Gage Irrigation Canal, National Orange Company Packing House, Victoria Bridge, and Union Pacific Railroad Bridge*	1993
Sanka, Jennifer M. and Marnie Aislin-Kay	08171	*Cultural Resources Assessment Public Safety Enterprise Communication Project Riverside, Orange, San Bernardino, and San Diego Counties, FM 04174400010*	2008
Stropes, Tracy A. and Brian F. Smith	09390	*A Cultural Resource Report for the La Sierra Pipeline and Reach G Element of the Western Municipal Water District's Riverside-Corona Feeder Project, Riverside, California*	2014
Stropes, Tracy A. and Brian F. Smith	09787*	*A Cultural Resource Report for the La Sierra Pipeline and Reach G Element of the Western Municipal Water District's Riverside-Corona Feeder Project*	2016
Tang, Bai "Tom"	09875*	*Addendum to Historical/Archaeological Resources Survey Arlington Basin Water Quality Improvement Project City of Riverside, Riverside County, California CRM TECH Project No. 2346/3055*	2016
Tang, Bai "Tom" and Michael Hogan	09056	*Cultural Resources Compliance Study, California Baptist University Parking Lot 4 Reconfiguration and Central Plant Expansion Project, 8432 Magnolia Avenue, City of Riverside, Riverside County, California*	2011
Tang, Bai "Tom" and Michael Hogan	08247	*Identification and Evaluation of Historical Properties, Arlington Desalter System Expansion Project, City of Riverside County, California*	2009

Author	EIC # (RI-)	Title	Date
Tang, Bai "Tom" and Michael Hogan	09076	*Historical/Archaeological Resources Survey Reports California Baptist University Parking Lot 15 Project Assessor's Parcel Nos.231-020-005 to-010 City of Riverside, Riverside County, California*	2011
Tang, Bai, Michael Hogan, Mariam Dahdul, and Teresa Woodard	05755	*Historical/Archaeological Resources Survey Report: The Gibson Project, APNS 233-170-006, -007, -008, -010, -013, -016, -018, AND -019, City of Riverside, Riverside County, CA*	2003
Tang, Bai, Michael Hogan, Matthew Wetherbee, and Robert Porter	06424	*Identification and Evaluation of Historic Properties, Highland, Hunt and Bryant Parks Improvement Project, City of Riverside, Riverside County, California*	2005
Tang, Bai, Michael Hogan, Uyen K. Doan	05754*	*Cultural Resources Reconnaissance Report: Arlington Redevelopment Project Amendment No. 3, City of Riverside, Riverside County, California*	2003
White, Robert S.	03822*	*An Archaeological Assessment of Arlington Channel Stage 4, Situated Between La Sierra Avenue and Harrison Street in the City of Riverside, Riverside County*	1994

*Indicates study overlaps project area

Previously Recorded Cultural Resources

The records search results indicate that 249 cultural resources have been previously recorded within a ½-mile radius of the Arlington Project. Of the 249 previously recorded resource, 17 are located within or immediately adjacent to (within 100 feet of) the Arlington Project area (**Table 2**). These 17 resources include one prehistoric archaeological site (P-33-000496) and 16 historic architectural resources (P-33-004495, -004791, 007899, -007900, -008407, -009518, -010974, -011251, -011632, -017542, -024194, -025594, -025595, -025596, -025597, and -028079).

TABLE 2 RESOURCES WITHIN AND IMMEDIATELY ADJACENT TO THE ARLINGTON PROJECT AREA

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Description	Date Recorded	CRHR Eligibility
000496	496	Prehistoric archaeological site: bedrock milling features	1971, 1993	Not evaluated
004495	-	Historic architectural resource: Upper Riverside Canal	1991; 1992; 1996; 2001; 2009	Potentially Eligible
004791	-	Historic architectural resource: Lower Riverside Canal	1992; 2001; 2005	Potentially Eligible
007899	-	Historic architectural resource: single family residence constructed in 1907	1997	Potentially eligible
007900	-	Historic architectural resource: single family residence constructed in 1936	1997	Not eligible
008407	-	Historic architectural resource: Sherman Indian School built in 1901	1973	Eligible
009518	-	Historic architectural resource: Arlington Branch Library and Fire Hall	1992	Eligible
010974	-	Historic architectural resource: three residential buildings built in the 1920s	2000	Not evaluated
011251	-	Historic architectural resource: commercial building constructed in 1912	1999	Not eligible
011632	-	Historic architectural resource: single family residence constructed in 1912	2002	Not eligible
017542	-	Historic architectural resource: Monroe Street Canal	2008	Not evaluated

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Description	Date Recorded	CRHR Eligibility
024194	-	Historic architectural resource: public utility building constructed in 1968	2014	Not eligible
025594	-	Historic architectural resource: single family residence constructed in 1930	2003	Not eligible
025595	-	Historic architectural resource: single family residence constructed in 1926	2003	Not eligible
025596	-	Historic architectural resource: single family residence constructed in 1911	2003	Not eligible
025597	-	Historic architectural resource: single family residence constructed in 1927	2003	Not eligible
028079	-	Historic architectural resource: Hawthorne Elementary School	2016	Not eligible

Resource Descriptions

The following provides detailed descriptions of the 17 previously recorded cultural resources within Arlington Project area.

Resource P-33-000496 is a prehistoric archaeological site originally recorded in 1971 as consisting of many portable metates, mortars, manos and pestles located within active agricultural fields (King, 1971). In 1993, the site was re-visited and was found to have been destroyed by the construction of the Tyler Springs Senior Apartment building in the 1980s (White, 1993). The mapped location of the site is located within 100 of the Alternative 2 pipeline. The site has not been evaluated for inclusion in the CRHR.

Resource P-36-004495/004791 is a historic architectural resource consisting of the Upper and Lower Riverside Canal. The 7.25-mile long Upper Canal was constructed in 1870 to divert water from the Santa Ana River for irrigation purposes (Gustafson, 2001). The Lower Canal was constructed in 1875 to divert water from the Santa Ana River for irrigation of the lands around the Arlington Heights neighborhood and was in operation until 1914 (McKenna, 2005). When originally built, the canals were lined with river cobbles and covered in cement, and had dimensions of 8 feet wide at the bottom and 15 feet wide at the top (Gustafson, 2001). Features associated with the canals include headgates, levees, suction pipes, division walls, flume remains, canal intakes, overflow gates, gate controls, siphons, and conduits (Gustafson, 2001). Although some segments of the canals have been abandoned, approximately 40 percent is still used for irrigation purposes. Over the years, segments of the canals have been replaced with newer materials, and portions have been replaced with culverts, underground pipes, or concrete tunnels (Gustafson, 2001). The resource bisects the Alternative 2 pipeline and has been previously evaluated and recommended as potentially eligible for listing in the NRHP, and is, therefore, eligible for listing in the CRHR (Gustafson, 2001).

Resource P-33-007899 is a historic architectural resource consisting of a single family residence constructed in 1907. The residence is wood framed and sits on a masonry basement (Tang, 1997a). Between 1920 and 1976, the residence was owned by Donald Roy McMillan, a local rancher and president of the Riverside Alfalfa Growers Association in 1947 (Tang, 1997a). The resource is located on the northern side of Indiana Avenue, within 50 feet of the Alternative 2 pipeline. The resource has been evaluated and recommended not eligible for the NRHP; however,

it may be eligible for designation as a local historic landmark, and, therefore, is potentially eligible for listing in the CRHR (Tang, 1997a).

Resource P-33-007900 is a historic architectural resource consisting of a single family residence. The resource is a Minimal Traditionalist style wood framed residence with a low-pitched side-gable roof (Tang, 1997b). The date of the residence's construction is unknown, but it was moved to its current location in 1936 (Tang, 1997b). The resource is located on the northern side of Indiana Avenue, within 50 feet of the Alternative 2 pipeline. The resource has been evaluated and recommended not eligible for the CRHR (Tang, 1997b).

Resource P-33-008407 is a historic architectural resource consisting of the Sherman Indian High School administration building constructed in 1901. The high school was constructed in 1901 to provide education to Native Americans from southern California, Arizona, New Mexico, Nevada, and Utah (Bradly, 1977). The administration building is the only remaining building associated with the original construction of the school and was designed by Wilcox and Rose in a style common to railroad depots of the time (Bradly, 1977). The building is rectangle in plan view and its brick foundation and walls are covered in stucco. In 1960, the building was updated to meet modern fire codes and the wood framed windows and doors were replaced with metal frames, and the front veranda was replaced with a small concrete platform (Bradly, 1977). The resource is located on the south side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource was listed in the NRHP in 1980, and is, therefore, eligible for listing in the CRHR.

Resource P-33-009518 is a historic architectural resource consisting of the Arlington Branch Library and Fire Hall. The building was constructed in 1908-09, and was altered in 1927-28 and 1967-68 (Baker, 1992). The building was originally designed in the Classic Revival style by architect Seeley L. Pillar. The alterations to the building in 1927-28 included only structural modification; however, the 1967-68 alterations removed existing fireplaces and staircases, stuccoed interior brick walls, and added offices (Baker, 1992). The building is rectangular in plan view, and has cement-covered, brick walls sitting upon a concrete foundation, and a flat roof enclosed by parapet walls (Baker, 1992). The resource is located on the south side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource was listed in the NRHP in 1992, and is, therefore, eligible for listing in the CRHR.

Resource P-33-010974 is a historic architectural resource consisting of three residential buildings. The three buildings include two single family residences and one duplex constructed between the late 1920s and the late 1950s (Tang, 2000). The resource is located on the south side of Indiana Avenue within 50 feet of the Alternative 2 pipeline and has been previously evaluated as not eligible for listing in the CRHR (Tang, 2000).

Resource P-33-011251 is a historic architectural resource consisting of a commercial building. The building was constructed in 1912 and originally housed a blacksmith shop (Van Horn, 2002). The single-story building sits atop a brick foundation, is rectangular in plan view, has two arched services entrances, and a stuccoed exterior. The building is located on the north side of Magnolia Avenue and is within 50 feet of the Alternative 1 pipeline. The resource has been previously evaluated and recommended not eligible for listing in the CRHR (Van Horn, 2002)

Resource P-33-011632 is a historic architectural resource consisting of a single family residence. The Craftsman style residence was constructed in 1912 and is wood framed with a poured concrete foundation and a low-pitched side-gabled roof (Tang, 2002). The residence was originally owned by Nathan O. Winship, co-owner of a local lumber yard, and was sold to Roy D. Hall in 1948 (Tang, 2002). Hall used the residence as the base for his plumbing business. The residence is located on the south side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource has been evaluated and recommended not eligible for listing in the CRHR (Tang, 2002).

Resource P-33-017542 is a historic architectural resource consisting of the Monroe Street Canal. The concrete-lined canal is trapezoidal in cross-section and measures 2,603 feet long along a north-south axis (Cannon and Gregory, 2008). The canal was originally an earthen ditch constructed sometime after 1901, but was lined with concrete prior to 1942 (Cannon and Gregory, 2008). The resource is located north of Magnolia Avenue within 100 feet of the Alternative 1 pipeline. The resource has not been evaluated for inclusion in the CRHR.

Resource P-33-024194 is a historic architectural resource consisting of a public utility building constructed in 1968. The Modern-style building has a concrete foundation, a stucco over concrete exterior, and a flat roof, and is asymmetrical in plan view (Crawford, 2014). The resource is located on the norther side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource has been previously evaluated and recommended not eligible for the NRHP, but has not been evaluated for inclusion in the CRHR (Crawford, 2014).

Resource P-33-025594 is a historic architectural resource consisting of a single family residence. The Spanish Colonial Revival-style residence is U-shaped in plan view, has a stuccoed exterior, and a gabled ceramic-tiled roof (Tibbet and Tang, 2003a). The residence was constructed in 1930 by William Gayot as part of a larger subdivision (Tibbet and Tang, 2003a). The resource is located on the south side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline alignment. The resource has been evaluated and recommended not eligible for listing in the CRHR (Tibbet and Tang, 2003a).

Resource P-33-025595 is a historic architectural resource consisting of a single family residence that has been converted to commercial uses. The building is irregular in plan view, is wood framed, and has a low-pitched gabled roof (Tibbet and Tang, 2003b). The building was constructed by H.A. Schwartz in 1926 as part of a larger subdivision and currently houses a natural food store (Tibbet and Tang, 2003b). The resource is located on the south side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource has been evaluated and recommended not eligible for listing in the CRHR (Tibbet and Tang, 2003b).

Resource P-33-025596 is a historic architectural resource consisting of a single family residence. The building is rectangular in plan view, is wood framed, and has a cross-gabled roof (Tibbet and Tang 2003c). The building was constructed by J.E. Winship in 1911 as part of a larger housing tract (Tibbet and Tang 2003c). The resource is located on the north side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource has been evaluated and recommended not eligible for listing in the CRHR (Tibbet and Tang, 2003c).

Resource P-33-025597 is a historic architectural resource consisting of a single family residence. The building is irregular in plan view, is wood framed, and has a medium-pitched gabled roof (Tibbet and Tang, 2003d). The building was constructed by A.W. Peters in 1929 as part of a larger subdivision (Tibbet and Tang, 2003d). The resource is located on the south side of Magnolia Avenue within 50 feet of the Alternative 1 pipeline. The resource has been evaluated and recommended not eligible for listing in the CRHR (Tibbet and Tang, 2003d).

Resource P-33-028079 is a historic architectural resource consisting of the vacant Hawthorne Elementary School. The resource is comprised of eight buildings constructed in 1956 in the Modern style, and includes classrooms and an administration building (Bachtel, 2016). The school housed students until 2006, when its operations were moved to a new school location. The resource is located on the south side of Indiana Avenue within 50 feet of the Alternative 2 pipeline. The resource has been evaluated and recommended not eligible for listing in the CRHR (Bachtel, 2016).

Historic Map and Aerial Photograph Review

Available historic topographic maps for the Arlington Project include the 1900 Riverside 15-minute topographic quadrangle, and the 1953 and 1967 Riverside West 7.5-minute topographic quadrangles. Historic aerial photographs from the years 1948, 1967, 1972, 1994, and 2012 were also reviewed.

The 1901 topographic map depicts Magnolia Avenue and Indiana Avenue, the two road right-of-ways in which either Alternative 1 or 2 pipelines would be constructed, respectively, as northeast-southwest trending roads bisected by a number of cross streets and lined with a number of structures. The map shows the placename, “Arlington Place,” within the Arlington Project area, and two canals, Riverside Canal No. 1 and No. 2, are shown bisecting Indiana Avenue. The 1953 topographic map shows a residential area centered on the intersection of Magnolia Avenue and Van Buren Boulevard, the approximate center point of the proposed Alternative 1 Pipeline. The Sherman Indian Institute is shown as a cluster of buildings southeast of Magnolia Boulevard/Jackson Street intersection. Beyond the residential area at Magnolia Avenue and Van Buren Boulevard and the Sherman Indian Institute, the map shows that the Arlington Project area and its immediate vicinity is largely comprised of orchards. The 1967 topographic map shows that the orchards depicted in the 1953 map have largely been replaced with residential development, and Magnolia Avenue and Jackson Avenue are bounded by residential subdivisions.

The historic aerial photographs reflect what is depicted by the topographic maps, in that the region was dominated by orchards until the 1960s at which point residential development became the primary land use. The 1948 aerial photograph shows that the Arlington Project area and is surroundings are dominated by orchards. However, the 1967 aerial photograph shows that the orchards in the vicinity of the Arlington Project area have been completely replaced by residential and commercial development. The 1994 and 2012 aerial photographs show that the residential and commercial development bounding the Arlington Project area has become denser.

In sum, the historic map and aerial photograph review indicates that until the 1960s the Arlington Project area and its vicinity was largely used for agricultural purposes. By the late 1960s, the orchards bounding the Arlington Project area were completely replaced by residential and commercial development, which intensified and grew denser as depicted in the 1994 and 2012 aerial photographs.

WMWD Pump Station Project

Records Search

Previous Cultural Resource Studies

The records search results indicate that 15 cultural resources studies have been conducted within a ½-mile radius of the WMWD Pump Station Project area (**Table 3**). Of these 15 previous studies, 10 included some form of field study including survey, excavation, or monitoring. Approximately 35 percent of the ½-mile records search radius has been included in previous cultural resources surveys. Of the 10 previous field studies, one (RI-03693) overlaps the WMWD Pump Station Project area. Approximately 5 percent of the Project area has been previously surveyed.

TABLE 3 PREVIOUS CULTURAL RESOURCES STUDIES WITHIN ½ MILE OF THE WMWD PUMP STATION PROJECT AREA

Author	EIC # (RI-)	Title	Date
Foster, John M., James J. Schmidt, Carmen A. Weber, Gwendolyn R. Romani, and Roberta S. Greenwood	03693*	*Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District of Southern California*	1991
Wills, Carrie D., Sarah A Williams, and Kathleen A Crawford	09218	*Cultural Resources Record Search and Site Visit Results for T-Mobile West, LLC Candidate IE04197A (CM197 Communication Center)*	2014
Aislin-Kay, Marnie and Christeen Taniguchi	06149	*Letter Report: Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate SB-308-02 (VZW Alessandro Cohab), 6674 Alessandro Boulevard, Corona, Riverside County, California*	2004
Drover, Christopher E.	02289	*An Archaeological Assessment of Vista Valley Company Parcel, Riverside, California*	1988
Parr, Robert E. and P.J. Wilke	02391	*Cultural Resources Assessment of the Alessandro Heights Project Located in the City of Riverside, Riverside County, California*	1989
Lerch, Michael K.	01721	*Cultural Resources Assessment of the Northern, Western, and Southern Extensions of The Sycamore Canyon Specific Plan, City of Riverside, California*	1983
Kyle, Carolyn E.	05806	*Cultural Resource Assessment for AT&T Wireless Facility 950-003-526D Located at the Intersection of Alessandro Boulevard and Canyon Crest Drive, City of Riverside, Riverside County California*	2004
Aislin-Kay, Marnie	06145	*Letter Report: Cultural Resource Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate RS-015-01 (Riverside Communications Center) 7197 Alessandro, Riverside, Riverside County, CA*	2005
Jones, Carleton S.	03604	*The Development of Cultural Complexity Among the Luiseno: A Thesis Presented to the Department of Anthropology, California State University, Long Beach in Partial Fulfillment of the Requirements for the Degree, Master of Arts*	1992
Perault, Gordon	02050	*Preliminary Historic Inventory - March Air Force Base, California*	1985
National Park Service, HAER	04813	*California Citrus Heritage Recording Project: Photographs, Written Historical and Descriptive Data, Reduced Copies of Measured Drawings for Arlington*	1993

Author	EIC # (RI-)	Title	Date
		Height Citrus Landscape, Gage Irrigation Canal, National Orange Company Packing House, Victoria Bridge, and Union Pacific Railroad Bridge	
Bricker, David	06088	*First Supplemental Historic Property Survey Report for the Improvement of Interstate Route 215/State Route 91/State Route 60, Riverside County, CA*	1998
Heller, Rod, Tim Tethrow, and C. White	01955	*An Overview of the Sundesert Nuclear Project Transmission System Cultural Resource Investigation*	1977
Sanka, Jennifer M. and Marnie Aislin-Kay	07495	*Phase I Cultural Resources Assessment and Phase II Cultural Resources Testing Tentative Tract Map No. 32270, Riverside, Riverside County, California*	2007
White, Laurie	05168	*Records Search Results for Sprint PCE Facility RV03XC029D (County Communications Bldg.), City of Riverside, Riverside County, California*	2000

*Indicates study overlaps project area

Previously Recorded Cultural Resources

The records search results indicate that 15 cultural resources have been previously recorded within a ½-mile radius of the WMWD Pump Station Project area (**Table 4**). Of the 15 previously recorded resource, 14 are prehistoric archaeological sites (P-33-001839, -003274, -003275, -003276, -003592, -003634, -003635, -003636, -003637, -003639, -003640, -016645, -016646, and -016647) consisting primarily of bedrock milling features, and one is a prehistoric isolate (P-33-012326). None of the 15 previously recorded resource are located within or immediately adjacent to the WMWD Pump Station Project area.

TABLE 4 PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN ½ MILES OF WMWD PUMP STATION PROJECT AREA

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Description	Year Recorded	CRHR Eligibility
1839	1839	Prehistoric archaeological site: bedrock milling features	1980; 1989	Not evaluated
3274	3274	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3275	3275	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3276	3276	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3592	3592	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3634	3634	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3635	3635	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3636	3636	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3637	3637	Prehistoric archaeological site: bedrock milling features	1989	Not evaluated
3639	3639	Prehistoric archaeological site: bedrock milling features	1989; 2007	Not evaluated
3640	3640	Prehistoric archaeological site: occupation site	1989	Not evaluated
12326	-	Prehistoric isolate: one mano	1989	Not eligible

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Description	Year Recorded	CRHR Eligibility
16645	8723	Prehistoric archaeological site: bedrock milling features	2007	Not evaluated
16646	8724	Prehistoric archaeological site: bedrock milling features	2007	Not evaluated
16647	8725	Prehistoric archaeological site: bedrock milling features	2007	Not evaluated

Historic Map and Aerial Photograph Review

Available historic topographic maps for the WMWD Pump Station Project include the 1901 Riverside 15-minute topographic quadrangle, and the 1953 and 1967 Riverside 7.5-minute topographic quadrangles. Historic aerial photographs from the years 1948, 1967, 1978, 1994, and 2012 were also reviewed.

The 1901, 1953, and 1967 topographic maps show the WMWD Pump Station Project in a largely undeveloped area characterized by terraces bisected by northwest-southeast trending drainages. The maps depict a northwest-southeast oriented road, which corresponds to present-day Alessandro Boulevard, located immediately east of the WMWD Pump Station Project area, but no other development is depicted in the immediate vicinity.

The 1948 and 1967 aerial photographs reflect what is depicted by the topographic maps: that the WMWD Pump Station Project area and its vicinity are undeveloped with the exception of Alessandro Boulevard. The 1978 aerial photograph shows residential subdivision being constructed immediately north and southeast of the WMWD Pump Station Project area. The and 2012 aerial photographs show WMWD Pump Station Project area is surrounded on all sides by residential development and that Overlook Parkway has been constructed along the Project's southeastern boundary. The 1994 and 2012 aerial photographs also show that the northern portions of the WMWD Pump Station Project area, immediately south of Alessandro Boulevard, has been graded flat.

In sum, the historic map and aerial photograph review indicates the WMWD Pump Station Project area and its vicinity remained largely undeveloped until the late 1970s, when construction of residential subdivisions began. By 1994 the WMWD Pump Station Project area was completely surrounded by residential development, and its northern most portion had been graded flat. The WMWD Pump Station Project area has remained largely undeveloped despite being surrounded by residential subdivisions.

ID-4 Colorado River Aqueduct Crossing Refurbishment

Records Search

Previous Cultural Resources Studies.

The records search results indicate that 16 cultural resources studies have been conducted within a ½-mile radius of the ID-4 CRA Project area (**Table 5**). Of these 16 previous studies, 11 included some form of field study including survey, excavation, or monitoring. Approximately 30 percent of the ½-mile records search radius has been included in previous cultural resources

surveys. Of the 11 previous field studies, one (RI- 003289) overlaps the ID-4 CRA Project area. Approximately 15 percent of the Project area has been previously surveyed.

TABLE 5 PREVIOUS CULTURAL RESOURCE STUDIES WITHIN ½ MILES OF THE ID-4 CRA PROJECT AREA

Author	EIC # (RI-)	Title	Date
Barker, Leo R. and Ann E. Huston	04762	*Death Valley to Deadwood; Kennecott to Cripple Creek Proceedings of the Historic Mining Conference, January 23-27, 1989, Death Valley National Monument*	1990
Bean, Lowell John, Sylvia Brakke Vane, Matthew C. Hall, Harry Lawton, Richard Logan, Lee Gooding Massey, John Oxendine, Charles Rozaire, and David P. Whistler	00535	*Cultural Resources and the Devers-Mira 500 kV Transmission Line Route (Valley to Mira Loma Section)*	1979
Desautels, Roger	01166	*Archaeological Survey Report on the Proposed Cajalco Expressway in the Lake Mathews-Mead Valley Area of the County of Riverside*	1991
Drover, Christopher E.	03289*	*A Cultural Resource Assessment: Western Municipal Water District, Ultimate Water System Project, Lake Mathews, Riverside County, California*	1991
Hogan, Michael	08714	*Letter Report: Archaeological Monitoring Program Sewer Facility and Access Road Project*	2011
Jones and Stokes Associates, Inc.	04404	*Final Cultural Resources Inventory Report for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Riverside to San Diego, California Vol I-IV*	2000
Jones, Carleton S.	03604	*The Development of Cultural Complexity Among the Luiseno:*	1992
Lecount, Lisa and Carmen A. Weber	04202	*Lake Mathews Cultural Resources Reconnaissance Survey*	1992
McKenna, Jeanette A.	05027	*A Phase I Cultural Resources Investigation of the Vest Telecommunications, Inc. Fiber Optic Alignment, Riverside County to San Diego County, California*	2000
Perault, Gordon	02059	*Preliminary Historic Inventory - March Air Force Base, California*	1985
Rogers, Malcolm J.	00002	*Miscellaneous Field Notes - Riverside County.*	1953
Sanka, Jennifer M. and Marnie Aislin-Kay	08171	*Cultural Resources Assessment Public Safety Enterprise Communication Project Riverside, Orange, San Bernardino, and San Diego Counties, FM 04174400010*	2008
Scientific Resource Surveys, Inc.	01380	*Cultural Resources Report on 1330 Acres Located Adjacent to Lake Mathews in the County of Riverside*	1981
Tang, Bai "Tom"	08356	*Archaeological Monitoring of Earth-Moving Activities Cajalco Fire Station and WMWD Operations Center Improvements Lake Mathews/Estelle Mountain Reserve Area, Riverside County.*	2009
Thomas, Roberta	09555	*Archaeological Survey Report for Solar Powered Speed Feedback Signs Project, Riverside County, California HSIPL-5956(218)*	2015
Wexelblatt, Shanna, Molly Valasik, and Sherri Gust	09599	*Archaeological Survey For Southern California Edison Company's Replacement of the Deteriorated Power Pole Structure (#1991238E) On the Kimdale 12KV Distribution Circuit WO#/TD#77-TD595811, Perris, Riverside County, California*	2012

*Indicates study overlaps Project area

Previously Recorded Cultural Resources

The records search results indicate that 11 cultural resources have been previously recorded within a ½-mile radius of the ID-4 CRA Project area (**Table 6**). Of the 11 previously recorded

resource, eight are prehistoric archaeological sites (P-33-004392, -004393, -004394, -004395, -004417, -004418, -016067, and -021038) consisting primarily of bedrock milling features, two are historic-period archaeological sites (P-33-004412 and -010949), and one is a historic architectural resource consisting of the Colorado River Aqueduct (P-33-011265). One resource, the Colorado River Aqueduct (P-33-011265), overlaps the ID-4 CRA Project area. This resource is described in detail below.

TABLE 6 PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN ½ MILES OF THE ID-4 CRA PROJECT AREA

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Description	Year Recorded	CRHR Eligibility
004392	4392	Prehistoric archaeological site: bedrock milling features	1991	Not evaluated
004393	4393	Prehistoric archaeological site: bedrock milling features	1991	Not evaluated
004394	4394	Prehistoric archaeological site: lithic scatter	1991	Not evaluated
004395	4395	Prehistoric archaeological site: bedrock milling features	1991	Not evaluated
004412	4412	Historic-period archaeological site: refuse scatter and concrete foundations	1991	Not evaluated
004417	4417	Prehistoric archaeological site: bedrock milling features	1991	Not evaluated
004418	4418	Prehistoric archaeological site: bedrock milling features	1991	Not evaluated
010949	10949	Historic-period archaeological site: remnants of mortar well	2000; 2005	Not evaluated
011265	6726H	Historic architectural resource: Colorado River Aqueduct	2000; 2016	Eligible
016067	8301	Prehistoric archaeological site: bedrock milling features	2005	Not evaluated
021038	10896	Prehistoric archaeological site: bedrock milling features	2012	Not evaluated

Resource Descriptions

Resource P-33-011265 is a historic architectural resource consisting of the Colorado River Aqueduct. The aqueduct was constructed in the early 1930's from Lake Havasu to Lake Mathews south of Riverside (Hamilton and Beedle, 2005). The aqueduct consists of a large, open, concrete-lined canal crossing the Colorado and Mojave deserts, with long segments that are tunnels bored beneath mountain ranges. The resource overlaps the ID-4 CRA Project area. The resource has been previously recommended eligible for listing in the NRHP, and is, therefore, eligible for listing in the CRHR (Hamilton and Beedle, 2005).

Historic Map and Aerial Photograph Review

Available historic topographic maps for the ID-4 CRA Project area include the 1901 Elsinore 15-minute topographic quadrangle, and the 1953 and 1967 Steele Peak 7.5-minute topographic quadrangles. Historic aerial photographs from the years 1966, 1978, 1994, 2009, and 2012, were also reviewed.

The 1901 topographic map shows the ID-4 CRA Project area within an undeveloped area of Cajalco Canyon, in the vicinity of Cajalco Creek. The 1953 and 1967 topographic maps depict the ID-4 CRA Project area west of the intersection of Cajalco Road and El Sobrante Road, and the CRA is shown crossing the Project area. The 1967 topographic map shows a filtration plant located immediately north of the ID-4 CRA Project area.

The 1966, 1978, and 1994 aerial photographs show the CRA crossing the ID-4 CRA Project area, as well as two water tanks immediately to the northwest, and a number of structures located immediately to the north. The photographs depict the ID-4 CRA Project area an earthen ramp that slopes down to the CRA. The 2009 aerial photograph shows the construction of the EMWD headquarters buildings immediately north of the ID-4 Project area, and the 2012 photograph shows the completed buildings.

In sum, the historic map and aerial photograph review indicates that development with the ID-4 CRA Project area has been associated with the CRA and EMWD facilities since at least the 1950s. Prior to the construction of the CRA, the ID-4 CRA Project area appears to have been undeveloped.

Santa Ana River Arundo Removal

Records Search

Previous Cultural Resources Studies

The records search results indicate that 57 cultural resources studies have been conducted within a ¼-mile radius of the Arundo Removal Project area (**Table 7**). Of these 57 previous studies, 50 included some form of field study including survey, excavation, or monitoring. Approximately 60 percent of the ¼-mile records search radius has been included in previous cultural resources surveys. Of the 50 previous field studies, 16 (RI-00061, -01307, -01697, -01954, -02148, -02267, -02307, -02938, -03982, -04220, -05905, -08536, -08763, -08772, -09000, and -09169) overlap the Arundo Removal Project area. Of these 16 studies, one prepared by Hampson et al. in 1988 (RI- 02307) includes approximately 85 percent of the Arundo Removal Project area.

Hampson et al.'s investigation included records searches, as well as a pedestrian survey of approximately 9,375 acres along the Upper Santa Ana River. Based on the results of the investigations, Hampson et al. found that the identified prehistoric archaeological resources were located along the margins of the terraces and bluffs overlooking the river, with none located within the actual Santa Ana River channel. Similarly, it was found that many of the historic-period archaeological sites were located on low benches adjacent to the river channel and its tributaries and largely represented remains of agricultural operations, as well as water and power development. The location of archaeological resources along the margins of the riverbed is not surprising given that the high energy flow of water associated with the periodic flooding episodes that occurred within the Santa Ana River in the past would have either scoured away or buried these resources.

TABLE 7 PREVIOUS FIELD STUDIES WITHIN ¼-MILE OF THE ARUNDO REMOVAL PROJECT AREA

Author	EIC # (RI-)	Title	Date
Alexandrowicz, John Stephen and Richard A. Kratkramer	04715	*An Historical Resources Identification Investigation of Tract No. 31503 , Loring Ranch Road, Riverside County California*	2004
Arkush, Brooke	02837	*An Archaeological Assessment of Tentative Tract 25718 Located West of the City of Riverside in Western Riverside County, California*	1990
Bai "Tom" Tang, Deirdre Encanacion, Daniel Ballester, and Laura H. Shaker	08536*	*Chino Desalter Phase 3 Expansion Project*	2010
Barker, James P.	00125	*Letter Report: Archaeological Survey of Proposed Conveyance Alignments and Treatment Plant Site, Riverside, Rubidoux, and Jurupa.*	1974
Barker, Leo R. and Ann E. Huston	04762	*Death Valley to Deadwood; Kennecott to Cripple Creek. Proceedings of the Historic Mining Conference, January 23-27, 1989, Death Valley National Monument*	1990
Budinger, Fred E.	10169	*Letter Report: Antenna Licensing from the Federal Communications Commission (FCC), Verizon Wireless Inc., Unmanned Cellular Telecommunication Facility at Limonite*	2002
Crull, Scott and Anna Hoover	07729	*An Archaeological Mitigation-Monitoring Report For Tract 31643, the Riverstone project, in the Eastvale Area of the County of Riverside, California*	2008
Delu, Antonina M.	08613	*Cultural Resource Assessment of the Profit 12kV out of Pedley Distribution Substation Planning Project (IO 313390)*	2010
Drover, C.E.	02069	*An Archaeological Assessment of the Proposed Bain Street/Water Lines Jurupa*	1986
Drover, Christopher	01697*	*Environmental Impact Evaluation: Archaeological Assessment of the Proposed Norco Wastewater Management Facilities*	1982
Drover, Christopher E.	02938*	*An Archaeological Assessment of the Mt. Rubidoux Golf Course Project Riverside, California*	1990
Drover, Christopher E.	03889	*Environmental Impact Evaluation: A Cultural Resources Impact Assessment of the 748 Acre Eastvale Project, Riverside County, California*	1993
Drover, Christopher E.	02593	*An Archaeological Assessment of the Archibald Sewage Treatment Plant Norco, Riverside County, California*	1989
Foster, John M., James J. Schmidt, Carmen A. Weber, Gwendolyn R. Romani, and Roberta S. Greenwood	03639	*Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District of Southern California*	1991
Gardner, Michael C.	00031	*The Arlington Channel Flood Control Project: Expected Impact On Archaeological Resources.*	1971
Goodwin, Riordan L.	05325	*Historic Property Survey Report: Van Buren Boulevard Bridge Replacement Class II Project*	2002
Greenwood, Roberta, J.M. Foster, A.Q. Duffield, and J.F Elliot	02148*	*Historical and Archaeological Evaluation: Rincon Townsite and Environs*	1987
Hampson, R. Paul, Jerrel Sorensen, Susan K. Goldberg, Mark T. Swanson, and Jeanne E. Arnold	02307*	*Cultural Resources Survey, Upper Santa Ana River, California*	1988
Hoffman, Robin, Timothy Yates, and Karen Crawford	08763*	*Cultural Resources Inventory Report for the Proposed Circle City Substation and Mira Loma-Jefferson Subtransmission Line Project*	2012
Howard, Jennifer and Evelyn N. Chandler	08040	*Cultural Resources Inventory of Proposed Pole Replacement, Norco, Riverside County, California*	2008
Irish, Leslie Nay, Kristie R. Blevins, Anna M. Hoover, and Hugh M. Wagner	04926	*A Phase I Archaeological and Paleontological Survey Report on TR 30735, APNS 130-060-001 and -015 TO -017, County of Riverside, California*	2003
Jacquemain, Terri	08772*	*Historical/Archaeological Resources Survey Report: Jurupa Community Services District Sewer System Capital Improvements Project, Jurupa Area, Riverside County, California*	2010
Jertberg Patricia and Karen Kirtland	03395	*Cultural and Biological Resources Assessment of Jurupa Avenue Extension, Approximately 1 Mile, City of Riverside, Riverside County, California*	1991
Jones, Carleton S.	03604	*The Development of Cultural Complexity Among the Luiseno*	1992
Kraft, Jennifer R. and Brian F. Smith	09792	*Phase I Cultural Resources Survey for the Jurupa Valley Project, City of Jurupa Valley, County of Riverside*	2016
Langenwalter, Paul E. and James Brock	00061*	*Phase II Archaeological Studies Prado Basin And The Lower Santa Ana River*	1985

Author	EIC # (RI-)	Title	Date
Lerch, Michael K.	04331	*Historic Property Survey Report: Corydon Avenue Equestrian Staging Area, City of Norco, Riverside County, California.*	1999
Lipp, Don	00262	*An Archaeological Evaluation of Proposed Development of Two Water Wells and Associated Facilities Near Norco, Riverside County, California*	1977
Lipp, Donald	00270	*Environmental Impact Evaluation: Archaeological Survey of the Proposed Interceptor Facility to City of Riverside Water Quality Control Plant, Riverside County, California*	1977
Lipp, Donald E.	00253	*Environmental Impact Evaluation: Archaeology of the Proposed El Rio Residential Development, Riverside County, California*	1976
Love, Bruce	03982*	*Historic Property Survey Report for the Santa Ana River Bike Trail Phase IIIB Project City and County of Riverside, California*	1997
Love, Bruce and Bai "Tom" Tang	04220*	*Identification and Evaluation of Historic Properties: Rancho La Sierra Water Supply Facility Site, City of Riverside, Riverside County, California*	1999
Love, Bruce, Bai "Tom" Tang, and Michael Hogan	04038	*Archaeological/Historical Site Evaluation Rancho La Sierra Development, City of Riverside County, California*	1999
Lowell John Bean., Sylvia Brakke Vane, Matthew C. Hall, Harry Lawton, Richard Logan, Lee Gooding Massey, John Oxendine, Charles Rozaire, and David P. Whistler	00535	*Cultural Resources and the Devers-Mira 500 kV Transmission Line Route (Valley to Mira Loma Section)*	1979
McKenna et al.	05049	*Archeological Survey Report: A Phase I Cultural Resources Investigation for the Proposed Eastvale Water and Sewer master Plan, riverside County, California*	2003
McKenna et al.	05052	*A Phase I Cultural Resources Investigation for the Proposed Eastvale Water and Sewer Master Plan, Riverside County, California*	2003
McKenna, Jeanette A.	08243	*A Phase I Cultural Resources Investigation For The Proposed Jurupa Avenue Extension, Between Van Buren Boulevard and Tyler Avenue In The City of Riverside, Riverside County, California.*	2009
McKenna, Jeanette A.	08601	*Addendum Report: A Cultural Resources Investigation and Evaluation of Identified Resources Along the Proposed Jurupa Ave Extension Between Van Buren Boulevard*	2009
National Park Service, HAER	04813	*California Citrus Heritage Recording Project: Photographs, Written Historical and Descriptive Data, Reduced Copies of Measured Drawings for: Arlington Height Citrus Landscape, Gage Irrigation Canal, National Orange Company Packing House, Victoria Bridge, and Union Pacific Railroad Bridge*	1993
Peak, Ann S.	01307*	*Cultural Resource Assessment of Sewage Treatment Facilities Expansion Project, City of Corona, Riverside County, California*	1975
Rosenthal, E. Jane and Steven J. Schwarz	01954*	*A Cultural Resource Survey of the Proposed Santa Ana River Hiking/Biking Trail in the Prado Flood Control Basin*	1981
Schneider, Joan S.	02267*	*An Archaeological Assessment of TT 21355 Located in the City of Corona Wester Riverside County, California*	1988
Schroth, Adella and Marie Cottrell	00973	*Cultural Resource Assessment of Tentative Tract 16291, Pedley Riverside County, California*	1980
Swanson, M. and R. Hatheway	02889	*The Dairy Industry of the Prado Basin*	1989
Swanson, Mark T. and Roger G. Hatheway	02902	*The Prado Dam and Reservoir, Riverside and San Bernardino Counties, California.*	1989
Tang, Bai "Tom"	08921	*Historical/Archaeological Resources Survey, Prado Basin Habitat Sustainability Program, Monitoring Wells Inland Empire Utilities Agency Peace II Project, San Bernardino and Riverside Counties, California*	2013
Tang, Bai "Tom"	09000*	*Update to Historical/ Archaeological Resources Survey, Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California, CRM TECH Contract No. 2767*	2014
Tang, Bai "Tom", Michael Hogan, Daniel Ballester, Harry M. Quinn, and Laura H. Shaker	08761	*Identification and Evaluation of Historic Properties: Butterfield Park Reclaimed Waterline*	2012
Tang, Bai "Tom", Terri Jacquemain, and Daniel Ballester	09169*	*Historical/Archaeological Resources Survey Report: Paradise Knolls Project, City of Jurupa Valley, Riverside County, California*	2014
Tang, Bai "Tom", Terri Jacquemain, Daniel Ballester, and Laura H. Shaker	07963	*Historical/Archaeological Resources Survey Report: Tequesquite Arroyo Park, City of Riverside, Riverside County, California*	2009

Author	EIC # (RI-)	Title	Date
Tang, Bai, Michael Hogan, and Mariam Dahdul	05905*	*Historical/Archaeological Resources Survey Report, Tentative Tract Map No. 30825, Near the City of Norco, Riverside County, CA*	2002
Tang, Bai, Michael Hogan, Casey Tibbet, and Daniel Ballester	05951	*Historical/Archaeological Resources Survey Report, Assessor's Parcel Number 130-030-017, Near the City of Norco, Riverside County, California*	2003
Tang, Bai, Michael Hogan, Josh Smallwood, and Daniel Ballester	05964	*Historical/Archaeological Resources Survey Report, Tentative Tract Map No. 31406, Near the City of Norco, Riverside County, CA*	2003
Taniguchi, Christeen	06106	*Letter Report: Records Search Results and Site Visit For Cingular Wireless Facility Candidate SC-208-01 (Mike's Auction) 10411 Limonite Avenue, Mira Loma, Riverside County, CA*	2004
Turner, Robin D.	09214	*Cultural Resources and Paleontological Resources Monitoring Report for Phase 1 of the Santa Ana River Trunk Sewer Replacement Project, City of Riverside and Unincorporated Riverside County, California*	2014
White, Laurie	05390	*Cultural Resource Assessment for Sprint PCS Facility RV54XC411D (Dorthy), near Mira Loma, Riverside County, CA*	2001
Williams, Sarah and Wayne Bonner	08666	*Letter Report: Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate IE24269-A (El Camino Nursery), 4780 California Avenue, Norco*	2011

Previously Recorded Cultural Resources

The records search results indicate that 49 cultural resources have been previously recorded within a ¼-mile radius of the Arundo Removal Project (**Table 8**). Of the 49 previously recorded resource, 17 are located within the Arundo Removal Project area. These 17 resources include three prehistoric archaeological sites (P-33-000621, -000622, and -000652), four historic-period archaeological sites (P-33-002802, -003354, -003357, and -003694), two multicomponent archaeological sites (P-33-000127 and -001451), six historic architectural resources (P-33-003361, -006524, -016848, -017221, -024052, and -024146), and two historic-period isolates (P-33-012736 and -017220).

TABLE 8 PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN ¼ MILE OF THE ARUNDO REMOVAL PROJECT AREA

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Other Identifier	Description	Date Recorded	CRHR Eligibility
000100	100	-	Multicomponent archaeological site: prehistoric habitation and historic-period ranch	1941;1951;1979; 1989; 1990;1998	Not evaluated
000127	127	-	Multicomponent archaeological site: prehistoric bedrock milling features and historic-period refuse scatter	1951; 1975; 1987; 2011; 2013	Eligible
000325	325	-	Prehistoric archaeological site: artifact scatter	1967; 1971	Not evaluated
000621	621	-	Prehistoric archaeological site: bedrock milling features	1973; 1975; 1987; 1995; 1997	Not evaluated
000622	622	-	Prehistoric archaeological site: bedrock milling features	1973; 1987; 1995	Not evaluated
000624	624/H	-	Multicomponent archaeological site: prehistoric bedrock milling features and historic-period concrete-lined ditches	1973; 1998	Not evaluated
000625	625	-	Prehistoric archaeological site: bedrock milling features	1973; 1998	Recommended not eligible
000652	652	-	Prehistoric archaeological site: lithic and groundstone scatter	1972; 1983	Not evaluated

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Other Identifier	Description	Date Recorded	CRHR Eligibility
000700	700	-	Prehistoric archaeological site: bedrock milling features	1971	Not evaluated
000884	884	-	Prehistoric archaeological site: pictographs	1965	Not evaluated
001039	1039	-	Historic-period archaeological site: remnants of Ashcroft family ranch	1975; 1995	Potentially eligible
001043	1043	-	Prehistoric archaeological site: lithic scatter	1975	Not evaluated
001044	1044	-	Historic-period archaeological site: remnants of Carrillo family farm	1975; 1980; 1995	Potentially eligible
001436	1436	-	Prehistoric archaeological site: lithic and groundstone scatter	1977	Not evaluated
001451	1451	-	Multicomponent archaeological site: prehistoric lithic scatter and historic-period refuse scatter	1977	Not evaluated
002754	2754	-	Prehistoric archaeological site: lithic and groundstone scatter	1983; 2012	Not evaluated
002802	2802	-	Historic-period archaeological site: refuse scatter and buried adobe structure remnants	1984	Not evaluated
003354	3354	-	Historic-period archaeological site: refuse scatter and features associated with Chinese emigrant occupation and farming	1987	Potentially eligible
003358	3358	-	Historic-period archeological site: refuse scatter	1987; 1990	Not evaluated
003359	3359	-	Historic-period archaeological site: refuse scatter	1987	Not evaluated
003360	3360	-	Multicomponent archaeological site: prehistoric lithic scatter and historic-period refuse scatter	1987	Not evaluated
003361	3361/H	-	Historic architectural resource: Union Pacific RR bridge	1987; 2003; 2013	Eligible
003694	3694H	-	Historic-period archaeological site: remnants of Rincon town site	1989; 1992; 1994	Potentially eligible
003945	3945	-	Prehistoric archaeological site: bedrock milling features	1990	Not eligible
004730	-	-	Historic architectural resource: Prado Dam	1992	Eligible
005781	5521H	-	Historic-period archaeological site: remnants of farmstead	1995	Not evaluated
005783	5523H	-	Historic-period archaeological site: remnants of poultry farm'	1995	Not evaluated
006524	-	-	Historic architectural resource: Good Samaritan Boys Home	1983	Potentially eligible
007540	5805H	-	Historic-period archaeological resource: remnants of canal	1995	Not evaluated
007586	5809H	-	Historic-period archaeological site: structural remnants	1996	Not evaluated
008698	-	-	Historic-period isolate: bottle glass fragments	1999	Not eligible
008835	6271	-	Prehistoric archaeological site: bedrock milling features	1998	Recommended not eligible
008836	6272	-	Prehistoric archaeological site: bedrock milling features	1998	Recommended not eligible
009652	6452	-	Prehistoric archaeological site: bedrock milling features	2000; 2011	Not evaluated
009680	-	PHI RIV-007	Historic-period landscape resource: Mount Rubidoux	1967	Not evaluated

Primary # (P-33-)	Permanent Trinomial (CA-RIV-)	Other Identifier	Description	Date Recorded	CRHR Eligibility
011126	6690H	-	Historic architectural resource and archaeological features associated with Edmiston residence constructed in 1908	2001	Recommended not eligible
012622	-	-	Prehistoric isolate: mano fragment	1988	Not eligible
012736	-	-	Historic-period isolate: bottle glass fragments	1987	Not eligible
012900	-	-	Historic-period archaeological site: refuse scatter and concrete foundations	1980	Not evaluated
016848	-	-	Historic architectural resource: Santa River Trunk Sewer	2007; 2011	Recommended not eligible
016851	-	CHL 787	Historic-period resource: De Anza Trail Monument	2007; 2013	Eligible
017220	-	-	Historic-period isolate: porcelain tile fragments	2008	Not eligible
017221	-	-	Historic architectural resource: structures associated with Lynn Bar Ranch	2008	Recommended not eligible
017330	-	-	Prehistoric isolate: two metate fragments	2007	Not eligible
018664	9506	-	Historic architectural resource: ranch buildings	2010	Recommended not eligible
020283	-	-	Historic architectural resource: single family property	2011	Not evaluated
024052	-	-	Historic architectural resource: Paradise Knolls Golf Course	2014	Not eligible
024146	-	-	Historic architectural resource: storage shed	2015	Not evaluated
003357	3357	-	Historic-period archaeological resource: remnants of the Pedely Power Plant and canal	1987; 1997	Not evaluated

Resource Descriptions

The following provides detailed descriptions of the 17 previously recorded cultural resources within Arundo Removal Project area.

Resource P-33-000127 is a multicomponent archaeological site consisting of prehistoric bedrock milling features and historic-period refuse. The prehistoric bedrock milling features include 35 milling slicks, five bedrock mortars, five incipient bedrock mortars, and three metates (Hall, 1975a). The historic-period refuse scatter consists of tableware and beverage bottle fragments dating to the late 19th and early to mid-20th century (Hall, 1975a; Ruzicka and Akyuz, 2013a). A plaque (P-33-016851; CHL 787) is located within the site commemorating it as the site where De Anza camped and crossed the Santa Ana River in 1774 and 1776. De Anza mentioned a village was located at or in the vicinity of the site. No artifacts or features indicating habitation have been previously documented within the site, but the bedrock milling features were possibly associated with prehistoric habitation (Ruzicka and Akyuz, 2013a). Disturbances to the site include the construction of the Union Pacific Railroad bridge (P-33-003361), which bisects the site, as well as graffiti. The site is located within the Arundo Removal Project area and has been previously recommended eligible for listing in the CRHR under Criteria 1 and 4 due to the site's possible association with the De Anza expedition and its data potential, respectively (Ruzicka and Akyuz, 2013a).

Resource P-33-000621 is a prehistoric archaeological site consisting of 12 bedrock milling features, including millings slicks and shallow metates located on seven granitic boulders (Alexandrowicz et al., 1995a). In 1996, a single 1 by 1-meter excavation unit was excavated within the site to a depth of 32 centimeters; no prehistoric artifacts or features were identified (Love, 1997). Disturbances to the site include the construction of a concrete channel that bisects the site's northwestern corner, as well as graffiti and artifact collection (Alexandrowicz et al. 1995a). The site is located within the Arundo Removal Project area and has been previously recommended ineligible for listing in the NRHP, but has not been evaluated for inclusion in the CRHR (Love, 1997).

Resource P-33-000622 is a prehistoric archaeological site consisting of bedrock milling features. The bedrock milling features include nine millings slicks, four bedrock mortars, and a bedrock metate located on four granitic boulders (Hall, 1975b). Site disturbances are relatively minor and weathering and erosion of the boulders on which the features are located (Alexandrowicz et al., 1995b). The site is located within the Arundo Removal Project area and has not been previously evaluated for inclusion in the CRHR.

Resource P-33-000652 is a prehistoric archaeological site consisting of a lithic and groundstone scatter. In 1983 the site was subject to salvage excavation wherein three 1 by 0.5 meter units were excavated, resulting in the recovery of manos, metate fragments, lithic debitage, and flakes (Brock and Langenwalter, 1983). Much of the site has been destroyed by the previous construction and agricultural activities (Kirkish, 1972; Brock and Langenwalter, 1983). The site's southern margin overlaps the Arundo Removal Project area. The site has not been evaluated for inclusion in the CRHR.

Resource P-33-001451 is a multicomponent archaeological site. The site's prehistoric component consists of a sparse lithic and groundstone scatter, and the sites' historic-period component consists of beverage bottle fragments (Hammond, 1977). Disturbances to the site include impacts associated with agricultural activities. The site is located within the Arundo Removal Project area and has not been evaluated for inclusion in the CRHR.

Resource P-33-002802 is a historic-period archaeological site consisting of subsurface refuse deposits and an adobe foundation associated with an adobe dwelling depicted on a railroad survey map dating to the 1880s (Langenwalter and Brock, 1984). One 1 by 1-meter excavation unit was excavated within the site to a depth of 90 cm, resulting in the recovery of bottle glass fragments, plate glass fragments, metal fragments, iron square cut nails, saw-cut animal bone, and tableware (Langenwalter and Brock, 1984). The site's northern margin overlaps the Arundo Removal Project area. The site has not been evaluated for inclusion in the CRHR.

Resource P-33-003354 is a historic-period archaeological site possibly representing 19th century occupation and farming by Chinese emigrants and was locally known as China Gardens (Hampson et al., 1987). The site description is based on reports from a local informant stating that historic-period refuse has been detected eroding out of cut banks and was exposed during bulldozing of the area. Reported artifacts include a hand-tooled clear bottle, Chinese ceramic wine bottles and food storage jars, medicine bottles, and canning jars (Hampson et al., 1987). The

site's location and contents are based on informant interviews and the resource has not been formally verified due to thick vegetation covering the site's mapped location (Hampson et al., 1987). The mapped location of the site is located within the Arundo Removal Project area. The site has not been evaluated for inclusion in the CRHR.

Resource P-33-003357 is a historic-period archaeological resource consisting of the remnants of the Pedley Power Plant and its associated canal. The power plant, also known as the Riverside Power Plant, was constructed in the early 1900s and provided hydroelectric power to the city of Riverside between 1903 and 1906 (Love and Tang, 1997). The concrete lined canal was constructed in 1904 to provide water to the Pedley Power Plant (Love and Tang, 1997). The canal extended approximately 6 miles along the Santa Ana River channel and was in use until the 1910s when the canal's Headworks were destroyed by flooding (Love and Tang, 1997). The resource is comprised of six features, including the remnants of the hydroelectric building (Feature 1), a concrete spillway (Feature 2), a concrete penstock (Feature 3), a concrete header box (Feature 4), a concrete foundation (Feature 5), and a concrete canal (Feature 6) (Romani et al., 1987). The concrete-lined canal associated with the resource bisects portions of the Arundo Removal Project area and has not been previously evaluated for inclusion in the CRHR.

Resource P-33-003361 is a historic architectural resource consisting of the Union Pacific Railroad bridge. The 984-foot long, arched railway bridge was constructed between 1902 and 1904 to span the Santa Ana River (Ruzicka and Akyuz, 2013b). At the time of the bridge's construction it was the longest concrete bridge in the world. (Ruzicka and Akyuz, 2013b). The bridge is located within the Arundo Removal Project area and has been previously recommended eligible for listing in the CRHR under Criterion 3 for its architectural characteristics.

Resource P-33-003694 is a historic-period archaeological site consisting of the remnants of the previous Rincon townsite, dating to the 1880s. In 1994, the site was subject to data recovery excavations and 28 features were exposed. These 28 features include the remnants of pottery kilns, concrete storm drains, concrete footings and foundations, refuse deposits, and the remnants of a street (Dittmer, 1994). The site's northeastern quadrant overlaps the Arundo Removal Project area. The site has been previously recommended eligible for listing in the NRHP, and is, therefore, eligible for listing in the CRHR (Dittmer, 1994).

Resource P-33-006524 is a historic architectural resource consisting of the Good Samaritan Boys Home. The building was constructed in 1928 on Fuller Ranch by O.R. Fuller, and was originally known as Casa Orone (Richie, 1983). The two-story building is an example of Mediterranean/Spanish Revival architecture and has stucco siding, a low-pitched tile roof, and decorative balconies (Richie, 1983). The southeastern portion of the resource overlaps the Arundo Removal Project area. The resource has been previously recommended eligible for listing in the NRHP, and is, therefore, eligible for listing in the CRHR (Richie, 1983).

Resource P-33-012736 is a historic-period isolate comprised of approximately 25 amethyst glass fragments representing a single jar (Romani and Wakefield, 1987). The isolate is located within the Arundo removal Project area. Due to a lack of clear cultural context, isolates are not considered eligible for listing in the CRHR.

Resource P-33-016848 is a historic architectural resource consisting of the Santa Ana River Trunk Sewer. The sewer is located along the southern margin of the Santa River and runs from Tequesquito Arroyo to the City of Riverside wastewater treatment plant. The sewer is comprised of two 24-inch diameter vitrified clay pipelines constructed in 1944, a 44-inch diameter concrete pipeline constructed in 1957, concrete-covered brick manholes, drop culverts, and outfall pipelines (Beedle, 2007). The resource bisects portions of the Arundo Removal Project area and has been previously recommended ineligible for listing in the CRHR (Beedle, 2007).

Resource P-33-017220 is a historic-period isolate comprised of several blue ceramic tiles and a toilet seat fragment with "NGK - Japan – 1963" printed on it (Sanka and Aislin-Kay, 2008). The isolate is located within the Arundo removal Project area. Due to a lack of clear cultural context, isolates are not considered eligible for listing in the CRHR.

Resource P-33-017221 is a historic architectural resource consisting of the LynnBar Ranch, also known as the A Bar Ranch. The 122-acre former horse ranch consists of a number of structures including the main residence, a maid's residence, a caretaker's residence, a race track, stables, a barn, paddocks, a swimming pool, and two garages, all constructed between 1946 and 1960 (Crawford, 2008). The southeastern portion of the resource overlaps the Arundo Removal Project area. The resource has been previously evaluated and recommended not eligible for listing in the CRHR (Crawford, 2008).

Resource P-33-024052 is a historic architectural resource consisting of the Paradise Knolls Golf Course. The 110-acre golf course was opened in 1968 as a 9-hole course, and was expanded to an 18-hole course in the 1970s (Tang et al., 2014). The golf course includes a number of buildings and features including fairways, greens, a clubhouse, a groundskeeper's residence, a two-story residence, and a garage (Tang et al., 2014). The southeastern corner of the golf course overlaps the Arundo Removal Project area. The resource has been previously evaluated and recommended as not eligible for listing in the CRHR.

Resource P-33-024146 is a historic architectural resource consisting of a storage shed. The shed dates to at least as early as 1966 and is a wood framed structure on a concrete with a corrugated metal roof, and has five entry doors and one large rolling door (Brodie, 2015). The resource is located within the Arundo Removal Project area and has not been evaluated for inclusion in the CRHR.

Historic Map and Aerial Review

Available historic topographic maps for the Arundo Removal Project area include the 1900 Riverside 15-minute topographic quadrangle, the 1942 Corona 15-minute topographic quadrangle, the 1954 and 1967 Corona North 7.5-minute topographic maps, and the 1953 and 1967 Riverside West 7.5-minute topographic quadrangles. Historic aerial photographs from the years 1938, 1948, 1967, 1980, 1994, and 2012 were also reviewed.

The 1900 topographic map shows the Santa Ana River flossing along a generally east-west trending immediately north of the city of Riverside. The 1942, 1953, and 1967 topographic maps show the Santa Ana River flowing into the Prado Flood Control Basin immediately northeast of

Prado Dam. The maps also depict development associated with the cities of Riverside and Corona bound the southern portion of the river's flood plain, while the northern portion appears to be bounded by agricultural fields.

The 1938 and 1947 aerial photographs show the Arundo Removal Project area located within a highly braided portion of the Santa Ana River channel that is largely bounded to the north and south by agricultural fields. The 1947 photograph shows that the Prado Dam has been constructed immediately southwest of the Arundo Removal Project area. The 1967, 1980, 1994, and 2012 aerial photographs show that urban development associated with the cities of Riverside and Corona bound much of the Santa Ana River channel's southern margin.

In sum, the historic map and aerial photo review shows that the segment of the Santa Ana River that encompasses the Arundo Removal Project has largely remained in the same braided channel and until the mid-20th century the channel was largely bounded by agricultural fields. Beginning in the 1960s, urban development associated with the cities of Riverside and Corona expanded to the southern margin of the river's channel.

Cultural Resources Surveys

Methods

Cultural resources surveys of the IEUA Well Refurbishment, Arlington, WMWD Pump Station, and ID-4 CRA project areas were conducted on August 23 and 27, 2018 by ESA staff Michael Vader, B.A., and Fatima Clark, B.A.

Survey methodology varied based on the specific conditions of each the SARCCUP project areas. Survey areas located in developed urban areas were subject to a reconnaissance-level (windshield) survey to identify historic architectural resources and archaeological resources within or immediately adjacent to the project area. Survey areas within undeveloped areas were subject to systematic pedestrian survey using survey transects spaced at intervals no greater than 15 meters (approximately 50 feet). Survey areas with thick vegetation were subject to an opportunistic survey strategy wherein trails, clearings and other areas of bare earth were intensively inspected for the presence of cultural resources. Previously recorded resources were photographed and inspected to assess potential impacts.

Results

IEUA Well Refurbishment and Treatment System Project

The IEUA Well Refurbishment Project area consists of a triangular-shaped parcel bounded by Palo Verde Street to the north, the San Antonio Creek Channel to the east, and a residential subdivision to the west. The northern half of the parcel is covered in gravel and large cobbles, and is bisected by a paved access road (**Figure 8**). This portion of the IEUA Well Refurbishment Project area was subject to a systematic pedestrian survey. The central portion of the parcel consists of a paved area containing ammonium hydroxide and sodium hypochlorite facilities (Figure 9). The southern portion of the parcel is landscaped with a French drain, trees, and

covered with mulch. These two areas of the IEUA Well Refurbishment Project area were subject to an opportunistic survey wherein areas of visible ground surface were inspected.

No cultural resources were identified as a result of the IEUA Well Refurbishment cultural resources survey.

Overview of northern portion of IEUA Well Refurbishment Project area (view to north)

Overview of central portion of IEUA Well Refurbishment Project area (view to north)

SOURCE: ESA, 2018

SARRCUP

Figure 8
Survey Photos

Arlington Production Wells and Pipeline

The Arlington Project is located in a developed urban setting within the City of Riverside dominated by residential and commercial development (**Figure 9**). Both pipeline alternatives (Alternative 1 and 2) were subject to a reconnaissance-level survey wherein and attempt was made to identify areas of visible ground surface that could be inspected and to relocate the 17 previously recorded resources within or within 100 feet of the Arlington Project to assess the Project's potential impacts to the resources. Of the 17 previously recorded resources, one is a prehistoric archaeological site (P-33-000496) and 16 are historic architectural resources (P-33-004495, -004791, -007899, -007900, -008407, -009518, -010974, -011251, -011632, -017542, -024194, -025594, -025595, -025596, -025597, and -028079). The mapped location of the prehistoric archeological site (P-33-000496), which overlaps a segment of the Alternative 2 pipeline, was visited as part of the survey, but the entire areas was developed with a residential subdivision and the site's surface manifestation is presumed to have been destroyed.

Of the 16 historic architectural resources, nine (P-33-004495, -008407, -009518, -011251, -024194, -025594, -025596, -025597, and -028079) were relocated and largely matched previous descriptions provided in their respective DPR forms. These nine historic architectural resources do not overlap the proposed Project pipeline alternatives, but are located within 100 feet of the pipeline alternatives. Seven (P-33-004791, -007899, -007900, -010974, -011632, -017542, and -025595) of the previously recorded historic architectural resources could not be relocated and appear to have been destroyed by recent development.

No newly identified cultural resources were documented within the Arlington Project area as a result of the survey.

WMWD Pump Station Project

The WMWD Pump Station Project area is located within a residential area the City of Riverside, and consists of a vacant lot with a northwest-southeast trending drainage bisecting its central portion. The northern portion of the lot has been previously graded flat and was largely free of vegetation, which resulted in ground surface visibility of 100 percent (**Figure 10**). The southern portion of the site is comprised of a generally flat landform with sparse non-native grasses, which reduced ground surface visibility to 75 percent (Figure 10). Both these areas were subject to a systematic pedestrian survey.

The central portion of the WMWD Pump Station Project area is comprised of drainage with thick willow scrub vegetation, which obscured the ground surface visibility to approximately 0-15 percent and hindered access to this portion of the Project area (**Figure 11**). This portion of the WMWD Pump Station Project area was subject to an opportunistic survey wherein trails and cleanings within the willow scrub vegetation were intensively inspected. Immediately south of the drainage was a large diameter concrete pipe installed within a generally flat earthen pad with sparse vegetation (Figure 11). This area was subject to a systematic survey.

No cultural resources were identified within the WMWD Pump Station Project area as a result of the cultural resources survey.

Overview of Alternative 1 pipeline alignment on Magnolia Avenue (view to NE)

Overview of Alternative 2 pipeline alignment on Indiana Avenue (view to NE)

SOURCE: ESA, 2018

SARCCUP

Figure 9
Survey Photos

Overview of northern portion of WMWD Pump Station Project area (view to NW)

Overview of southern portion of WMWD Pump Station Project area (view to east)

SOURCE: ESA, 2018

SARCCUP

Figure 10
Survey Photos

Overview of vegetation in central portion of WMWD Pump Station Project (view to east)

Overview of concrete pipe in central portion of WMWD Pump Station project (view to NW)

SOURCE: ESA, 2018

SARCCUP

Figure 11
Survey Photos

ID-4 Colorado River Aqueduct Crossing Refurbishment

The ID-4 CRA Project area is located at the base of an earthen ramp that slopes down to a segment of the CRA, and encompasses a number of pumps and a pipe that crosses the CRA (**Figure 12**). The earthen ramp was inspected for the presence of archaeological resources and the CRA itself (documented as P-33-011265), the one historic architectural resource within he ID-4 CRA Project area was photographed (Figure 12). No newly identified cultural resources were identified with the ID-4 Project area as a result of the survey.

Impacts Analysis

The paragraphs include a discussion of the potential impacts each of the five SARCCUP projects could have on cultural resources that may qualify as historical resources or unique archaeological resources pursuant to CEQA.

IEUA Well Refurbishment and Treatment System Project

The SCCIC records search and cultural resources survey did not identify the presence of cultural resources within the IEUA Well Refurbishment Project area. The historic map and aerial photo review indicates that prior to residential development in the 1960s, the IEUA Well Refurbishment Project area and its vicinity were used for agricultural purposes as indicated by the presence of a number of orchards. A water tank, presumably associated with agricultural activities, was located within the IEUA Well Refurbishment Project area from at least 1938 to sometime prior to 1994.

Historic Architectural Resources

No historic architectural resources were identified within the IEUA Well Refurbishment Project area as a result of the archival research and cultural resources survey. Therefore, the IEUA Well Refurbishment Project would not impact historic architectural resources that qualify as historical resources pursuant to CEQA.

Archaeological Resources

No previously recorded archaeological resources were identified within the IEUA Well Refurbishment Project area as a result of the archival research and cultural resources survey. The IEUA Well Refurbishment Project area has been graded and is partially developed with water purification facilities and landscaping. Although the IEUA Well Refurbishment Project area is partially developed, there exists the possibility that historic-period subsurface archaeological deposits associated with the project area's past agricultural uses underlie the Project. Should historic-period archaeological deposits underlie the IEUA Well Refurbishment Project area, they may qualify as historical resources or unique archaeological resources pursuant to CEQA. Therefore, implementation of the IEUA Well Refurbishment Project could impact potential historic-period subsurface archaeological deposits that qualify as historical resources or unique archaeological resources.

Overview of earthen ramp within ID-4 CRA Project area (view to NE)

Overview of pumps and CRA crossing within ID-4 CRA Project area (view to SE)

SOURCE: ESA, 2018

SARCCUP

Figure 12
Survey Photos

Arlington Production Wells and Pipeline

The EIC records search identified 17 previously recorded cultural resources within and immediately adjacent to (within 100 feet of) the Arlington Project area. Of these 17 previously recorded resources, one is a prehistoric archaeological site (P-33-000496) that overlaps the Alternative 2 pipeline alignment on Indiana Avenue, and 16 are historic architectural resources (P-33-004495, -004791, -007899, -007900, -008407, -009518, -010974, -011251, -011632, -017542, -024194, -025594, -025595, -025596, -025597, and -028079) that occur within a 100-foot corridor along the Project's alternative pipeline alignments, but do not overlap the alignments.

Historic Architectural Resources

Of the 16 historic architectural resources, nine (P-33-004495, -008407, -009518, -011251, -024194, -025594, -025596, -025597, and -028079) were relocated as a result of the cultural resources survey, and seven (P-33-004791, -007899, -007900, -010974, -011632, -017542, and -025595) were not relocated and have likely been destroyed by recent development. Of the nine architectural resources that were relocated, three (P-33-004495 [Upper Riverside Canal], -008407 [Sherman Indian School Administration Building], and -009518 [Arlington Branch Library]) are recommended eligible for listing in the CRHR and qualify as historical resources, and six (P-33-011251, -024194, -025594, -025596, -025597, and -028079) have been recommended ineligible and, therefore, do not qualify as historical resources.

The Arlington Project would consist mainly of the installation of an underground pipeline within existing road right-of-ways, and the Project would not directly impact the three resources that qualify or have the potential to qualify as historical resources. However, the Arlington Project's above ground components, which include the installation of wells, do have the potential result in indirect visual impacts to the three CRHR-eligible resources (P-33-004495 [Upper Riverside Canal], -008407 [Sherman Indian School Administration Building], and -009518 [Arlington Branch Library]).

The Arlington Project would include the installation of an underground pipeline within existing road right-of-ways, and as such would not directly impact the three resources that qualify or have the potential to qualify as historical resources (P-33-004495 [Upper Riverside Canal], -008407 [Sherman Indian School Administration Building], and -009518 [Arlington Branch Library]). However, the Arlington Project's above ground components, which include the installation of wells, do have the potential to result in indirect visual impacts to the three resources.

Well AD-6 of the Alternative 2 pipeline would be located within 175 feet of an above ground segment of the Upper Riverside Canal (P-33-004495) and the construction of the well could result in indirect visual impacts to the resource's integrity of setting and feeling. However, the resource is surrounded to the north, east, and south by modern residential development, which has already introduced visual elements affecting the integrity of setting and feeling of the resource. The proposed Alternative-2, Well AD-6 would simply add to the existing setting. Therefore, no new visual impacts affecting the integrity of the Upper Riverside Canal will be introduced by implementation of the Arlington Project.

Well AD-6 of the Arlington Project's Alternative 1 pipeline would be located approximately 475 feet southwest of the Sherman Indian School Administration Building (P-33-008407), but direct views of the resource from the well location would be obscured by an existing building located immediately southeast of the administration building. Therefore, no visual impacts to the resource are anticipated as a result of the implementation of the Arlington Project.

The Arlington Branch Library (P-33-009518) is not located in the vicinity of a proposed well location, and therefore would not be subject to visual impacts.

Archaeological Resources

The EIC records search identified one previously recorded archaeological resource (P-33-000496) within the Arlington Project area. As part of the cultural resources survey, the mapped location of the site was inspected, but the site's surface manifestation has been destroyed by residential development. Although no surface evidence of the site could be detected during the survey, there exists the potential that subsurface prehistoric archaeological deposits associated with the site may underlie the Arlington Project area. Additionally, the historic map and aerial review indicates the Arlington Project area was an agricultural community as early as 1900. Given the presence of one previously recorded prehistoric archeological site and the long-period of historic-period land use within the area, there is a possibility that prehistoric and/or historic-period subsurface archaeological deposits underlie the Arlington Project area. Should subsurface prehistoric and/or historic-period archaeological deposits be present, they may qualify as historical resources or unique archaeological resources pursuant to CEQA.

WMWD Pump Station Project

The EIC records search and cultural resources survey did not identify any cultural resources within the WMWD Pump Station Project area. The historic map and aerial photograph review indicates the WMWD Pump Station Project area and its vicinity remained largely undeveloped until the late 1970s when construction residential subdivisions began.

Historic Architectural Resource

No historic architectural resources were identified within or adjacent to the WMWD Pump Station Project area. Therefore, the WMWD Pump Station Project would not impact historic architectural resources that qualify as historical resources pursuant to CEQA.

Archaeological Resources

No archaeological resources were identified within or adjacent to the WMWD Pump Station Project area. However, thick vegetation associated with a drainage in the center of the WMWD Project area obscured ground surface visibility, and much of the WMWD Pump Station Project area's central portion appears to be largely undisturbed and may be underlain by unknown archaeological deposits. Should unknown archaeological deposits underlie the WMWD Pump Station Project area, they may qualify as historical resources or unique archeological resources pursuant to CEQA. Therefore, ground disturbing activities associated with the WMWD Pump

Station Project have the potential to impact unknown archaeological deposits that may qualify historical resources or unique archaeological resources.

ID-4 Colorado River Aqueduct Crossing Refurbishment

The EIC records search identified one historic architectural resource, the CRHR-eligible Colorado River Aqueduct (P-33-011265) within the ID-4 CRA Project area. The cultural resources survey did not identify additional cultural resources.

Historic Architectural Resources

The ID-4 CRA Project would consist of two alternative approaches (Alternatives 1 and 2) to cover the existing ID-4 CRA crossing to prevent the pipe from leaking. The ID-4 Project alternatives would not demolish, destroy, or otherwise alter the CRHR-eligible CRA (P-33-011265). Therefore, the ID-4 CRA Project would not impact historic architectural resources that qualify as historical resources pursuant to CEQA.

Archaeological Resources

No known archaeological resources were identified within the ID-4 CRA Project area as a result of the archival research or cultural resources survey. However, this does not preclude the possibility that previously unknown archaeological resources underlie the ID-4 Project area. The ID-4 CRA Project would consist of two alternative approaches (Alternatives 1 and 2) to cover the existing ID-4 CRA crossing to prevent the pipe from leaking. The activities associated with either of the ID-4 CRA Project alternatives would not include ground disturbing activities, and, therefore would not have the potential to impact unknown archaeological resources, should they underlie the Project area. As such, the ID-4 Project would not impact known or unknown archaeological resources that qualify as historical resources or unique archaeological resources pursuant to CEQA.

Santa Ana River Arundo Removal

The EIC records search identified 17 previously recorded cultural resources within the Arundo Removal Project area. These 17 resources include three prehistoric archaeological sites (P-33-000621, -000622, and -000652), four historic-period archaeological sites (P-33-002802, -003354, -003357, and -003694), two multicomponent archaeological sites (P-33-000127 and -001451), six historic architectural resources (P-33-003361 [Union Pacific RR bridge], -006524 [Good Samaritan Boys Home], -016848 [Santa Ana River Trunk Sewer], -017221 [LynnBar Ranch], -024052 [Paradise Knolls Golf Course], and -024146 [storage shed]), and two historic-period isolates (P-33-012736 and -017220).

Historic Architectural Resources

Of the six historic architectural resources, two (P-33-003361 [Union Pacific RR bridge] and -006524 [Good Samaritan Boys Home]) have been previously recommended eligible for listing in the CRHR and qualify as historical resources pursuant to CEQA, one (P-33-024146 [storage shed]) has not been previously evaluated and, therefore, has the potential to qualify as a historical resource, and three (P-33- 016848 [Santa Ana River Trunk Sewer], -017221 [LynnBar Ranch],

and -024052 [Paradise Knolls Golf Course]) are recommended ineligible for listing in the CRHR and do not qualify as historical resources. The total three resources (P-33-003361 [Union Pacific RR bridge], -006524 [Good Samaritan Boys Home], and -024146 [storage shed]) that are eligible or potentially eligible for listing in the CRHR. The Arundo Removal Project would include the removal of invasive plant species from within the Santa Ana River channel using hand tools and tractor-mounted mulchers. These activities would not demolish, destroy, or otherwise alter the three CRHR-eligible historic architectural resources.

Archaeological Resources

Of the 11 archaeological resources, three (P-33-000127, -003354, and -003694) have been recommended eligible for listing in the CRHR and qualify as historical resources, six (P-33-000621, -000622, -000652, -001451, -003357, and -002802) have not been evaluated for listing in the CRHR and, therefore, have the potential to qualify as historical resource, and two (P-33-012736 and -017220) are historic-period isolates, which, based on their lack of cultural context, are not eligible for listing in the CRHR and do not qualify as historical resources. Therefore, nine archaeological resources are either eligible for listing in the CRHR and are historical resources, or are being treated as historical resources for this Project.

The Arundo Removal Project would include the removal of invasive plant species from within the Santa Ana River channel using hand tools and tractor-mounted mulchers. Given the ground-disturbing nature of these activities, the Arundo Removal Project has the potential to impact the nine (P-33-000127, -003354, and -003694, P-33-000621, -000622, -000652, -001451, -003357, and -002802) previously documented archaeological resources that qualify or have the potential to qualify as historical resources pursuant to CEQA.

In addition to the nine known archaeological resources, there may be unknown archaeological resources within the Arundo Removal Project area. Should unknown archaeological resources exist within the Arundo Removal Project area, they may qualify as historical resources, and ground disturbing activities associated with the Arundo Removal Project could impact these resources.

Conclusions and Recommendations

Historic Architectural Resources

The results of this cultural resources assessment conclude that the neither the IEUA Well Refurbishment Project, the Arlington Project, the WMWD Pump Station Project, the ID-R CRA, Project, nor the Arundo Removal Project would impact historic architectural resources that qualify as historical resources pursuant to CEQA. No further work associated with historic architectural resources is recommended.

Archaeological Resources

The results of this cultural resources assessment conclude that the ID-4 CRA Project would not impact known or unknown archaeological resources that may qualify as historical resources or

unique archaeological resources pursuant to CEQA and no mitigation measures are recommended for this Project.

The remaining four projects, including the IEUA Well Refurbishment Project, the Arlington Project, the WMWD Pump Station Project, and the Arundo Removal Project do have the potential to impact known or unknown archaeological resources that may qualify as historical resources or unique archaeological resources pursuant to CEQA. Therefore, ESA recommends the following mitigation measures be implemented to avoid potential impacts to known and unknown archaeological resources during implementation of the IEUA Well Refurbishment Project, the Arlington Project, the WMWD Pump Station Project, and the Arundo Removal Project.

Mitigation Measure CUL-1. Retention of Qualified Archaeologist. Prior to the start of ground-disturbing activities associated with the IEUA Well Refurbishment and Treatment System Project, the Arlington Production Wells and Pipeline Project, the WMWD Pump Station Project, and the Santa Ana River Arundo Removal Project, the respective project lead agencies shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008) to carry out all mitigation related to cultural resources.

Mitigation Measure CUL-2. Cultural Resources Sensitivity Training. Prior to start of ground-disturbing activities associated with the IEUA Well Refurbishment and Treatment System Project, the Arlington Production Wells and Pipeline Project, the WMWD Pump Station Project, and the Santa Ana River Arundo Removal Project, the qualified archaeologist shall conduct cultural resources sensitivity training for all construction personnel associated with the four projects. Construction personnel will be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. The respective project lead agencies shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure CUL-3. Santa Ana River Arundo Removal Project Cultural Resources Surveys. Prior to the start of ground disturbing activities associated with the Santa Ana River Arundo Removal Project, cultural resources surveys shall be conducted of the portions of the Santa Ana River Arundo Removal area subject to ground disturbing activities to identify all cultural resources that may be impacted by Project implementation. All cultural resources identified by the cultural resources surveys shall be documented on California Department of Parks and Recreation (DPR) 523 forms. A cultural resources assessment report summarizing the methods and results of the surveys shall be prepared by the qualified archaeological, and shall also include an assessment of the Santa Ana River Arundo Removal Project's potential impacts to known and unknown cultural resources. All identified cultural resources that cannot be avoided by the Santa Ana River Arundo Removal Project shall be evaluated for their potential significance (e.g., listing in the California Register of Historical Resources) prior to implementation of

the Project. The cultural resources assessment report shall provide recommendations regarding archaeological and Native American monitoring, protection of avoided resources, and/or recommendations for additional work or treatment of significant resources (i.e., resources that qualify as historical resources or unique archaeological resources under CEQA), such as data recovery guided by a Cultural Resources Treatment Plan, that will be affected by the Santa Ana River Arundo Removal Project. The draft cultural resources assessment shall be submitted to OCWD for review and comment. The final cultural resources assessment shall be submitted to OCWD for their records and placed on file at the Eastern Information Center.

Mitigation Measure CUL-4. Arlington Production Wells and Pipeline Project Construction Monitoring. Prior to the start of ground disturbing activities associated with the Arlington Production Wells and Pipeline Project, an archaeological monitor working under the supervision of the qualified archaeologist and a Native American monitor associated with a locally affiliated tribe, as identified through the Assembly Bill 52 consultation process, shall be retained to conduct monitoring of all Project-related ground-disturbing activities within 100 feet of the mapped location of previously recorded prehistoric archaeological resource, P-33-000496. Based on observations of subsurface soil stratigraphy or other factors during initial ground disturbing activities, and in consultation with the WMWD and Native American monitor, the qualified archaeologist may reduce monitoring, as warranted. Archaeological monitors shall maintain daily logs documenting their observations. Monitoring activities shall be documented in a Monitoring Report to be prepared by the qualified archaeologist. A draft monitoring report shall be submitted to WMWD for review and comment. A final monitoring report shall be submitted to WMWD for their records and a copy will be filed with the Eastern Information Center.

Mitigation Measure CUL-5. Inadvertent Discoveries. In the event of the unanticipated discovery of archaeological materials during implementation of the IEUA Well Refurbishment and Treatment System Project, the Arlington Production Wells and Pipeline Project, the WMWD Pump Station Project, and the Santa Ana River Arundo Removal Project, all work shall immediately cease within 100 feet of the discovery until it can be evaluated by the qualified archaeologist. Construction shall not resume until the qualified archaeologist has conferred with the respective Project lead agency on the significance of the resource.

If it is determined that the discovered archaeological resource constitutes a historical resource or a unique archaeological resource pursuant to CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Cultural Resources Treatment Plan shall be prepared and implemented by the qualified archaeologist in consultation with the respective Project lead agency that provides for the adequate recovery of the scientifically

consequential information contained in the archaeological resource. The qualified archaeologist and County shall consult with appropriate Native American representatives, as identified through the AB 52 consultation process in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.

Mitigation Measure CUL-6. Inadvertent Discovery of Human Remains. In the event of the unanticipated discovery of human remains during implementation of the IEUA Well Refurbishment and Treatment System Project, the Arlington Production Wells and Pipeline Project, the WMWD Pump Station Project, and the Santa Ana River Arundo Removal Project, all work should immediately cease within 100 feet of the discovery should and the County Coroner should be contacted in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. The project proponent will also be notified. If the County Coroner determines that the remains are Native American, the California Native American Heritage Commission (NAHC) will be notified in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC Section 5097.98 (as amended by AB 2641). The NAHC will designate a Most Likely Descendant (MLD) for the remains per PRC Section 5097.98. Until the landowner has conferred with the MLD, the project proponent will ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.

References

Alexandrowicz, Stephen, Deanna Ingram, Richard Krautkramer, and Arthur Kuhner. 1995a. *Site Record for Resource P-33-000621*. On file at the Eastern Information Center, University of California, Riverside.

Alexandrowicz, Steve, Deanna Ingram, and Richard Krautkramer. 1995b. *Site Record for Resource P-33-000622*. On file at the Eastern Information Center, University of California, Riverside.

Bachtel, Elisa, 2016. *Primary Record for P-33-028079*. On file at the Eastern Information Center, University of California, Riverside.

Baker, Ron. 1992. National Register of Historic Place Nomination Form for P-33-009518. On file at the Eastern Information Center, University of California, Riverside.

Bean, L. 1978. "Cahuilla." In *California*, edited by R. F. Heizer, pp. 575-587, Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Bean, L.J., and C.R. Smith, 1978. "Gabrielino." In *California*, edited by R.F. Heizer, pp. 538-549 Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Beedle, P. 2007. *Primary Record for P-33-016848*. On file at the Eastern Information Center, University of California, Riverside.

Bradly, Ramona K. 1977. National Register of Historic Places Nomination Form for P-33-008407. On file at the Eastern Information Center, University of California, Riverside.

Brock, J. and P. Langenwalter. 1983. *Site Record for Resource P-33-000625*. On file at the Eastern Information Center, University of California, Riverside.

Brodie, N. 2015. Primary Record for P-33-024146. On file at the Eastern Information Center, University of California, Riverside.

Byrd, B. F., and L. M. Raab, 2007 "Prehistory of the Southern Bight: Models for a New Millennium." In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp 215-227.

Cannon, Amanda and Carrie Gregory. 2008. Primary Record for P-33-017542. On file at the Eastern Information Center, University of California, Riverside.

Crawford, Kathleen.

____. 2008. *Primary Record for P-33-017221*. On file at the Eastern Information Center, University of California, Riverside.

____. 2014. *Primary Record for P-33-024194*. On file at the Eastern Information Center, University of California, Riverside.

Dinkelspiel, France, 2008. *Towers of Gold*, St. Martin's Press, New York.

Dittmer, Frank. 1994. *Site Record for P-33-003694*. On file at the Eastern Information Center, University of California, Riverside.

Greene, Linda W., 1983. *Historic Resource Study: A History of Land Use In Joshua Tree National Monument.* Performed for Branch of Cultural Resources Alaska/Pacific Northwest/Western Team, U.S. Department of the Interior National Park Service.

Grenda, D. 1997. Continuity and Change: 8,500 Years of Lacustrine Adaptation on the Shores of Lake Elsinore. Statistical Research Inc. (SRI) Technical Series 59, SRI, Tucson, Arizona.

Gumprecht, Blake, 2001. *Los Angeles River: Its Life, and Possible Rebirth.* The Johns Hopkins University Press.

Gustafson, Angie. 2001. *Building, Structure, Object Record for P-33-004791*. On file at the Eastern Information Center, University of California, Riverside.

Hall, Matthew C.

_____. 1975a. *Site Record Supplement for P-33-000127*. On file at the Eastern Information Center, University of California, Riverside.

_____. 1975b. *Site Record Supplement for P-33-000622.* On file at the Eastern Information Center, University of California, Riverside.

Hamilton, M.C. and P. Beedle. 2005. *Building, Structure, Object Record for P-33-011265*. On file at the Eastern Information Center, University of California, Riverside.

Hammond, S. 1977. *Site Survey Record for P-33-001451*. On file at the Eastern Information Center, University of California, Riverside.

Hampson, R.P., M.A. Doyle, R.S. Brown, and M. Imwalle. 1987. *Site Record for P-33-003354*. On file at the Eastern Information Center, University of California, Riverside.

Hampson, R.P., M.A. Doyle, R.S. Brown, and M. Imwalle. 1987. *Site Record for P-33-003354*. On file at the Eastern Information Center, University of California, Riverside.

Horne, Melinda C., and Dennis P. McDougall, 2003. *Cultural Resources study for the City of Riverside General Plan 2025 Update Program EIR*, Prepared for Cotton Bridges and Associates Urban and Environmental Consultants, on behalf of the City of Riverside Planning Department, Prepared by Applied Earthworks, Inc.

King, T. 1971. *Site Record for P-33-000496*. On file at the Eastern Information Center, University of California, Riverside.

Kirkish, Alex. 1972. *Site Survey Form for P-33-000625*. On file at the Eastern Information Center, University of California, Riverside.

Kroeber, A. L., 1925. *Handbook of Indians of California*. Dover Publications, Inc., New York.

Langenwalter, P.E. and J.P. Brock. *Site Record for P-33-002802*. On file at the Eastern Information Center, University of California, Riverside.

Love, Bruce. 1997. Historic Property Survey Report for the Santa River Bike Trail Phase IIIB Project, City and County of Riverside, California. On file at the Eastern Information Center, University of California, Riverside.

Love, Bruce and Bai "Tom" Tang. 1997. *Site Record Update for P-33-003357*. On file at the Eastern Information Center, University of California, Riverside.

McKenna, Jeanette A. 2005. *Primary Record Update for P-33-004791*. On file at the Eastern Information Center, University of California, Riverside.

McWilliams, Carey, 1949. *Southern California: An Island on the Land*, Gibbs Smith, Layton, Utah.

Meyer, L., 1981. Los Angeles, 1781-1981: A Special Bicentennial Issue of California History, Spring 1981, California Historical Society, Los Angeles.

Moratto, M. J. 1984. *California Archaeology*. Smithsonian Press: San Diego, CA.

Richie, Lynne. 1983. *Historic Resource Inventory Form for P-33-006524*. On file at the Eastern Information Center, University of California, Riverside.

Rolle, A., 2003. *California: A History*. Sixth Edition. Harlan Davidson, Inc.: Illinois.

Romani, G. and S. Wakefield. 1987. *Isolate Form for P-33-0012736*. On file at the Eastern Information Center, University of California, Riverside.

Romani, G., S. Wakefield, J. Wishner, J. Schmidt, and R. Brown. 1987. *Site Record for P-33-003357*. On file at the Eastern Information Center, University of California, Riverside.

Ruzicka, D. and L. Akyiiz.

_____. 2013a. *Primary Record for P-33-000127*. On file at the Eastern Information Center, University of California, Riverside.

_____. 2013b. *Update Record for P-33-003361*. On file at the Eastern Information Center, University of California, Riverside.

Sanka, J.M. and M. Aislin-Kay. 2008. Primary Record for P-33-017220. On file at the Eastern Information Center, University of California, Riverside.

Starr, Kevin, 2007. *California: A History*. Modern Library, Random House, Inc. New York.

Tang, Bai.

____. 1997a. *Primary Record for P-33-007899*. On file at the Eastern Information Center, University of California, Riverside.

____. 1997b. *Primary Record for P-33-007900*. On file at the Eastern Information Center, University of California, Riverside.

____. 2000. *Primary Record for P-33-010974*. On file at the Eastern Information Center, University of California, Riverside.

____. 2002. *Primary Record for P-33-011632*. On file at the Eastern Information Center, University of California, Riverside.

Tang, Bai, Terri Jacqumain, and Daniel Ballester. 2014. *Primary Record for P-33-024052*. On file at the Eastern Information Center, University of California, Riverside.

Tibbet, Casey and Bai Tang.

____. 2003a. *Primary Record for P-33-025594*. On file at the Eastern Information Center, University of California, Riverside.

____. 2003b. *Primary Record for P-33-025595*. On file at the Eastern Information Center, University of California, Riverside.

____. 2003c. *Primary Record for P-33-025596.* On file at the Eastern Information Center, University of California, Riverside.

____. 2003d. *Primary Record for P-33-025597*. On file at the Eastern Information Center, University of California, Riverside.

True, D. L., 1958. “An Early Complex in San Diego County, California.” In *American Antiquity*, 23(3) pp 225-63.

Van Horn, David. 2002. *Primary Record for P-33-011251*. On file at the Eastern Information Center, University of California, Riverside.

Warren, C.N. 1967. “The San Dieguito Complex: A Review and Hypothesis.” In *American Antiquity,* 32 (2) pp. 168-185.

APPENDIX A

Personnel

EDUCATION

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

21 YEARS EXPERIENCE

SPECIALIZED EXPERIENCE

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists (RPA), #12805

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

QUALIFICATIONS

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Monica Strauss, RPA

Director, Southern California Cultural Resources Group

Monica has successfully completed dozens of cultural resources projects throughout California and the greater southwest, where she assists clients in navigating cultural resources compliance issues in the context of CEQA, NEPA, and Section 106. Monica has extensive experience with archaeological resources, historic buildings and infrastructure, landscapes, and Tribal resources, including Traditional Cultural Properties. Monica manages a staff of cultural resources specialists throughout the region who conduct Phase 1 archaeological/ paleontological and historic architectural surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. She maintains excellent relationships with agency staff and Tribal representatives. Additionally, Monica manages a general compliance monitoring team who support clients and agencies in ensuring the daily in-field compliance of overall project mitigation measures.

Relevant Experience

Bureau of Land Management, On-Call Cultural Resources Services, Riverside County, CA. *Project Manager.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under Bureau of Land Management (BLM) jurisdiction. Monica managed a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Phase I archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation. Projects completed under this contract include Dos Palmas Phase I Survey and Archaeological Monitoring, National Monument Phase I Survey, Windy Pointe Archaeological Monitoring, and Fast and the Furious Phase I Survey

City of Temecula, Altair Specific Plan EIR, Temecula, CA. *Cultural Resources Project Director.* ESA is preparing a Mixed-Use Specific Plan and EIR in the Old Town area of Temecula. This proposed Specific Plan by Ambient Communities, referred to as "Altair," on 270 acres west of Old Town will include the four-lane divided Western Bypass, up to 1,900 units, an elementary school, a small amount of neighborhood commercial use, a clubhouse, parks, trails, hillside preservation, and a site for civic use at the southern end of the project site. In addition to the Specific Plan, this project will include a General Plan Amendment, Subdivision Maps, Development Agreement, and City-managed EIR. Monica is directing a team of cultural resources analysts who are conducting archaeological testing of portions of the project that were demonstrated to be potentially sensitive by a geoarcheological study, is coordinating with local Tribes, and is providing strategic guidance to the City.

Environmental Services for Jacqueline Cochran Regional Airport, Riverside County, CA. *Cultural Resources Project Director.* ESA's Airports group is teamed with C&S Companies to provide technical support and CEQA documentation for the proposed acquisition of land at Jacqueline Cochran Regional Airport in Riverside County, CA. Monica directed a Phase I Cultural Resources Survey Report for the project to support the Initial Study/Mitigated Negative Declaration (MND). The report evaluated the archaeological sites that had been identified as a result of the investigation. The results of the technical report were incorporated into the CEQA document, which included an impacts analysis and appropriate mitigation measures.

City of Temecula, Bella Linda Residential Development EIR, Temecula, CA. *Cultural Resources Principal Investigator.* ESA is preparing an EIR for a residential development in the city of Temecula on a site that is adjacent to Pechanga Parkway and Loma Linda Road. The project includes 325 apartment units and 49 senior-family units and would require General Plan and zoning amendments. The most controversial project challenges are the considerable cultural sensitivity of the site, including addressing concerns of the Pechanga Band of Luiseño Indians, and the addition of project traffic on roadways with limited capacity. Monica served as principal investigator in the preparation of the phase I cultural resources report, research design, and phase II testing report. She identified resources that might be impacted by the project and determining their California Register and National Register eligibility as well as coordinating with the Pechanga on concerns related to the project.

California Department of Water Resources (DWR), Perris Dam Remediation Program, Riverside County, CA. *Cultural Resources Project Director*. Monica managed the preparation of a Historic Resource Evaluation Report for the DWR Perris Remediation Project. The Project would provide greater seismic stability for Perris Dam and its associated outlet works, as well as adding a new emergency outlet extension channel, thereby increasing public safety in the event of a high-magnitude earthquake. The project involved the U.S. Army Corps of Engineers, requiring compliance with Section 106 of the NHPA The study concluded that the dam is not individually eligible for the National Register or California Register, but is considered a contributing element of the California Aqueduct. The project would not affect the eligibility or integrity of the California Aqueduct and a finding of no adverse effect were recommended.

California Department of Water Resources, Perris Dam Mitigation Area, Riverside County, CA. *Cultural Resources Senior Reviewer*. ESA prepared a Phase I cultural resources survey report for the project which includes a creation/restoration program within the Western Riverside County Regional Conservation Authority mitigation area with the purpose of creating/restoring riparian habitat that is biologically equivalent or superior to that which is being impacted as a result of the Perris Dam Remediation Program being carried out at Lake Perris. The study concluded that the area is sensitive for archaeological resources and additional work was recommended. Monica served as the Senior Reviewer for the Phase I cultural resources survey report.

Michael R. Bever, PhD, RPA

Senior Cultural Resources Specialist

EDUCATION

Ph.D., Anthropology, Southern Methodist University, Dallas

M.A., Anthropology, Southern Methodist University, Dallas

B.A., Anthropology, with honors, History minor, University of California, Davis

23 YEARS EXPERIENCE

PROFESSIONAL CERTIFICATIONS

Register of Professional Archaeologists (RPA), #16583

Secretary of the Interior and Caltrans Qualified as Principal Investigator

Certified in CA and NV as Principal under BLM Cultural Resources Use Permit

Riverside County Certification List for Archaeology

40-Hour HAZWOPER Certification

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Dr. Michael Bever has over 20 years of experience in archaeology and cultural resources management. He has worked throughout the western United States, with a focus in California. He has experience and specialized training in project management, business development, and cultural resources practice oversight, and has directed projects involving a wide breadth of resource types in compliance with federal and state laws and regulations. Dr. Bever's experience includes all manner of cultural resources studies and documentation for projects both large and small, and he has presented various cultural resources management training courses in both professional and academic settings.

In addition to work in cultural resources management, Dr. Bever has held tenure-track professorships at the University of Texas at Austin and the University of Nevada, Reno. A published expert in the earliest prehistory of North America, he is well-versed in archaeological research design and all aspects of archaeological field and laboratory research.

Relevant Experience

Energy

Blythe Mesa Solar Project, Bureau of Land Management, Riverside County, CA. *Cultural Resources Specialist.* ESA provided the BLM with contractor support services to prepare a Supplemental EIS, Record of Decision, and Administrative Record for the Blythe Solar Power Project. BLM's Proposed Action is to revise the Record of Decision approved in 2010 for Solar Millennium's proposed project. NextEra, which purchased the project out of SM's bankruptcy proceedings, intends to change the solar energy generating technology to photovoltaic (PV) from solar thermal trough. Dr. Bever prepared a Cultural Resources Management Plan for the protection of cultural resources during project construction and post-construction operations and maintenance. Documents were prepared for the BLM and Riverside County.

Truax Hotel EIR, City of Temecula, CA. *Cultural Resources Specialist.* prepared a Supplemental EIR for the development of a 151-room boutique hotel and separate parking garage by Temecula Hotel Partners LLC. The project will be constructed in Old Town Temecula, and must follow requirements of the Old Town Specific Plan. The work included focused studies for cultural resources, traffic, and air quality. Dr. Bever directed the cultural resource studies, which included inventories and preparation of both archaeological and historical resources technical reports. While no archaeological resources were identified, at least three built resources greater than 45 years in age were identified. The resources were documented and evaluated as ineligible for the California Register

SPECIALIZED EXPERIENCE AND TRAINING

Advanced Project Management, ESA

Project Management and Advanced Project Management, Project Management Institute

Best Practices in Historic Preservation, City of San Diego and California Office of Historic Preservation

Paleontological Monitor Training, San Jose State University

Numerous CEQA, NEPA and Section 106 training programs

Effective Presentation Skills: The Shortlist Interview Toolbox, The Professional Voice

of Historical Resources. Further, Native American outreach indicated that the broader project area is sensitive for Tribal Cultural Resources. Coordination with the Pechanga Tribe led to the development of project-specific mitigation measures designed to avoid impacts to significant resources.

Mockingbird Trail Cultural Resources Study, Riverside County Regional Park and Open-Space District, Riverside County, CA. *Cultural Resources Manager*. Dr. Bever managed inventory studies for a new multi-use trail to be construction in Riverside County. Project has involved background research, Native American outreach, and field survey of over 30 miles of trail alignment. Nearly 20 resources were identified and recorded, including both historic period resources and prehistoric bedrock milling features. Reporting consisted of an inventory report and recommendations for subsequent testing and evaluation.

Olivet University Substantial Conformance Project, Anza, Riverside County, CA. *Cultural Resources Specialist.* ESA will be responsible for the preparation of a Public Use Permit substantial conformance review package, and a CEQA document for the expansion of Olivet University, located on 880-acres in Anza, California. Dr. Bever is directing cultural resource studies for the project. To date, a Phase I inventory has been conducted for the first phase of the project, which focuses on a 100-acre section of the core campus area. Future tasks will involve survey and inventory of the entire project site. The documents will be prepared for the County of Riverside.

San Manuel Band of Mission Indians, San Manuel Fee-to-Trust Project, San Bernardino, CA. *Cultural Resources Specialist.* ESA prepared technical reports and NEPA documentation for a fee-to-trust project for the San Manuel Band of Mission Indians, on land located adjacent to the existing reservation in San Bernardino County. The project involved the transfer of approximately 300 acres on four different parcels. Dr. Bever directed the cultural resource studies, which consisted of background research, field survey, and close coordination with San Manuel's cultural resources department. As a result of the survey, two historic-period cultural resources were documented. The study was prepared in accordance with Section 106 of the National Historic Preservation Act. Dr. Bever also contributed to the NEPA EA for the project, and the preparation of appropriate mitigation for resources considered sensitive to the tribe.

San Manuel Band of Mission Indians, Widmeyer-Markhoff Project, San Bernardino, CA. *Cultural Resources Specialist.* ESA conducted environmental studies in support of a housing development project on approximately 175 acres of the San Manuel reservation, in San Bernardino County. Dr. Bever directed the cultural resources studies, performed in compliance with Section 106 of the National Historic Preservation Act, which involved background research, field survey, and close coordination with San Manuel's cultural resources department. While no archaeological or built resources were identified within the project area, numerous traditional plant resources, identified as potential gathering areas, were recorded. Working in close coordination with the tribe's cultural resources department, ESA developed recommendations for the preservation and use of these resources.

Michael Vader

Senior Associate

EDUCATION

B.A., Physical Anthropology, University of California, Santa Barbara

12 YEARS EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

Pacific Coast Archaeological Society (PCAS)

SPECIALIZED EXPERIENCE

Analysis of faunal remains including fish and shellfish species

Archaeological Monitoring

Paleontological Monitoring

Environmental Compliance Monitoring

Human osteology and bioarchaeology

Michael is cultural resources specialist with experience working on survey, data recovery, and monitoring projects. Michael has experience with project management, has led crews on multiple surveys and excavations, and is familiar with environmental compliance documents. He has worked on a variety of energy and water infrastructure projects throughout California, including projects in Riverside, San Diego, Imperial, San Bernardino, Los Angeles, Orange, Santa Barbara, San Luis Obispo, Kern, Fresno, Madera, and Inyo Counties, as well as in Clark County Nevada. Michael regularly works as part of a team, coordinating with field staff and agency leads.

Relevant Experience

Truax Hotel Project, Temecula, County of Riverside, CA. *Archaeologist*. ESA was retained by the City of Temecula to conduct an archaeological resources inventory for the Truax Hotel Project in support of a Supplemental Environmental Impact Report (SEIR). The project would construct a six-story, 151 guest room boutique hotel and an adjacent six-story, 208-stall parking garage in Old Town Temecula, on approximately 1.8-acres of land. Michael conducted the cultural resources survey, and prepared the archaeological resources inventory report for the project.

San Jacinto Valley Enhanced Recharge and Recovery Program, Riverside County, CA. *Archaeologist*. ESA was retained by the Eastern Municipal Water District to prepare a Cultural Resources Study in support of an Environmental Impact Report for the proposed San Jacinto Valley Enhanced Recharge and Recovery Program. The Project would aid in supplementing current and future water supplies by recharging imported water and local supplies in the local groundwater basin. The Project would include development of recharge facilities, storm water capture facilities, production and monitoring wells, potable and raw water pipelines, and other conveyance facilities and appurtenances. Michael led the cultural resources survey and prepared the Phase I cultural resources study report.

Sterling Natural Resource Center Project. Highland, CA. *Archaeologist*. The San Bernardino Valley Municipal Water District retained ESA to prepare a Phase I Cultural Resources Study in support of an Environmental Impact Report for the proposed Sterling Natural Resource Center Project. The project includes the construction a new treatment facility in the City of Highland to treat locally generated wastewater for beneficial reuse in the upper Santa Ana River watershed. Michael led the Phase I survey of the project area and assisted in the preparation of the cultural resources study.

Altair Specific Plan EIR Project. Temecula, CA. *Archaeologist.* The City of Temecula retained ESA to prepare an EIR for the Altair Specific Plan Project. The project consists of the construction of a pedestrian-oriented residential community with up to 1,750 mixed density residential units within walking or cycling distance of Old Town Temecula. As part of the EIR preparation ESA conducted an archaeological site investigation to determine if a previously existing, National Register of Historic Places-eligible site extended in to the project's area of impact. Michael assisted in the preparation of the work plan and led the field work for the site investigation.

IEUA Prado Basin Habitat Sustainability Program, Riverside County, CA. *Archaeologist*. The Inland Empire Utilities Agency (IEUA) implemented elements of the Optimum Basin Management Plan (OBMP) within the Chino Basin. The OBMP included the formation of the Prado Basin Habitat Sustainability Program (PBHSP) to ensure that riparian habitat within the Prado Basin, including habitat along Chino Creek and Mill Creek, is not adversely affected by the OBMP. A key component of the PBHSP is the installation of 16 groundwater monitoring wells at nine locations. ESA was retained by IEUA to conduct archaeological monitoring of the well installation. Michael conducted archaeological monitoring and prepared the monitoring letter report presenting the results of the monitoring.

DWR Perris Dam Remediation Project, Riverside County, CA. *Archaeologist***.** ESA was retained by DWR to prepare a Cultural Resources Mitigation and Monitoring Plan (CRMMP) for the Perris Dam Remediation Project. Michael led the site visit of nine archaeological sites to document their conditions, and assisted in the CRMMP preparation.

Walker Basin Holding Properties Project, Riverside County, CA. *Archaeologist.* ESA was contracted by Beresford Properties, LLC, to conduct a Phase 1 cultural resources assessment for the Walker Basin Holding Properties Project. The proposed Project includes the development 91 estate-size single family detached residential lots, public streets and drainage facilities. Michael was the field director for the Phase 1 cultural resources survey and prepared the cultural resources technical reports for the Project.

Preserve at San Juan Project, Orange and Riverside Counties, CA. *Archaeologist.* ESA has been retained by the Preserve at San Juan, LLC, to conduct a Phase 1 cultural resources assessment for the Preserve at San Juan Project. The proposed Project would include the development of 51 single-family residential units in two separate project areas, which would be implemented in two phases. Michael prepared the work plan, contributed to the technical report, and assisted with the Phase 1 surveys of the Project area.

Genesis Solar Energy Project Gen Tie Right-of-Way Modifications, Riverside County, CA. *Archaeologist.* ESA archaeologists have prepared a Class III cultural resources survey report for the Genesis Solar Energy Project located in eastern Riverside County. The project includes the construction of a 250-megawatt solar thermal power generating facility located between the community of Desert Center and the City of Blythe. Michael accompanied engineers and archaeologists from AECOM and the BLM in a site visit to assist in the determination of a route for

Fatima Clark

Archaeologist

EDUCATION

B.A., Anthropology, California State University, Fullerton

10 YEARS EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

SPECIALIZED TRAINING

Section 106 Webinar, 2016

Workshop: The Art and Science of Flintknapping, California Desert Studies Center, 2013

Successful CEQA, Compliance-Southern California Edison, Environmental Training, 2011

Cultural Resources Protection under CEQA and Other Legislative Mandates, UCLA Extension, 2010

CERTIFICATIONS/ REGISTRATION

Orange County Certified Archaeologist

Fatima Clark has 10 years of hands-on archaeological experience and is practiced in project management and client and agency coordination. Her field experience is complimented by the course study and participation in numerous archaeological excavations in California, Arizona, and Peru. Fatima has written California Environmental Quality Act (CEQA)-level technical reports, Environmental Impact Report (EIR) sections, Initial Study sections, archaeological peer reviews, archaeological monitoring reports, and reports pursuant to Caltrans requirements. She is also experienced in performing archaeological testing, site recordation, laboratory analysis, pedestrian surveys, records searches through several California Historical Resources Information Systems-Information Centers, and monitoring for a wide variety of projects, including mixed-use, residential, and energy, water, and road infrastructure projects.

Relevant Experience

California Department of Water Resources, Los Robles Road Bridge Seismic Retrofit Project, Quail Lake, Los Angeles County. *Archaeologist.* Fatima conducted the pedestrian survey and was the lead author for the Archaeological Resources Survey Report for the project. The project consisted of the seismic retrofitting of the existing Los Robles Road Bridge, which crosses the West Branch of the California Aqueduct.

Southern California Edison Archaeological Services/Contingent Employee (2008–2013), Southern California, CA. Fatima worked at Southern California Edison (SCE) as a full-time in-house consulting archaeologist in the Deteriorated Poles Program, GO 131-D Program and for the Valley South Subtransmission Project (VSSP). Fatima was in charge of managing work sent to outside consultants for surveys and preparation of archaeological reports and coordinating with consultants and SCE staff. Fatima also conducted over 100 archaeological reviews, including records searches, field surveys, project coordination, report writing for projects subject to the rules and regulations of the California Public Utilities Commission (CPUC) and thus also following CEQA-mandated requirements.

The VSSP was among the larger projects in which Fatima was involved. The VSSP had three alternative routes with a total of approximately 25 miles in length. The VSSP was conducted for the purpose of developing a Proponent's Environmental Assessment (PEA) for the CPUC's review. Fatima was the project manager for the VSSP, and her duties consisted of records searches, creating a scope of work, reviewing PEA bidders' proposals, assessing/developing study corridors, developing suitable access roads to avoid/minimize impact to archaeological sites, and project coordination with SCE team members for the entire project and outside consulting archaeologists.

La Costa Chevron Project, Encinitas, CA. *Project Manager.* Fatima has lead the archaeological services for the La Costa Chevron Project in Encinitas, which addressed Chevron-created erosion onto a Caltrans right-of-way. Because of the project site's location within a recognized archaeological site, Caltrans required an Extended Phase I (XPI). ESA conducted an XPI archaeological excavation to determine the presence or absence of archaeological deposits (and their horizontal and vertical extent) where the drainage improvements were expected to occur. Managing the company's role as a subcontractor to a larger engineering firm, Fatima has coordinated with the prime consultant, the Native American groups in the area, and Caltrans. She was in charge of conducting archaeological testing, served as the primary author of the XPI, prepared the Environmentally Sensitive Area Action Plan and the Historic Resources Compliance Report. Lastly, Fatima also coordinated with the Caltrans archaeologist and the San Diego Archaeological Center for curation of the artifacts collected from the XPI.

I-10 Freeway/Pepper Avenue Interchange Project, Colton, CA. *Project Manager.* Fatima served as project manager for the Interstate 10 Freeway/Pepper Avenue Interchange Project. The project involved the preparation of an Archaeological Survey Report in accordance with Caltrans guidelines for a bridge expansion along Pepper Avenue in Colton. In addition to the technical analysis, Fatima coordinated with the Prime Consultant, San Bernardino Associated Governments, and Caltrans' Environmental Unit.

Aidlin Property Residential Project, Los Angeles County, CA. *Archaeologist.* Fatima conducted the historical records searches through the CHRIS, pedestrian survey, the preparation of the CEQA cultural resources assessment report, the preparation of an EIR section, and the preparation of the Section 106 report. The proposed project consists of a residential development on approximately 230 acres of land in an unincorporated area of Los Angeles County, California.

SunEdison Cascade Solar Energy Project, San Bernardino County, CA. *Archaeologist.* Fatima performed the records search, Phase I pedestrian survey, Phase II testing, and monitoring for the SunEdison Cascade Solar Energy Project in the Sunfair Community of unincorporated San Bernardino County. Fatima excavated several Shovel Test Probes within a newly recorded archaeological site. As part of the phase II field investigation, Fatima has also conducted lab analysis of lithic materials recovered at the archaeological site.

Cucamonga Creek Watershed Regional Water Quality Project, Chino, CA. *Archaeologist.* Fatima performed the phase II testing for the Mill Creek Wetlands testing at site Ca-SBR-2845 in Chino.

Badlands Landfill Stockpile Project, Riverside County, CA. *Archaeologist.* Fatima conducted the pedestrian survey and wrote the Phase I Archaeological Resources Assessment in compliance with CEQA and the County of Riverside's General Plan. The Riverside County Waste Management Department proposed to establish a new 48-acre soil stockpiling area (study area) on the Badlands Landfill site, located northeast of the city of Moreno Valley.

City of Burbank Avion Project, Burbank, CA. *Archaeologist.* Fatima was the lead author for the Cultural Resources Assessment Report, coordinated with the main Project Manager and other staff, and prepared the Cultural Resources section for the EIR. The project is a mixed-use development consisting of creative offices,

creative industrial, retail, and a hotel located within a 61-acre Project area, which was once developed with the Lockheed-Martin B-6 site.

San Juan Watershed Project, San Juan Capistrano and Dana Point, CA. *Archaeologist.* Fatima was the lead author for the Phase I Cultural Resources Studies for the project compliant with CEQA and Section 106 of the National Historic Preservation Act. Besides being the lead author for the report, Fatima conducted the records searches, pedestrian survey, prepared the Cultural Resources section of the EIR, and conducted coordination with the Orange County Flood Control District in order to acquire an encroachment permit to conduct the pedestrian survey. The project is to be constructed in multiple phases. The first phase (Phase I) would include installation of three rubber dams and control buildings within San Juan Creek. Subsequent phases include additional dams within San Juan Creek and Arroyo Trabuco, recycled water recharge facilities, and additional upgrades to existing groundwater recovery facilities.

Treeland Homes Project (Boething Treeland Nursery), Woodland Hills. *Archaeologist.* Fatima was the lead author for the Phase I Archaeological and Paleontological Resources Assessment pursuant to CEQA. In addition to writing the report, Fatima conducted the records searches and pedestrian survey. The project proposed to replace the existing Boething Treeland Nursery with residential uses.

Palos Verdes Peninsula Water Reliability Project, Palos Verdes Peninsula. *Archaeologist*. Fatima assisted in the preparation of the Phase I Cultural Resources Assessment report, conducted records searches and conducted the pedestrian survey for this project pursuant to Section 106. The project proposed to construct new potable water pipelines and a new booster pump station to improve overall system reliability in the Palos Verdes Peninsula.

Orange County Sanitation District (OCSD) Project, Cities of Huntington Beach and Fountain Valley. *Archaeologist*. Fatima was the lead preparer of the Cultural Resources section for the Program Environmental Impact Report (PEIR). To comply with CEQA, the OCSD developed a Biosolids Master Plan (BMP) PEIR. The BMP was designed to implement nine different projects that are necessary to upgrade Plant No. 2 biosolids handling facilities to align with OCSD's goals and objectives. OCSD facilities are located in northwestern Orange County.

656 San Vicente Project, Los Angeles *Archaeologist.* Fatima was the lead author of the Cultural Resources Assessment report and conducted the records searches pursuant to CEQA. The project proposed to demolish two existing buildings and surface parking lot within the project site and the construction of a mixed-use office building.