Judson Potable Water Storage Tank and Transmission Pipeline Project

Draft Initial Study/ Mitigated Negative Declaration

September 2019

Prepared for:

Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92570

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

This page intentionally left blank

Judson Potable Water Storage Tank and Transmission Pipeline Project

Draft Initial Study/Mitigated Negative Declaration

Prepared for:

Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92570

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

September 2019 | EMW-17.03

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

DRAFT MITIGATED NEGATIVE DECLARATION

1.	Project Name:	Judson Potable Water Storage Tank and Transmission Pipeline Project.
2.	Project Description:	The project involves the construction and operation of a 2.2-million-gallon (MG) potable water storage tank, a paved access road, a detention basin with approximately 0.26-MG capacity, and other appurtenances to support tank operations. The project also includes approximately 2,300 linear feet of 18-inch-diameter transmission pipeline within the right-of-way of Judson Street (Old Perris Boulevard) from the project site south to Robin Lane.
3.	Project Location:	The project site is located east of Interstate 215 (I-215) and north of State Route (SR) 60 in the northeast portion of the City of Moreno Valley, Riverside County. The project site is located northeast of the terminus of Judson Street.
4.	Project Applicant:	Eastern Municipal Water District 2270 Trumble Road Perris, California 92570

The Lead Agency, having reviewed the Initial Study of this project does hereby find and declare that the project will not have a significant effect on the environment. A brief statement of the reasons supporting the Lead Agency's findings are as follows:

An Initial Study was conducted to evaluate the potential effects of this project upon the environment. Based upon the findings contained in the attached Initial Study, it has been determined that this project would have a less-than-significant impact on the environment. The Initial Study concluded that potentially significant construction-related impacts would occur with respect to biological resources (coastal California gnatcatcher and Riversidean sage scrub), cultural and tribal cultural resources (potential for subsurface cultural resources to be encountered), geology and soils (potential for fossils to be encountered), and noise (potential vibration effects resulting from blasting); however, impacts would be less than significant with mitigation. Potential impacts associated with biological resources would be mitigated by implementing a pre-construction nesting bird survey; establishing a buffer zone, if necessary; and paying the appropriate (Western Riverside County MSHCP) mitigation impact fee. Potential impacts to cultural and tribal cultural resources would be mitigated by retaining the services of a qualified archaeologist and a Native American monitor to evaluate, recover, and report on resources that may be uncovered during ground-disturbing activities. Potential impacts to geology and soils would be mitigated by paleontological monitoring in areas known for high sensitivity. If blasting is required for the project, potential vibration impacts would be mitigated through preparation of blasting plans, notification to nearby property owners, and monitoring of blasting activities. The project would result in less-than-significant or no impacts to the following environmental issues areas: aesthetics, agriculture and forestry resources, air quality, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation/traffic, utilities and services systems, and wildfire. Accordingly, a Draft Mitigated Negative Declaration has been prepared.

The Lead Agency hereby finds that the Mitigated Negative Declaration reflects its independent judgment. A copy of the Initial Study is attached.

The location and custodian of the documents and other materials which constitute the record of proceedings upon which the Lead Agency based its decision to adopt this Mitigated Negative Declaration are as follows:

Eastern Municipal Water District
2270 Trumble Road
Perris, California 92572
https://www.emwd.org/public-notices

9-5-19
Date

Staff Signature

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

BACKGROUND DATA

1.	Project Title:	Judson Potable Water Storage Tank and Transmission Pipeline Project
2.	Lead Agency Name and Address:	Eastern Municipal Water District 2270 Trumble Road Perris, California 92570
3.	Contact Person and Phone Number:	Joseph Broadhead 951-928-3777 extension 4545
4.	Project Location:	The project site is located east of Interstate 215 (I-215) and north of State Route 60 (SR 60) in the northeast portion of the City of Moreno Valley, Riverside County. The project site is located northeast of the terminus of Judson Street.
5.	Project Sponsor's Name/Address:	Same as Lead Agency
6.	General Plan Designation:	OS (Open Space)
7.	Zoning:	OS (Open Space)

I. INTRODUCTION

The following Initial Study addresses the environmental impacts associated with the construction and operation of Eastern Municipal Water District's (herein referred to as the "District") Judson Potable Water Storage Tank and Transmission Pipeline Project (herein referred to as "proposed project" or "project"). The purpose of the proposed project is to address an identified storage capacity deficit in the potable water system. This Initial Study has been prepared in accordance with the *California Environmental Quality Act of 1970,* as amended (CEQA), the *State CEQA Guidelines,* and the District's Administrative Code Resolution 5111, as amended. The District is the Lead Agency for the purposes of CEQA for this project.

II. PROJECT BACKGROUND AND DESCRIPTION

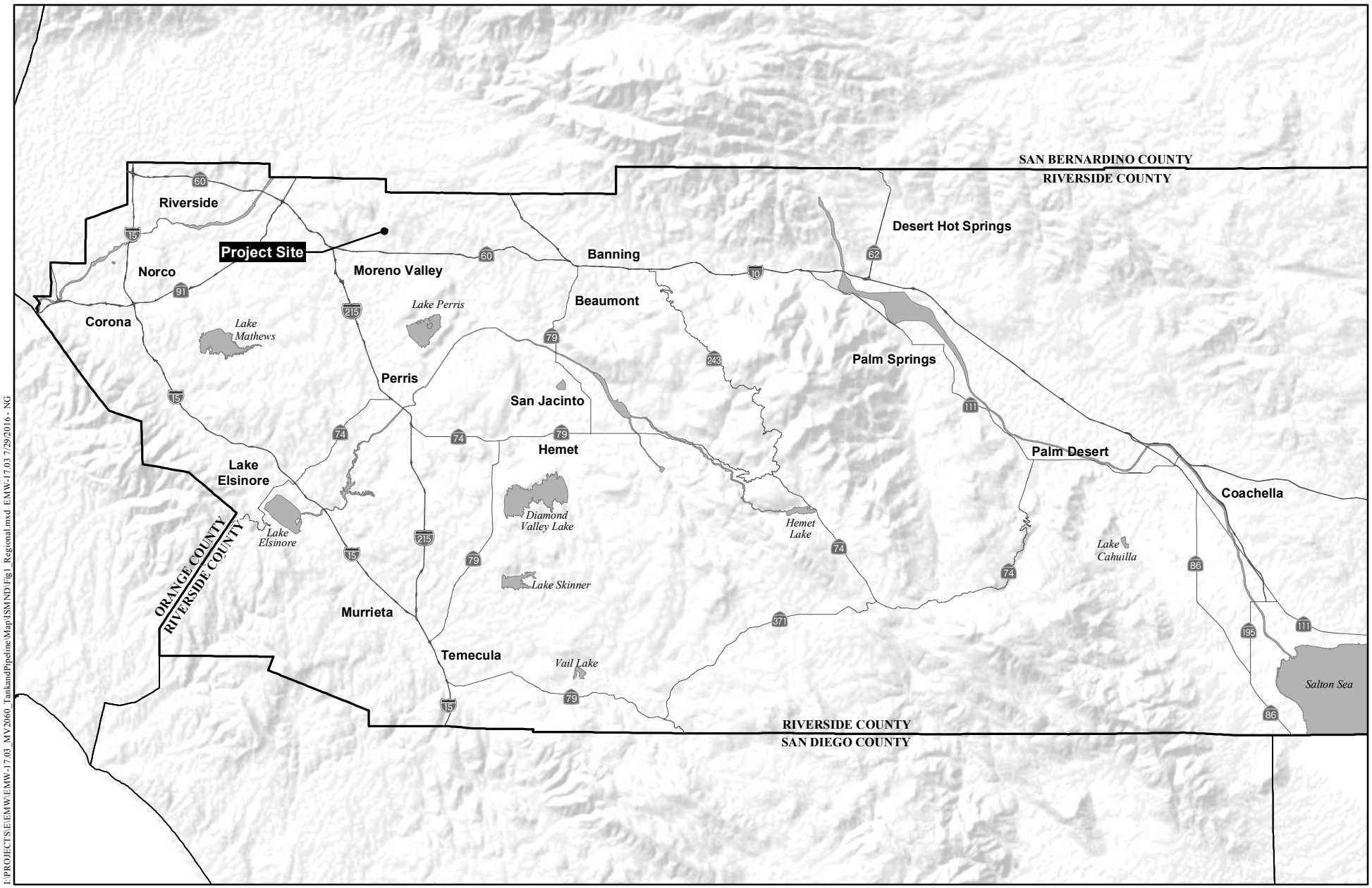
Project Location

The approximately 8.3-acre project site is located east of I-215 and north of SR 60 in the City of Moreno Valley (City), Riverside County (County; Figure 1, *Regional Location*). The project site is situated in the southwest corner of a larger, 137.7-acre parcel (Assessor's Parcel Number [APN] 474-040-034), just south of the San Bernardino County line. The parcel is located in Section 29, Township 2 South, Range 3 West, as shown on the U.S. Geological Survey 7.5-minute quadrangle map (Figure 2, *Project Vicinity [USGS Topography]*). The District acquired the 8.3-acre project site in October 2016. The project site is located northeast of the northernmost end of Judson Street (also known as Old Perris Boulevard). Access to the project site would be provided via Judson Street. A small easement is proposed on a 7.3-acre parcel adjacent to the project site (APN 474-490-019) to connect to the existing Judson Street right-of-way.

Environmental Setting

The parcel is undeveloped land with an elevation range of 1,965 to 2,070 feet above mean sea level (AMSL). An existing water tank is located a quarter mile east of the project site in the southeastern portion of the parcel beyond a gated, paved access road from Pico Vista Way. Single-family residences occur to the west and south of the site, and there is an approximately 3.5-acre citrus grove adjacent to the western property boundary (Figure 3, *Project Vicinity [Aerial Photograph]*). The area to the north and east is mostly undeveloped; a single-family residential development is currently being constructed to the north of the project site. Various existing dirt paths cross the project site.

The project is located on the southwest slope of a small hill in the northeastern portion of the City. The project site and surrounding areas are within a portion of the southern California batholith near the northern end of the Peninsular Ranges province of southern California. This area is characterized by three major northwest-trending mountainous regions comprised of the San Jacinto Mountains, the Perris Block, and the Santa Ana Mountains. The project is located on the Perris Block, which is a large mass of granitic bedrock bounded by the San Jacinto and Elsinore fault zones. The relatively arid climate is partly the result of rain shadow cast by the Santa Ana Mountains. The soil on the project site consists primarily of Cienba rocky sandy loam, 15 to 50 percent slopes, eroded.



I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\ISMND\Fig1_Regional.mxd EMW-17.03 7/29/2016 - NG

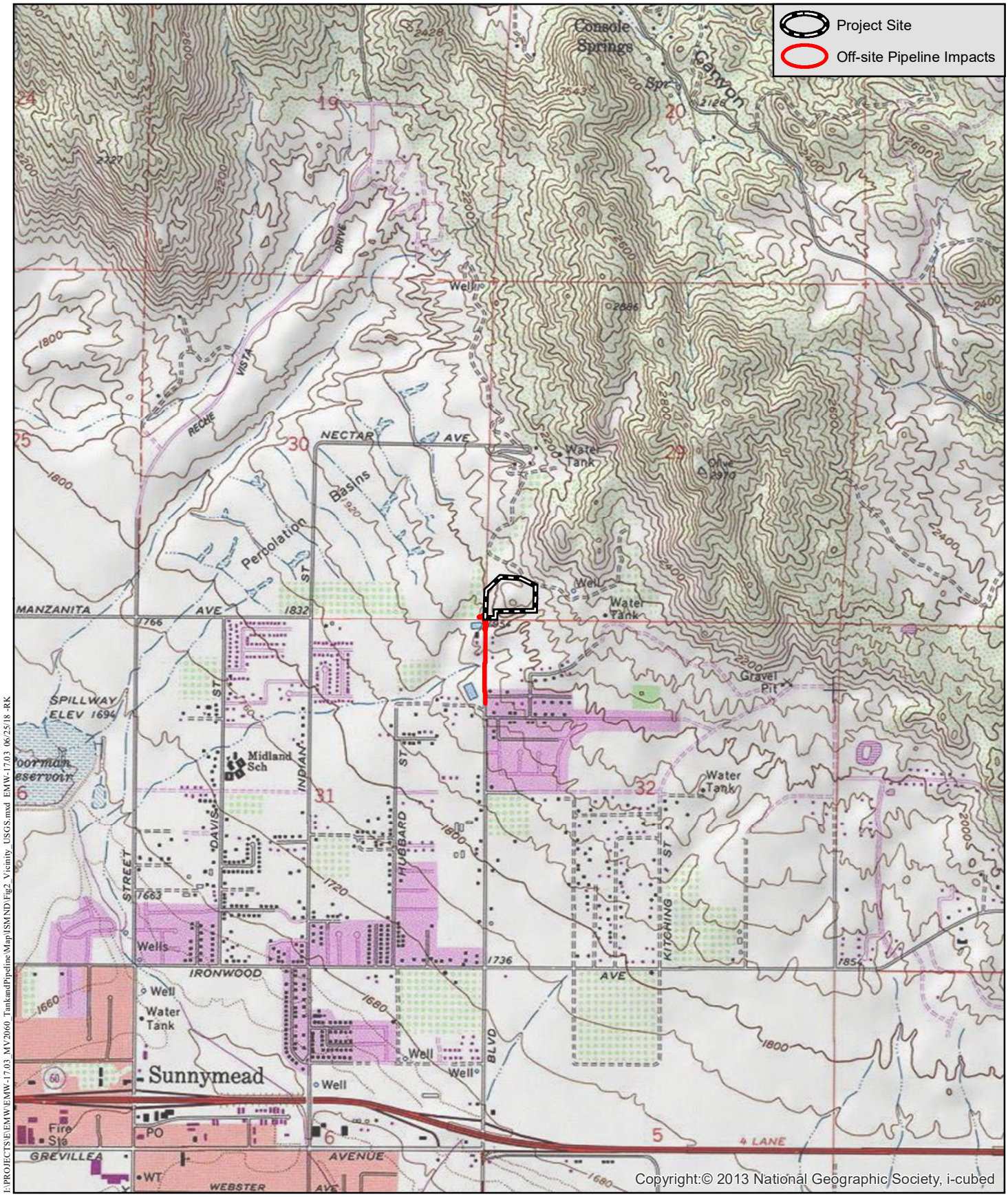
Regional Location

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 10 Miles

Figure 1



I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\ISMND\Fig2_Vicinity_USGS.mxd EMW-17.03 06/25/18 RK

Project Vicinity (USGS Topography)

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N

0 2,000 Feet

Figure 2

I:\PROJECTS\E\EMW\EMW-17.03_MV2060_Tanks and Pipeline\Map\ISMND\Fig3_Vicinity_Aerial.mxd EMW-17.03 06/25/18 -RK

Project Vicinity (Aerial Photograph)

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N

0 1,000 Feet

Figure 3

This page intentionally left blank

Project Characteristics

Overview

The project proposes the construction and operation of a steel, 2.2-million-gallon (MG) potable water storage tank, approximately 2,300 linear feet of 18-inch-diameter transmission pipeline, a paved access road, a detention basin with approximately 0.26 MG capacity, and other appurtenances to support tank operations (e.g., valving structure, electrical service, and Supervisory Control and Data Acquisition [SCADA] system components; Figure 4a, *Site Plan*). The access road and water line would connect to Judson Street (Old Perris Boulevard). The project is anticipated to require 37,000 cubic yards of cut and 29,800 cubic yards of fill, for a total export of 7,200 cubic yards; however, design efforts are being made to reduce or eliminate this export material.

Potable Water Storage Tank and Transmission Pipeline

The proposed potable water storage tank would be constructed with its base at an elevation of 2,029 feet AMSL and would measure approximately 34 feet in height with an internal diameter of approximately 110 feet. Piping to the inlet and outlet of the tank would connect to a nearby valve enclosure. The proposed transmission pipeline would extend from the valve enclosure to the property line approximately 1,000 linear feet south. From the southerly property line, the transmission pipeline would continue 700 linear feet along Judson Street to the centerline of Pico Vista Way, and then 600 linear feet further along the Old Perris Boulevard right of way from Pico Vista Way to Robin Lane, near the Covey Booster Station where it would connect to an existing 16-inch-diameter transmission line at the intersection of Perris Boulevard and Robin Lane (Figure 4b, *Site Plan*).

Detention Basin

The detention basin would be located southwest of the proposed tank (Figure 4a). The maximum depth of the basin would be approximately 6 feet. A sump pit would be installed at the low point of the basin. A concrete-lined, 12-foot-wide emergency spillway would be constructed on the northwestern side of the detention basin. A rip-rap energy dissipater is proposed at the downstream end of the spillway. A 12-foot-wide access road would be constructed around the perimeter of the detention basin for operation and maintenance activities.

Access Driveway

The project also proposes to construct a paved access driveway measuring approximately 24 feet in width that would provide access to the storage tank and would connect to Judson Street. The access driveway would have standard curb and gutter on the downslope side. Additionally, the project proposes to construct concrete-lined swales and u-ditches to collect on-site runoff and runoff entering the site through small tributaries. Runoff would be directed down the access driveway on the upslope side of the road, through a proposed culvert under the access driveway at the southwest corner of the site, and into the proposed detention basin.

Restrictive Covenant

As part of the project, a Restrictive Covenant would be established over two on-site ephemeral drainages that occur along the northern and southern boundaries of the project site to protect these features in perpetuity. The Restrictive Covenant would be reviewed and approved by the Western

Riverside County Regional Conservation Authority (RCA) prior to the initiation of ground-disturbance activities (e.g., vegetation clearing and grubbing, equipment staging, etc.). Fencing and signage would be placed along the perimeter of the Restrictive Covenant to avoid unauthorized access (refer to Figure 4a).

Construction

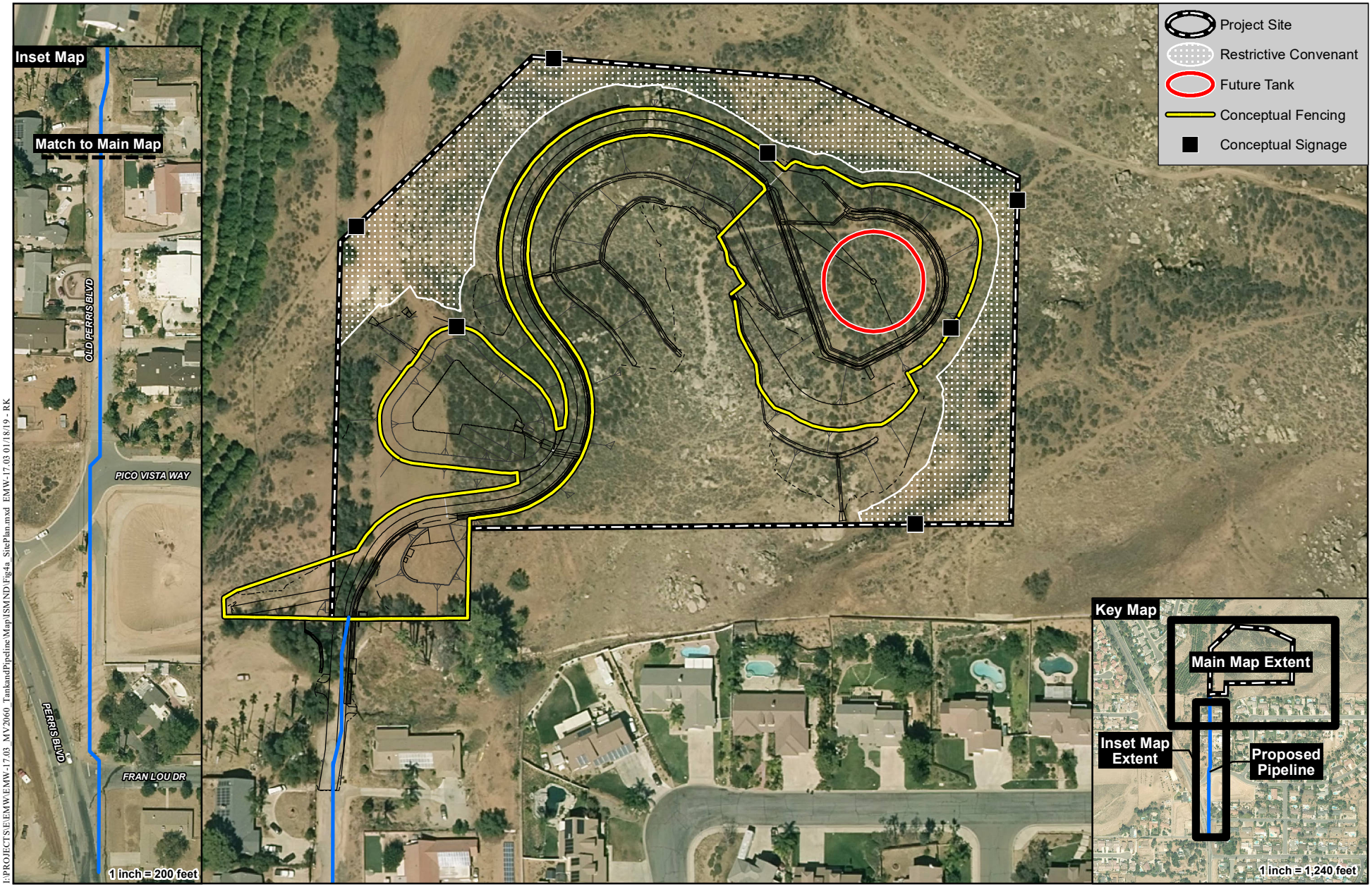
The proposed project footprint is anticipated to be cleared and graded during the summer of 2020. The site would then be maintained until the remaining construction activities are initiated at a later date. Construction activities are anticipated to last a total of approximately one and a half years, not including the potential period of relative inactivity between grading and facility construction. Construction activities would include grading, steel fabrication and priming, tank erection, coating, on-site pipeline installation, connections, testing and disinfection, final paving, and project cleanup. Construction equipment would be staged and stored within the on-site disturbed area. Construction activities would be limited to between the hours of 7:00 a.m. and 7:00 p.m., and as necessary to comply with local ordinances. Long-term activities at the project site would include periodic maintenance and routine security checks.

Project Approval

The District is both the project proponent and the Lead Agency under CEQA. In its role as Lead Agency, the District is responsible for ensuring the adequacy of this Initial Study. Permits and approvals from other agencies also would be required for the proposed project. Table 1 below summarizes these required permits and approvals.

Table 1
REQUIRED PERMITS AND APPROVALS

Permit/Approval	Permitting/Approving Agency	Permit/Approval Trigger
National Pollutant Discharge Elimination System (NPDES) Construction General Permit, Order No. 2009-0009-DWQ (As amended by 2010-0014-DWQ and 2012-0006-DWQ)	California Regional Water Quality Control Board, Santa Ana Region	Required prior to construction activity, upon completion of Notice of Intent and Storm Water Pollution Prevention Program (SWPPP)
Encroachment Permit	City of Moreno Valley	Required prior to advertising project, upon completion of Notice of Intent
Permit Amendment	Department of Drinking Water	Prior to tank operation
Certificate of Inclusion as a Participating Special Entity under the Western Riverside Multiple Species Habitat Conservation Plan	Western Riverside County Regional Conservation Authority	Required prior to construction activity



I:\PROJECTS\E\EMW\EMW-17.03 MV2060 TankandPipeline\Map\ISMND\Fig4a SitePlan.mxd EMW-17.03 01/18/19 - RK

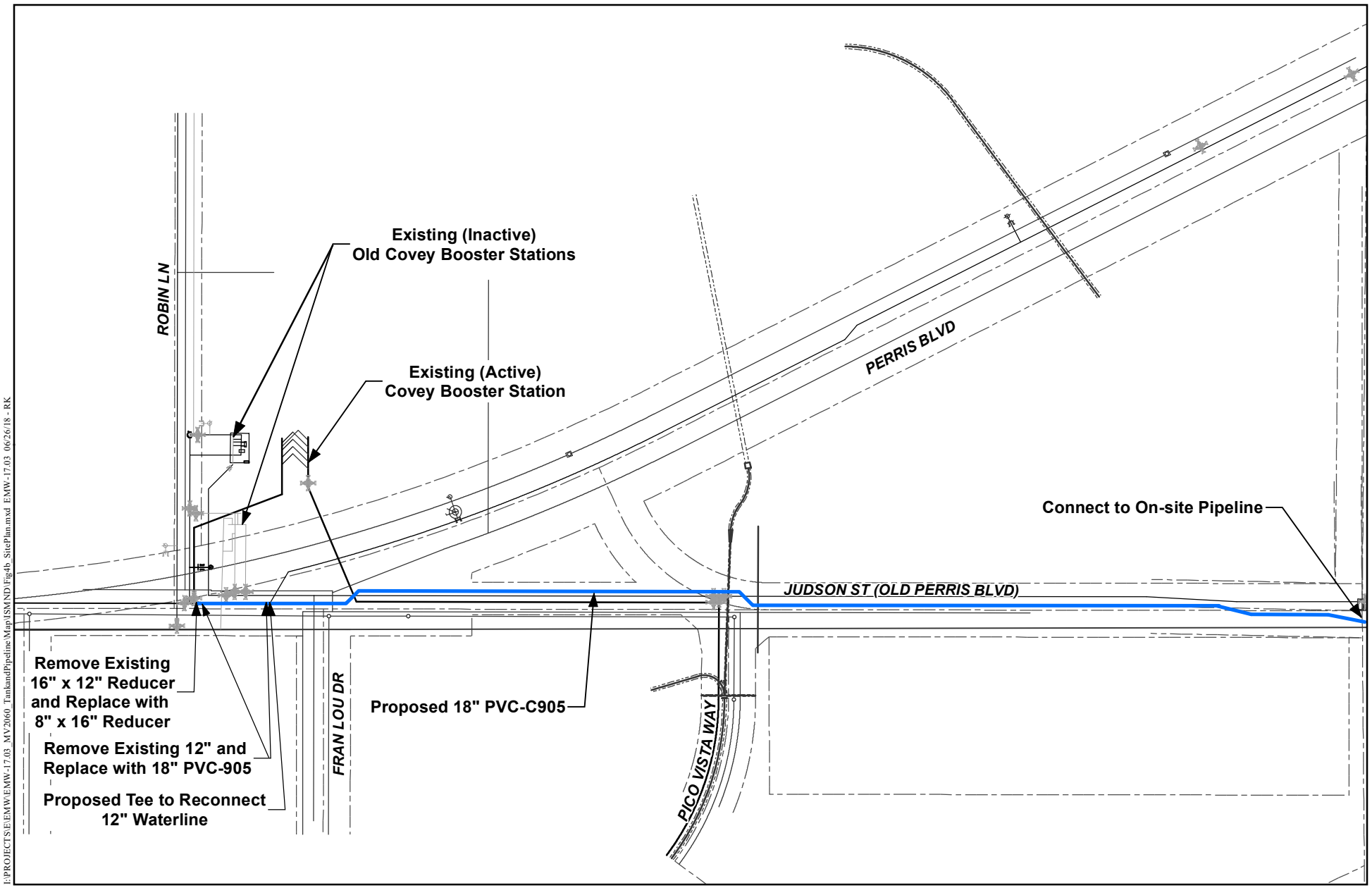
Site Plan

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 150 Feet

Figure 4a



Site Plan

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

0 150 Feet

Figure 4b

III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that may require mitigation to reduce the impact from "Potentially Significant Impact" to "Less than Significant" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture / Forestry Resources	☐ Air Quality
■ Biological Resources	■ Cultural Resources	☐ Energy
■ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use / Planning	☐ Mineral Resources
■ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	■ Tribal Cultural Resources
☐ Utilities / Service Systems	☐ Wildfire	■ Mandatory Findings of Significance

IV. DETERMINATION

On the basis of this initial evaluation that follows:

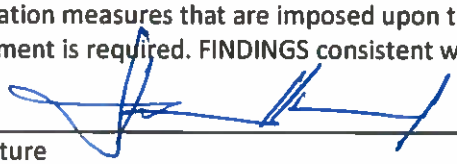
☐ The proposed project is exempt from CEQA pursuant to the general exemption (CEQA Guidelines, 15061 (b)(3)), a statutory exemption, and/or a categorical exemption, and that if a categorical exemption, none of the exceptions to the exemption apply. A NOTICE OF EXEMPTION will be prepared.

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.



Signature

9-5-19

Date

Joseph Broadhead
Principal Water Resources Specialist – CEQA

For: Eastern Municipal Water District

V. EVALUATION OF ENVIRONMENTAL IMPACTS

This section evaluates the potential environmental effects of the proposed project using the environmental checklist from the State CEQA Guidelines as amended. The definitions of the response column headings include the following:

A. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

B. "Less-Than-Significant Impact with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

C. "Less-Than-Significant Impact" applies where the project creates no significant impacts, only less-than-significant impacts.

D. "No Impact" applies where a project does not create an impact in that category. "No Impact" answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

1. Aesthetics

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	□	□	■	□
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	□	□	□	■
c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	□	□	■	□

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	□	□	■	□

Discussion

a. **Less-Than-Significant Impact**. Major scenic vistas within the project area include the Box Springs Mountains Regional Park located approximately 2.2 miles to the east, Olive Hill located approximately 0.6 mile to the northwest, and the Reche Mountains and Canyon located approximately 1.0 mile to the north. Areas to the south of the project area are characterized by residential development, where the majority of views toward the project site would be from private locations or blocked by intervening development or landscaping. Visibility of the project site from nearby scenic vistas would vary based on distance from the site, elevation of the trails, and presence of intervening vegetation and structures. Generally, the project site would comprise only a portion of expansive views for recreationalists using public trails at these locations. Implementation of the proposed project is not anticipated to degrade views of scenic resources within the project study area, since the tank would be set at an elevation lower than the adjacent hillside to the northeast and would not protrude above the ridgeline. Therefore, scenic vistas would not be affected by the proposed project, and impacts would be less than significant.

b. **No Impact**. The proposed project is not located within view of a state scenic highway. Interstate 215, which is located approximately four miles west of the project site, is a County-eligible scenic highway; however, it is not eligible as a California Department of Transportation (Caltrans)-designated scenic highway (Caltrans 2017). The project site is located approximately 5.8 miles northwest of Gillman Springs Road, which also is designated as a County-eligible scenic highway (Figure 9 of County 2015a). The project site is not visible to motorists on I-215 or Gillman Springs Road. No impact would occur.

c. **Less-Than-Significant Impact**. The water tank and related facilities are proposed to be installed on the northeast and southwest slope of a small hill within a vacant parcel. Surrounding land uses include single-family residential development to the south and currently under construction to the north, as well as agricultural activities to the west. The area north and east of the project site consists primarily of open space. An existing water tank is located a quarter mile to the east of the project site.

   Construction activities associated with the project, including the presence of construction vehicles, excavated materials, and laydown areas, would result in short-term visual effects to the project site and its surroundings. Temporary visual effects also would occur along the pipeline alignment during construction, although the alignment would be restored to its original condition post construction. Due to the short-term, temporary nature of these potential effects, impacts related to existing visual character or quality of the site and surrounding areas would be less than significant.

Upon completion of construction, the water tank and related facilities would be visible from some areas immediately southwest and northwest of the site. These areas primarily comprise private vantage points such as residential and agricultural uses; public views would be available from the roadways within the residential developments. Views to the proposed facilities from these locations would be limited due to the topography and intervening structures and landscaping. As discussed above in Item 1.b, other public vantage points with visibility of the site include recreational trails associated with Box Springs Mountains Regional, Olive Hill, and the Reche Mountains and Canyon. While public views of the site are available from these locations, due to the topography, surrounding vegetation, and distance from the project site, views to the proposed facilities would be limited. Overall, the quality of public views of the site and its surroundings would not be substantially degraded and impacts would be less than significant.

Relative to the visual character of the project site and surrounding area, the proposed facilities would be similar in scale and appearance to the existing water tank located a quarter mile to the east of the project site. The tank would be set at an elevation lower than the adjacent hillside to the northeast and would not protrude above the ridgeline. Therefore, implementation of the project would not substantially degrade the existing visual character and impacts would be less than significant.

d. **Less-Than-Significant Impact**. Project construction would occur during daylight hours, and no lighting associated with construction would be required. The proposed project would include the installation of security lighting at the site during the long-term operation of the facilities. Security lighting would be similar in nature to the outdoor and street lighting of the existing residential neighborhood south of the property. The proposed project would not result in a new substantial source of light. Additionally, the proposed tank would not be constructed of materials that would create sources of glare. The proposed transmission line and on-site detention basin would not include sources of light or glare. The project site is approximately 47.5 miles from the Palomar Observatory and is not within Zone A (within 15 miles) or Zone B (within 45 miles) of the Mt. Palomar Nighttime Lighting Policy Area. While conformance to restrictions related to these zones would not be required for the proposed project, the project would adhere to the applicable lighting standards established by the County (Ordinance No. 655) and the Moreno Valley Municipal Code (§9.08.100 and §9.10.110). Impacts associated with light and glare would be less than significant.

2. Agriculture and Forestry Resources

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	□	□	□	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	□	□	□	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	□	□	□	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	□	□	□	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	□	□	□	■

Discussion

a. **No Impact**. The California Department of Conservation (CDC), Division of Land Resources Protection's Farmland Mapping and Monitoring Program (2016a) indicates that no Prime Farmland or Unique Farmland is located within or adjacent to the project site. There is an existing orchard located on Farmland of Statewide Importance near the western boundary of the project site. The project site is identified as Grazing Land. Implementation of the proposed project would involve the construction and operation of a water tank and related facilities on site and would not convert adjacent agricultural uses to non-agricultural use. No impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur.

b. **No Impact**. There are no Williamson Act Contracts in Moreno Valley (CDC 2016b). As no agricultural uses or Williamson Act lands occur within the project site, no impact would occur.

c. **No Impact**. The project site is not designated or zoned for forest land, timberland, or timberland zoned Timberland Production. Therefore, implementation of the project would not conflict with existing zoning for such lands, and no impact would occur.

d. **No Impact**. As stated in Item 2.c, the project site is not located in an area designated as forest land. Accordingly, project construction and operation would not convert forest land to non-forest use, and no impact would occur.

e. **No Impact**. There are no timberland production operations within the project site or vicinity. The project does not propose changes that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

3. Air Quality

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	□	□	□	■
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under the applicable federal or state ambient air quality standard (including releasing emissions would exceed quantitative thresholds for ozone precursors?	□	□	■	□
c. Expose sensitive receptors to substantial pollutant concentrations?	□	□	■	□
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	□	□	■	□

Discussion

a. **No Impact**. The project is located within the South Coast Air Basin (Basin) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD develops and administers local regulations for stationary air pollutant sources within the Basin, and also develops plans and programs to meet attainment requirements for both federal and State Ambient Air Quality Standards (AAQS). SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin (SCAQMD 2013). The AQMP is a series of plans adopted for the purpose of reaching short- and long-term goals for those pollutants that the Basin is designated as a 'nonattainment' area because the SCAQMD does not meet federal and/or State AAQS. To determine consistency between the project and the AQMP, the project must comply with applicable SCAQMD rules and regulations;

comply with proposed or adopted control measures; and be consistent with the growth forecasts utilized in preparation of the AQMP, which are based on regional population, housing, and employment projections prepared by SCAG.

The project would not result in a significant air quality impact from operational activity, as described further in Item 3.b. Moreover, as discussed in Item 13.a, under Population and Housing, the proposed project does not include growth-generating components. As such, the project would be consistent with growth projections contained in the City's General Plan and also consistent with SCAG and AQMP forecasts. Based on these considerations and pursuant to SCAQMD guidelines, project-related emissions are accounted for in the AQMP, and no impact would occur.

b. **Less-Than-Significant Impact**. Air quality is defined by ambient air concentrations of six specific pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. These pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (including both particulate matter 10 microns or less in diameter [PM_{10}] and particulate matter 2.5 microns or less in diameter [$PM_{2.5}$]), sulfur dioxide (SO_2), and lead (Pb). The Basin is currently in nonattainment for 1-hour ozone, 8-hour ozone, PM_{10}, and $PM_{2.5}$. SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. As discussed in Item 3.a, the proposed project would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants.

The primary source of air pollutants generated by the proposed project would be emissions associated with construction activities. Construction of the project would result in temporary increases in air pollutant and dust emissions generated primarily from construction equipment exhaust, earth disturbance, construction worker vehicle trips, and heavy-duty truck trips. Overall, daily emissions would be relatively low because only a limited number of truck trips would be required to haul construction equipment to/from the site and only a few pieces of construction equipment would be active at any one time. In addition, construction-related emissions would be short term, lasting approximately one and a half years.

Project construction would employ dust control measures as required by Rule SCAQMD 403 and would not result in emissions that would violate an air quality standard or result in a cumulatively considerable increase of any criteria pollutant for which the project region is non-attainment. In addition, construction emissions would be temporary and localized within the immediate project vicinity.

Operational emissions generated from the proposed project would be limited to emissions associated with maintenance activities at the site and would be well below significance levels. Vehicle trips associated with the operation of the proposed project would include (on average), a minor number of trips from weekly maintenance and approximately daily security checks at the tank, and basin maintenance two to three times a year to clean or reform the basin. An average of eight round trips to the project site on a weekly basis would not generate significant emissions. Therefore, operational emissions would be less than significant.

c. **Less-Than-Significant Impact**. Sensitive receptors within a one-mile vicinity of the project site include single-family residences adjacent to the project site, and two elementary schools located

over half a mile from the project site. Any project which has the potential to directly impact a sensitive receptor located within one mile and results in a health risk greater than ten in one million would be deemed to have a potentially significant impact. During the project construction period, which would occur over approximately one and a half years, diesel exhaust particulate matter would be generated from heavy construction equipment. Diesel exhaust particulate matter is known to the State of California as carcinogenic compounds, and long-term exposure to diesel exhaust emissions has the potential to result in adverse health effects. Long-term exposure is typically equated with a lifetime of chronic exposure, which is defined in the California Air Pollution Control Officers' Association Air Toxics "Hot Spots" Program Risk Assessment Guidelines as 24 hours per day, 7 days per week, 365 days per year, for 70 years. While toxic air contaminants (TACs) can have long-term and/or short-term effects, diesel TAC has been shown by the California Air Resources Board (CARB) to have little or no short-term impact. Due to the short-term nature of project construction and minimal operational emissions, impacts from exposure to diesel exhaust emissions would be less than significant.

d. **Less-Than-Significant Impact**. The project does not contain land uses typically associated with emitting objectionable odors. The proposed project has the potential to generate objectionable odors during asphalt application, as well as diesel exhaust during construction of the proposed project. However, odors generated during construction activities would be short term, and would be limited to the immediate area of usage. Project construction would employ best available control measures as required by Rule 1120 for asphalt pavements, and would not result in diesel exhaust emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, nor result in a cumulatively considerable net increase. Compliance with these rules would ensure odor impacts associated with construction activities would remain less than significant. The long-term operation of the proposed project is not expected to generate noticeable odors.

4. Biological Resources

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	□	■	□	□
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	□	■	□	□

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	□	□	□	■
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	□	□	■	□
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	□	□	□	■
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	□	□	■	□

Discussion

A General Biological Resource Assessment Report was prepared for the project by HELIX Environmental Planning, Inc. (HELIX 2019a; Appendix A). The report documents the results of the biological resources study performed by HELIX for the project, which includes the results of database queries, literature reviews, and biological resources surveys. The results and conclusions of HELIX's biological resources technical study are summarized herein.

a. **Less Than Significant with Mitigation Incorporated**. During the biological survey, the coastal California gnatcatcher (CAGN) was observed on site. This species is listed at the federal level.

Three other sensitive species were documented within the project site: Cooper's hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and California horned lark (*Eremophila alpestris actia*). Because these three species are covered under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and due to the presence of CAGN within the project site, the District is pursuing MSHCP coverage as a Participating Special Entity (PSE; discussed further in Item 4.f below).

Riversidean sage scrub was found on site, which is suitable nesting habitat for the CAGN and other birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code). Modification of this habitat could have an adverse effect on the CAGN and other migratory birds. Additionally, construction of the proposed project could result in noise or dust during the general bird nesting season that could have an adverse effect on the CAGN and other migratory birds. If this were to occur, such effects would violate the MBTA. Impacts to the on-site CAGN and other migratory birds protected under the MBTA would be potentially significant. Implementation

of mitigation measure BIO-1 would reduce potential impacts to CAGN, Cooper's hawk, southern California rufous-crowned sparrow, and California horned lark, which are covered under the MSHCP, to a less-than-significant level. Additionally, implementation of mitigation measure BIO-2 would ensure that potential impacts to birds protected under the MBTA and CFG Code are avoided during project construction.

BIO-1 **MSHCP Mitigation Impact Fee.** Prior to construction, the District will pay the appropriate MSHCP mitigation fee in accordance with Section 6.1.6 of the MSHCP for Participating Special Entities or take other such actions in coordination with the RCA and the Wildlife Agencies. The fees shall be either collected by, or submitted to, the RCA.

BIO-2 **Pre-Construction Nesting Bird Survey and Avoidance.** Vegetation clearing should be conducted outside the nesting season, which is generally defined as January 15 to August 31. If vegetation clearing must take place during the nesting season, a qualified biologist shall be retained to perform a pre-construction survey for nesting birds. A pre-construction nesting bird survey would not be required unless direct impacts to vegetation are proposed to occur. The nesting bird survey shall occur no more than seven days prior to vegetation removal.

Additionally, raptors (birds of prey) are known to begin nest building in January or February. If vegetation clearing is to occur between January 1 and February 15, a nesting raptor survey will be conducted within the project site, including a 500-foot buffer.

If active bird nests are confirmed to be present during the pre-construction survey, a buffer zone will be established by the biologist until a qualified biologist has verified that the young have fledged or the nest has otherwise become inactive.

b. **Less Than Significant with Mitigation Incorporated**. The project site includes portions of two ephemeral drainage features that meet the minimum criteria to be considered Riverine. The project has been specifically designed to avoid impacts to the two drainage features. These features would be conserved on site through placement of a Restrictive Covenant to protect the resources in perpetuity. The Restrictive Covenant will be reviewed and approved by RCA prior to the initiation of ground-disturbance activities (e.g., vegetation clearing and grubbing, equipment staging). Implementation of mitigation measures BIO-3 and BIO-4 would further ensure that the drainages near the project would not be impacted by construction activities. In addition to these measures, a perimeter fence would be installed around the permanent project features to avoid unauthorized access to the facilities. Permanent fencing would ensure that maintenance activities would be restricted to the permanent project footprint, protecting the avoided area and associated functions and values. Signage would also be installed along the perimeter of the Restrictive Covenant, at the site entry points, and along the edges of permanent project features prohibiting access to the area.

Impacts to 4.2 acres of Riversidean sage scrub found on site would be potentially significant; however, the project design has been modified to minimize impacts to Riversidean sage scrub to the maximum extent feasible. Implementation of mitigation measure BIO-1 would reduce impacts to Riversidean sage scrub to a less-than-significant level.

BIO-3 **Biological Monitor.** Prior to construction, the District shall retain a qualified biologist to monitor clearing and/or grubbing activities. The biological monitor shall attend pre-construction meetings and be present during the removal of vegetation to ensure that the

approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Before construction activities occur in areas containing sensitive biological resources, workers shall be educated by the biologist to recognize and avoid those areas that have been marked as sensitive biological resources.

BIO-4 **Temporary Construction Fencing**. Prior to construction the District shall require that environmentally sensitive areas that occur outside of the approved work limits are identified on construction plans. Temporary construction fencing shall be installed along the approved work limits under the direction of the qualified biological monitor. Fencing shall be maintained and remain in place through the duration of project construction.

c. **No Impact**. The project would be restricted to upland areas that lack potential jurisdictional waters and wetlands. The project proposes to avoid the ephemeral drainages that occur along the northern and southern boundaries of the site; therefore, no impacts to jurisdictional waters and wetlands would occur.

d. **Less-Than-Significant Impact**. No known wildlife corridors or nursery sites occur on or in the immediate vicinity of the project site. The site is situated in the southeastern corner of a small range of hills. Undeveloped land occurs to the immediate north and east, and residential development occurs to the immediate south and west. Due to this location, the site does not provide a linkage or wildlife movement corridor between adjacent open space areas. The project's water tank and associated access road would not preclude wildlife from moving through the local area unimpeded. Impacts would be less than significant.

e. **No Impact**. The project would not conflict with local policies or ordinances protecting biological resources and no impact would occur, as detailed below.

Section 9.17.030 (Landscape and Irrigation Design Standards) of Chapter 9.17 (Landscape and Water Efficiency Requirements) of Title 9 (Planning and Zoning) of the City of Moreno Valley Municipal Code contains provisions for protection of trees, including heritage trees. Heritage trees in the City of Moreno Valley that have certain characteristics (i.e., historical/ cultural character, age, size, species) receive special attention and preservation efforts under Chapter 9.17. There are no trees onsite that meet the criteria for heritage trees. As such, no impacts would occur to protected trees and the project would not conflict with Section 9.17.030 of the City of Moreno Valley Municipal Code.

f. **Less-Than-Significant Impact**. The site is located within the Reche Canyon/Badlands Area Plan of the MSHCP. The MSHCP is a comprehensive multi-jurisdictional effort that includes western Riverside County and multiple cities. Eastern Municipal Water District is not a participating entity under the MSHCP but is pursuing a PSE designation for the project site. Rather than address sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 500,000 acres and a mechanism to fund and implement the reserve system (Dudek 2003). Most importantly, the MSHCP allows participating entities to issue take permits for listed species so that individual applicants need not seek their own permits from the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW). The MSHCP was adopted on June 17, 2003, by the Riverside County Board of Supervisors. The Incidental Take Permit was issued by the USFWS and CDFW on June 22, 2004.

As noted above, the project is located in the Reche Canyon/Badlands Area Plan of the MSHCP. The site is not within a subunit, Criteria Cell, or Cell Group. In order to obtain MSHCP coverage as a PSE, the project is required to demonstrate MSHCP compliance through specific habitat assessments, applicable biological surveys, and the provision of an MSHCP consistency analysis. As further described in the biological report, the project area is not within an area targeted for conservation. Also, the project has been specifically designed to avoid impacts to the two on-site drainage features and would further conserve these features through placement of a Restrictive Covenant. Because the project is consistent with all evaluated MSHCP issue areas, impacts would be less than significant.

5. Cultural Resources

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	□	□	□	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	□	■	□	□
c. Disturb any human remains, including those interred outside of formal cemeteries?	□	■	□	□

A Cultural Resources Study was conducted for the project by HELIX (2019b; Appendix B). The cultural resources study area included the project site and land within a one-mile radius of the project footprint. The results and conclusions of the cultural resources assessment, which was conducted prior to the project site being graded, are summarized herein.

Discussion

a. **No Impact**. The results of the records search conducted by HELIX indicated that no fewer than 10 prior cultural resources investigations have been conducted previously within a one-mile radius of the project site, resulting in a total of eight cultural resources that have been identified and recorded within a one-mile radius of the project site. The two resources closest to the project site are a prehistoric isolate and a bedrock milling features. No cultural resources have been previously identified within the project site.

   According to the record search conducted for the project, no properties were currently listed on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR), historical resources, or historic landmarks recorded within or immediately adjacent to the project area. No potentially significant cultural resources of historic age were observed within or immediately adjacent to the project site during the historic photograph investigation conducted for the project. Therefore, no substantial adverse changes to the significance of historical resources within the project vicinity are anticipated and no impact would occur.

b. **Less Than Significant with Mitigation Incorporated**. As discussed in Item 5.a, eight cultural resources have been identified within the cultural resources study area. The Sacred Lands File search results were received from the Native American Heritage Commission (NAHC) on August 3, 2016. The search was negative for any Sacred Lands within the project vicinity. Letters were sent by certified mail on March 1, 2017 to the tribal contacts indicated by the NAHC. Four responses have been received to date. A letter was received from the Rincon Band of Luiseño Indians on March 13, 2017, indicating that although the project area is within the Luiseño Aboriginal Territory, it is outside Rincon's Historic boundaries. Based on this, they deferred to the Pechanga Band of Luiseño Indians (Pechanga) or the Soboba Band of Luiseño Indians (Soboba), who are located closer to the project area. A letter was received via email from the Agua Caliente Band of Cahuilla Indians (ACBCI) on March 17, 2017. The letter indicated that the project area is within the Tribe's Traditional Use Area and stated, "At this time ACBCI defers to Soboba. This letter shall conclude our consultation efforts."

A letter from Soboba was received on March 30, 2017, stating that the project area falls "within the bounds of our Tribal Traditional Use Areas. This project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba." Soboba requested to initiate consultation with the District, to act as a consulting tribal entity for this Project, and to have Native American Monitor(s) from Soboba's Cultural Resource Department present during any ground disturbing proceedings, including archaeological surveys or testing. The San Manuel Band of Mission Indians (SMBMI) responded by email on April 10, 2017. They, too, requested to initiate consultation with the District regarding the Project. The email further noted:

> The proposed project area exists just within Serrano ancestral territory and, therefore, is of interest to the Tribe. This area is known to have been used and lived upon by Serrano ancestors. I have attached a Serrano Ancestral Lands map for your future information. You mentioned that Soboba participated in the cultural resources survey of the project area. We are aware that more than one tribal entity has concerns about the project and would like to respectfully request that during implementation of the project, a monitor from a SMBMI-approved list participate. Tribe has worked with Soboba in the past to work out a cooperative arrangement.

Although the general vicinity of the project has been occupied/used by the Luiseño, Cahuilla, and Serrano people for thousands of years, there are no previously recorded cultural resources or known Sacred Lands within the project area, and none were identified during the field survey conducted on February 28, 2017 by a HELIX archaeologist and a Native American monitor from Soboba. While numerous weathered granitic bedrock outcrops are located within the property, no bedrock milling surfaces were observed. Based upon these findings, the project is anticipated to have no effect to cultural resources. The relatively undisturbed alluvial soils on the project site do, however, present potential for subsurface cultural resources. Further, the project area appears relatively undisturbed in terms of development. Several Tribes have responded that the area is of interest to the Tribe, and Soboba indicated that the area is culturally sensitive. Based on these factors, there is a potential for subsurface cultural resources to be encountered during grading and other ground-disturbing activities. Impacts would, therefore, be potentially significant. Mitigation measures CUL-1 through CUL-3 will be implemented to reduce potential impacts to below a level of significance:

CUL-1 **Archaeological and Native American Monitoring.** The District shall retain a qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards to oversee an archaeological monitor who shall be present during ground-disturbing activities such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. A Native American monitor from a Tribe traditionally culturally affiliated with the Project area shall be retained to monitor during all activities requiring an archaeological monitor. The frequency of monitoring shall be determined by the archaeological monitor and the Native American monitor, based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill or young versus old soils), the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Excavations into formational materials are not required to be monitored by the archaeologist, as these sediments would not contain cultural material. Full-time field observation can be reduced to part-time inspections or ceased entirely if determined adequate by the qualified archaeologist and the Native American monitor.

CUL-2 **Archaeological Resource Recovery**. In the event that archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 25 feet shall be established around the find, in which construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified archaeologist and a Native American monitor. The District shall coordinate with the archaeologist and the Native American monitor to develop an appropriate treatment plan for the resources if they are determined to be potentially eligible for the CRHR or potentially qualify as unique archaeological resources pursuant to CEQA. The treatment plan may include preservation in place (if feasible) and/or the implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. The District, in consultation with the archaeologist and the Native American monitor, shall designate repositories that meet State standards to curate the archaeological material recovered. Project material shall be curated in accordance with the State Historical Resources Commission's *Guidelines for Curation of Archaeological Collections*.

CUL-3 **Archaeological Report.** The archaeological monitor shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted to the District, the Eastern Information Center (EIC), and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures. The report shall include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the CRHR.

c. **Less Than Significant with Mitigation Incorporated**. No evidence of human remains, including those interred outside of formal cemeteries, was identified during the records search, literature review, or field survey. While no human remains are anticipated to be discovered during project construction, in the unexpected event that human remains are encountered during construction, related impacts would be potentially significant. Implementation of mitigation measure CUL-4 would reduce potential impacts to less than significant.

CUL-4 **Procedure for Discovery of Human Remains.** If human remains are encountered unexpectedly during implementation of the Project, State Health and Safety Code Section 7050.5 requires that no further disturbance occurs until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may inspect the site of the discovery of the Native American remains and may recommend means for treating, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete inspection and make a recommendation within 48 hours of being granted access to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Upon the discovery of the Native American remains, the District shall ensure that the immediate vicinity in which the Native American human remains are located is not damaged or disturbed by further development activity until the District has conferred with the MLD regarding their recommendations, taking into account the possibility of multiple human remains. the District shall discuss all reasonable options with the MLD regarding the MLD's preferences for treatment.

Whenever the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or EMWD or the authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of PRC Section 5097.94, if invoked, fails to provide measures acceptable to the District, the District or authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbances.

6. Energy

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	□	□	■	□
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	□	□	□	■

Discussion

a. **Less-Than-Significant Impact.** Energy used for construction would primarily consist of fuels in the form of diesel and gasoline. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction and would include the transportation of

construction materials and construction worker commutes. Heavy-duty construction equipment associated with construction activities, haul trucks involved in the removal of construction and demolition materials, and smaller support equipment (such as lighting, air compressors, and pumps) would consume petroleum-based fuel. Construction workers would travel to and from the project site throughout the duration of construction, presumably in gasoline-powered vehicles. While construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. In addition, the project would implement Best Management Practices (BMPs) and mobile equipment energy usage during construction would be minimized as the project would comply with CARB idling regulations, which restrict idling diesel vehicles and equipment to five minutes. The petroleum consumed during project construction would also be typical of similar construction projects and would not require the use of new petroleum resources beyond what are typically consumed in California. Based on these considerations, construction of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources.

During operations, the tank and transmission pipeline would use electricity for pumping water. Additional minor sources of energy use include maintenance worker vehicle trips. The use of electricity would be restricted to necessary tank operations. The project would therefore not use energy in a wasteful, inefficient, or unnecessary manner. Implementation of the project would not result in a substantial increase in demand of local or regional energy supplies compared to existing conditions, and impacts would be less than significant.

b. **No Impact.** The project would be built and operated in accordance with existing, applicable regulations, which include, but are not limited to, the California Green Building Standards Code and CARB regulations (as mentioned in Item 6.a). Construction equipment and tank operation equipment would be maintained to allow for continuous energy-efficient operations. The project would therefore not conflict with the City's Energy Efficiency and Climate Action Strategy (City 2012), and no impacts would occur.

7. Geology and Soils

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	□	□	■	□

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii. Strong seismic ground shaking?	□	□	■	□
iii. Seismic-related ground failure, including liquefaction?	□	□	■	□
iv. Landslides?	□	□	■	□
b. Result in substantial soil erosion or the loss of topsoil?	□	□	■	□
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	□	□	■	□
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	□	□	■	□
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	□	□	□	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	□	■	□	□

Discussion

a.i. **Less-Than-Significant Impact**. The City is located near a number of major faults, including the San Andreas, Elsinore, and the San Jacinto fault zones. The San Jacinto Fault zone is located approximately 3.5 miles east of the project site (see Figure 6-3 of City 2006a). Based on the Geotechnical Investigation Report for the project (Converse Consultants 2017), there are no known active faults projecting toward or extending across the project site. While the potential for on-site rupture cannot be completely discounted (e.g., unmapped faults could conceivably underlie the site), the likelihood for such an occurrence is considered low due to the absence of known faulting within or adjacent to the project site. Impacts related to fault rupture from implementation of the proposed project would be less than significant.

a.ii. **Less-Than-Significant Impact**. The project site is located in a seismically active region and is likely to be subjected to moderate to strong seismic ground shaking. Seismic shaking at the site could be generated by events on any number of known active and potentially active faults in the region, including the Elsinore, San Jacinto, or San Andreas Fault zones. Faulting in the region generally comprises a number of northwest-trending, predominantly right-lateral strike-slip faults at the boundary between the Pacific and North American tectonic plates. An earthquake along any of these known active fault zones could result in severe ground shaking and consequently cause injury and/or property damage in the project vicinity.

The proposed tank and associated structures would be designed and constructed pursuant to applicable American Water Works Association (AWWA) standards and District guidelines. Steel tanks that are designed and constructed in accordance with AWWA Standards have an excellent safety and performance track record and are the industry norm for water storage. The project design would also incorporate measures to accommodate seismic loading, as applicable, pursuant to existing guidelines such as the "Greenbook" Standard Specifications for Public Works Construction (Greenbook Committee of Public Works Standards, Inc. 2015) and the International Building Code (IBC; International Conference of Building Officials 2012). These guidelines are produced through joint efforts by industry groups to provide standard specifications for engineering and construction activities, including measures to accommodate seismic loading parameters. The referenced guidelines, while not comprising formal regulatory requirements per se, are widely accepted by regulatory authorities and are regularly included in related standards such as municipal building and grading codes. In addition, the project design would follow guidelines within the California Building Code (CBC; California Code of Regulations, Title 24, Part 2). The CBC is based on the previously described IBC, with appropriate amendments and modifications to reflect site-specific conditions in California. Furthermore, the District regularly monitors (both remotely and by daily observations) all water storage facilities for leaks and repairs them immediately to avoid conditions that might result in a failure. Based on the incorporation of routine maintenance and applicable measures for project design and construction, the potential impacts associated with strong seismic ground shaking are assessed as less than significant.

a.iii. **Less-Than-Significant Impact**. Liquefaction is the phenomenon that occurs during severe ground shaking whereby soils reduce greatly in strength and temporarily behave similarly to a fluid. Severe or extended liquefaction can result in significant effects to surface and subsurface facilities through the loss of support and/or foundation integrity. Liquefaction is associated primarily with loose (low density), saturated, fine- to medium-grained, cohesionless soils and shallow groundwater levels. Based on the Figure S-3 in the Safety Element of the Riverside County General Plan (2015), the project site is located within an area of low liquefaction susceptibility. Moreno Valley groundwater levels are generally deep below the ground surface (City 2006a), and the geology below the project site contains dense sediments and shallow bedrock (Converse Consultants 2017). Impacts related to liquefaction would be less than significant.

a.iv. **Less-Than-Significant Impact**. The project site is located in an area with potential for earthquake-induced landslides (see Figure S-4 in County 2015b). As described above in 6.a.ii, however, the proposed tank and associated structures would be designed and constructed pursuant to applicable standards and guidelines. Impacts would be less than significant.

b. **Less-Than-Significant Impact**. Earthwork and construction activities associated with the proposed project would result in an increased potential for soil erosion at the project site. Construction activities would increase the potential for erosion and transport of eroded material (sedimentation) both within and downstream of the project site. The influx of sediment into downstream receiving waters could result in direct effects such as increased turbidity, and also would provide a transport mechanism for other contaminants such as hydrocarbons that tend to adhere to sediment particles.

Erosion and sedimentation are not considered to be significant long-term concerns for the proposed project, as all developed areas would be stabilized. For example, graded areas and fill materials would be stabilized through efforts such as trench backfill or revegetation. Erosion potential would be higher in the short-term during construction than in pre-construction conditions. Erosion and

sedimentation control measures would be implemented to minimize on-site erosion and off-site transport of eroded materials during project construction. Such control measures would include applicable BMPs as identified in sources including the Stormwater Best Management Practice Handbooks (California Stormwater Quality Association 2015) and/or Construction Site Best Management Practices Manual (Caltrans 2003), in addition to specific BMPs determined by the project contractor and engineer based on site-specific conditions (i.e., revegetation of disturbed areas, covering stockpiled materials, use of erosion control devices and sediment catchment structures, etc.). Implementation of these measures would ensure potential erosion and sedimentation impacts remain less than significant. Additional erosion control measures may also be required in association with NPDES permit requirements, as discussed below in Item 9.a.

c. **Less-Than-Significant Impact**. As discussed in Items 6.a.iii, the project site is not located within an area prone to liquefaction. The project site is, however, located in an area with potential for earthquake-induced landslides, but conformance to applicable standards and guidelines would reduce related impacts to less than significant (see Items 6.a.ii and 6.a.iv.).

   The project itself would not cause local soil or geologic units to become unstable nor is construction of the project anticipated to cause on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse. Construction activities would be performed in accordance with the project plans, District specifications, and applicable Occupational Safety and Health Administration (OSHA) requirements. According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, the project site is underlain by Cienba rocky sandy loam, a somewhat excessively drained soil with medium runoff class (2017). Landslide potential is considered medium. Incorporation of standard engineering guidelines would ensure that effects related to unstable geologic units or soils would be less than significant.

d. **Less-Than-Significant Impact**. Expansive soils are generally high in clays or silts that shrink or swell with variation in moisture. Expansive (or shrink-swell) behavior is attributable to the water-holding capacity of clay minerals and can adversely affect the structural integrity of facilities including underground pipelines. The project site is characterized by Cienba rocky sandy loam, a somewhat excessively drained soil with low clay content (NRCS 2017). Additionally, the proposed project would incorporate standard engineering techniques in accordance with the IBC and CBC to avoid adverse effects of expansive soils. Therefore, impacts related to expansive soils would be less than significant.

e. **No Impact**. Septic tanks or other alternative wastewater disposal systems would not be a part of the proposed project. No impact would occur.

f. **Less Than Significant with Mitigation Incorporated.** The County General Plan Paleontological Sensitivity Map identifies the project site as being located within a “High B” area of paleontological sensitivity, the second highest level of sensitivity in Riverside County (County 2003). High B sensitivity is based on geologic formations or mapped rock units that are known to contain the correct age and depositional conditions to contain significant paleontological resources that may be encountered at or below depths of four feet. According to the U.S. Geological Survey Geologic Map of the Sunnymead 7.5’ Quadrangle, Riverside County, California, the majority of the project site is underlain by tonalite, which is not considered sensitive or known to contain significant paleontological resources (Morton et al. 2001). Very old alluvial fan deposits are mapped along the western project boundary and within the northeastern portion of the project site. This geologic

formation is considered highly sensitive for paleontological resources. Ground-disturbing activities associated with construction in the areas underlain by very old alluvial fan deposits have the potential to uncover paleontological resources. If such resources were encountered, impacts would be potentially significant. Implementation of mitigation measure GEO-1 would ensure that impacts would be less than significant.

GEO-1 **Paleontological Monitor.** Excavation to depths at or below four feet in areas underlain with very old alluvial fan deposits per the U.S. Geological Survey Geologic Map of the Sunnymead 7.5' Quadrangle, Riverside County, California will be monitored by a qualified paleontologist. If paleontological resources are encountered, the paleontological monitor will have the authority to temporarily halt or redirect work while the paleontological resources are documented and assessed. If significant deposits are found, additional data recovery will be conducted, as necessary, in order to adequately mitigate project impacts. The fossil collection and all associated documentation will be legally transferred to a qualified repository within Riverside County. Full-time paleontological monitoring can be reduced to part-time inspections or ceased entirely if determined adequate by the qualified paleontologist.

8. Greenhouse Gas Emissions

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	□	□	■	□
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	□	□	□	■

Discussion

a. **Less-Than-Significant Impact**. Global climate change refers to changes in average climatic conditions, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and certain hydro-fluorocarbons. These gases, known as greenhouse gases (GHGs), allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contributing to what is termed "global warming," the trend of warming of the Earth's climate from anthropogenic activities. Global climate change impacts are by nature cumulative, as direct impacts cannot be evaluated due to the fact that the impacts themselves are global rather than localized impacts.

GHG emissions associated with the project would be primarily a result of construction activities. Construction would occur over approximately one and a half years and would involve emissions related to construction equipment and vehicle trips associated with construction workers. Construction-related GHG emissions, however, are amortized over the life of the project (defined as 30 years by the SCAQMD), which would result in minimal GHG emissions per year. Operation of the project would result in emissions related to minor vehicle/equipment use associated with routine inspection and maintenance; however, these operational emissions would be negligible. Therefore, impacts from construction and operation of the project would be less than significant.

b. **No Impact**. As discussed in Item 7.a, the proposed project would result in negligible GHG emissions. The proposed project would not result in emissions that would adversely affect state-wide attainment of GHG emission reduction goals as described in Assembly Bill (AB) 32, Executive Order S-21-09, and Senate Bill 32. Project emissions would therefore have a less than cumulatively considerable contribution to global climate change impacts, and the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No impact would occur.

9. Hazards and Hazardous Materials

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	□	□	■	□
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	□	□	■	□
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	□	□	□	■
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	□	□	■	□
e. For a project located within an airport land use plan or, where such a plan has not been adopted within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	□	□	□	■

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	□	□	■	□
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	□	□	■	□

Discussion

a. **Less-Than-Significant Impact**. During the project construction period, hazardous substances used to maintain and operate construction equipment (such as fuel, lubricants, adhesives, solvents, and asphalt) would be present. The use or generation of such construction-related hazardous materials could potentially result in significant impacts through accidental discharge associated with use, storage, operation, and maintenance activities. The transport, use, and disposal of hazardous materials would be conducted in accordance with applicable federal and state laws. In addition, implementation of the proposed project would require conformance with the NPDES Construction General Permit (Order 2009-0009-DWQ). Such conformance would entail implementation of a SWPPP to address the discharge of contaminants (including construction-related hazardous materials) through appropriate BMPs. While specific BMPs would be determined during the SWPPP process based on site-specific characteristics (equipment types, etc.), they would include standard industry measures and guidelines contained in the NPDES Construction General Permit text. Based on implementation of appropriate BMPs to provide conformance with the NPDES Construction General Permit, potential impacts associated with construction-related hazardous materials would be less than significant.

b. **Less-Than-Significant Impact**. As discussed above in Item 9.a, project construction would require the use of hazardous materials, which could be at risk of release through upset and/or accident conditions. The potential for release would be minimized through implementation of a Cal-OSHA Construction Safety Plan and a hazard communication program during construction, as required under Section 5194 of the California Code of Regulations. The hazard communication program would include disclosure of the hazardous materials present on site, labels for hazardous materials containers, safety data sheets (with information on the health effects of hazardous materials), and employee training on hazardous materials handling. In the event of an accidental release of hazardous substances, the project would comply with Code of Federal Regulations Section 1910.120, which outlines protocol for hazardous waste clean-up operations and emergency response. Through compliance with these regulations and procedures, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, and impacts would be less than significant.

c. **No Impact**. The closest school to the project site is Sugar Hill Elementary School, approximately 0.6 mile to the northwest. No existing or proposed school facilities are located within 0.25 mile of the project site. Therefore, no impact associated with hazardous materials would occur to schools.

d. **Less-Than-Significant Impact**. Pursuant to Government Code §65962.5 (Cortese List) requirements, the State Water Resources Control Board (SWRCB) GeoTracker database and the California Department of Toxic Substances Control (DTSC) EnviroStor database were searched for hazardous materials sites in the project site and vicinity. The results of these searches indicated that no listed hazardous material sites are located within or adjacent to the project site. The following listings are located in the general site vicinity:

- One leaking underground storage tank (LUST) cleanup site is associated with the Shell gas station on Heacock Street, approximately 1.7 miles south of the project site. Cleanup activities have been completed and the site was eligible for closure as of July 2016.

- One voluntary cleanup site is associated with the Best Cleaners dry cleaning business on Pigeon Pass Road, approximately 2.25 miles southwest of the project site. Further investigation and remediation activities are in progress.

Given the scale and distance of these sites from the proposed project, they do not represent a hazards concern for the project. Additionally, a Phase I Environmental Site Assessment was conducted for the project site by Converse Consultants (2016). The assessment concluded that the property appeared to be undeveloped land as early as 1901, and there is no evidence of recognized environmental conditions on or near the property. Accordingly, impacts related to hazardous materials sites would be less than significant.

e. **No Impact**. The project site is located approximately 5 miles northeast of March Air Reserve Base. While a portion of the parcel is within the High Terrain Zone, the proposed property boundary for the project encompasses a lower hillside southwest of the High Terrain Zone boundary (see Map MA-1 of Riverside County Airport Land Use Commission [RCALUC] 2014). The proposed facilities would not be located within a mapped Compatibility Zone; therefore, the proposed project would not result in a safety hazard to the construction or maintenance workers. No impact would occur.

f. **Less-Than-Significant Impact**. The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Construction vehicles and equipment accessing the site would use Perris Boulevard to access the project site via Judson Street. Construction activities would not result in lane closures or blockages to area roadways or private driveways. As such, the project would not inhibit access to hospitals, emergency response centers, school locations, communication facilities, highways and bridges, or airports. Potential impacts to emergency response or evacuation plans from the proposed project would be less than significant.

g. **Less-Than-Significant Impact**. The project site is located in the wildland urban interface and is designated as a "Very High Fire Hazard Severity Zone" (VHFHSZ) within a "Local Responsibility Area" (CalFire 2009). The proposed project does not include habitable structures that could expose people to a significant risk of loss, injury, or death involving wildland fires. Furthermore, the presence of employees at the project site would be limited to periodic maintenance and security checks. No employees would work at the site on a daily basis or for long periods of time. While the proposed water tank and related facilities could be exposed to risks associated with wildland fires, the Chapter 49 of the California Fire Code requires hazardous vegetation and fuels management and adequate defensible space around structures within the VHFHSZ. Therefore, impacts associated with the

exposure of people or structures to significant risk of loss, injury, or death would be less than significant.

10. Hydrology and Water Quality

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	□	□	■	□
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	□	□	■	□
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	□	□	■	□
i. result in substantial erosion or siltation on- or off-site;	□	□	■	□
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	□	□	■	□
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	□	□	■	□
iv. impede or redirect flood flows?	□	□	□	■
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	□	□	□	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	□	□	■	□

Discussion

a. **Less-Than-Significant Impact**. Potential water quality impacts associated with the proposed project would be limited to short-term construction-related erosion and sedimentation. Based on the nature of the proposed project (i.e., installation of a water tank), no potential long-term impacts to

water quality would result. As required under the NPDES, administered by the RWQCB, a SWPPP would be created for the proposed project. The SWPPP would address erosion control measures that would be implemented to avoid erosion impacts to exposed soil associated with construction activities. The SWPPP would include a program of BMPs to provide erosion and sediment control and reduce potential impacts to water quality that may result from construction activities. BMPs would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Standard BMPs may include the following types of measures:

- Temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other groundcover would be employed for disturbed areas.

- Storm drain inlets on the site and in downstream off-site areas would be protected from sediment with the use of BMPs acceptable to the District, local jurisdictions and the California RWQCB, Santa Ana Region.

- Dirt and debris would be swept from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events.

- No disturbed surfaces would be left without erosion control measures in place between October 15 and April 15. The District would file a Notice of Intent with the Regional Board and require the preparation of a SWPPP prior to commencement of construction. The District would routinely inspect the construction site to verify that the BMPs specified in the SWPPP are properly installed and maintained. The District would immediately notify the contractor if there were a non-compliance issue and require immediate compliance.

Additionally, the District would obtain coverage under the NPDES Construction General Permit. Construction activities would be required to comply with the conditions of this permit, including, but not limited to, preparation of a SWPPP, implementation of BMPs, and monitoring, to ensure impacts to water quality are minimized. Potential water quality impacts would be avoided or reduced below a level of significance through conformance with NPDES permit conditions.

While the depth to groundwater around the site is generally deep and dewatering would not be likely, if dewatering is necessary then controls on construction site dewatering would be implemented. If possible, water generated as a result of construction site dewatering would be discharged on site so that there would be no discharge to downstream watercourses. If discharge to surface water were unavoidable, the District would require the contractor to comply with the provision of the NPDES General Dewatering Permit. The provisions of this permit are sufficiently protective of water quality to ensure that impacts to surface water would remain below significant thresholds. During dewatering activities, permit conditions would be followed. The District would routinely inspect the construction site to verify that permit measures are properly implemented. The District would notify the contractor of any non-compliance and require immediate compliance.

b. **Less-Than-Significant Impact**. Construction and operation of the proposed tank would not require or affect the use of groundwater or substantially hinder groundwater recharge. Therefore, the project would not substantially decrease groundwater supplies or interfere with groundwater

recharge such that the project would impede sustainable groundwater management. Impacts would be less than significant.

c.i. **Less-Than-Significant Impact**. Earthwork activity at the site and subsequent construction of the tank and associated transmission line and access road would result in changes to the existing drainage pattern of the project site. The proposed project includes the construction of concrete-lined u-ditches and gutters, which would collect stormwater flows from the project site and divert them around the proposed tank pad and into the 0.26-MG on-site detention basin. The detention basin would accommodate partial flows from the site, and tank overflows would be discharged to the detention basin via a concrete-lined emergency spillway. A rip-rap energy dissipater is proposed downstream of the spillway. The proposed u-ditches and on-site detention basin would control storm flows from the site. Due to the control of storm flows and implementation of BMPs as required by the NPDES permit, impacts associated with erosion and siltation as a result of a change in drainage patterns would be less than significant.

c.ii. **Less-Than-Significant Impact**. As discussed in Item 10.c.i, the proposed project includes storm drainage improvements to convey and partially retain storm flows. The proposed detention basin would be sized to adequately store the volume of three feet of water from the tank as well as on-site stormwater flows. Impacts associated with surface runoff and flooding from a change in drainage patterns would be less than significant.

c.iii. **Less-Than-Significant Impact**. As discussed in Item 10.c.i, runoff water associated with the developed portion of the project site would be collected at an approximately 0.26-MG on-site detention basin. As discussed in Item 10.a, implementation of BMPs and compliance with NPDES requirements would reduce short-term pollutant generation and ensure that the proposed project would not result in additional sources of polluted runoff. Impacts would be less than significant.

c.iv. **No Impact.** The project site is not located within an area prone to flooding (see Figures S-9 and S-10 in County 2015b) and the project would therefore not impede or redirect flood flows. No impact would occur.

d. **No Impact**. The project site is not located within a 100-year flood hazard area and is not within an inundation area associated with Sunnymead Ranch Lake (located approximately 1.5 miles to the northwest) or Perris Reservoir (located approximately seven miles to the south), which are the closest water bodies potentially capable of generating a seiche (see Figures S-9 and S-10 in County 2015b). Given the project's distance from the Pacific coast (approximately 30 miles), the project would not be at risk from inundation by tsunami. Therefore, no impacts related to release of pollutants in a flood hazard, seiche, or tsunami zone would occur.

e. **Less-Than-Significant Impact.** Refer to Items 10.a through 10.c. The project would comply with storm water quality standards during construction and operation, and appropriate BMPs would be implemented to address potential water quality impacts and reduce them to a less-than-significant level.

11. Land Use and Planning

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	□	□	■	□
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	□	□	■	□

Discussion

a. **Less-Than-Significant Impact**. The proposed project is located in an area that contains existing and proposed residences. Construction of the project may result in short-term increases in vehicle trips during the construction period; however, once construction is completed, the project would not interfere with community access. Therefore, the proposed project would not physically divide an established community, and impacts would be less than significant.

b. **Less-Than-Significant Impact**. The proposed project would construct a new water tank and related facilities in the City of Moreno Valley. The project would not affect land use designations or zoning, nor would it prohibit future development in association with land use guidance and policy documents. As such, the project would not conflict with applicable land use plans, policies, or regulations of an agency having jurisdiction over the project, nor would it conflict with zoning or general plan land use designations.

As discussed in Item 4.f, the District is not a signatory to the MSHCP, and is pursuing MSHCP coverage as a PSE. As a PSE, the District would be required to demonstrate MSHCP compliance. Impacts would be less than significant.

12. Mineral Resources

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	□	□	□	■
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	□	□	□	■

Discussion

a. **No Impact**. The project site is located within Aggregate Mineral Resource Classification Zone Category 3 (MRZ-3, Miller and Busch 2008). MRZ-3 indicates that the significance of mineral deposits cannot be evaluated from available data. The project site does not contain known significant mineral resources, and is not currently used (or planned for use) as a mineral resource recovery site; therefore, no impact to mineral resources would occur as a result of project implementation.

b. **No Impact**. Refer to Item 11.a, above.

13. Noise

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	□	□	■	□
b. Generation of excessive ground-borne vibration or ground-borne noise levels?	□	■	□	□
c. For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	□	□	□	■

Discussion

Fundamentals of Sound and Environmental Noise

Noise can be defined as unwanted sound. Sound (and therefore noise) consists of energy waves that people receive and interpret. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect a person's ability to hear. Pitch is the number of complete vibrations (cycles per second) of a wave that results in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment. It is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the ear. The sound intensity refers to how hard the sound wave strikes objects, which, in turn, produces the sound's effect. This is a characteristic of sound that can be precisely measured with instruments.

Sound intensity or acoustic energy is measured in decibels (dB) that are weighted to correct for the relative frequency response of the human ear. For example, an A-weighted noise level dBA includes a de-emphasis on high frequencies of sound that are heard by a dog's ear but not by a human's ear. The zero on the decibel scale is based on the lowest level that the healthy, unimpaired human ear can detect. Unlike linear units (e.g., inches or pounds), decibels are measured on a logarithmic scale, representing points on a sharply rising curve.

Since decibels are logarithmic units, sound pressure levels cannot be added or subtracted by ordinary arithmetic means. For example, if one automobile produces a sound pressure level of 70 decibels on the A-scale (dBA) when it passes an observer, two cars passing simultaneously would not produce 140 dBA. In fact, they would combine to produce 73 dBA. This same principle can be applied to other traffic quantities as well. In other words, doubling the traffic volume on a street would increase the traffic noise level by 3 dBA. Conversely, halving the traffic volume would reduce the traffic noise level by 3 dBA. A 3 dBA change in sound is the level where humans generally notice a *barely perceptible* change in sound and a 5 dBA change is generally *readily perceptible*.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels. The predominant rating scales for human communities are the Noise Equivalent (L_{EQ}), the Community Noise Equivalent Level (CNEL), and the Day-Night Average Sound Level (L_{DN}), all of which are based on A-weighted decibels [dBA]. The L_{EQ} is the total sound energy of time-varying noise over a sample period. The CNEL is the average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of ten decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. L_{DN} is the average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m. CNEL and L_{DN} are utilized for describing ambient noise levels because they account for all noise sources over an extended period of time and account for the heightened sensitivity of people to noise during the night. The CNEL metric has gradually replaced the L_{DN} factor, but the two descriptors are essentially identical.

a. **Less-Than-Significant Impact**. Construction of the proposed project would require the use of heavy equipment for excavation, trenching and pipeline installation, installation of the tank, and paving. Construction activities also would involve the use of smaller power tools, generators, and other sources of noise for construction of the proposed tank, as well as noise from construction-related vehicular traffic. Each construction activity would create elevated short-term construction noise impacts. Construction activities would be temporary and generally limited to daytime hours in accordance with Sections 11.80.030 and 8.14.040 of the City of Moreno Valley Municipal Code, which regulate construction times and noise emissions related to construction activities. Construction within the city is permitted Monday through Friday from 7:00 a.m. to 7:00 p.m., and on Saturdays from 8:00 a.m. to 4:00 p.m. No construction is permitted on Sunday or on holidays unless approval is obtained from the city building official or city engineer.

   There are existing residences adjacent to the southern project site boundary. Construction of the southern portion of the access road and the turnaround would occur approximately 100 feet from the nearest residences. The loudest piece of equipment from these activities would be an excavator for excavation. According to the Roadway Construction Noise Model (U.S. Department of Transportation [USDOT] 2008), at 100 feet an excavator would generate a noise level of 70.7 A-weighted decibels dBA L_{EQ}. Construction of the majority of the access road and of the tank would

occur over several hundred feet from the nearest residences, and would have lower noise levels due to distance attenuation. Moreover, the proposed project construction would be consistent with and adhere to the construction hours and noise standards identified in the City of Moreno Valley Municipal Code and described above; therefore, impacts associated with construction noise would be less than significant. Nonetheless, the District would implement the following BMP to reduce construction noise impacts:

> The District would establish a noise complaint response program and would respond to noise complaints received for the project by measuring noise levels at the affected receptor site. If exterior noise levels at the receptor exceed an L_{EQ} of 60 dBA during the daytime or 55 dBA during the nighttime, the District will implement adequate measures (which may include portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence of sensitive receptors, housing mechanical equipment, etc.) to reduce noise levels to the greatest extent feasible.

The District would also include the following in construction contract documents:

> All equipment used during construction should be muffled and maintained in good operating condition. All internal combustion engines should be fitted with well-maintained mufflers in accordance with manufacturer's recommendations.

Operational Noise

The County Ordinance No. 847, *Regulating Noise*, establishes standards for regulating noise for the County. The ordinance does not, however, establish thresholds of significance for the purpose of CEQA analysis. Noise review and planning for the County is conducted by the Department of Public Health Office of Industrial Hygiene, which provides guidelines for the determination of community noise impacts due to stationary (i.e., non-transportation) noise sources. The stationary noise exposure standard for the property line of an occupied residential property is 45 dBA between 10:00 p.m. and 7:00 a.m. and 65 dBA between 7:00 a.m. and 10:00 p.m. The standard for noise control is based on 10-minute noise equivalent level (L_{EQ}) measurements.

Operational noise associated with the project would include vehicle trips for periodic maintenance and security checks as well as maintenance activities at the project site. The trips associated with vehicles for periodic maintenance and security checks would not result in increases in traffic noise levels in the area. The level of noise generated by maintenance activities is not expected to be substantially perceptible to surrounding uses. The operation of the project is not expected to expose persons to or generate noise levels in excess of standards for residential uses established in the local general plan or noise ordinance, and therefore, impacts associated with operational noise would be less than significant.

b. **Less Than Significant with Mitigation Incorporated**. Ground-borne vibration is a concern for projects that require heavy construction activity such as blasting, pile-driving, and operating heavy earth-moving equipment. Ground-borne vibration can result in a range of impacts, from minor annoyances to people to major shaking that damages buildings. Typically, ground-borne vibration generated by man-made sources attenuates rapidly with distance from the source of vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly and sick), and vibration-sensitive equipment.

Construction activities associated with the project, such as the use of heavy tracked vehicles (e.g., excavators) or blasting, have the potential to result in ground-borne vibration. Vibration from construction activity is typically below the threshold of perception when the activity is more than 50 feet away from receivers. The nearest sensitive receptors include the residences located approximately 200 feet to the south and residences being constructed approximately 150 feet to the north of proposed grading activities. For sensitive receptors located approximately 150 to 200 feet from proposed grading locations, vibration effects would be temporary, and likely indistinguishable from vibration generated by nearby traffic on area roadways given the distance from vibration-generating activities. Additionally, construction noise and associated vibration would be controlled through the time restrictions currently established in the City's Municipal Code. Nevertheless, mitigation measure NOI-1 has been included to ensure impacts associated with construction-related ground-borne vibration would remain less than significant.

Ground-borne vibration and ground-borne noise are not typically associated with the operation of water tanks; therefore, operation and maintenance of the proposed project is not expected to produce ground-borne vibration or ground-borne noise levels and no operational impacts would occur.

NOI-1 **Construction Vibration Control Measures.** The following measures shall be implemented during construction to minimize vibration effects to surrounding noise and vibration-sensitive land uses:

- For any construction activities that include blasting, a qualified blasting consultant and geotechnical consultant shall prepare all required blasting plans and monitor all blasting activities in conformance with the standards of the State of California, Department of Mines.

- Noticing for blasting shall be provided between two and four weeks prior to construction to all residents or property owners within 600 feet of the proposed blasting activity. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail.

c. **No Impact**. As discussed in Items 9.e and 9.f, the project site is not located within an airport land use plan or within two miles of a public or private airstrip. Additionally, the proposed project does not propose habitable structures that would result in people being exposed to noise from an airport. No impact would occur.

14. Population and Housing

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	□	□	□	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	□	□	□	■

Discussion

a. **No Impact**. Implementation of the proposed project would not directly induce population growth due to the fact that no new housing or businesses are proposed. The proposed project would upgrade the operations and capacity of the existing water system to accommodate an identified deficit in potable water storage, and it would not extend service outside of the District's service area. The proposed project would help accommodate existing and planned growth; therefore, it would not induce unplanned growth. For these reasons, no impact associated with population growth would occur.

b. **No Impact**. The proposed project involves the construction and operation of a water tank and related facilities on vacant land. The proposed project would not displace homes or people. No impact would occur.

15. Public Services

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	□	□	■	□
Police protection?	□	□	■	□
Schools?	□	□	□	■
Parks?	□	□	□	■
Other public facilities?	□	□	□	■

Discussion

a. **Fire Protection – Less-Than-Significant Impact**. The construction and operation of the proposed project would not result in increases in the need for fire protection services. During construction, fire protection may be required, but these would be short-term demands and would not require permanent increases in the level of public service offered or affect response times associated with fire protection services. Because of the short-term nature of potential fire protection needs during construction, the proposed project would result in less-than-significant impacts associated with fire protection services.

Police Protection – Less-Than-Significant Impact. Impacts to police protection would be similar to those described above for fire protection services. During construction, there may be a need for increased police protection at the site associated with potential theft or vandalism at the project site. However, the long-term operation of the project would not result in increases in the need for police protection services. Impacts would be less than significant.

Schools – No Impact. The proposed project would place no demand on school services because it would not involve the construction of facilities that require such services (i.e., residences) and would not result in increases in population to the project area. No impact would occur.

Parks – No Impact. The proposed project would not result in increases in population in the project area, and thus, would not result in increased usage or demand on parks. No impact would occur.

Other Public Facilities – No Impact. The project does not propose new housing nor would it induce population growth such that there would be an increase in demand for new or expanded public services. Accordingly, the proposed project would not result in impacts to other public facilities.

16. Recreation

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	□	□	□	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	□	□	□	■

Discussion

a. **No Impact**. See Item 14.a, *Parks*. The proposed project would not result in population increases, and thus, would not result in an increased usage of parks or other recreational facilities. No impact would occur.

b. **No Impact**. The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities. No impact would occur.

17. Transportation/Traffic

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	□	□	■	□
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	□	□	□	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	□	□	□	■
d. Result in inadequate emergency access?	□	□	■	□

Discussion

a. **Less-Than-Significant Impact**. Regional access to the project site is provided by I-215 and SR 60. Local access would be provided by Perris Boulevard and Judson Street. Perris Boulevard is a regional north-south route and a divided arterial street (City 2006b). Judson Street is a two-lane neighborhood road that leads directly to the project site. Construction and operation of the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. The proposed project does not include components that would result in long-term traffic generation, beyond occasional maintenance and security checks.

The project would result in a short-term increase in traffic during construction. Project-related construction traffic would include deliveries of equipment and materials, construction employee travel to and from the work site, and hauling of demolition and excavation material off site. These trips are not expected to exceed 30 truck trips per day. Average daily trips (ADT) near the project site at the intersection of Perris Boulevard and Jaclyn Avenue were 13,100 in 2017 (City 2017). The addition of up to 30 truck trips associated with construction per day would not result in a discernible increase in traffic in the project area and would be temporary. Impacts would be less than significant.

A minor long-term increase in traffic generation would occur as a result of project operations. Vehicle trips associated with operation of the proposed project would include (on average) a round-trip truck trip associated with periodic maintenance and round-trip truck trips associated with security checks. Intermittent operational traffic and the short-term construction traffic resulting from the proposed project would not exceed a level of service standard for designated roads or

highways. Based on these factors, less-than-significant impacts would occur as a result of project implementation.

No roadway improvements or land use changes with the potential to affect alternative transportation are proposed as part of this project. There are no designated bus stops or alternative transportation programs in place within the project site vicinity or other roads that would be temporarily impacted by the proposed project. Thus, implementation of the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation.

b. **No Impact**. CEQA Guidelines Section 15064.3 subdivision (b) sets forth specific criteria for determining the significance of transportation impacts. Subdivision (b)(1) pertains to land use projects and describes factors that may indicate whether the amount of a land use project's vehicle miles traveled may be significant or not. Because project-related traffic would be limited predominantly to a relatively small number of trips during the construction period, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, and no impact would occur.

c. **No Impact**. The proposed project would include construction and operation of a water tank. The proposed project does not propose site modifications that would result in hazards due to design features such as driveways, intersection improvements, etc., that would affect traffic safety, nor would it cause incompatible uses (such as tractors) on local roads. No associated impact would occur.

d. **Less-Than-Significant Impact**. Implementation of the proposed project would not result in inadequate emergency access as traffic impacts during construction would be minimal and temporary. Impacts to emergency access would be less than significant.

18. Tribal Cultural Resources

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k)?	□	□	□	■

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision © of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	□	■	□	□

Discussion

Potentially relevant to prehistoric/Native American archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. Cultural resources can include TCPs, such as gathering areas, landmarks, and ethnographic locations in addition to archaeological districts. Generally, a TCP may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

AB 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and required mitigation under CEQA. A TCR may be considered significant if included in a local or state register of historical resources; or determined by the lead agency to be significant pursuant to criteria set forth in Public Resources Code §5024.1; or is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in Public Resources Code §21084.1, a unique archaeological resources described in Public Resources Code §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

a. **No Impact**. As discussed in 5.a, no properties currently listed on the NRHP or CRHR, historical resources, or historic landmarks were recorded within or immediately adjacent to the project area. No potentially significant TCRs of historic age were observed within or immediately adjacent to the project site during the historic photograph investigation conducted for the project. Therefore, no substantial adverse changes to the significance of TCRs within the project vicinity are anticipated and no impact would occur.

b. **Less-Than-Significant Impact with Mitigation Incorporated**. No TCRs have been identified on the project site; however, several Tribes have responded that the area is of interest to the Tribe, and Soboba indicated that the area is culturally sensitive. Although impacts to TCRs are not anticipated from implementation of the proposed project, given the past Native American occupation of the region, there is potential for unknown resources to be discovered during project construction. Implementation of mitigation measures CUL-1 through CUL-3 would ensure that potential impacts related to disturbance of human remains would be less than significant.

19. Utilities and Service Systems

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	□	□	□	■
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	□	□	□	■
c. Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	□	□	□	■
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	□	□	■	□
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	□	□	□	■

Discussion

a. **No Impact**. The proposed project would provide the District with improved service capabilities and reliability. It would not, however, require or result in the relocation or construction of new utility facilities or the expansion of existing facilities. No associated impact would occur.

b. **No Impact**. The proposed project would involve the construction and operation of a potable water storage tank and related facilities which would not require new or expanded entitlements for water service. No impact would occur.

c. **No Impact**. The proposed project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing wastewater treatment facilities. No impact would occur.

d. **Less-Than-Significant Impact**. Construction and operation of the proposed tank and related facilities would generate only minimal solid waste and would not affect landfill capacity. During construction of the project, construction debris (e.g., excavated soil) would be generated. Project construction is not anticipated to generate substantial volumes of solid waste. Solid waste debris would be

disposed of at a permitted landfill. Moreover, AB 939, also known as the Integrated Waste Management Act, and AB 341 mandate the reduction of solid waste disposal in landfills by requiring a minimum of 50 percent diversion rate. Accordingly, at least half of the potential construction waste would be diverted from a landfill. The remaining quantity is reasonably anticipated to be within the permitted capacity of the permitted landfills serving the project area. Impacts would be less than significant.

e. **No Impact**. See Item 19.d. The proposed project would comply with applicable, federal, State, and local management and reduction statutes and regulations related to solid waste. No impact would occur.

20. Wildfire

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	□	□	■	□
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	□	□	■	□
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	□	□	■	□
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	□	□	■	□

Discussion

a. **Less-Than-Significant Impact.** Refer to Item 9.b. Potential impacts related to emergency response would be less than significant.

b. **Less-Than-Significant Impact.** Aside from temporary construction and maintenance workers, there would be no occupants on site. Therefore, the project would not expose occupants to pollutants from a wildfire or an uncontrolled wildfire and impacts would be less than significant.

c. **Less-Than-Significant Impact.** Infrastructure that would be required as part of the proposed project and that may exacerbate fire risk includes a paved access road and electrical service to support tank operations. While the paved access road itself would not exacerbate fire risk, and may actually serve

as a fire break in the instance of a wildfire, its construction would require the use of off-road equipment in an area that is designated as a VHFHSZ. The primary concern with the use of construction equipment in a VHFHSZ is that the equipment's internal combustion engine has the potential to generate sparks and heat near flammable brush material. Equipment used for the proposed project, however, would be equipped with spark arrestors, per industry standards. In addition, the project would reduce the amount of flammable material on-site through vegetation removal.

Similarly, improperly functioning electrical wires have the capability of producing sparks. The District has established protocol to ensure the proper installation and maintenance of electrical equipment. Specifically, Section 16010 – General Electrical Requirements of the District's Standard Detailed Provisions requires equipment and materials to conform to numerous standards, one of which is the National Fire Protection Association's National Electric Code. The National Electric Code sets forth standards for safe electrical design, installation, and inspection to protect people and property from electrical hazards, including those associated with wildfire hazards.

The District has also established general construction protocol as part of their contract documents to minimize fire risk in Section 02201 – Construction Methods and Earthwork of the Standard Detailed Provisions. Protocol includes verifying standard on-site fire prevention measures are constantly enforced, maintaining appropriate fire extinguishers and/or temporary fire hoses, and storing flammable materials away from work areas. Through conformance with District and standard industry measures, impacts would be less than significant.

d. **Less-Than-Significant Impact.** The project site is not located in an area prone to flooding (County 2015b) and the proposed structures would therefore not be exposed to risk from downstream flooding. Due to sloped nature of the project site and surrounding areas, the proposed structures have the potential to be exposed to landslides that may occur from post-fire slope instability; however, as discussed under Item 7.a.iv, the proposed tank and associated structures would be designed and constructed pursuant to applicable standards and guidelines to minimize risk associated with landslides. Therefore, impacts would be less than significant.

21. Mandatory Findings of Significance

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	□	■	□	□

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Does the project have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	□	□	■	□
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	□	□	■	□

Discussion

a. **Less Than Significant with Mitigation Incorporated**. Per the instructions for evaluating environmental impacts in this Initial Study, the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in sections IV and V of this form. As a result of this evaluation, the project was determined to have potential significant direct effects related to biological resources (loss of sensitive habitat and adverse impacts on sensitive species), cultural resources (archaeological resources and paleontological resource), and tribal cultural resources (significance of tribal resource). Mitigation measures BIO-1, BIO-2, and CUL-1 through CUL-5 will reduce potential impacts to less than significant levels for these issue areas.

b. **Less-Than-Significant Impact**. Implementation of the proposed project would not result in impacts that are individually limited, but cumulatively considerable. The majority of project-related impacts would be localized, short-term impacts. Additionally, no other projects have been identified within the same general location and timeframe that would have cumulative effects when considered with the proposed project.

   The project is consistent with local and regional plans, including the AQMP. The project adheres to all other land use plans and policies with jurisdiction in the project area. The project is not considered growth-inducing as defined by State CEQA Guidelines Section 15126.2(d). The project would not induce, either directly or indirectly, population and housing growth, and would increase traffic volume marginally in the project area. Therefore, cumulative impacts would be less than significant.

c. **Less-Than-Significant Impact**. Compliance with the BMPs included in Sections 3 through 12 above would ensure that implementation of the proposed project does not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

VI. REPORT AUTHORS/CONTRIBUTORS

Report Authors

HELIX Environmental Planning, Inc.

Amy L. Mila de la Roca, Project Manager
Michael Schwerin, Principal
Lara Barrett, Environmental Planner
Bill Vosti, Environmental Planner
Hunter Stapp, Environmental Planner

Report Contributors

Eastern Municipal Water District

Regulatory and Environmental Compliance
Al Javier, Director, Environmental and Regulatory Compliance
Joseph Broadhead, Principal Water Resources Specialist – CEQA

Water Engineering
Greg Kowalski, P.E., Project Manager
Jorge D. Anaya, P.E., Project Engineer

Development Services
Corey Wallace, P.E., Director of Development Services

VII. REFERENCES

California Department of Conservation (CDC), Division of Land Resources Protection

2016a Farmland Mapping and Monitoring Program. Riverside County Important Farmland map. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/riv14_w.pdf.

2016b Riverside County Williamson Act FY 2015/2016, Sheet 1 of 3 map. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside_w_15_16_WA.pdf

California Department of Forestry and Fire Protection (CalFire)

2009 Western Riverside County, Very High Fire Hazard Severity Zones in LRA map. December 24. Available at: http://frap.fire.ca.gov/webdata/maps/riverside_west/fhszl_map.60.pdf.

California Department of Toxic Substances Control (DTSC)

2017 EnviroStor Database. Accessed March 10, 2017. Available at: http://www.envirostor.dtsc.ca.gov/public/.

California Department of Transportation (Caltrans)

2017 Officially Designated Scenic Highways: Caltrans Landscape Architecture Program, website. Accessed March 19, 2017. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/.

2003 Construction Site Best Management Practices Manual. January. Available at: http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Master_FullSize_Final-Jan03.pdf.

California State Water Resources Control Board (SWRCB)

2017 GeoTracker website. Accessed March 10, 2017. Available at: https://geotracker.waterboards.ca.gov/.

California Stormwater Quality Association

2015 Stormwater Best Management Practice Handbooks. January.

Converse Consultants

2017 Geotechnical Investigation Report. January 24.

2016 Phase I Environmental Site Assessment Report. April 7.

Dudek and Associates

2003 Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Final MSHCP Volume I. Prepared for County of Riverside, Transportation and Land Management Agency.

Greenbook Committee of Public Works Standards, Inc.

2015 Greenbook Standard Specifications for Public Works Construction. Available at: http://www.greenbookspecs.org/.

HELIX Environmental Planning, Inc. (HELIX)

2019a General Biological Resource Assessment Report. July.

2019b Cultural Resources Study Report. April.

International Conference of Building Officials

2012 International Building Code. Available at: http://publicecodes.cyberregs.com/icod/ibc/.

Miller, Russel V., and Lawrence L. Busch

2008 Updated Mineral Land Classification Map for Portland Cement Concrete-Grade Aggregate in the San Bernardino Production-Consumption (P-C) Region, San Bernardino and Riverside Counties, California. Available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_206/SR206_Plate1.pdf.

Moreno Valley, City of

2017 Traffic Counts. Accessed September 4, 2019. Available at: http://www.moreno-valley.ca.us/city_hall/departments/pub-works/transportation/pdfs/traffic-counts.pdf.

2012 Energy Efficiency and Climate Action Strategy. October.

2006a General Plan. July. Available at: http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/gp/gp-tot.pdf.

2006b General Plan Final Environmental Impact Report. July. Available at: http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/ieir/eir-tot.pdf.

Morton, Douglas M., Jonathan C. Matti, Van M. Diep, Ursula Edwards-Howells

2001 *Geologic Map of the Sunnymead 7.5' Quadrangle, Riverside County, California: U.S. Geological Survey Open-File Report 01-450*. Accessed February 27, 2017. Available at: https://pubs.usgs.gov/of/2001/0450/.

Natural Resources Conservation Service (NRCS)

2017 Web Soil Survey. Accessed March 23, 2017. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Riverside, County of (County)

2015a Reche Canyon/Badlands Area Plan. December 8. Available at: http://planning.rctlma.org/Portals/0/genplan/general_plan_2016/area_plans/RCBAP_120815m.pdf?ver=2016-04-01-101018-257.

2015b County of Riverside General Plan. December 15. Available at: http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx.

2003 County of Riverside General Plan, adopted October 7.

Riverside County Airport Land Use Commission (RCALUC)

2014 March Air Reserve Base / Inland Port Airport Land Use Compatibility Plan. November 13. Available at: http://www.rcaluc.org/Portals/0/17%20-%20Vol.%201%20March%20Air%20Reserve%20Base%20Final.pdf?ver=2016-08-15-145812-700.

Riverside County Transportation Commission (RCTC)

2011 Congestion Management Program. December 14. Available at: http://www.rctcdev.info/uploads/media_items/congestionmanagementprogram.original.pdf.

South Coast Air Quality Management District (SCAQMD)

2013 Final Air Quality Management Plan. February.

United States Department of Transportation (USDOT)

2008 Roadway Construction Noise Model.

VIII. ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACBCI	Agua Caliente Band of Cahuilla Indians
ADT	average daily trips
APN	Assessor's Parcel Number
AMSL	above mean sea level
AQMP	Air Quality Management Plan
AWWA	American Water Works Association
Basin	South Coast Air Basin
BMPs	best management practices
CAGN	Coastal California Gnatcatcher
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFG Code	California Fish and Game Code
CH_4	methane
City	City of Moreno Valley
CMP	Riverside County Congestion Management Plan
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
County	County of Riverside
CRHR	California Register of Historical Resources
dB	decibel
dBA	decibels on the A-scale, or A-weighted noise level
District	Eastern Municipal Water District
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
GHG	greenhouse gas
HELIX	HELIX Environmental Planning, Inc.
I-215	Interstate 215
IBC	International Building Code

L_{DN}	day-night average sound level
L_{EQ}	noise equivalent
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MG	million-gallon
MLD	Most Likely Descendant
MRZ-3	Aggregate Mineral Resource Classification Zone Category 3
MSHCP	Multiple Species Habitat Conservation Plan
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OS	Open Space
OSHA	Occupational Safety and Health Administration
Pb	lead
Pechanga	Pechanga Band of Luiseño Indians
PM	particulate matter
PM_{10}	particulate matter (less than 10 microns in diameter)
$PM_{2.5}$	particulate matter (less than 2.5 microns in diameter)
PSE	Participating Special Entity
RCA	Western Riverside County Regional Conservation Authority
RCALUC	Riverside County Airport Land Use Commission
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SMBMI	San Manuel Band of Mission Indians
SO_2	sulfur dioxide
Soboba	Soboba Band of Luiseño Indians
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TCP	Tribal Cultural Properties
TCR	Tribal Cultural Resource

USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VHFHSZ	Very High Fire Hazard Severity Zone

This page intentionally left blank

Appendix A

General Biological Resources Assessment Report

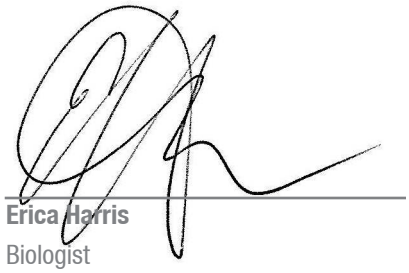
This page intentionally left blank

HELIX
Environmental Planning

Judson Potable Water Storage Tank and Transmission Pipeline Project

General Biological Resources Assessment Report

July 2019



Erica Harris
Biologist

Prepared for:
Eastern Municipal Water District
2270 Trumble Rd.
Perris, CA 92570

Prepared by:
HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

THIS PAGE INTENTIONALLY LEFT BLANK

Report Date: July 3, 2019

Title: General Biological Resources Assessment Report for Judson Potable Water Storage Tank and Transmission Pipeline Project.

Project Location: The approximately 8.3-acre project site is in the City of Moreno Valley, Riverside County, California. It is located within Township 2 South, Range 3 West, Section 29, on the U.S. Geological Survey 7.5-minute Sunnymead quadrangle map.

Assessor Parcel Number: 474-040-034

Owner/Applicant: Eastern Municipal Water District
2270 Trumble Rd.
Perris, California 92570

Principal Investigator: HELIX Environmental Planning, Inc.
7578 El Cajon Blvd.
La Mesa, CA 91942
(619) 462-1515

Report Summary: The purpose of this report is to summarize the findings of a biological resources technical study and analyze project impacts in light of the California Environmental Quality Act and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). HELIX Environmental Planning, Inc. completed biological surveys at the project site in 2016, 2017, and 2018, including a general biological survey, jurisdictional assessment, rare plant surveys, and protocol surveys for the coastal California gnatcatcher (*Polioptila californica californica*). The majority of the project site is characterized by Riversidean sage scrub with non-native vegetation and disturbed habitat. Two unnamed ephemeral drainages occur in the vicinity of the northern and southern boundaries of the site. The project has been specifically designed to completely avoid these drainages and would further protect these areas through establishment of a Restrictive Covenant over the avoided drainage features; therefore, no impacts would occur. No rare plants occur on the site. One coastal California gnatcatcher pair was detected within the project site. The project proponent, Eastern Municipal Water District, is not a permittee or signatory agency to the MSHCP but is pursuing coverage as a Participating Special Entity for the project. With the implementation of the avoidance, minimization, and mitigation measures proposed herein, the project would be consistent with the MSHCP.

Report Preparer: Erica Harris (619) 462-1515

Field Personnel: Erica Harris (619) 462-1515
Robert Hogenauer (562) 537-2426

THIS PAGE INTENTIONALLY LEFT BLANK

Judson Potable Water Storage Tank and Transmission Pipeline Project
General Biological Resources Assessment Report

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF TABLES

THIS PAGE INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

At the request of Eastern Municipal Water District (EMWD; Applicant), HELIX Environmental Planning, Inc. (HELIX) has prepared this report for the Judson Potable Water Storage Tank and Transmission Pipeline Project (project) proposed in the City of Moreno Valley, Riverside County. This report summarizes the findings of a biological resources technical study and project impact analysis in light of the California Environmental Quality Act (CEQA) and other relevant federal, state, and local policies, as well as regulations pertaining to biological resources. The Applicant is not a permittee or signatory agency to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; Dudek and Associates [Dudek] 2003) but is pursuing coverage as a Participating Special Entity (PSE) for the project. Therefore, this report also addresses impacts and demonstrates consistency with the MSHCP.

1.1 PROJECT LOCATION

The approximately 8.3-acre project site is located within the City of Moreno Valley in the northwestern portion of Riverside County, California (Figure 1). It is depicted within Section 29 of Township 2 South, Range 3 West of the U.S. Geological Survey (USGS) 7.5-minute Sunnymead quadrangle map (Figure 2). The site is bordered by undeveloped and agricultural land to the north and east, and residential development to the south and west (Figure 3). The project site consists of a single 8.3-acre parcel (Assessor Parcel Number 474-040-034), just south of the San Bernardino County line. The site consists of a single hillside within the center of the site with lower lying drainages to the northwest and east. Site elevations range between 1,968 to 2,744 feet above mean sea level (AMSL).

As described in the MSHCP, the site is located within the Riverside Lowlands bioregion, an area lying generally below 2,000 feet elevation and characterized by Riversidean sage scrub and annual grasslands. The relatively arid climate is partly the result of rain shadow cast by the Santa Ana Mountains. A high level of disturbance and urbanization are noted within this bioregion (Dudek 2003).

The site is located within the Reche Canyon/Badlands Area Plan of the MSHCP, outside of any Criteria Cells or Cell Groups. The closest MSHCP Criteria Area is Criteria Cell 563, which occurs 0.64 mile to the northwest (Figure 4). The area plan subunits each have specific planning species and biological considerations. These items do not apply to the subject property as it is not within a subunit.

1.2 PROJECT DESCRIPTION

The project proposes to construct and operate a 2.2-million-gallon potable water storage tank, approximately 2,300 linear feet of 18-inch diameter transmission pipeline, a paved access road, a detention basin, and other associated utilities to support tank operation (Figures 5a and b). The access road and the transmission pipeline would connect to the northern terminus of Judson Street (Old Perris Boulevard) and continue onto Perris Boulevard.

The proposed potable water storage tank would be constructed at an elevation of 2,029 feet AMSL and would measure approximately 34 feet in height with an internal diameter of approximately 110 feet. The proposed transmission pipeline would extend from the valve enclosure to the property line approximately 1,000 linear feet south. From the southerly property line, the transmission pipeline would continue 700 linear feet along Judson Street to the centerline of Pico Vista Way, and then 600 linear feet further along the Old Perris Boulevard right of way from Pico Vista Way to Robin Lane, near the Covey Booster Station where it would connect to an existing 16-inch diameter transmission line at the intersection of Perris Boulevard and Robin Lane.

The detention basin would be located southwest of the proposed tank (Figure 5a). The maximum depth of the basin would be approximately six feet deep. A concrete-lined, 10-foot-wide emergency spillway would be constructed on the northwestern side of the detention basin. An 8-inch outlet pipe with a sluice gate or gate valve would be installed near the spillway so EMWD could control discharge. A 12-foot-wide access road would be constructed around the perimeter of the detention basin for operation and maintenance activities.

The project also proposes to construct an access driveway measuring approximately 20 feet in width that would provide access to the storage tank and would connect to Judson Street in the adjacent housing tract. The access driveway would be paved for safety purposes and all-weather access, consistent with EMWD standards; however, pavement would be limited to areas necessary for safe maintenance access. The access driveway would have standard curb and gutter on the downslope side. Additionally, the project proposes to construct concrete-lined v-ditches to direct tank-related water down the access driveway on the upslope side of the road, through a new proposed culvert that will be constructed under the access driveway at the southwest corner of the site, and into the proposed detention basin.

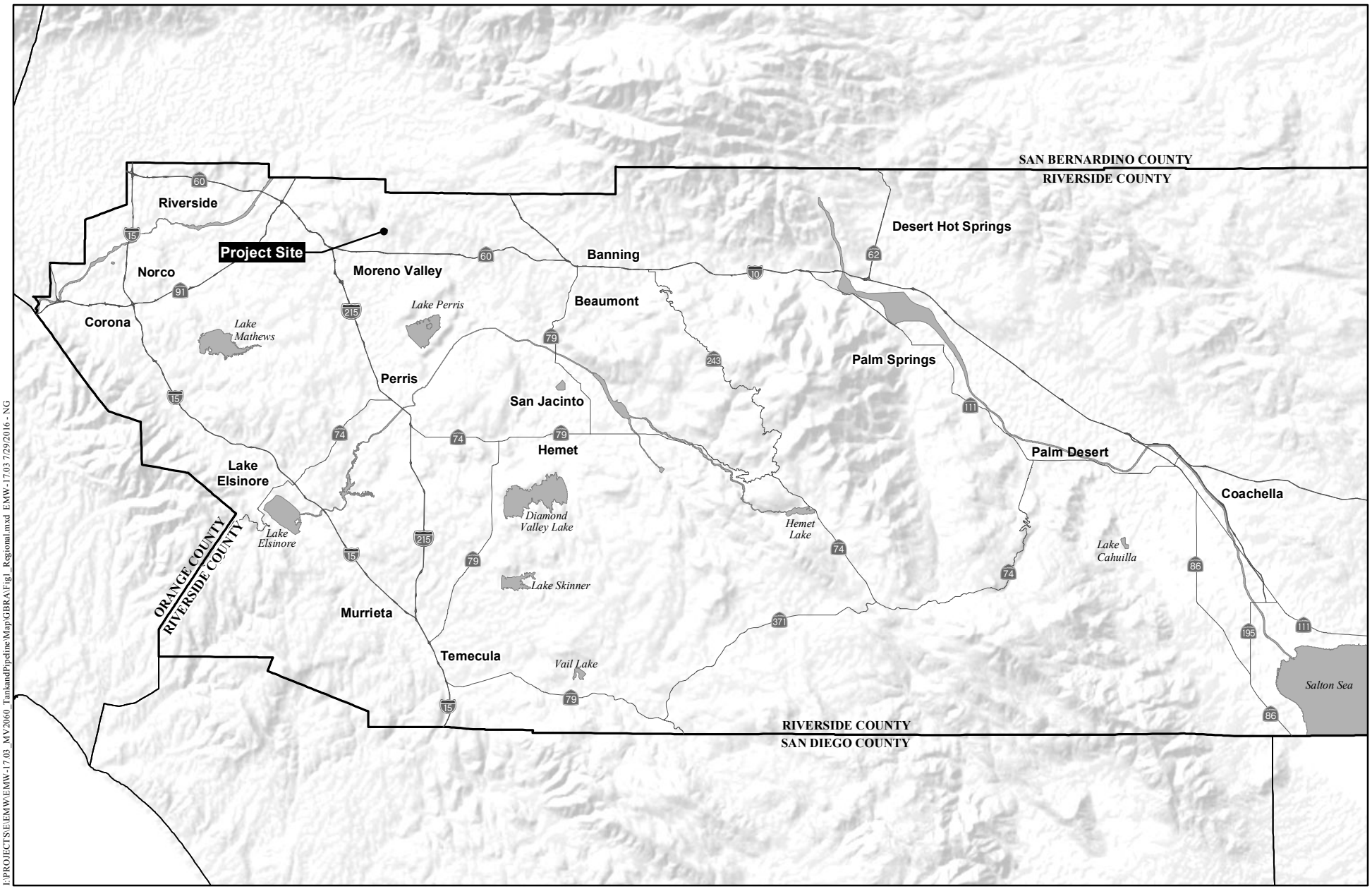
The proposed site footprint is anticipated to be cleared and graded during the Spring/Summer 2020. The site would then be maintained until the remaining construction activities are initiated at a later date. Construction is anticipated to last approximately one year, not including the potential period of relative inactivity between grading and facility construction. Upon completion of construction, maintenance and security checks would occur periodically.

2.0 METHODS

The evaluation of the project site involved a literature review, database search, vegetation mapping, a Riparian/Riverine and Vernal Pool habitat assessment, a jurisdictional assessment, a focused survey for coastal California gnatcatcher, and a general habitat assessment of the potential for sensitive species to occur on site. The methods used to evaluate the biological resources present of the property are discussed in this section.

2.1 NOMENCLATURE AND LITERATURE REVIEW

Nomenclature for this report follows Baldwin et al. (2012) for plants and the MSHCP (Dudek 2003) for vegetation community classifications, with additional vegetation community



I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\GBRA\Fig1_Regional.mxd EMW-1703 7/29/2016 - NG

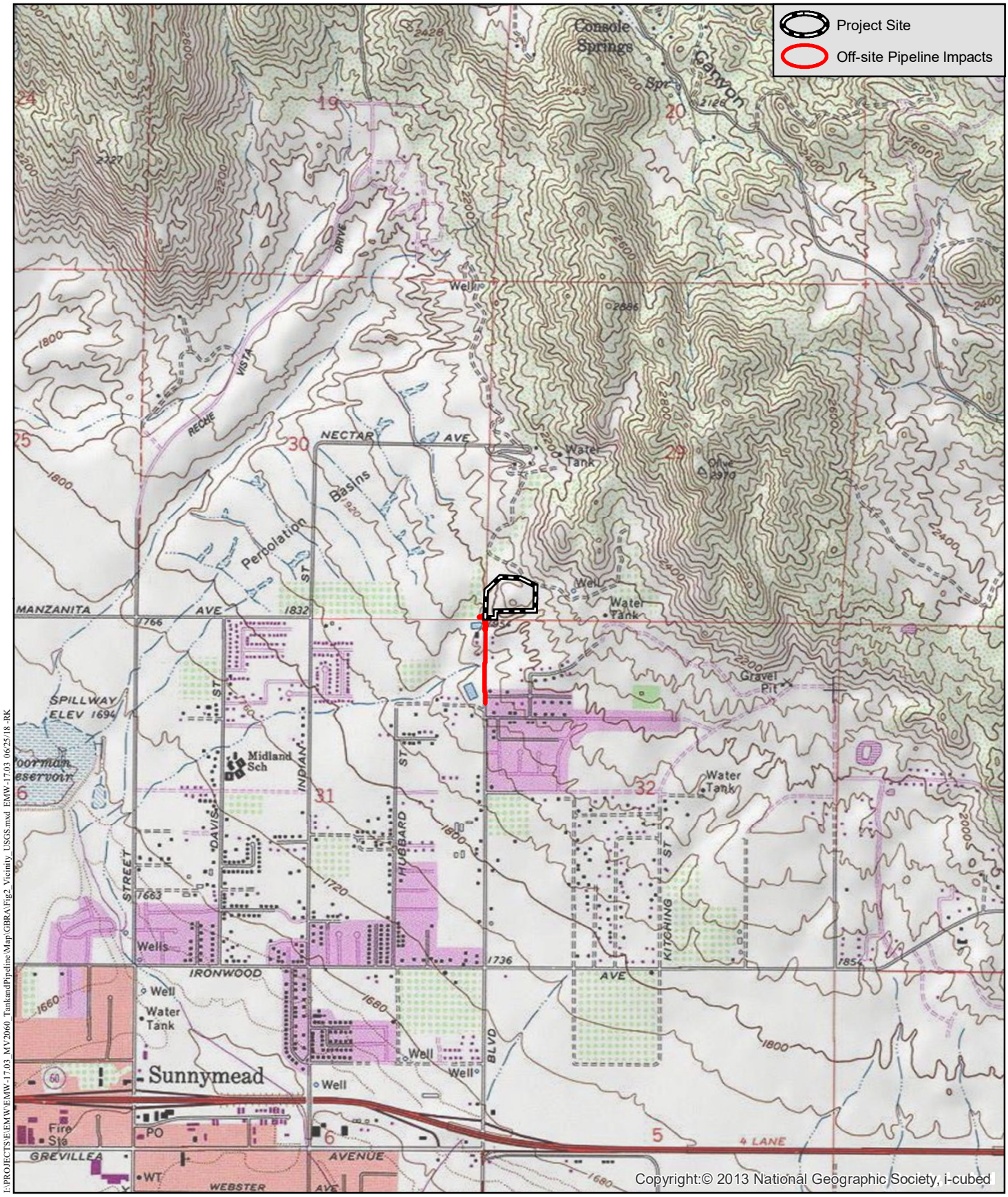
Regional Location

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 10 Miles

Figure 1



I:\PROJECTS\E\EMW\EMW-17.03_MV2060_Tankand Pipeline\Map\GBRA\Fig2_Vicinity_USGS.mxd EMW-17.03 06/25/18 -RK

Project Vicinity (USGS Topography)

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N

0 2,000 Feet

Figure 2

I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipelineMap\GBRA\Fig3_Vicinity_Aerial.mxd EMW-17.03 06/25/18 -RK

Project Vicinity (Aerial Photograph)

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N

0 1,000 Feet

Figure 3

I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\OBRA\Fig4_MSHCP.mxd EMW-17.03 3/8/2017 - LG

MSHCP Criteria Cells

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

Figure 4

CONSTRUCTION NOTES

1. 4" ASPHALT CONCRETE OVER 6" AGGREGATE BASE
2. 6" TYPE "A-6" CURB AND GUTTER PER RIVERSIDE COUNTY STD 200
3. TYPE "D-1" CURB PER RIVERSIDE COUNTY STD. 203
4. 5' SHOTCRETE SWALE PER DETAIL 1 ON SHEET C-10
5. 5' CONCRETE U-DITCH PER DETAIL 2 ON SHEET C-10
6. TRANSITION FOR 5' SHOTCRETE SWALE TO 5' CONCRETE U DITCH PER DETAIL 5 ON SHEET C-10
7. DOWNDRAIN PER DETAIL 13 ON SHEET C-11
8. 6' TERRACE DRAIN PER DETAIL 9 ON SHEET C-11
9. INTERCEPTOR DRAIN PER DETAIL 10 ON SHEET C-11
10. TERRACE DRAIN AND DOWN DRAIN INTERSECTION PER DETAIL 7 ON SHEET C-10.
11. DOWNDRAIN TO SHOTCRETE SWALE TRANSITION STRUCTURE PER DETAIL 3 ON SHEET C-10
12. ARIZONA CROSSING FOR 5' SHOTCRETE DITCH PER DETAIL 11 ON SHEET C-11
13. SPLASH WALL PER DETAIL 12 ON SHEET C-11
16. RIP RAP OUTLET PER DETAIL 4 ON SHEET C-10
17. SLOPED ARIZONA CROSSING PER DETAIL 14 ON SHEET C-12.
19. CRIB WALL PER SPECIFICATIONS
20. CRIB WALL GUARD RAIL PER DETAIL 16 ON SHEET C-12
21. RETAINING WALL PER COUNTY OF RIVERSIDE BUILDING DEPARTMENT RETAINING WALLS STANDARD AND PER PLAN AND PROFILE ON SHEETS C-1 & C-7.
23. CHAIN LINK FENCE PER RCFC&WCD STANDARD DRAWING NUMBER M801.
24. PIPE SWING GATE PER RCFC&WCD STANDARD DRAWING NUMBER M820.

Source: Webb Associates 2018

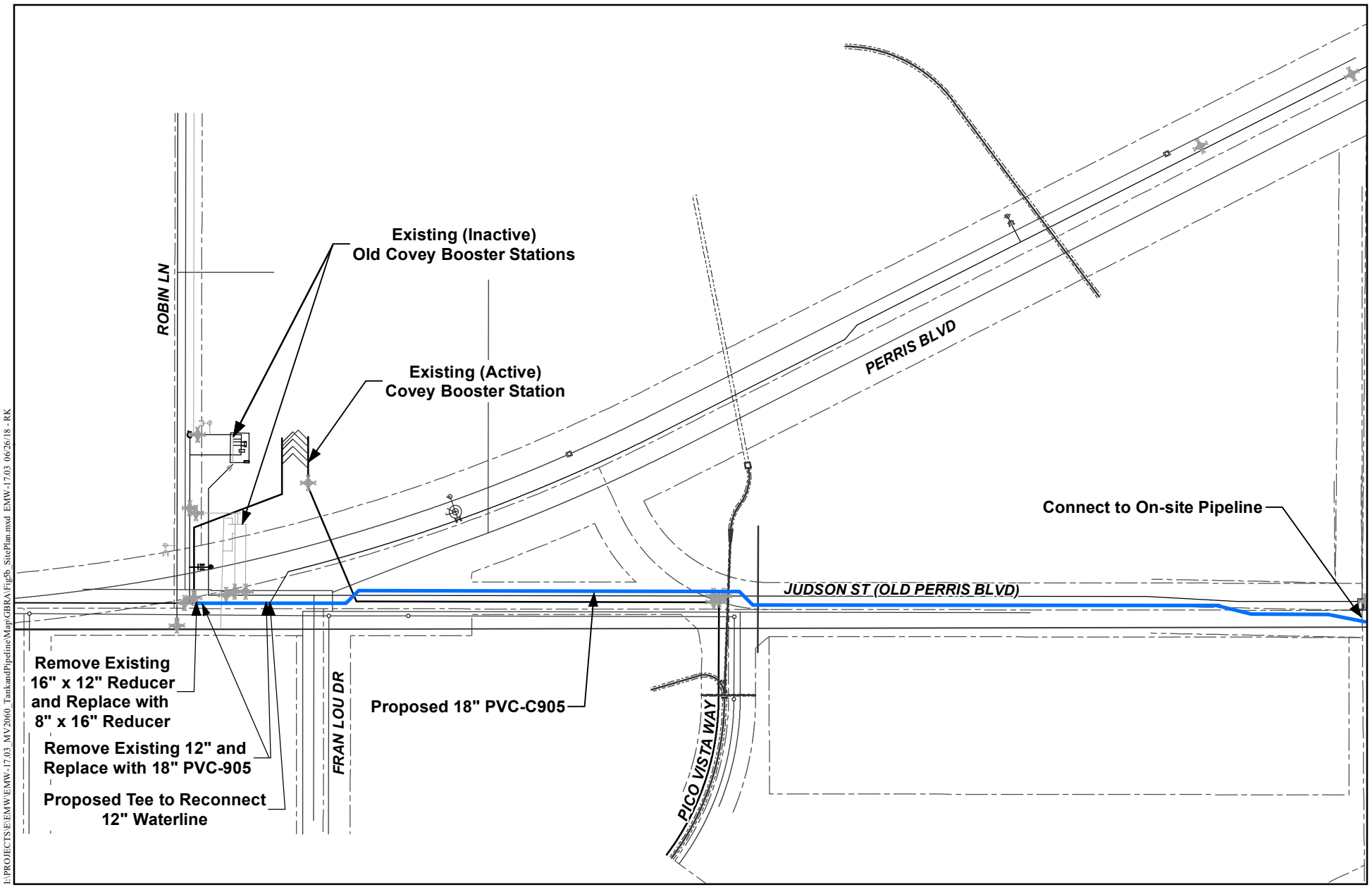
Site Plan

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

Figure 5a

HELIX Environmental Planning

I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\GBRA Fig5a_SitePlan.indd EMW-17.03 1/18/19-RK



Site Plan

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

0 150 Feet

Figure 5b

information taken from Holland (1986) and/or Oberbauer (2008). Animal nomenclature follows North American Butterfly Association (2017) for butterflies, Society for the Study of Amphibians and Reptiles (2017) for amphibians and reptiles, American Ornithological Society (2017) for birds, and Bradley et al. (2014) for mammals.

Sensitive plant and wildlife status is taken from the California Native Plant Society's (CNPS) online database (2017) and the California Department of Fish and Wildlife's (CDFW's) Special Plant List (CDFW 2017a) and Special Animal list (CDFW 2017b). Sensitive plant species habitats and blooming periods are taken from the MSHCP (Dudek 2003). Soils classifications are obtained the U.S. Department of Agriculture (USDA; 2017).

2.2 FIELD SURVEYS

Surveys were conducted to evaluate the general condition of the project site and surrounding lands. The general survey included mapping vegetation communities, noting dominant plant species, evaluating habitat suitability for sensitive species, and assessing the site for Riparian/Riverine and vernal pool habitats. Focused surveys for the federally-threatened coastal California gnatcatcher (*Polioptila californica californica*) were also conducted (Table 1). The plant and animal species detected on site are shown in Appendices A and B, respectively. Appendix C contains site photographs. Appendix D contains definitions of plant and animal species designations used throughout this document.

Table 1
BIOLOGICAL SURVEY INFORMATION

DATE	BIOLOGISTS	SURVEY
July 27, 2016	Robert Hogenauer	General Biological Survey, Jurisdictional Assessment, Vegetation Mapping, Habitat Assessment
November 28, 2016	Erica Harris	Coastal California Gnatcatcher Survey #1
December 12, 2016	Erica Harris Katie Bellon* Robert Hogenauer*	Coastal California Gnatcatcher Survey #2
January 5, 2017	Erica Harris	Coastal California Gnatcatcher Survey #3
January 25, 2017	Erica Harris Summer Schlageter*	Coastal California Gnatcatcher Survey #4
February 8, 2017	Erica Harris Katie Bellon* Robert Hogenauer*	Coastal California Gnatcatcher Survey #5
February 22, 2017	Erica Harris Katie Bellon* Robert Hogenauer*	Coastal California Gnatcatcher Survey #6
March 8, 2017	Erica Harris Katie Bellon*	Coastal California Gnatcatcher Survey #7

Table 1 (cont.) **BIOLOGICAL SURVEY INFORMATION**		
DATE	**BIOLOGISTS**	**SURVEY**
March 23, 2017	Erica Harris Summer Schlageter*	Coastal California Gnatcatcher Survey #8
April 7, 2017	Erica Harris	Coastal California Gnatcatcher Survey #9
November 14, 2017	Robert Hogenauer	General Biological Survey, Jurisdictional Assessment, Vegetation Mapping
January 18, 2018	Karl Osmundson Erica Harris	Jurisdictional Assessment

*Supervised individual

2.2.1 General Biological Survey

A general biological survey of the project site was conducted by HELIX on July 27, 2016 by HELIX biologist Robert Hogenauer. The general biological survey included vegetation mapping, plant and animal inventories, habitat assessments for sensitive species, and mapping of sensitive resources detected at the time of the survey. Vegetation communities/land cover types were mapped on a 1"=200' scale aerial photograph of the project site. Vegetation communities were identified by walking the project site during field surveys. Vegetation was classified in accordance with MSHCP Table 2-1 and Holland (1986) where vegetation did not match the MSHCP classifications. Observed or detected plant and animal species were recorded in field notes and/or on an aerial photograph (the latter for sensitive species).

2.2.2 Riparian/Riverine and Vernal Pool Habitat Assessment

An initial Riparian/Riverine and Vernal Pool habitat assessment was conducted by HELIX as part of the general biological survey on July 27, 2016. A subsequent assessment was conducted on November 14, 2017 and January 18, 2018 to verify conditions at the request of the U.S. Fish and Wildlife Service (USFWS), CDFW, and Western Riverside County Regional Conservation Authority (RCA). The MSHCP defines Riparian/Riverine habitat "as lands which contain Habitat dominated by [trees], shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." The MSHCP defines Vernal Pools as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season" (Dudek 2003). In general, habitats determined to be under CDFW jurisdiction are also considered to be Riparian/Riverine under the MSHCP.

The project site was assessed for the presence of Riparian/Riverine and Vernal Pool habitats through a review of aerial photographs, topographic maps, and soils maps for signs of flowing or ponded water, topographic depressions, and drainage features. The evaluation consisted of a directed search for field characteristics indicative of Riparian/Riverine or Vernal Pool habitats. Field indicators include certain plants, drainage courses, drainage patterns, ponded water,

changes in soil character, changes in vegetation character, and deposits of water-borne debris. All habitats that could be considered Riparian/Riverine habitat under the MSHCP were assessed.

Riparian/Riverine Plants

The MSHCP lists 23 sensitive plant species that have potential to occur in Riparian/Riverine and Vernal Pool habitats. These species are:

- California black walnut (*Juglans californica* var. *californica)*,
- Engelmann oak (*Quercus engelmannii*),
- Coulter's matilija poppy (*Romneya coulteri*),
- San Miguel savory (*Satureja chandleri*),
- spreading navarretia (*Navarretia fossalis*),
- graceful tarplant (*Holocarpha virgata* ssp. *elongata*),
- California Orcutt grass (*Orcuttia californica*),
- prostrate navarretia (*Navarretia prostrata*),
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*),
- Orcutt's brodiaea (*Brodiaea orcuttii*),
- thread-leaved brodiaea (*Brodiaea filifolia*),
- Fish's milkwort (*Polygala cornuta* var. *fishiae*),
- lemon lily (*Lilium parryi*),
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*),
- ocellated Humboldt lily (*L. humboldtii* ssp. *ocellatum*),
- Mojave tarplant (*Deinandra mohavensis*),
- vernal barley (*Hordeum intercedens*),
- Parish's meadowfoam (*Limnanthes gracilis* var. *parishii*),
- slender-horned spineflower (*Dodecahema leptoceras*),
- Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*),
- Brand's phacelia (*Phacelia stellaris*),
- mud nama (*Nama stenocarpum*), and
- smooth tarplant (*Centromadia pungens* ssp. *laevis*)

The Riparian/Riverine habitat assessments conducted on July 27, 2016, November 14, 2017, and January 18, 2018 included a focused search for the aforementioned species. If these species occur, they are required to be mapped and avoided. If avoidance is not feasible, then a Determination of Biologically Equivalent Superior Preservation is required to quantify impacts and establish mitigation for the impacted species.

Fairy Shrimp

There are three species of sensitive fairy shrimp that occur in western Riverside County: Riverside fairy shrimp (*Streptocephalus woottoni*), Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and vernal pool fairy shrimp (*Branchinecta lynchi*). The property was surveyed for habitat, such as vernal pools or ephemeral ponds, which could support fairy shrimp. Indicators of potential fairy shrimp habitat that were searched include basins, ruts, cracked mud, algal mats, and drift lines. Suitable fairy shrimp habitat is not present within the project site.

Amphibians

The MSHCP has three amphibians in the list of Riparian/Riverine species: arroyo toad (*Anaxyrus californicus*), mountain yellow-legged frog (*Rana muscosa*), and the California red-legged frog (*Rana aurora draytonii*). No habitat with potential to support these three species occurs within the project site.

Fish

The Santa Ana sucker (*Catastomus santaanae*) is the only fish shown on the list of MSHCP Riparian/Riverine species. No appropriate habitat occurs within the project site.

Riparian Birds

The project site was assessed for habitat that could support the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Typical habitat for least Bell's vireo consists of well-developed riparian scrub, woodland, or forest dominated by willows (*Salix* spp.), mule fat (*Baccharis salicifolia*), and western cottonwood (*Populus fremontii*). The least Bell's vireo will also use small patches of trees adjacent to dense riparian habitat. The southwestern willow flycatcher and western yellow-billed cuckoo require mature riparian forest with a stratified canopy and nearby water. The MSHCP requires surveys to be conducted for projects that have impacts to suitable habitat for the aforementioned riparian birds. No habitat with potential to support least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo occurs on the project site; therefore, surveys for these species were not conducted.

Both the bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*) occur primarily in and adjacent to open water habitats, with the peregrine falcon possibly occurring adjacent to riparian areas. The peregrine falcon nests on large cliffs that are generally 200 to 300 feet in height. Habitat to support the bald eagle or peregrine falcon does not occur on the project site.

2.2.3 Narrow Endemic Plant Species Survey Area

The project site is not within a Narrow Endemic Plant Species Survey Area (NEPSSA) of the MSHCP. No surveys for NEPSSA species are required.

2.2.4 Criteria Area Species Survey Area

The project site does not occur within a Criteria Area Species Survey Area (CASSA) of the MSHCP. No surveys for CASSA species area required.

2.2.5 Burrowing Owl Habitat

The site occurs within an area that requires protocol surveys for the burrowing owl (*Athene cunicularia*) if suitable habitat is found to be present. An initial on-site burrowing owl habitat assessment was conducted on July 27, 2016, by Mr. Hogenauer as part of a general biological survey to determine if the project contained areas that met the basic requirements of owl habitat, which include open expanses of sparsely vegetated areas (less than 30 percent canopy cover for trees and shrubs), gently rolling or level terrain, small mammal burrows (especially those of California ground squirrel [*Spermophilus beecheyi*]), and/or fence posts, rock, or other low perching locations. The habitat assessment complies with the burrowing owl survey guidelines for the MSHCP (RCA 2006). The project site lacked suitable habitat for burrowing owl based on the moderate to high density of sage scrub habitat and absence of suitable burrows; therefore, surveys for the species were not conducted.

2.2.6 Coastal California Gnatcatcher Survey

EMWD is not a participating agency in the Natural Community Conservation Planning program. For non-participating agencies, the USFWS requires that a minimum nine surveys be conducted, at least two weeks apart, during the period between July 1 and March 14 (USFWS 1997). The surveys were initiated during the non-breeding season (July 1 to March 14) but extended into the breeding season since surveys were rescheduled due to inclement weather. The surveys were conducted by permitted biologist Erica Harris (TE-778195-13; Table 1). The survey covered all potential coastal California gnatcatcher habitat composed of Riversidean sage scrub. The surveys were conducted by walking along the edges of, as well as within, suitable coastal California gnatcatcher habitat. The survey route was arranged to ensure complete survey coverage of all habitat with potential for occupancy by coastal California gnatcatcher. All surveys were conducted with binoculars to aid in bird detection. Recorded coastal California gnatcatcher vocalizations were played sparingly and only if other means of detection had failed. If a gnatcatcher was detected before playing recorded vocalizations, the recordings were not played. Once coastal California gnatcatchers were initially detected in an area, use of playback was discontinued.

2.3 AGENCY MEETINGS

EMWD and HELIX attended a Wildlife Agency coordination meeting with the USFWS, CDFW, and RCA on January 18, 2018 to discuss the project, present the results of the 2016 and 2017 biological resources studies, and confirm the project requirements for MSHCP consistency and PSE processing. During the meeting, EMWD received input and requests to modify the project design and verify the extent of a potential jurisdictional drainage feature and Riparian/Riverine Area. Subsequently, an additional field survey was conducted and the project design was

modified to further avoid the gullied land upslope from the potential jurisdictional drainage and Riparian/Riverine Area, as demonstrated in this report.

3.0 RESULTS

This section addresses the results of research and fieldwork conducted as part of the biological resources technical study, including discussions on the existing conditions and sensitive biological resources that occur or have potential to occur on the project site.

3.1 SOILS

The MSHCP lists nine sensitive soil types as occurring within the Plan Area (Dudek 2003). None of the MSHCP sensitive soils occurs on the project site. Three soil types are mapped within the project site: Cieneba rocky sandy loam (15 to 50 percent, slopes, eroded), Monserate sandy loam (8 to 15 percent slopes, eroded), and terrace escarpments (USDA 2017). The Cieneba rocky sandy loam is the dominant soil type on the site, with the Monserate sandy loam occurring within the southwestern portion of the site, and terrace escarpments occurring within the eastern portion of the site (Figure 6).

3.2 VEGETATION COMMUNITIES

The project site and off-site impact area is made up of four vegetation communities/land uses: Riversidean sage scrub, non-native woodland, disturbed habitat, and developed land (Table 2; Figure 7).

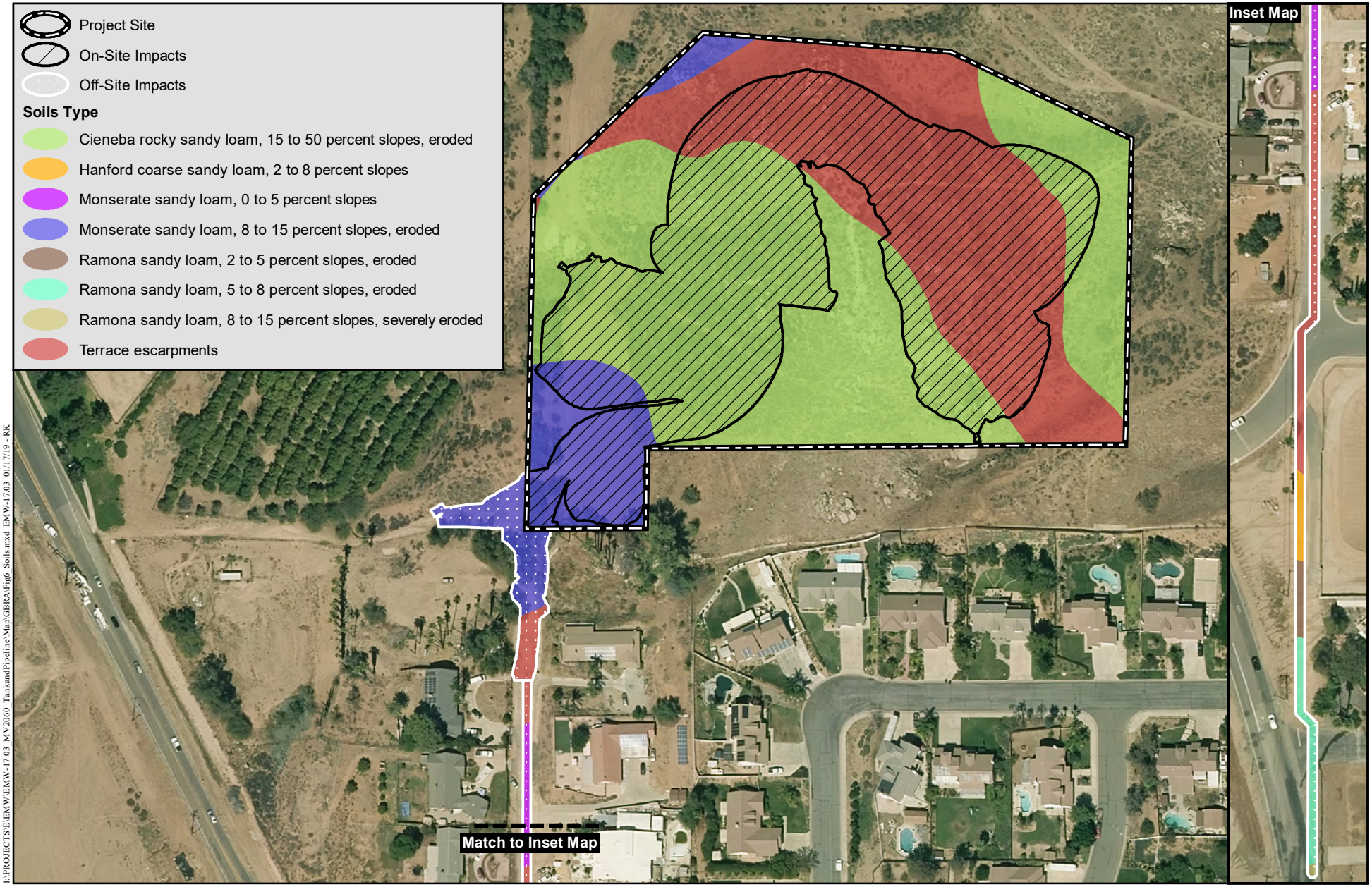
Table 2
EXISTING VEGETATION COMMUNITIES

VEGETATION COMMUNITY	ACRES*	
	On-Site	Off-Site
Riversidean sage scrub	7.2	< 0.1
Non-native vegetation	0.3	0.1
Disturbed habitat	0.8	0.1
Developed	--	0.3
TOTAL	**8.3**	**0.5**

*Acreage is rounded to the nearest 0.1 acre for upland types.

3.2.1 Riversidean Sage Scrub

Riversidean sage scrub is the most xeric expression of coastal sage scrub, typically found on xeric sites such as steep slopes, severely drained soils, or clays that release stored soil moisture slowly. Typical stands are fairly open and dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). Dominant species in this vegetation community within the project site include California sagebrush, California buckwheat, brittlebush (*Encelia farinosa*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*). Riversidean sage scrub is the



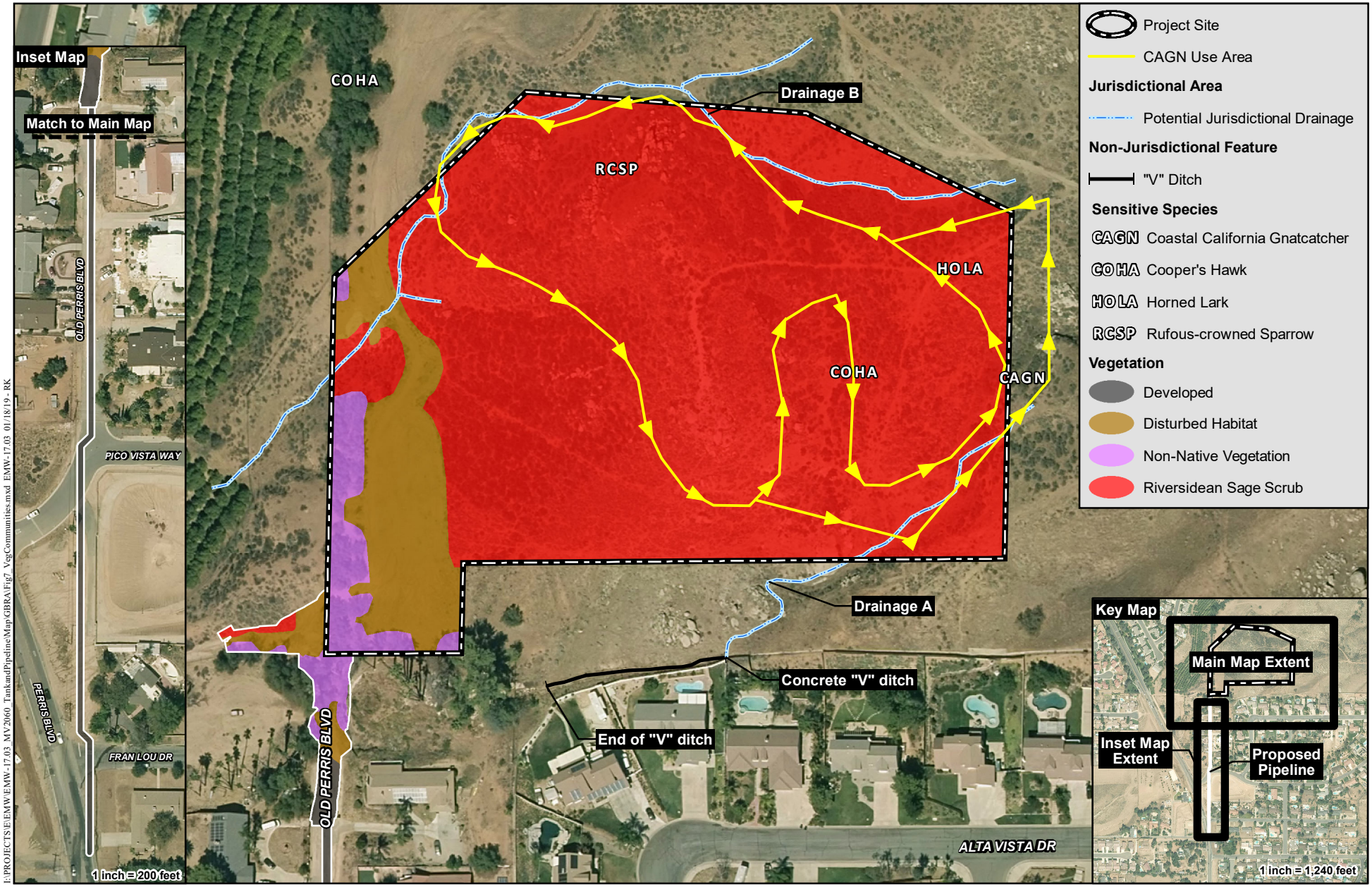
Soils

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 170 Feet

Figure 6



I:\PROJECTS\E\EMW\EMW-17.03 MV2060 TankandPipeline\Map\OBRA\Fig7_VegCommunities.mxd EMW-17.03 01/18/19 - RK

Vegetation/Sensitive Resources

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 150 Feet

Figure 7

dominant vegetation community within the project site, encompassing 7.2 acres. A small patch, 0.01 acre in size, of Riversidean sage scrub is located within the off-site impact area.

3.2.2 Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. A total of 0.3 acre of non-native vegetation is present along the western portion of the site consisting of stands of olive trees (*Olea europaea*). Non-native vegetation in the off-site impact area consists of Peruvian pepper tree (*Schinus molle*), Washington fan palm (*Washingtonia robusta*), and eucalyptus (*Eucalyptus* sp.) located at the end of Old Perris Boulevard.

3.2.3 Disturbed Habitat

Disturbed habitat includes unvegetated or sparsely vegetated areas, particularly where the soil has been heavily compacted by prior development or where agricultural lands have been abandoned. Disturbed habitat is generally dominated by non-native weedy species that adapt to frequent disturbance or consists of dirt trails and roads. Disturbed habitat occurs along the western border of the site between non-native woodland and Riversidean sage scrub. It is made up of dirt roads and disced lands dominated by non-native herbs and grasses. Disturbed habitat in the off-site impact area consists of an existing dirt access road at the end of Old Perris Boulevard.

3.2.4 Developed Land

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed land occurs off-site and includes residential developed and Old Perris Boulevard.

3.3 JURISDICTIONAL WATERS AND WETLANDS

Although a preliminary jurisdictional assessment and mapping were performed, a formal jurisdictional delineation was not conducted as the project will avoid potential jurisdictional resources. Two potentially jurisdictional ephemeral drainages were identified within the project site (Figure 7): one northeast-southwest trending unnamed drainage along the project's southern boundary (Drainage A) and another northeast-southwest trending unnamed drainage along the project's northern boundary (Drainage B). Drainage A bisects the southeastern corner of the project site entering from the northeast and exiting to the southwest. It connects to a concrete "V" ditch located to the south of the project site that flows to the west and eventually abates within uplands. The "V" ditch ends approximately 200 feet west of its connection to Drainage A to a patch of bare ground that slopes upward; the drainage terminates at this location and there is no downstream connectivity to another receiving water. Drainage B bisects the northwestern corner of the project site entering from the northeast and exiting to the southwest. It connects to a culvert located west of the project site that then continues under Perris Boulevard where it is conveyed by underground pipe to a Riverside County Flood and Water Conservation District's (RCFCWD) flood control facility (Pigeon Pass Dam) located over one mile southwest of site, which is not a MSCHP Conservation Area. Further downstream, Pigeon Pass Dam ultimately

discharges into the Poorman Reservoir, which is a MSHCP Conservation Area under Public/Quasi-Public Conserved Lands.

The drainage features on the project site likely support non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Clean Water Act (CWA) Section 404, and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to CWA Section 401; and unvegetated streambed subject to the regulatory jurisdiction of the CDFW pursuant to Sections 1600 *et seq*. of the California Fish and Game Code (CFG Code). Jurisdictional waters and wetlands that are also Riparian/Riverine and Vernal Pool resources are discussed below.

3.4 RIPARIAN/RIVERINE AND VERNAL POOL HABITAT ASSESSMENT

The identification of Riparian/Riverine Areas is based on the potential for the habitat to support, or be tributary to habitat that support, Riparian/Riverine Covered Species, which are identified in MSHCP Section 6.1.2. Habitats that are jurisdictional to the CDFW are also considered Riparian/Riverine resources under the MSHCP. Drainages A and B are unvegetated streambeds subject to CDFW jurisdiction, at a minimum, and therefore, are classified as Riparian/Riverine resources. No vernal pools occur on the property. The site was assessed for the presence of Riparian/Riverine and Vernal Pool Species. The Riparian/Riverine and vernal pool habitat assessment determined that none of the species shown in the MSHCP as associated with Riparian/Riverine and Vernal Pool habitats were observed or are expected to occur on the site.

Riparian/Riverine Plants

Twenty-three plant species are identified in the MSHCP as potentially occurring in Riparian/Riverine and Vernal Pool habitats. None of the 23 sensitive plant species identified in the MSHCP as potentially occurring in association with Riparian/Riverine and Vernal Pool habitats occur on the project site. Unless otherwise noted, the habitat requirements and distributions described below are from the MSHCP Volume 2 species accounts (Dudek 2003).

Several species including California black walnut, Engelmann oak, and Coulter's matilija poppy are large species that are readily identifiable year-round. None of these species was observed on site.

San Miguel savory is primarily restricted to rocky, gabbroic, and metavolcanic substrates in coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands (between 120 and 1,005 meters; Dudek 2003). The majority of the populations/ individuals are associated with the Santa Rosa Plateau and the Santa Ana Mountains. Habitat for this species does not occur on the project site and the species is not expected to occur.

Spreading navarretia, California Orcutt grass, prostrate navarretia, San Diego button-celery, Orcutt's brodiaea, thread-leaved brodiaea, San Jacinto Valley crownscale, vernal barley, and Parish's meadowfoam occur in vernal pools, flood plains, or similar habitat. No vernal pools occur within the project site; therefore, the project site lacks suitable habitat for these species and they are not expected to occur.

Graceful tarplant has a fairly scattered distribution, with known occurrences concentrated within the Santa Ana Mountains and Foothills, primarily within U.S. Forest Service lands (Dudek 2003). Within the Plan Area, graceful tarplant is restricted to coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grasslands at elevations below 2,000 feet AMSL within western Riverside County (Dudek 2003). No known occurrences of the species are present within the project vicinity and the species is not expected to occur.

Fish's milkwort is restricted to the eastern slopes of the Santa Ana Mountains and possibly the northern slopes of the Agua Tibia Mountains (Dudek 2003). It is associated with shaded areas within cismontane oak woodlands and riparian woodlands, although it also occurs in xeric and mesic chaparral habitat. Suitable habitat does not occur on the project site and this species was not observed during biological surveys conducted on the property.

Lemon lily requires year-round moisture and is limited to the banks of springs, permanent streams at an elevation above 1,300 meters (over 4,200 feet) AMSL. The project site lacks suitable habitat for these species and they are not expected to occur.

Ocellated Humboldt lily occurs in openings in oak canyons, chaparral, and yellow pine forest. Within western Riverside County, this species is restricted to canyons along the eastern slope of the Santa Ana Mountains and the northern slope of the Palomar Mountains (Dudek 2003). Habitat for this species does not occur on the project site and this species is not expected to occur.

Mojave tarplant is restricted to the San Jacinto Mountains. It occurs on sand bars within river beds and ephemeral grassy areas in riparian scrub. Habitat for this species does not occur on the project site and the species is not expected to occur.

Slender-horned spineflower is typically found in mature alluvial scrub with sandy soils but is also found in rocky soils and open chamise chaparral. Ideal habitat is thought to be benches or terraces that receive overbank flow every 50 to 100 years. Habitat for this species does not occur on the project site and the species is not expected to occur.

Santa Ana River woolly-star occurs only within open washes and early successional alluvial fan scrub where frequent flooding and scouring maintain the open shrub land. Suitable sand washes occur within the project site but the site does not receive sufficient surface flows to support the species. There are no records of the species within one mile of the project site, therefore, the species is not expected to occur.

Brand's phacelia has limited distribution and is restricted to sandy beaches along the Santa Ana River. It occurs in sandy openings within coastal dunes or coastal scrubs. Habitat for this species does not occur within the project site and the species is not expected to occur.

Mud nama is restricted to muddy embankments of marshes and swamps and within lake margins and riverbanks. Three populations are known from Riverside County, with two occurring along

the San Jacinto River (Dudek 2003). Habitat for this species does not occur on the project site and this species is not expected to occur.

Smooth tarplant is found in southwestern California and northwestern Baja California, Mexico and occurs in San Bernardino, Riverside, and San Diego counties. This species occurs in open spaces within a variety of habitats including alkali scrub and playas, riparian woodland, watercourses, and grasslands with alkaline affinities (Dudek 2003). Habitat for this species does not occur on the project site and this species is not expected to occur.

Fairy Shrimp

Vernal pool fairy shrimp occurs throughout the Central Valley and in several disjunct populations in Riverside County. This species exists in vernal pools and other ephemeral basins often located in patches of grassland and agriculture interspersed in Diegan coastal sage scrub and chaparral. Vernal pool fairy shrimp prefer cool water pools that are often short lived. Riverside fairy shrimp occurs in Riverside, Orange, and San Diego counties, as well as in northern Baja California, Mexico. This species is typically found in deeper vernal pools and other ephemeral basins that hold water for long periods (30 or more days). Santa Rosa Plateau fairy shrimp are limited to the Santa Rosa Plateau.

The project site includes two ephemeral drainages but does not include vernal pools or similar habitat in which fairy shrimp would occur. No habitat for fairy shrimp occurs on the site; therefore, no surveys are required or were conducted.

Fish

The Santa Ana sucker is restricted to the Santa Ana River watershed with year-round flows. This species generally lives is small shallow streams less than seven meters wide with various current strengths. They require permanent streams with a preferred gravel bottom. They prefer cool, clear water but can tolerate turbid waters. The ephemeral drainages on site lack sufficient surface flows and are not suitable for this species. This species is not expected to occur on the project site.

Amphibians

Arroyo toads occur in streams that have breeding pools that are shallow with minimal current. Requirements also include sandy banks with area of minimal vegetative cover. Mountain yellow-legged frog and California red-legged frog are not known to occur in the project vicinity. The mountain yellow-legged frog occurs in mountain streams and is currently only known within Riverside County in the San Jacinto Mountains. The California red-legged frog is only known within Riverside County on the Santa Rosa Plateau. It requires deep water with adjacent uplands to move between breeding sites. No appropriate habitat for these three species occurs on site, and none of these species has any potential to occur on site.

Birds

The least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo are found in riparian habitats such as southern willow scrub, cottonwood forest, mule fat scrub, sycamore alluvial woodland, and arroyo willow riparian forest habitats that typically feature dense cover. The MSHCP requires surveys to be conducted for projects that have impacts to suitable habitat for the aforementioned riparian birds.

The project site does not include habitat with potential to support least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo. The drainages that do occur are unvegetated or vegetated similar to surrounding sage scrub habitat. Due to the lack of habitat, surveys are not required and the species are not expected to occur on site.

Both the bald eagle and peregrine falcon occur primarily in and adjacent to open water habitats, with the falcon possibly occurring in riparian areas. Open water habitats do not occur on the site. The site does not include habitat with potential to support the peregrine falcon or bald eagle. The proposed project would not impact habitat with potential to support bald eagle or peregrine falcon.

3.5 BURROWING OWL

A burrowing owl habitat assessment was conducted on July 27, 2016, during the general biological survey. The project site does not include habitat with potential to support burrowing owls. The project site lacks burrows at least 3 inches in diameter suitable for burrowing owl use, debris piles, or other habitat that could be utilized by burrowing owls for nesting purposes. The site is also hilly and characterized by dense scrub-type vegetation (greater than 30 percent cover), providing poor lines of sight. Therefore, no focused surveys were conducted for burrowing owl and the species is not expected to occur on the project site. Furthermore, no burrowing owl or burrowing owl sign (i.e., feather, white wash, and/or pellets) was observed during the numerous other surveys conducted within the project site.

3.6 OTHER SENSITIVE SPECIES

A nine-quadrangle search (San Bernardino South, Redlands, Yucaipa, Riverside East, Sunnymead, El Casco, Steele Peak, Perris, Lakeview) database search of the California Natural Diversity Database and the CNPS was conducted along with an in-house database search for sensitive plants and animals that have potential to occur in the project vicinity. Below is a discussion of the sensitive plants and animals from the database search. Plant and animal species already discussed in the report above are not included here to avoid duplicate discussions.

3.6.1 Sensitive Plants

A total of 55 sensitive plant species were analyzed for their potential to occur on the site, four of which are federally and/or state listed (Table 3). The listed species are Munz's onion (*Allium munzii*), marsh sandwort (*Arenaria paludicola*), salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), and Gambel's water cress (*Nasturtium gambelii*). None of these species were observed on the project site. None of the other listed species is expected to occur within the project site.

Table 3
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Chaparral sand verbena (*Abronia villosa* var. *aurita*)	--/-- CRPR 1B.1	Sandy floodplains or flats in generally, inland, arid areas of sage scrub and open chaparral.	**High**. Suitable habitat is present within the project site along the northern and southern ephemeral drainages.
Yucaipa onion (*Allium marvinii*)	--/-- CRPR 1B.2 MSHCP Covered	Clay soils, openings in chaparral.	**None**. No clay soils or chaparral occur within the project site.
Munz's onion (*Allium munzii*)	FE/ST CRPR 1B MSHCP Covered	Clay soils, opening in grasslands and sage scrub.	**None**. Suitable clay soils do not occur within the project site.
Marsh sandwort (*Arenaria paludicola*)	FE/SE CRPR 1B.1	Bogs, marshes, and swamps.	**None**. Suitable habitat does not occur on the project site.
Western spleenwort (*Asplenium vespertinum*)	--/-- CRPR 4.2	Preferred habitats are chaparral, woodland, coastal sage scrub, and rocky areas with semi-shaded but seasonally arid conditions. Sometimes found at the shaded base of overhanging boulders.	**High**. Limited suitable habitat occurs within the project site along the northern and southern ephemeral drainages.
Horn's milkvetch (*Astragalus hornii* var. *hornii*)	--/-- CRPR 1B.1	Salty flats and lakes shores.	**None**. Suitable habitat does not occur on the project site.
Jaeger's astragalus (*Astragalus pachypus* ssp. *jaegeri*)	--/-- CRPR 1B.1 MSHCP Covered	Chaparral understory with a coastal/desert ecotonal mix of shrubs. Also occurs in cismontane woodlands, coastal sage scrub, grasslands, and sandy or rocky soils.	**Low**. Suitable habitat occurs within the project site but no records of the species occur within the project's vicinity.

Table 3 (cont.)
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
South coast saltscale (*Atriplex pacifica*)	--/-- CRPR 1B.2	Xeric, often mildly disturbed locales of coastal bluff scrub. Usually the surrounding habitat is an open Diegan coastal sage scrub, although it is found on alkaline flats in areas devoid of taller shrubs.	**Low**. Suitable habitat occurs within the project but no records of the species occur within the project vicinity.
Parish's brittlescale (*Atriplex parishii*)	--/-- CRPR 1B.1 MSHCP Covered	Chenopod scrub, vernal pools, and playas. Alkaline flats on the periphery of salt pannes.	**None**. Suitable habitat for the species does not occur within the project site.
Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)	--/-- CRPR 1B.2 MSHCP Covered	Historically associated with the isolated alkaline flats of southern California valley areas that have primarily been drained and converted to residential housing or agriculture.	**None**. Suitable habitat for the species does not occur within the project site.
Nevin's barberry (*Berberis nevinii*)	FE/SE CRPR 1B.1 MSHCP Covered	Chaparral, woodland, scrub, riparian scrub, sandy, or gravelly soil.	**Presumed Absent**. Suitable habitat occurs within the project site. However, the species is a perennial shrub that would have been detected if present.
round-leaved filaree (*California macrophylla*)	--/-- CRPR 1B.1 MSHCP Covered	Clay soils, woodland and grassland.	**None**. Suitable clay soils do not occur within the project site.
Plummer's mariposa lily (*Calochortus plummerae*)	--/-- CRPR 4.2 MSHCP Covered	Rocky and sandy soils, in scrub, chaparral, woodland and grassland.	**High**. Suitable habitat and soils for the species occur within the project site.

Table 3 (cont.)
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Bristly sedge (*Carex comosa*)	--/-- CRPR 2B.1	Marshes, swamps, and lake shores.	**None**. Suitable habitat for the species does not occur within the project site.
Payson's jewel-flower (*Caulanthus simulans*)	--/-- CRPR 4.2 MSHCP Covered	Pinyon-juniper woodland, chaparral and sage scrub. Typically on slopes and ridgelines with sandy granitic soil.	**Low**. Marginal suitable habitat occurs within the northern portion of the project site.
Smooth tarplant (*Centromadia pungens* ssp. *laevis*)	--/-- CRPR 1B.1 MSHCP Covered	Valley and foothill grasslands, particularly near alkaline locales.	**None**. No suitable habitat occurs within the project site.
Salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*)	FE/SE CRPR 1B.2	Salt marshes, particularly slightly raised hummocks.	**None**. Suitable habitat for the species does not occur within the project site.
Peninsular spineflower (*Chorizanthe leptotheca*)	--/-- CRPR 4.2 MSHCP Covered	Alluvial fans with granitic soils and chaparral, coastal scrub, or coniferous forest habitats.	**Low**. The site is not located on an alluvial fan and does not contain suitable granitic soils.
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	--/-- CRPR 1B.1 MSHCP Covered	Sandy soil on flats and foothills in mixed grassland, coastal sage scrub, and chaparral communities	**High**. Suitable habitat and sandy soils occur within the project site.
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	--/-- CRPR 1B.2 MSHCP Covered	Chaparral, sage scrub, grassland, often in clay soils.	**Low**. Suitable clay soils do not occur within the project site.
White-bracted spineflower (*Chorizanthe xanti var. leucotheca*)	--/-- CRPR 1B.2	Sandy or gravelly soil in alluvial sage scrub, desert scrub and juniper woodland.	**Low**. Suitable habitat and soils occur within the project site. However, the site is not located on an alluvial fan and no records of the species occur within the project vicinity.

Table 3 (cont.)
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Small-flowering morning-glory (*Convolvulus simulans*)	--/-- CRPR 4.2 MSHCP Covered	Clay soils, seeps, in chaparral, coastal scrub and grasslands.	**None**. Suitable clay soils do not occur within the project site.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	--/-- CRPR 2B.2	Marshes and swamps.	**None**. No suitable habitat occurs within the project site.
Snake cholla (*Cylindropuntia californica* var. *californica*)	--/-- CRPR 1B.1	Chaparral and coastal scrub	**None**. Suitable habitat occurs within the project site but the species would have been observed if present.
Paniculate tarplant (*Deinandra paniculata*)	--/-- CRPR 4.2	Usually found in vernally mesic areas and sometimes sandy areas within coastal scrub, grassland and vernal pools.	**Low**. No vernal pools occur within the project site but the site does contain suitable sandy soils.
Alvin meadow bedstraw (*Galium californicum* ssp. *premium*)	--/-- CRPR 1B.2 MSHCP Covered	Granitic or sandy soils, shade at ecotone of chaparral, and coniferous forest.	**Low**. Sandy soils occur within the project site but the site lacks suitable habitat.
Palmer's grapplinghook (*Harpagonella palmeri*)	--/-- CRPR 4.2 MSHCP Covered	Clay soil, chaparral, sage scrub and grassland.	**None**. Suitable habitat does not occur on project site.
Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*)	--/-- CNPS Rank 1A	Marshes and swamps.	**None**. Suitable habitat does not occur on site and species is presumed extinct in California.
Mesa horkelia (*Horkelia cuneata* ssp. *puberula*)	--/-- CRPR 1B.1	Sandy or gravelly areas in chaparral, coastal sage scrub, and coastal mesas	**Low**. Suitable habitat and soils occur in the site; however, there are no records of the species within the project's vicinity.

Table 3 (cont.)
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
California satintail (*Imperata brevifolia*)	--/-- CRPR 2B.1	Wet springs, meadows, streambanks, and floodplains.	**None**. Suitable habitat does not occur on site.
Southern California black walnut (*Juglans californica*)	--/-- CRPR 4.2 MSHCP Covered	Open savannah, often in habitat best labeled walnut woodland. May be more tolerant of clay soils than most native trees and shrubs. Shows preference for deep alluvial soils with high water-retention capacity and tends to grow in creekbeds, alluvial terraces, and north-facing slopes.	**None**. No suitable habitat for the species occurs on the site.
Duran's rush (*Juncus duranii*)	--/-- CRPR 4.3	Creek banks, wet places, in montane conifer forests	**None**. Suitable habitat does not occur on site.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	--/-- CRPR 1B.1 MSHCP Covered	Marshes, swamps, playas, and vernal pools	**None**. Suitable habitat does not occur on site.
Heart-leaved pitcher sage (*Lepechinia cardiophylla*)	--/-- CRPR 1B.2 MSHCP Covered	Perennial shrub found in coniferous forests, chaparral, and cismontane woodland.	**None**. Habitat for the species does not occur on the project site.
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	--/-- CRPR 4.3	Openings in chaparral and sage scrub, typically dry sites.	**High**. Suitable habitat occurs within the project site.
Parish's bush-mallow (*Malacothamnus parishii*)	--/-- CRPR 1A	Chaparral and coastal sage scrub.	**Low**. Suitable habitat occurs within the site but the species has been extirpated within the region.

Table 3 (cont.)
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Hall's monardella (*Monardella macrantha* ssp. *hallii*)	--/-- CRPR 1B.3 MSHCP Covered	Lower montane coniferous forest and montane chaparral, usually near rocky ruble and boulders where shrub cover was limited. Canopy may either provide occasional shade or be lacking.	**None**. No suitable habitat for the species occurs within the project site.
Pringle's monardella (*Monardella pringlei*)	--/-- CRPR 1A	Sandy soils in coastal sage scrub and interior sand dunes.	**None**. Presumed extinct in California.
crowned muilla (*Muilla coronata*)	--/-- CRPR 4.2	Open desert scrub and woodland.	**None**. Suitable habitat does not occur on site.
Little mousetail (*Myosurus minimus* ssp. *apus*)	--/-- CRPR 3.1 MSHCP Covered	Alkaline vernal pools in grassland.	**None**. Suitable habitat does not occur on site.
Gambel's water cress (*Nasturtium gambelii*)	FE/ST CRPR 1B.1	Marshes, streambanks, and lake margins.	**None**. Suitable habitat does not occur on site. Only four occurrences known in California.
Narrow-petaled rein orchid (*Piperia leptopetala*)	--/-- CRPR 4.3	Dry shublands and woodlands at middle elevations.	**Low**. No records of the species occur within the project's vicinity.
Parish's gooseberry (*Ribes divaricatum* var. *parishii*)	--/-- CRPR 1A	Riparian woodland	**None**. Suitable habitat does not occur on site.
Parish psoralea (*Rupertia rigida***)**	--/-- CRPR 4.3	Montane chaparral and lower montane coniferous forests	**None**. Suitable habitat does not occur within the project site.
San Gabriel ragwort (*Senecio astephanus*)	--/-- CRPR 4.3	Steep rocky slopes in chaparral, coastal sage scrub, and oak woodlands.	**Low**. The site lacs suitable steep rocky slopes.
Parish's checkerbloom (*Sidalcea hickmanii*)	--/-- CRPR 1B.2	Chaparral, woodland, and open conifer forest.	**None**. No suitable habitat occurs within the project site.

Table 3 (cont.)
SENSITIVE PLANT SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Salt spring checkerbloom (*Sidalcea neomexicana*)	--/-- CRPR 2B.2	Alkaline mesic soils, chaparral, coastal and desert scrub, playas.	**None**. Suitable habitat and soils do not occur within the project site.
Prairie wedge grass (*Sphenopholis obtusata*)	--/-- CRPR 2B.2	Meadows and seeps, woodland.	**None**. Suitable habitat does not occur within the project site.
Southern jewelflower (*Streptanthus campestris*)	--/-- CRPR 1B.3	Pinyon juniper areas and high desert transitional chaparral.	**None**. The site lacks suitable habitat for the species.
San Bernardino aster (*Symphyotrichum defoliatum*)	--/-- CRPR 1B.2	Sage scrub, grassland, meadows and seeps. Usually near ditches, streams, or other vernally mesic areas.	**Low**. Marginal habitat occurs along the two ephemeral drainages.
Woven spored lichen (*Texosporium sancti-jacobi*)	--/-- CRPR 3	Chaparral openings, usually on animal pellets, dead twigs or detritus rich soil.	**Low**. No chaparral occurs within the project site.
California screw-moss (*Tortula californica*)	--/-- CRPR 1B.2	Sandy soils in grasslands and chenopod scrub.	**Low**. The site contains sandy soils but lacks suitable habitat.
Wright's trichocoronis (*Trichocoronis wrightii*)	--/-- CRPR 2B.1 MSHCP Covered	Moist places and drying riverbeds.	**None**. Suitable habitat does not occur within the project site.

[1] F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

CRPR = California Native Plant Society Rare Plant Rank: 1A – presumed extirpated in California and either rare or extinct elsewhere; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California, but more common elsewhere; 2B – rare, threatened, or endangered in California, but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.County of Riverside Sensitivity Status: MSHCP Covered – Covered Species under the Western Riverside County MSHCP.

[2] Potential to Occur is assessed as follows. **None:** Species is either sessile (i.e. plants) or so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the study area; **Not Expected:** Species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur in the study area; **Low:** Suitable habitat is present in the study area but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the study area and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the study area; **Presumed Absent:** Species would be visible all year and would have been observed if present.

3.6.2 Sensitive Animals

A total of 25 sensitive animal species, two of which are listed at the federal or state level, were analyzed for their potential to occur (Table 4). The listed species are San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and coastal California gnatcatcher. The San Bernardino kangaroo rat has a low potential to occur within the project site. One pair of coastal California gnatcatchers was observed within the project site during focused surveys conducted by HELIX (Figure 7; HELIX 2017). Three other sensitive species were documented within the project site: Cooper's hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and California horned lark (*Eremophila alpestris actia*). Three sensitive species have a high potential to occur within the project site: orange-throated whiptail (*Aspidoscelis hyperthra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), and red-diamond rattlesnake (*Crotalus ruber*).

Table 4
SENSITIVE ANIMAL SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Amphibians			
Western spadefoot (*Spea hammondii*)	--/SSC MSHCP Covered	Open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas. Temporary pools required for breeding and friable soils for burrowing.	**None**. No vernal pools or other temporary pools detected during surveys.
Reptiles			
Orange-throated whiptail (*Aspidoscelis hyperthra*)	--/WL MSHCP Covered	Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base.	**High**. Suitable habitat for the species occurs on the project site.
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	--/SSC MSHCP Covered	Open rocky areas with sparse vegetation, usually coastal sage scrub, chaparral, and woodlands.	**High**. Suitable habitat and rocky areas occur on the project site adjacent to the drainages.

Table 4 (cont.)
SENSITIVE ANIMAL SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Reptiles (cont.)			
Red-diamond rattlesnake (*Crotalus ruber*)	--/SSC MSHCP Covered	Chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**High**. Suitable habitat and rocky areas occur on the project site adjacent to the drainages.
Southwestern pond turtle (*Actinemys pallida*)	--/SSC MSHCP Covered	Almost entirely aquatic; occurs in freshwater marshes, creeks, ponds, rivers and streams, particularly where basking sites, deep water retreats, and egg laying areas are readily available.	**None**. No suitable aquatic habitat occurs on the project site.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	--/SSC	Primarily found in chaparral but also inhabits coastal sage scrub and areas of grassland mixed with scrub.	**Low**. Suitable habitat occurs on the project site; however, there are no known occurrences of the species within the project vicinity.
Coast horned lizard (*Phrynosoma blainvillii*)	--/SSC MSHCP Covered	Coastal sage scrub and open areas in chaparral, oak woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil. Requires native ants, especially harvester ants (*Pogonomyrmex* sp.), and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).	**High**. Suitable habitat occurs within the project site.
Birds			
Cooper's hawk (*Accipiter cooperii*)	--/WL MSHCP Covered	Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.	**Present**. Species detected during multiple surveys flying over the project site and perched within trees adjacent to the project site (Figure 7).

Table 4 (cont.)
SENSITIVE ANIMAL SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Birds (cont.)			
Tricolored blackbird (*Agelaius tricolor*)	--/SC BBC/SSC MSHCP Covered	Marsh habitat near grasslands, pastures, and agricultural fields.	**None**. No suitable marsh habitat occurs on the project site.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	--/WL MSHCP Covered	Coastal sage scrub and open chaparral as well as shrubby grasslands.	**Present**. Species observed along the slope bordering the northern drainage (Figure 7).
Bell's sparrow (*Amphispiza belli*)	BBC/WL MSHCP Covered	Low, fairly dense chaparral and sage scrub. Less common in tall, dense chaparral habitats.	**High**. Suitable habitat present within the project site and recent records of the species occur within the project area.
Burrowing Owl (*Athene cunicularia*)	BCC/SSC MSHCP Covered	Primarily a grassland species that prefers areas with level to gentle topography and well-drained soils. Species can also occupy agricultural areas, vacant lots, and pastures. Requires underground burrows for nesting and roosting that are typically dug by other species such as California ground squirrel (*Spermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*). Species will also utilize natural rock cavities, debris piles, culverts, and pipes for nesting and roosting.	**None.** Suitable habitat is not found within the project site and no suitable burrows were present. No recent records of the species present within the project vicinity.
Ferruginous hawk (*Buteo regalis*)	BBC/WL MSHCP Covered	Large areas of open grassland or shrub with elevated nest sites.	**Low**. Open grassland not present within the project site.
California horned lark (*Eremophila alpestris actia*)	--/WL MSHCP Covered	Coastal strand, arid grasslands, sandy desert floors, agriculture fields, and disturbed fields.	**Present**. Species observed foraging along dirt road within the project site (Figure 7).
Birds (cont.)			

Table 4 (cont.)
SENSITIVE ANIMAL SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Coastal California gnatcatcher (*Polioptila californica californica*)	FT/SSC MSHCP Covered	Coastal sage typically dominated by California sagebrush, California buckwheat, California sunflower, and black sage.	**Present**. A single pair was observed foraging within and adjacent to the project site during protocol surveys (HELIX 2017). The pair was observed nesting to the east of the project site (Figure 7).
Lawrence's goldfinch (*Carduelis lawrencei*)	BBC/--	Nests in arid open woodland, near fields and small bodies of water. Prefers seeds of *Amsinckia* spp.	**None**. Arid woodlands not present.
yellow breasted chat (*Icteria virens*)	--/SSC MSHCP Covered	Breeds in lowland and foothill riparian woodland dominated by cottonwoods, alder, or willows.	**None**. No riparian habitat is found on site.
yellow warbler (*Setophaga petechia*)	--/SSC MSHCP Covered	Breeds in lowland and foothill riparian woodland, dominated by cottonwoods, alder, or willows.	**None**. No riparian habitat is found on site.
Mammals			
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	--/SSC MSHCP Covered	Open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**Low**. Suitable habitat and sandy soils occur within the project site; however, there are no recent records of the species within the project vicinity.
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	FE/SSC MSHCP Covered	Sandy, loamy soils along washes or alluvial fans with associated sage scrub, and occasionally in chaparral.	**Low**. Suitable sandy soils and washes occur within the project site but no records of the species occur within the project vicinity.

Table 4 (cont.)
SENSITIVE ANIMAL SPECIES ANALYZED FOR POTENTIAL TO OCCUR

SPECIES	SENSITIVITY STATUS[1]	HABITAT	POTENTIAL TO OCCUR[2]
Mammals (cont.)			
Western mastiff bat (*Eumops perotis californicus*)	--/SSC	Rocky areas, cliff faces; also known to roost in buildings.	**None**. Suitable habitat not present on site.
Western yellow bat (*Lasiurus xanthinus*)	--/SSC	Desert grassland and scrub with associated water.	**None**. No open water found within the project site.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	--/SSC MSHCP Covered	Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**Low**. Suitable habitat present within and surrounding the project site; however, no records of the species occurs within the project vicinity.
San Diego desert woodrat (*Neotoma lepida intermedia*)	--/SSC MSHCP Covered	Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.	**Low**. Suitable habitat for the species is found within the project site; however, no records of the occurs within the project vicinity.
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	--/SSC MSHCP Covered	Fine sandy soils with sparse vegetation. Often associated with sage scrub.	**Low**. The site contains sandy soils but vegetation is dense.
American badger (*Taxidea taxus*)	--/SSC	Open plains and prairies, farmland, and sometimes edges of woods.	**None**. Suitable habitat for the species is not found within the project site.

[1] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; R = Rare; BCC = Federal Bird of Conservation Concern; SSC = State Species of Special Concern; FP = State Fully Protected.

County of Riverside Status: MSHCP Covered – Covered Species under the Western Riverside County MSHCP.

[2] Potential to Occur is assessed as follows. **None**: Species is so limited to a particular habitat that it cannot disperse on its own, and habitat suitable for its establishment and survival does not occur in the project site; **Not Expected**: Species moves freely and might disperse through or across the project site, but suitable habitat for residence or breeding does not occur in the study area; **Low**: Suitable habitat is present in the project site but no sign of the species was observed during surveys, however the species cannot be excluded with certainty; **High:** Suitable habitat occurs in the study area and the species has been recorded recently on or near the study area, but was not observed during project surveys; **Present:** The species was observed during biological surveys for the project and is assumed to occupy the project site; **Presumed Absent:** Focused surveys were conducted and the species was not detected.

3.6.3 Listed Species

A single listed animal species, the coastal California gnatcatcher, was observed on site. This species was observed using the Riversidean sage scrub in the project site and surrounding area. On April 7, 2017, the pair was observed with a nest approximately 54 feet east of the project site, 2 feet off the ground, within a brittlebush shrub. Potential impacts on coastal California gnatcatcher are covered through demonstration of compliance with the MSHCP. No species-specific conservation is required for this species other than compliance with the MSHCP.

3.6.4 Sensitive Non-Listed Species

Three sensitive species were documented within the project site. The CDFW Watch List species Cooper's hawk was observed flying over the project site and perched on trees adjacent to the site. This is a covered species under the MSHCP. The CDFW Watch List species southern California rufous-crowned sparrow was observed along the northern slope to the south of Drainage B. This is a covered species under the MSHCP. The CDFW Watch List species California horned lark was observed foraging along dirt roads within the northeastern portion of the site. This is a covered species under the MSHCP. No surveys are required for these species. No species-specific conservation is required for these species other than compliance with the MSHCP.

4.0 REGULATORY CONTEXT

4.1 FEDERAL

Administered by the USFWS, the federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7, and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of Biological Opinion (BO), issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows the issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. An umbrella Section 10(a) permit was issued for the MSHCP.

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. (including wetlands and vernal pools) is overseen by the USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. Individual Permits typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets appropriate conditions. A CWA Section 401 Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to any 404 Permit.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the Migratory Bird Treaty Act (MBTA), as amended under the MBTA of 2004 (FR Doc. 05-5127). This law is generally protective of migratory birds from the direct physical take of the species.

Critical Habitat

As described by the federal ESA, critical habitat is the geographic area occupied by a threatened or endangered species essential to species conservation that may require special management considerations or protection. Critical habitat also may include specific areas not occupied by the species but that have been determined to be essential for species conservation.

Critical habitat does not occur on the project site. Critical habitat for the coastal California gnatcatcher occurs approximately 4.5 miles to the northwest of the project.

4.2 STATE

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for the take of listed species for scientific, educational, or management purposes. An umbrella Section 2081 permit was issued for the MSHCP. The golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*) are considered State Fully Protected Species. Fully Protected species may not be taken or possessed at any time and no state licenses or permits may be issued for their take except for collecting these species necessary for scientific research and relocation of the bird species for the protection of livestock (CFG Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates the collection, transport, and commerce of listed plants.

The California ESA follows the NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated threatened under the California ESA.

The CFG Code (Section 1600 et seq.) requires an agreement with the CDFW for projects affecting riparian and wetland habitats through the issuance of a Streambed Alteration Agreement.

4.3 WESTERN RIVERSIDE MULTIPLE SPECIES HABITAT CONSERVATION PLAN

The MSHCP is a comprehensive multi-jurisdictional effort that includes western Riverside County and multiple cities. EMWD is not a participating entity under the MSHCP but is pursuing a PSE designation for the project site. Rather than address sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 500,000 acres and a mechanism to fund and implement the reserve system (Dudek 2003). Most importantly, the MSHCP allows participating entities to issue take permits for listed species so that individual applicants need not seek their own permits from the USFWS and/or CDFW. The MSHCP was adopted on June 17, 2003, by the Riverside County Board of Supervisors. The Incidental Take Permit was issued by the USFWS and CDFW on June 22, 2004.

As noted above, the project is located in the Reche Canyon/Badlands Area Plan of the MSHCP. The site is not with a subunit, Criteria Cell or Cell Group. In order to obtain MSHCP coverage as a PSE, the project is required to demonstrate MSHCP compliance through specific habitat assessments, applicable biological surveys, and the provision of an MSHCP consistency analysis. This report includes an analysis of the project compliance with the MSHCP.

Multiple Species Habitat Conservation Plan Conservation

This project is within the Reche Canyon/Badlands Area Plan. Each area plan of the MSHCP is divided into sub units made up of cells and cell groups. The sub units, cells, and cell groups have specific conservation requirements. This project site is not within a cell, cell group, or sub unit and is not subject to special conservation requirements that apply to cells or cell groups. The property is not targeted for conservation that will contribute to the assembly of the MSHCP reserve.

5.0 IMPACTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project including noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes,

and night lighting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

According to Appendix G of the CEQA Guidelines, project impacts to biological resources would be considered significant if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any sensitive species in local or regional plans, policies, or regulations, or by the CDFW and or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW and Game or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.1 SENSITIVE SPECIES

5.1.1 Sensitive Plants

No sensitive plants were observed or are expected to occur within the study area. No impacts on sensitive plant species would occur.

5.1.2 Sensitive Wildlife

The federally threatened coastal California gnatcatcher and three State Watch List species (Cooper's hawk, southern California rufous-crowned sparrow, and California horned lark) were observed on site. These species are covered under the MSHCP, with no additional survey needs or species-specific mitigation requirements. Impacts would be less than significant through demonstration of project compliance with the MSHCP.

5.1.3 Nesting Birds

Development of the proposed project could disturb or destroy active migratory bird nests including eggs and young. Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the MBTA and is, therefore, considered to be a potentially significant impact. The Riversidean sage scrub on the site has high potential to provide nesting habitat for a variety of bird species including the coastal California gnatcatcher which was found on the project site and documented nesting immediately east of the site. The MSHCP does not cover impacts to nesting birds that are protected under the MBTA. Impacts to nesting birds such as coastal California gnatcatcher, California towhee (*Melozone crissalis*), and all other birds protected under the MBTA would be considered potentially significant.

5.2 VEGETATION COMMUNITIES

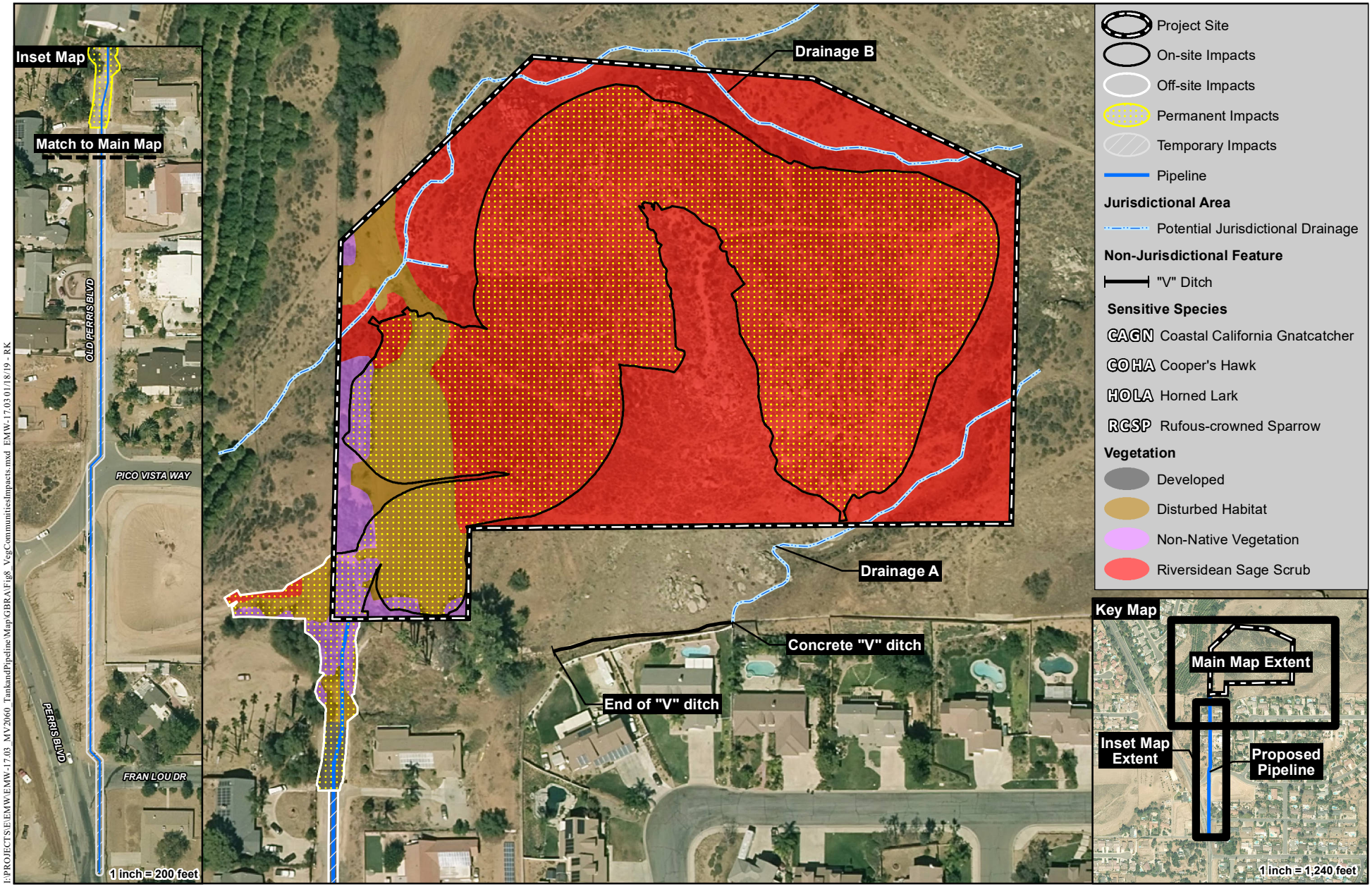
The proposed project would result in on-site impacts of 4.9 acres and off-site impacts of 0.5 acre (Figure 8). On-site impacts include 4.9 acres of permanent impacts. Off-site impacts include 0.2 acre of permanent impacts and 0.3 acre of temporary impacts. Total on-site impacts would consist of 4.2 acres of Riversidean sage scrub, 0.1 acre of non-native vegetation, and 0.6 acre of disturbed habitat (Table 5). Total off-site impacts would consist of less than 0.1 acre of Riversidean sage scrub, 0.1 acre of non-native vegetation, 0.1 acre of disturbed habitat, and 0.3 acre of developed land (Table 5).

Table 5
IMPACTS TO VEGETATION COMMUNITIES

VEGETATION COMMUNITY	IMPACTS					
	On-Site			Off-Site		
	Temporary	Permanent	Total	Temporary	Permanent	Total
Riversidean sage scrub	--	4.2	**4.2**	--	<0.1	**<0.1**
Non-native vegetation	--	0.1	**0.1**	--	0.1	**0.1**
Disturbed Habitat	--	0.6	**0.6**	--	0.1	**0.1**
Developed Land	--	--	**--**	0.3	<0.1	**0.3**
TOTAL	**--**	**4.9**	**4.9**	**0.3**	**0.2**	**0.5**

Impacts to disturbed habitat and developed land are not considered significant and do not require mitigation, as they do not represent habitat with potential to support native plant or animals. Impacts to Riversidean sage scrub are considered significant. Projects within the MSHCP plan area are subject to an MSHCP mitigation fee as discussed in more detail in Section 6.4.

Portions of the project site impacted by construction activities, such as the graded slopes and the stockpile area, will be revegetated with native plantings and/or hydroseeded with a native seed mix. Off-site temporary impacts are primarily limited to disturbed and developed habitat along Old Perris Boulevard. Off-site areas will be backfilled and repaved to pre-project conditions.



I:\PROJECTS\E\EMW\EMW-17.03 MV2060 TankandPipeline\Map\GBRA\Fig8 VegCommunitiesImpacts.mxd EMW-17.03 01/18/19 - RK

Vegetation/Sensitive Resources/Impacts

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 150 Feet

Figure 8

5.3 JURISDICTIONAL WATERS AND WETLANDS

Impacts of the project would be restricted to upland areas that lack potential jurisdictional waters and wetlands. The project has been designed to avoid the ephemeral drainages that occur along the northern and southern boundaries of the site. These features would be conserved on site through placement of a Restrictive Covenant to protect the resources in perpetuity (Figure 9). The Restrictive Covenant will be reviewed and approved by RCA prior to the initiation of ground-disturbance activities (e.g., vegetation clearing and grubbing, equipment staging, etc.). Additionally, as further described in Section 6.2, implementation of mitigation measures BIO-3 and BIO-4 would ensure that drainages near the project would not be impacted by construction activities. A permanent perimeter fence would be installed around the permanent project features to avoid unauthorized access to the facilities. Permanent fencing would ensure that maintenance activities would be restricted to the permanent project footprint, protecting the avoided area and associated functions and values. Signage would also be installed along the perimeter of the Restrictive Covenant, at the site entry points, and along the edges of permanent project features prohibiting access to the area. Therefore, no impacts to jurisdictional waters and wetlands would occur.

5.4 MULTIPLE SPECIES HABITAT CONSERVATION PLAN IMPACTS CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the project with respect to compliance with biological resources aspects of the MSHCP.

The project was evaluated for consistency with the following MSHCP issue areas:

- MSHCP Reserve Assembly requirements;
- Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools);
- Section 6.1.3 (Protection of Narrow Endemic Plant Species);
- Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface);
- Section 6.3.2 (Additional Survey Needs and Procedures); and,
- Section 6.4 (Fuels Management).

The discussions below provide a summary demonstrating how the project is consistent with MSHCP requirements for each of the above-listed issue areas.

5.4.1 Multiple Species Habitat Conservation Plan Reserve Assembly Requirements

The project site is not located within a Cell or Cell Group and is not otherwise targeted for conservation. The project site does not include land conservation requirements to contribute to the MSHCP reserve assembly. No sensitive species were determined to occupy the site that would warrant additional survey, avoidance, or conservation requirements.

5.4.2 Multiple Species Habitat Conservation Plan Section 6.1.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The proposed project complies with the policies of Section 6.1.2 that protect species associated with vernal pools and Riparian/Riverine areas. No vernal pools exist on site, and no vernal pool species are expected to occur. None of the plant or animal species listed in Section 6.1.2 of the MSHCP was observed or expected to occur in the project site.

MSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, states:

> The purpose of the procedures described in this section is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that Habitat values for species inside the MSHCP Conservation Area are maintained.

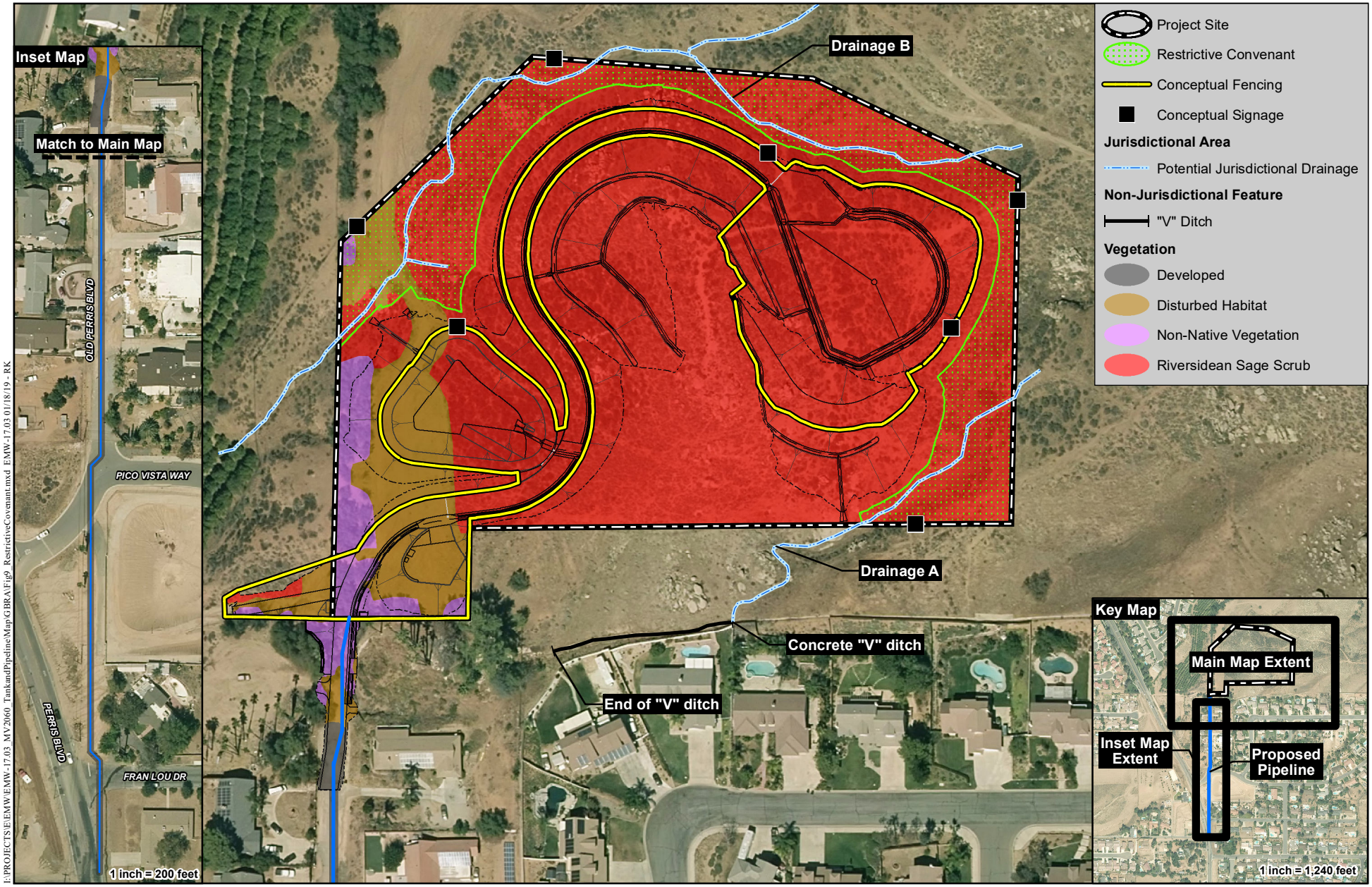
Section 6.1.2 of the MSHCP focuses on protection of Riparian/Riverine areas and vernal pool habitats capable of supporting, or that are tributary to habitats that support, MSHCP covered species, particularly within the identified Conservation Area. The project site includes portions of two ephemeral drainage features that meet the minimum criteria to be considered Riverine. The project has been specifically designed to avoid impacts to the two drainage features and would further conserve these features through placement of a Restrictive Covenant. As previously stated, the Restrictive Covenant will be reviewed and approved by RCA prior to the initiation of ground-disturbance activities (e.g., vegetation clearing and grubbing, equipment staging, etc.). Additionally, implementation of mitigation measures BIO-3 and BIO-4 would ensure avoidance of construction-related impacts; therefore, no impacts to Riparian/Riverine Areas or associated species would occur as part of project implementation (Figure 8). No Vernal Pools occur on the project site; therefore, the project would not impact vernal pools or associated sensitive vernal pool species.

Vernal Pools and Invertebrates

The property does not support vernal pools or other basins with potential to support sensitive fairy shrimp. No impacts to vernal pool or similar habitats are proposed.

5.4.3 Multiple Species Habitat Conservation Plan Section 6.1.3 Protection of Narrow Endemic Plant Species

The property is not within a survey area for NEPSSA species and no NEPSSA species were observed during the various surveys conducted on the property. No NEPSSA species would be impacted by the project.



I:\PROJECTS\E\EMW\EMW-17.03 MV2060 TankandPipeline\Map\GBRA\Fig9 RestrictiveCovenant.mxd EMW-17.03 01/18/19 - RK

Proposed Restrictive Covenant, Conceptual Fencing, and Signage

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

N 0 150 Feet

Figure 9

5.4.4 Multiple Species Habitat Conservation Plan Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface

Section 6.1.4 of the MSHCP addresses potential indirect impacts to MSHCP Conservation Areas via the Urban/Wildlands Interface Guidelines (UWIG). The project does not occur adjacent to MSHCP Conservation Areas or other lands targeted for conservation or already in preservation. The nearest conservation lands occur more than one mile to the southwest of the project site. The project will avoid the two MSHCP riverine resources that occur within the site (i.e., Drainages A and B) and will further conserve these resources through the placement of a Restrictive Covenant over these areas. The project's compliance with the UWIG guidelines are discussed below to demonstrate avoidance and minimization of potential indirect effects to these riverine resources.

Drainage

The project does not directly drain into an MSHCP Conservation Area. However, Drainage B indirectly discharges into downstream Public/Quasi-Public Conserved Lands associated with Poorman Reservoir, a RCFCWD's flood control facility. As a stand condition to meet storm water requirements, the project has been specifically designed to include terrace drains, interceptor drains, a detention basin, and dissipating structures at outlets to collect, detain, and dissipate potential runoff from the site. No surface runoff from developed and paved areas would directly enter the on-site riverine resources and there would be no adverse increase in the amount of runoff entering these areas as a result of the proposed project. Regular maintenance of the facilities would occur to ensure effective operation. No impacts on drainage would occur.

Toxics

The project does not occur adjacent to an MSHCP Conservation Area, though, as previously stated, Drainage B indirectly drains into Public/Quasi-Public Conserved Lands whereby the potential effects of toxics could be introduced. The project also occurs adjacent to undeveloped land occupied by sensitive species, including MSHCP covered species, that could be affected by toxins. However, the project does not require the use of chemicals and would not generate excessive bio-products such as oil from roads and cars that are potentially toxic or that may adversely affect wildlife species, habitat, or water quality. Furthermore, as mentioned above, no surface runoff from developed and paved areas would directly enter the on-site riverine resources and thereby be conveyed to off-site MSHCP Conservation Areas. No impacts from toxics would occur.

Lighting

The project does not occur adjacent to an MSHCP Conservation Area whereby the potential effects of lighting could be introduced. Nevertheless, the project would occur adjacent to undeveloped land occupied by sensitive species, including MSHCP covered species, that could be affected by lighting. Project construction would not require nighttime lighting and no lighting elements are included in the project design. No impacts from lighting would occur.

Noise

The project does not occur adjacent to an MSHCP Conservation Area whereby the potential effects of noise could be introduced. The project would occur adjacent to undeveloped land occupied by sensitive species, including MSHCP covered species, that could be affected by noise during breeding activities. Potential adverse indirect effects on nesting birds from construction noise would be prevented through implementation of BIO-1, with measures for pre-construction survey and avoidance, with buffers, around any active bird nests. Potential operation effects are not anticipated as the project would be unmanned and no noise generating elements are proposed.

Invasives

The project shall not use invasive plants for erosion control, landscaping, wind rows, or other purposes. The project would comply with the MSHCP and avoid the use of invasive, non-native plants in accordance with MSHCP Table 6.2.

Barriers

The project does not occur adjacent to an MSHCP Conservation Area and would not introduce barriers to wildlife movement. The project's water tank and associated access road would not preclude wildlife from moving through the local area unimpeded. Impacts would be less than significant.

Grading/Land Development

The project does not occur adjacent to an MSHCP Conservation Area whereby the potential effects of grading would occur. Project grading would be restricted to a narrow footprint. No impacts would occur.

5.4.5 Multiple Species Habitat Conservation Plan Section 6.3.2 Additional Survey Needs and Procedures

The MSHCP (Section 6.3.2) requires a habitat assessment and survey if burrowing owl habitat occurs on site. No suitable burrowing owl habitat was found on the project site; therefore, no focused surveys were conducted. No impacts are expected to occur to burrowing owl.

The project site is not within a CASSA, or an amphibian or mammal survey area. No surveys or mitigation is required under the MSHCP.

No other surveys are required or recommended, and the proposed project is consistent with MSHCP Section 6.3.2.

5.4.6 Multiple Species Habitat Conservation Plan Section 6.4 Fuels Management

No fuel modification zones are proposed for this project. Therefore, no potential impacts resulting from fuel modification would occur to undeveloped land to the north and east of the project that has potential to support sensitive species. The proposed project is consistent with Section 6.4 of the MSHCP.

6.0 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

6.1 SENSITIVE SPECIES

6.1.1 Sensitive Wildlife

The project will demonstrate compliance with the MSHCP through implementation of mitigation measure BIO-1. Potential impacts to the federally threatened coastal California gnatcatcher and State Watch List species Cooper's hawk, southern California rufous-crowned sparrow, and California horned lark are covered under the MSHCP, with no species-specific mitigation requirements.

BIO-1: MSHCP Mitigation Impact Fee. Prior to construction, the Applicant will pay the appropriate MSHCP mitigation fee in accordance with Section 6.1.6 of the MSHCP for Participating Special Entities or take other such actions as agreed upon in coordination with, the Western Riverside County Regional Conservation Authority (RCA) and the Wildlife Agencies. The fees shall be either collected by, or submitted to, the RCA.

6.1.2 Nesting Birds

Implementation of mitigation measure BIO-2 would ensure that potential impacts to birds protected under the MBTA and CFG Code are avoided during project construction.

BIO-2: **Pre-Construction Nesting Bird Survey and Avoidance.** Vegetation clearing should be conducted outside the nesting season, which is generally defined as January 15 to August 31. If vegetation clearing must take place during the nesting season, a qualified biologist shall be retained to perform a pre-construction survey for nesting birds. A pre-construction nesting bird survey would not be required unless direct impacts to vegetation are proposed to occur. The nesting bird survey shall occur no more than seven days prior to vegetation removal.

Additionally, raptors (birds of prey) are known to begin nest building in January or February. If vegetation clearing is to occur between January 1 and February 15, a nesting raptor survey will be conducted within the project site, including a 500-foot buffer.

If active bird nests are confirmed to be present during the pre-construction survey, a buffer zone will be established by the biologist until a qualified biologist has verified

that the young have fledged or the nest has otherwise become inactive.

6.2 SENSITIVE VEGETATION

The project has been designed to concentrate and reduce the impact footprint and amount of pavement to the smallest area necessary to construct the project at the required elevations and with the required infrastructure and safe, operational access. The design has been modified to retreat from all existing riverine features and minimize impacts to Riversidean sage scrub to the maximum extent. A Restrictive Covenant would be established over the riverine features to conserve and protect these features in perpetuity (Figure 9). As stated previously, the Restrictive Covenant will be reviewed and approved by RCA prior to the initiation of ground-disturbance activities (e.g., vegetation clearing and grubbing, equipment staging, etc.). An unavoidable impact on Riversidean sage scrub would occur and would be considered significant. The impact would be reduced to a less-than-significant level with implementation of mitigation measures BIO-1. The project proponent will pay the appropriate mitigation fee, or take other actions as agreed to by the RCA and Wildlife Agencies, and demonstrate compliance with the MSHCP as a PSE. Sensitive riverine and Riversidean sage scrub habitat occurs immediately adjacent to the proposed work limits that must be protected during construction. If activities are not properly contained and kept within the proposed work limits, potentially significant direct and indirect impacts could occur to these adjacent sensitive natural communities. These potential impacts would be avoided through the implementation of mitigation measures BIO-3 and BIO-4, which require a biological monitor during construction and the installation of temporary construction fencing.

Furthermore, as a regulatory requirement, the project would incorporate standard Best Management Practices (BMPs) to help ensure the protection of sensitive habitat during project construction. Specific BMPs may include but would not necessarily be limited to: maintaining the project work areas free of trash and debris; employing appropriate standard spill prevention practices and clean-up materials; installing and maintaining sediment and erosion control measures; maintaining effective control of fugitive dust; and properly storing, handling, and disposing of toxins and pollutants, including waste materials.

Implementation of required BMPs in combination with mitigation measures BIO-1, BIO-3, and BIO-4 would ensure that construction activities are contained within the proposed work limits and that potentially significant direct and indirect impacts on sensitive natural communities are reduced to less-than-significant levels.

BIO-3: Biological Monitor. Prior to construction, the EMWD shall retain a qualified biologist to monitor clearing and/or grubbing activities. The biological monitor shall attend pre-construction meetings and be present during the removal of vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Before construction activities occur in areas containing sensitive biological resources, workers shall be educated by the biologist to recognize and avoid those areas that have been marked as sensitive biological resources.

BIO-4: Temporary Construction Fencing. Prior to construction, EMWD shall require that environmentally sensitive areas that occur outside of the approved work limits are identified on construction plans. Temporary construction fencing shall be installed along the approved work limits under the direction of the qualified biological monitor. Fencing shall be maintained and remain in place through the duration of project construction.

6.3 NON-NATIVE INVASIVE SPECIES RESTRICTIONS

In accordance with the MSHCP, no plant species on List 6.2 of the MSHCP shall be utilized on the site (including any hydroseed mix used for interim erosion control) for consistency with Section 6.1.4 of the MSHCP.

6.4 MULTIPLE SPECIES HABITAT CONSERVATION PLAN PARTICIPATING SPECIAL ENTITY FEE

EMWD is not a participating agency under the MSHCP but is seeking a PSE for the proposed project due to the presence of the coastal California gnatcatcher within the project site. Properties within the MSHCP plan area are subject to an MSHCP mitigation fee that, based on the recommendation of the RCA. Section 6.1.6 of the MSHCP requires that PSEs contribute through payment of a fee based upon the type of proposed activity. For Regional Utility Projects that will be constructed to serve Development, such as major trunk lines, PSEs shall pay a fee in the amount of up to five percent of the total capital costs or take such other actions as may be agreed to by the RCA and the Wildlife Agencies. All fees shall be either collected by, or submitted to, the RCA. All obligations must be satisfied prior to impacts to Covered Species and their Habitats.

6.5 STEPHENS' KANGAROO RAT HCP FEE

The project is also within the Stephens' kangaroo rat fee area and is subject to the Stephens' kangaroo rat fee of $500 per acre (County 1996).

7.0 CERTIFICATION/QUALIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: July 1, 2019 SIGNED: _____

Erica Harris
Biologist
HELIX Environmental Planning

Fieldwork Performed By:

Robert Hogenauer
Biologist, HELIX Environmental Planning, Inc.
B.S., Biology, California State Polytechnic University, 2004

Erica Harris
Biologist, HELIX Environmental Planning, Inc.
B.S., Biology emphasis Zoology, San Diego State University, 2009

Katie Bellon
Biologist, HELIX Environmental Planning, Inc.
B.S., Biology, California Polytechnic State University, San Luis Obispo, 2009

Summer Schlageter
Biologist, HELIX Environmental Planning, Inc.
B.S., Environmental Management and Protection, concentration Field and Wildlife Biology, California Polytechnic University San Luis Obispo, 2015

8.0 REFERENCES

American Ornithological Society (AOS). 2017. AOU Checklist of North and Middle American Birds (online checklist). URL: http://checklist.aou.org/taxa/

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Bradley, R. D., L.K. Ammerman, R.J. Baker, L.C. Bradley, J.A. Cook, R.C. Dowler, C. Jones, D.J. Schmidly, F.B. Stangl Jr., R.A. Van Den Bussche, B. Wursig. 2014. Revised Checklist of North American Mammals North of Mexico, 2014. Museum of Texas Tech University Occasional Papers. 327:1-27

California Department of Fish and Wildlife (CDFW). 2017a. California Natural Diversity Database (CNDDB). Special Vascular Plants, Bryophytes, and Lichens List. July. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

2017b. California Natural Diversity Database (CNDDB). Special Animal List. California Natural Diversity Database. July. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

California Native Plant Society (CNPS) Rare Plant Program. 2017. Inventory of Rare and Endangered Plants. Online edition, v8-02. Available at: http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi.

County of Riverside Environmental Programs Department. 1996. Ordinance 663.10. An Ordinance of the County of Riverside Amending Ordinance No. 663 Establishing the Riverside County Stephens' Kangaroo Rat Habitat Conservation Plan, Plan Fee Assessment Area and Setting Mitigation Fees.

Dudek and Associates. 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Final MSHCP, Volume I. Prepared for the County of Riverside Transportation and Land Management Agency. Approved June 17.

HELIX Environmental Planning, Inc. (HELIX). 2017. 2017 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the Judson Potable Water Storage Tank and Transmission Pipeline Project. April 21.

Holland R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, State of California, Department of Fish and Game, Sacramento. 156 pp.

North American Butterfly Association (NABA). 2017. Checklist of North American Butterflies Occurring North of Mexico, Edition 2.3. Available at: http://www.naba.org/pubs/enames2_3.html

Oberbauer, Thomas. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. Revised from 1996 and 2005. July.

Regional Conservation Authority (RCA). 2006. Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area. November 7.

U.S. Department of Agriculture (USDA). 2017. Web Soil Survey. National Resources Conservation Service. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp.

Society for the Study of Amphibians and Reptiles (SSAR). 2017. North American Standard English and Scientific Names Database. URL: https://ssarherps.org/cndb/

Appendix A

PLANT SPECIES OBSERVED

Appendix A
PLANT SPECIES OBSERVED

TAXON	SCIENTIFC NAME	COMMON NAME
Adoxaceae	*Sambucus nigra*	black elderberry
Anacardiaceae	*Schinus molle**	Peruvian pepper tree
Asteraceae	*Artemisia californica*	California sagebrush
	Baccharis salicifolia	mule fat
	Encelia farinosa	brittlebush
	Helianthus annuus	western sunflower
	Pseudognaphalium sp.	everlasting
	Sonchus sp.*	sow thistle
Boraginaceae	*Amsinckia intermedia*	rancher's fiddleneck
	Cryptantha sp.	cryptantha
	Nemophila menziesii	baby blue-eyes
	Phacelia cicutaria	caterpillar phacelia
	Phacelia parryi	Parry's phacelia
Brassicaceae	*Hirschfeldia incana**	perennial mustard
	Sisymbrium sp.*	mustard
Convolvulaceae	*Calystegia macrostegia*	morning-glory
Cucurbitaceae	*Marah macrocarpa*	wild cucumber
Fabaceae	*Acmispon glaber*	deerweed
	Acmispon maritimus	alkali lotus
	*Parkinsonia aculeata**	Mexican palo verde
Geraniaceae	*Erodium cicutarium**	red-stem filaree
Lamiaceae	*Salvia apiana*	white sage
	Salvia columbariae	chia
	Salvia mellifera	black sage
Malvaceae	*Malva parviflora**	cheeseweed
Nyctaginaceae	*Mirabilis laevis*	wishbone bush
Oleaceae	*Olea europaea**	olive
Onagraceae	*Cammissoniopsis* sp.	sun cup
Poaceae	*Avena barbata**	slender wild oat
	*Bromus diandrus**	common ripgut grass
	Bromus madritensis ssp. *rubens**	foxtail chess
	Hordeum sp.*	barley
	*Lamarckia aurea**	goldentop
	*Schismus barbatus**	Mediterranean grass
Polygonaceae	*Eriogonum fasciculatum*	California buckwheat
Themidaceae	*Dichelostemma capitatum*	blue dicks

*Non-native Species

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B

ANIMAL SPECIES OBSERVED OR DETECTED

Appendix B
ANIMAL SPECIES OBSERVED OR DETECTED

TAXON		SCIENTIFIC NAME	COMMON NAME
INVERTEBRATES			
Order	Family		
Lepidoptera	Papilionidae	*Papilio rutulus*	western tiger swallowtail
	Pieridae	*Anthocharis sara*	Sara orangetip
	Nymphalidae	*Vanessa annabella*	west coast lady
VERTEBRATES			
Reptiles			
Order	Family		
Squamata	Phrynosomatidae	*Sceloporus magister*	desert spiny lizard
		Sceloporus occidentalis	western fence lizard
		Uta stansburiana	common side-blotched lizard
Birds			
Order	Family		
Accipitriformes	Accipitridae	*Accipiter cooperii*†	Cooper's Hawk
		Buteo jamaicensis	Red-tailed Hawk
		Buteo lineatus	Red-shouldered Hawk
		Circus cyaneus	Northern Harrier
Apodiformes	Apodidae	*Aeronautes saxatalis*	White-throated Swift
	Trochilidae	*Calypte anna*	Anna's Hummingbird
Columbiformes	Columbidae	*Zenaida macroura*	Mourning Dove
Falconiformes	Falconidae	*Falco sparverius*	American Kestrel
Galliformes	Odontophoridae	*Callipepla californica*	California Quail
Passeriformes	Aegithalidae	*Psaltriparus minimus*	Bushtit
	Alaudidae	*Eremophila alpestris actia*†	California Horned Lark
	Corvidae	*Aphelocoma californica*	California Scrub-Jay

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED

TAXON		**SCIENTIFIC NAME**	**COMMON NAME**
VERTEBRATES (cont.)			
Birds (cont.)			
Order	Family		
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American Crow
		Corvus corax	Common Raven
	Emberizidae	*Aimophila ruficeps canescens*†	Southern California Rufous-crowned Sparrow
		Artemisiospiza belli	Sage Sparrow
		Melozone crissalis	California Towhee
		Pipilo maculatus	Spotted Towhee
		Zonotrichia leucophrys	White-crowned Sparrow
	Fringillidae	*Haemorhous mexicanus*	House Finch
		Spinus psaltria	Lesser Goldfinch
	Mimidae	*Mimus polyglottos*	Northern Mockingbird
		Toxostoma redivivum	California Thrasher
	Parulidae	*Setophaga coronata*	Yellow-rumped Warbler
	Polioptilidae	*Polioptila caerulea*	Blue-gray Gnatcatcher
	Regulidae	*Regulus calendula*	Ruby-crowned Kinglet
	Sylviidae	*Chamaea fasciata*	Wrentit
		Polioptila californica californica†	Coastal California Gnatcatcher
	Troglodytidae	*Salpinctes obsoletus*	Rock Wren
		Thryomanes bewickii	Bewick's Wren
	Tyrannidae	*Sayornis nigricans*	Black Phoebe
		Sayornis saya	Say's Phoebe
		Tyrannus vociferans	Cassin's Kingbird
Piciformes	Picidae	*Colaptes auratus*	Northern Flicker
Mammals			
Order	Family		
Artiodactyla	Cervidae	*Odocoileus hemionus*	mule deer
Carnivora	Canidae	*Canis familiaris*	domestic dog
		Canis latrans	coyote
	Procyonidae	*Procyon lotor*	raccoon

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED

TAXON		**SCIENTIFIC NAME**	**COMMON NAME**
VERTEBRATES (cont.)			
Mammals (cont.)			
Order	Family		
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail
Rodentia	Geomyidae	*Thomomys bottae*	Botta's pocket gopher
	Muridae	*Neotoma lepida*	desert woodrat
	Sciuridae	*Spermophilus beecheyi*	California ground squirrel

†Sensitive Species

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix C

REPRESENTATIVE SITE PHOTOGRAPHS

Photo 1. View of disturbed habitat and Riversidean sage scrub from the southwestern portion of the site facing northeast.

Photo 2. Overview of the project site facing west.

G:\PROJECTS\E\EMW-ALL\EMW-17_AsNeededCEQA NEPA2015_2017\EMW-17.03_Judson Tank_Reports\Bio\GBRA\

Photo 3. Representative photo of Riversidean sage scrub and central hilltop facing west.

Photo 4. Overview of eastern portion of the site facing southwest.

Photo 5. Representative view of Riversidean sage scrub from southern portion of site facing north towards central hilltop.

G:\PROJECTS\E\EMW-ALL\EMW-17_AsNeededCEQA NEPA2015_2017\EMW-17.03_Judson Tank_Reports\Bio\GBRA\

Photo 6. Upstream end of ephemeral Drainage A facing south.

Photo 7. Downstream end of ephemeral Drainage A facing north.

Photo 8. Upstream end of Drainage B facing southwest.

Photo 9. Upstream end of Drainage B facing north.

Photo 10. Overview of Drainage B and tributary in western portion of the site outside of project impact area, facing west. The project has been specifically sited within uplands that occur outside of the photo, further to the left and behind the photographer. No impacts would occur to Drainage B or its tributary.

Photo 11. Upstream view of tributary to Drainage B, facing east. The project has been specifically sited within uplands, well above this feature, in the background of the photo.

Photo 12. Uplands and upstream terminus of tributary to Drainage B facing east. The project has been specifically sited within the uplands, well above this feature, in the background of the photo.

Photo 13. South-facing view of planned pipeline location, off site and within developed/paved portions of Old Perris Boulevard.

Appendix D

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

Appendix D
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

U.S. Fish and Wildlife Service (USFWS)

FE Federally listed endangered
FT Federally listed threatened
BCC Bird of Conservation Concern—Represents USFWS' highest conservation priorities and draw attention to species in need of conservation action.
BGEPA Protected under the Bald and Golden Eagle Protection Act

California Department of Fish and Wildlife (CDFW)

SE State listed endangered
SR State listed rare
ST State listed threatened
SSC State species of special concern—Declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.
WL Watch list—Birds that are/were: a) not on the current list of species of special concern but were on previous lists and have not been State listed under the California Endangered Species Act; b) previously State or federally listed and now are on neither list; or c) on the list of "Fully Protected" species.
FP Fully Protected refers to all vertebrate and invertebrate taxa of concern to the California Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

County of Riverside

Multiple Species Habitat Conservation Plan (MSHCP) Covered

MSHCP Covered Species indicates that the species is part of a proposed list of species (146 total) considered at this time to be adequately conserved by the Western Riverside MSHCP, provided that participants meet all conditions listed in the Final MSHCP. Some of these species require surveys.

MSHCP Not Covered

Not Covered refers to species that are not among the 146 species conserved under the MSHCP. Impacts to such species are assessed on an individual basis. If impacts are considered significant, additional mitigation may be required.

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

MSHCP Special Species Acronyms/Abbreviations

NEPSSA	Narrow Endemic Plant Species Survey Area species – Plant species that are highly restricted by their habitat affinities, edaphic requirements, or other ecological factors, and for which specific conservation measures have been identified in *Section 6.1.3* of the *MSHCP, Volume I.*
CASSA	Criteria Area Species Survey Area – Species for which existing available information is not sufficient and for which specific conservation measures have been identified in *Section 6.3.2* of the *MSHCP, Volume I.*
Planning Species	Refers to species for which conservation requirements of a Subunit or Linkage are specifically designed to provide long-term conservation for the species. Planning species are also MSHCP covered species.

California Native Plant Society (CNPS)

California Rare Plant Rank

1A = Presumed extirpated in California and either rare or extinct elsewhere.

1B = Rare, threatened, or endangered in California and elsewhere.

2A= Presumed extirpated in California but more common elsewhere.

2B= Rare, threatened, or endangered in California but more common elsewhere.

3 = More information is needed.

4 = A watch list for species of limited distribution.

Threat Rank

.1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 = Moderately endangered in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20 percent of occurrences threatened/ low degree and immediacy of threat or no current threats known)

Appendix B

Cultural Resources Study Report

This page intentionally left blank

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 **tel**
619.462.0552 **fax**
www.**helixepi**.com

April 10, 2019 EMW-17.03

Mr. Alfred Javier
Director of Environmental and Regulatory Compliance
Eastern Municipal Water District
P.O. Box 8300
2270 Trumble Road
Perris, CA 92572-8300

Subject: Judson Tank and Transmission Pipeline Project Cultural Resources Study Report

Dear Mr. Javier:

HELIX Environmental Planning, Inc., (HELIX) was contracted to conduct a cultural resources study for Eastern Municipal Water District's (EMWD) Judson Tank and Transmission Pipeline Project (Project) in the City of Moreno Valley, California. The cultural resources study included a record search, a Sacred Lands File search, tribal outreach, a review of historic maps and aerial photographs, an intensive field survey by a HELIX archaeologist and a Native American monitor, and preparation of this letter report. This letter report details the methods and results of the cultural resources study.

PROJECT DESCRIPTION

The Judson Tank and Transmission Pipeline Project is located in the City of Moreno Valley in northwestern Riverside County (Figure 1, *Regional Location*). The Project site, which is located north of State Route (SR) 60 and east of Interstate 215, is northeast of March Air Reserve Base and northwest of Perris Reservoir. The 8.31-acre parcel is bordered by undeveloped and agricultural land to the north and east, and residential communities are located a short distance to the south of the Project area. The northern terminus of Judson Street is located just south of the southwestern extent of the Project parcel (Figures 2 and 3, *Project Vicinity [USGS Topography]* and *Project Vicinity [Aerial Photograph]*, respectively). The proposed pipeline alignment is within Judson Street (Old Perris Boulevard), running south from the Project parcel to Robin Lane (Figures 2 and 3). The parcel is within Township 2 South, Range 3 West, Section 29, on the U.S. Geological Survey (USGS) 7.5' Sunnymead quadrangle (Figure 2); the pipeline alignment is along the section line between Sections 31 and 32 (Figure 2).

EMWD proposes to construct a 2.5-million gallon potable water storage tank, approximately 2,300 linear feet of 18-inch diameter transmission pipeline, a paved access road, a detention basin, and other associated utilities to support tank operation (Figure 4, *Preliminary Design*). The access road and the

transmission pipeline would connect to the northern terminus of Judson Street and continue onto Perris Boulevard.

The proposed 18-inch diameter pipeline would convey water from the existing transmission line at the intersection of Perris Boulevard and Robin Lane. The off-site alignment of the pipeline would measure approximately 1,300 linear feet; 700 linear feet along Judson Street to the centerline of Pico Vista Way, and 600 linear feet along Old Perris Boulevard to Robin Lane, near the existing Covey Booster Station. This alignment was designed to avoid impacting street improvements in Perris Boulevard and would be located within an existing EMWD right-of-way along the eastern side of Judson Street.

ENVIRONMENTAL BACKGROUND

The Project area is located in the Moreno Valley, in the foothills of Riverside County. The Badlands, San Bernardino and San Jacinto Mountains lie to the east, the Santa Ana Mountains lie to the west, and the Box Spring Mountains are to the north and west; Reche Canyon is located just over 1.5 miles to the north. Based on mapped soils for the Project area, average annual temperatures range from a January low of 45 to 52 degrees Fahrenheit (°F) to a July high of 68 to 80°F (National Cooperative Soil Survey 2003, 2012). The property is located around a southwesterly-trending fingerling knoll at the base of Olive Hill (Figures 2 and 3). The elevation at the highest peak of Olive Hill is approximately 2,066 feet above mean sea level (amsl), and the elevation of the surrounding foothills ranges between approximately 1,967 and 2,000 feet amsl (Google Earth). There are two seasonal drainages that travel through the Project; one crosses through the Project near the northeastern and northwestern corners, the other crosses the southeastern corner. There are numerous other drainages in the vicinity (Figure 2). The property is about 10.25 miles northwest of the current location of the San Jacinto River (the alignment of the river has changed over time) and approximately 7 miles northwest of the Perris Reservoir.

Geologically, a majority of the Project area is underlain by Cretaceous-era tonalite, as are the Badlands to the east; the remainder of the Project is underlain by young axial channel deposits (alluvium) unique to the Moreno Valley and very old alluvial fan deposits from the early Pleistocene (Morton et. al 2001). In general, the floodplain of Moreno Valley is underlain by young alluvium, as is the connecting Perris Valley farther south. Three soil types are mapped for the Project site: Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded; Monserate sandy loam, 8 to 15 percent slopes, eroded; and Terrace escarpments. Cieneba rocky sandy loam comprises about 56 percent of the on-site soils, and Monserate sandy loam comprises about 10 percent (Web Soil Survey 2017). The remaining 34 percent of the Project area contains Terrace escarpments (Web Soil Survey 2017), which generally represent the former position of a flood plain or a lake or sea shore (USDA, NRCS 2003). The Cieneba and Monserate soil series are derived from igneous (granitic) rock and, based on the underlying geology, could be residual or alluvial in context (National Cooperative Soil Survey 2003, 2012). These soils generally support vegetation communities such as chaparral, including chamise, manzanita, California sagebrush, ceanothus, toyon, scattered canyon oaks, annual grasses and forbs, and shrubs (National Cooperative Soil Survey 2003, 2012). HELIX biologists conducted a biological survey of the Project site in August 2016 and observed Riversidean sage scrub and non-native woodland habitats within the property, with Riversidean sage scrub being the predominant vegetation community. Riversidean sage scrub habitat includes vegetation such as California sagebrush, California buckwheat, and purple sage (California Native Plant Society 1997), which would have been used by native populations for food, medicine, tools, and ceremonial and other uses (Bean and Shipek 1978; Hedges and Beresford 1986). Further, the

cismontane setting and the presence of various drainages in the area would have made fresh water accessible to native populations living in and traveling through the area. Many of the animal species living within these communities (such as rabbits, deer, small mammals, and birds) would have been used by native inhabitants as well.

CULTURAL BACKGROUND

The culture history presented here (up to the discussion of the Late Prehistoric period) is based on Wallace's (1978) discussion of the Post-Pleistocene for Southern California (circa 9000 Before Common Era [BCE] to 2000 BCE). The earliest inhabitants of California subsisted mainly by hunting, as attested to by "the finding of projectile points and other stone implements adapted to the chase at ancient campsites" throughout California (Wallace 1978:25). Wallace refers to this early period as Period I: Hunting. It generally equates with the Paleoindian or Lithic stage (Willey and Phillips 1958), in which little diversity of resource exploitation is evident.

Wallace's (1978) Period II: Food Collecting equates with Willey and Phillips (1958) Archaic stage and is often referred to in Southern California as the Early Archaic, Early Milling period, or Milling Stone Horizon. "A changeover from hunting to the collection of seed foods is clearly reflected in the archaeological record for the period between 6000 and 3000 B.C. The importance of seeds in the diet of the prehistoric peoples can be seen in the numbers of food-grinding implements present at their settlements" (Wallace 1978:28).

After about 3000 BCE, a more diversified subsistence strategy is evident throughout Southern California. "Everywhere increased subsistence efficiency in the form of wider exploitation of available food resources can be seen" (Wallace 1978:30). The artifact assemblages changed slowly over time, with a few additions or changes. "By the end of the millennium the new ways and techniques had become firmly established and formed the basis for succeeding cultural traditions" (Wallace 1978:35).

"Perhaps as early as 1500-1000 B.C. the Takic branch of Uto-Aztecan [including the forebears of the Luiseño and Cahuilla people] began to spread westward across the Mojave Desert" (Moratto 1984:560). There is disagreement about the date of the "Shoshonean intrusion" into various parts of Southern California, including Riverside County. Moratto indicated that Kowta (1969:50) "proposed dates of circa 1000 B.C. for the entry of 'Shoshoneans' in the Los Angeles Basin" (Moratto 1984:560). "Considering both linguistic and archaeological data, C. Bull (1977:56) sets the western movement of the 'Luisenic language family' at circa 500 B.C." (Moratto 1984:165).

It must be noted that this interpretation by archaeologists and linguistic anthropologists differs from the beliefs of the Luiseño and Cahuilla people. The creation stories indicate that the Luiseño and Cahuilla people have always been here, not migrating from elsewhere. The creation story of the Pechanga Band of the Luiseño tells that the world was created at Temecula. "The Káamalam [first people] moved to a place called Nachíivo Pomíisavo, but it was too small so they moved to a place called 'exva Teméeku, this place you now know as Temeku. Here they settled while everything was still in darkness (DuBois 1908)" (Masiel-Zamora 2013:2).

While some ethnographers place the area of the Project site in the traditional territory of the Luiseño people (see Kroeber 1976:Plate 57), others show it as within traditional Cahuilla territory (see Bean 1978; Bean and Shipek 1978). Most probably, this is a transitional area between the two related cultural groups.

"During the Spanish Period, Riverside County proved to be too far inland to include any missions or asistencias within its limits. Although both San Luis Rey and San Juan Capistrano claimed a large part of southwestern Riverside County. Mission San Juan Capistrano and San Luis Rey were established in 1776 and 1798, respectively" (Goodwin 2013:6).

The Project area is in proximity to the former Mexican land grant Rancho San Jacinto Nuevo y Potrero, which was granted to Miguel Pedrorena, in 1846. Pedrorena was the son-in-law of Jose Antonio Estudillo, administrator and major domo of Mission San Luis Rey. The land grant was later patented to Thomas W. Sutherland, guardian of the minor children of Pedrorena and his widow.

In the late 1800s, John Butterfield's Overland Mail Company stagecoach route ran through Moreno and Perris Valleys on its way between Tucson and San Francisco via San Diego and Los Angeles. The Moreno Valley, which consisted of small, unincorporated communities, got its name from Frank E. Brown ("Moreno" in Spanish), who formed the Bear Valley Land and Water Company in 1883. Brown built a dam at Bear Valley and provided water to the Perris and Moreno communities until 1899, when he lost a legal suit, and thereby water rights, to the City of Redlands. This litigation and a period of natural drought devastated the local farming communities, forcing families to either move or abandon their homes in favor of better irrigated areas. The few who remained turned to "the dry farming of hay, grain, and grapes" (City of Moreno Valley, n.d.).

The community was revived in 1918, with the construction of March Field in anticipation of America's entry into World War I. It began as a temporary base for training fighter pilots but was established as a permanent base and flight training school in the late 1920s. This led to a population boom in the Moreno Valley, with the Base supporting up to 85,000 troops at a time. The establishment of the Riverside International Raceway in 1958 and the Lake Perris Recreation Area in 1973 led to further population increases until the unincorporated communities of Moreno, Edgemont, and Sunnymead were combined into the City of Moreno Valley in 1984 (City of Moreno Valley, n.d.).

REGULATORY FRAMEWORK

National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "Protection of Historic Properties" (36 Code of Federal Regulations [CFR] Part 800), became effective August 5, 2004.

Historic properties are properties that are included in the National Register of Historic Places (NRHP) or those that meet the criteria for inclusion in the NRHP, as outlined below. If the agency's undertaking could affect historic properties, the agency determines the scope of appropriate identification efforts and then proceeds to identify historic properties in the Area of Potential Effects (APE). The agency reviews background information, consults with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and others, seeks information from knowledgeable parties, and conducts additional studies as necessary. Districts, sites, buildings, structures, and objects listed in the NRHP are considered; unlisted properties are evaluated against the National Park Service's published

criteria, in consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that may attach religious or cultural importance to them.

If questions arise about the eligibility of a given property, the agency may seek a formal determination of eligibility from the National Park Service. Section 106 review gives equal consideration to properties that have been included in the NRHP and those that have not been but that meet NRHP criteria.

If the agency finds that no historic properties are present or affected, it provides documentation to the SHPO/THPO and, barring any objection in 30 days, proceeds with its undertaking. If the agency finds that historic properties are present, it proceeds to assess possible adverse effects. If adverse effects are identified, they must be resolved.

Section 60.6 of 36 CFR Part 60 presents the criteria for the evaluation of cultural resources for nomination to the NRHP as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, and association, and

(a) That are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) That are associated with the lives of persons significant in our past; or

(c) That embody the distinctive characteristics of a type, period or method or construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) That have yielded, or may be likely to yield, information important in prehistory or history [36 CFR Part 60].

Cultural resources that are eligible for inclusion in the NRHP are defined as historic properties. Impacts to historic properties constitute effects under the NHPA.

California Environmental Quality Act

Under CEQA, any object, building, structure, site, area, place, record, or manuscript that 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 may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (CRHR) (Public Resources Code [PRC] §5024.1, Title 14 California Code of Regulations [CCR] Section 4852) including the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. 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

D. Has yielded or may be likely to yield information important in prehistory or history.

Cultural resources eligible for the CRHR are considered significant resources, and impacts to them are significant environmental effects under CEQA.

Section 15064.5 (d) & (e) of the CEQA Guidelines contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

A. When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code §5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

   (a) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

   (b) The requirements of CEQA and the Coastal Act.

Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Potentially relevant to prehistoric/Native American archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. “Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices (Parker and King 1998).

Cultural resources can include TCPs, such as gathering areas, landmarks, and ethnographic locations in addition to archaeological districts. Generally, a TCP may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

A TCP may be considered eligible for the NRHP based on “its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998:1). Strictly speaking, TCPs are both tangible and intangible; they are anchored in space by cultural values related to

community-based physically defined “property referents” (Parker and King 1998:3). On the other hand, TCPs are largely ideological, a characteristic that may present substantial problems in the process of delineating specific boundaries. Such a property’s extent is based on community conceptions of how the surrounding physical landscape interacts with existing cultural values. By its nature, a TCP need only be important to community members and not the general outside population as a whole. In this way, a TCP boundary may be defined based on viewscape, encompassing topographic features, extent of archaeological district or use area, or a community’s sense of its own geographic limits. Regardless of why a TCP is of importance to a group of people, outsider acceptance or rejection of this understanding is made inherently irrelevant by the relativistic nature of this concept.

The Traditional Tribal Cultural Places Bill of 2004 requires local governments to consult with Native American representatives during the project planning process, specifically before adopting or amending a General Plan or a Specific Plan, or when designating land as open space for the purpose of protecting Native American cultural places. The intent of this legislation is to encourage consultation and assist in the preservation of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. It further allows for tribal cultural places to be included in open space planning. State Assembly Bill (AB) 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and required mitigation under CEQA. A TCR may be considered significant if included in a local or state register of historical resources; or determined by the lead agency to be significant pursuant to criteria set forth in Public Resources Code §5024.1; or is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in Public Resources Code §21084.1, a unique archaeological resources described in Public Resources Code §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

METHODS

HELIX submitted a record search request of all previously recorded cultural resources, archaeological studies, and historic addresses within the Project area and a one-mile radius to the Eastern Information Center (EIC) on August 1, 2016. The records search was received on August 5, 2016 and is attached to this report as Confidential Appendix A. Historic aerial photographs ranging from 1959 to 2012 (NETR Online 2017) and historic topographic maps were reviewed to assess historic land usage and the potential for historic archaeological resources. A Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) on August 1, 2016. A response was received on August 3, 2016. Letters regarding the Project were sent on March 1, 2017 to the tribal contacts provided by the NAHC. Native American correspondence is included as Confidential Appendix B.

HELIX archaeologist Kristina Davison and William Swan from the Soboba Band of Luiseño Indians (Soboba) surveyed the property for cultural resources on February 28, 2017. The survey was conducted in parallel transects spaced 10 meters (m) apart to the extent feasible; all areas of visible soil, including rodent backfill piles, were carefully examined for cultural resources, as were all exposed bedrock outcrops.

RESULTS

A record search from the EIC for the Project area and a one-mile radius indicated that eight cultural resources had been recorded within the search radius (see Table 1). No cultural resources have been recorded within the Project area itself. Of the recorded resources, three (CA-RIV-001703, -002531, -002752) are single bedrock milling features, two are early twentieth century vernacular wood-frame houses, two are adobe sites, and one (P-33-013711) is a prehistoric isolate. Of the adobe sites, one (P-33-001704) consists of a historic single-room adobe structure and an artifact scatter containing glass bottle fragments, ceramics, and a mano (Drover 1979a). The other adobe site, P-33-001705, is recorded as a rectangular adobe structure, two three-course block-wall structures, and a possible water retention basin or *tenaja* (Drover 1979b). The two resources closest to the Project site are the prehistoric isolate (P-33-013711) and one of the recorded bedrock milling features (CA-RIV-002531). The isolate consists of a bifacial mano fragment (Jefferson and Clough 1974), and the bedrock milling feature is composed of three milling slicks on one bedrock surface (Jenkins 1982).

Table 1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN ONE-MILE RADIUS

P-33-#	CA-RIV-#	Site Type	Recorder, Date
001703	001703	Bedrock milling feature (one milling slick)	Drover, 1979
001704	001704	Single room adobe structure with associated artifact scatter (glass, ceramics, mano)	Drover, 1979
001705	001705	Rectangular adobe, two three-course block structures, and a possible water retention structure	Drover, 1979
002531	002531	Bedrock milling feature (three milling slicks on a single boulder)	Jenkins, 1982
002752	002752	Bedrock milling feature (two milling slick on a single boulder)	Salpas, 1983
007286		Vernacular wood frame residence constructed in 1907	Warner, 1983
007287		Vernacular wood frame residence constructed in 1920 with an additional wing added in the 1940s; record further notes that a shed and "unusual trees (tall pines)" are within the property	Warner, 1983
013711		Isolated bifacial mano fragment observed in a modern pile of rocks	Jefferson and Clough, 1974

Based on the records received from EIC, the vast majority of the Project site has not been previously surveyed for cultural resources. The EIC has a record of 10 cultural resource studies that have been conducted within the search radius, only one of which covered a small portion of the Project's northeastern corner. This study (Wirth Associates 1983) includes the public review document and confidential appendices to the cultural resources study for the Devers-Serrano-Villa Park Transmission System Project; the study area is shown as a wide, linear survey area trending northwest/southeast,

primarily focused on the area to the northeast, east, and southwest of the Project area (Confidential Appendix A: *Records Search Maps*). Though not shown as covering the Project site, another of the recorded studies (Drover 1978) was conducted by the Archaeological Research Unit at University of California, Riverside and spanned 225 acres to the west of the current Project area, south of Nectar Avenue; this study's eastern boundary is shown as abutting the current Project's western boundary (Confidential Appendix A). Drover conducted an additional study to the northwest of the Project area for the Box Canyon Ranch Preliminary Plan, during which the two adobe sites within the search radius (CA-RIV-001704 and -001705) were recorded (Drover 1979a, 1979b, 1979c).

A review of historic aerial photographs revealed that the Project property has been generally undisturbed, though the surrounding area has been the subject of increased development. Aerial imagery taken from 1959 to 2012 was reviewed; no earlier historic aerial photographs were available for review. The area to the west of the Project site was used for agriculture from 1959 to 1978, with groves occupying the area closest to the Project property in later years, and was developed between the years of 1978 and 1997 (NETR Online 2017). The existing linear tree line, which travels through the western portion of the Project site, is visible on the 1959 aerial; land to the west of this was used as agricultural fields between 1959 and 1966, during which time a residence was constructed and associated property improvements evident at 11033 Judson Street, outside the Project site (NETR Online 2017). Aerials taken in 1966 and 1967 show that the land directly to the west and northwest of the Project site had been recently tilled, and the existing groves were established when the 1978 aerial photograph was taken of the area (NETR Online 2017). No structures are visible on-site in historic topographic maps from 1901 (USGS 30' Elsinore quadrangle) and 1943 (USGS 15' Perris quadrangle), nor do any appear on the property in historic aerial photographs (NETR Online 2017). Ironwood Avenue, SR 60, Cottonwood Avenue, and Alessandro Boulevard are present in the 1901 topographic map; in addition, an unimproved and unnamed road is visible where present-day Judson Street (Old Perris Boulevard) is located, and the unimproved dirt access road to the northeast of the Project area is also visible.

The Sacred Lands File search results were received from the NAHC on August 3, 2016. The search was negative for any Sacred Lands within the Project vicinity. Letters were sent by certified mail on March 1, 2017 to the tribal contacts indicated by the NAHC. Four responses have been received to date. A letter was received from the Rincon Band of Luiseño Indians on March 13, 2017, indicating that although the Project area is within the Luiseño Aboriginal Territory, it is outside Rincon's Historic boundaries. Based on this, they deferred to the Pechanga Band of Luiseño Indians (Pechanga) or Soboba, who are located closer to the Project area. A letter was received via email from the Agua Caliente Band of Cahuilla Indians (ACBCI) on March 17, 2017. The letter indicated that the project area is within the Tribe's Traditional Use Area and stated, "At this time ACBCI defers to Soboba. This letter shall conclude our consultation efforts". A letter from Soboba was received on March 30, 2017, stating that the Project area falls "within the bounds of our Tribal Traditional Use Areas. This project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba". Soboba requested to initiate consultation with EMWD, to act as a consulting tribal entity for this Project, and to have Native American Monitor(s) from Soboba's Cultural Resource Department present during any ground disturbing proceedings, including archaeological surveys or testing. The San Manuel Band of Mission Indians (SMBMI) responded by email on April 10, 2017. They, too, requested to initiate consultation with EMWD regarding the Project. The email further noted:

> The proposed project area exists just within Serrano ancestral territory and, therefore, is of interest to the Tribe. This area is known to have been used and lived upon by Serrano ancestors. I have attached a Serrano Ancestral Lands map for your future information. You mentioned that Soboba participated in the cultural resources survey of the project area. We are aware that more than one tribal entity has concerns about the project and would like to respectfully request that during implementation of the project, a monitor from a SMBMI-approved list participate. Tribe has worked with Soboba in the past to work out a cooperative arrangement.

EMWD will be kept apprised of any additional tribal responses. Native American correspondence is included as Confidential Appendix B.

The field survey was conducted on February 28, 2017 by an archaeologist from HELIX and a Native American monitor from the Soboba Band of Luiseño Indians. No cultural resources were observed within the Project area; however, ground visibility was poor throughout a majority of the Project property, with most of the Project site only having approximately 5 to 25 percent of the ground surface visible at the time of the survey. All exposed bedrock outcrops within the Project area were inspected and found to be heavily weathered and exfoliated; no evidence of milling features or rock art was found. The Project's estimated impact area (Figure 4) would disturb several of these weathered outcrops.

IMPACTS AND RECOMMENDED MITIGATION MEASURES

Although the general vicinity of the Project has been occupied/used by the Luiseño, Cahuilla, and Serrano people for thousands of years, there are no previously recorded cultural resources or Sacred Lands within the Project area, and none were identified during the field survey. Based upon these findings, the Project is anticipated to have no effect to cultural resources. However, ground visibility during the survey was extremely low, and only 5 to 25 percent of the ground was visible. Numerous weathered granitic bedrock outcrops are located within the property; these exhibit evidence of moderate to heavy natural exfoliation, and no bedrock milling surfaces were observed. The Project area contains alluvial soils, indicating a potential for buried cultural resources. Further, the Project area appears relatively undisturbed in terms of development. No TCRs have been identified; however, several Tribes have responded that the area is of interest to the Tribe, and Soboba indicated that the area is culturally sensitive. Based on these factors, there is a potential for subsurface cultural resources to be encountered during grading and other ground-disturbing activities. Therefore, the following measures ae recommended:

MM-CUL-1: EMWD shall retain a qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards to oversee an archaeological monitor who shall be present during ground- disturbing activities such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. A Native American monitor from a Tribe traditionally culturally affiliated with the Project area shall be retained to monitor during all activities requiring an archaeological monitor. The frequency of monitoring shall be determined by the archaeological monitor and the Native American monitor, based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill or young versus old soils), the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Excavations into formational materials are not required to be monitored by the archaeologist, as these sediments would not contain cultural material. Full-time field observation can be

reduced to part-time inspections or ceased entirely if determined adequate by the qualified archaeologist and the Native American monitor.

MM-CUL-2: In the event that archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 25 feet shall be established around the find, in which construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by a qualified archaeologist and a Native American monitor. EMWD shall coordinate with the archaeologist and the Native American monitor to develop an appropriate treatment plan for the resources if they are determined to be potentially eligible for the CRHR or potentially qualify as unique archaeological resources pursuant to CEQA. The treatment plan may include preservation in place (if feasible) and/or the implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. EMWD, in consultation with the archaeologist and the Native American monitor, shall designate repositories that meet State standards to curate the archaeological material recovered. Project material shall be curated in accordance with the State Historical Resources Commission's *Guidelines for Curation of Archaeological Collections*.

MM-CUL-3: The archaeological monitor shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted to EMWD, the EIC, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures. The report shall include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the CRHR.

MM-CUL-4: If human remains are encountered unexpectedly during implementation of the Project, State Health and Safety Code Section 7050.5 requires that no further disturbance occurs until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may inspect the site of the discovery of the Native American remains and may recommend means for treating, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete inspection and make a recommendation within 48 hours of being granted access to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Upon the discovery of the Native American remains, EMWD shall ensure that the immediate vicinity in which the Native American human remains are located is not damaged or disturbed by further development activity until EMWD has conferred with the MLD regarding their recommendations, taking into account the possibility of multiple human remains. EMWD shall discuss all reasonable options with the MLD regarding the MLD's preferences for treatment.

Whenever the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or EMWD or the authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of PRC Section 5097.94, if invoked, fails to provide measures acceptable to EMWD, EMWD or authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbances.

CONCLUSIONS

In summary, the Project is expected to have no impacts to cultural resources. However, due to the potential for subsurface cultural resources to be encountered during ground-disturbing activities, an archaeological and Native American monitoring program will be implemented, as described in the mitigation measures presented in this report.

If you have any questions, please contact Mary Robbins-Wade at (619) 462-1515.

Kristina Davison
Staff Archaeologist

Mary Robbins-Wade, RPA
Cultural Resources Group Manager

Enclosures:
Figure 1 Regional Location
Figure 2 Project Vicinity (USGS Topography)
Figure 3 Project Vicinity (Aerial Photograph)
Figure 4a Site Plan
Figure 4b Site Plan

Confidential Appendices:
A Records Search Maps
B Native American Correspondence

REFERENCES

Bean, Lowell John

1978 Cahuilla. In *California*, edited by Robert F. Heizer, pp. 575-587. *The Handbook of North American Indians*, vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Bean, Lowell John, and Florence C. Shipek

1978 Luiseño. In *California*, edited by Robert F. Heizer, pp. 550-563. *The Handbook of North American Indians*, vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Bull, Charles S.

1977 *Archaeology and Linguistics, Coastal Southern California*. Unpublished Master's Thesis, Department of Anthropology, San Diego State University.

California Native Plant Society

1997 Riversidean Sage Scrub – Holland Type and Status. Electronic document available at http://davisherb.ucdavis.edu/cnpsActiveServer/holldetails.aspx?HOLLNAME=Riversidean+sage+scrub , accessed February 27, 2016.

City of Moreno Valley

n.d. *About Moreno Valley: History*. Electronic document, available at: http://www.moreno-valley.ca.us/community/about.shtml.

Drover, Christopher E.

1979a P-33-001704/CA-RIV-001704. Site record, on file at Eastern Information Center, UC Riverside.

1979b P-33-001705/CA-RIV-001705. Site record, on file at Eastern Information Center, UC Riverside.

1979c *A Cultural Resource Inventory Box Canyon Ranch Preliminary Plan, Riverside County, California*. Report on file at Eastern Information Center, UC Riverside.

1978 *A Cultural Resource Inventory, Tentative Tract 11902, Riverside County, California*. Archaeological Research Unit, UC Riverside. Report on file at Eastern Information Center, UC Riverside.

DuBois, Constance

1908 *The Religion of the Luiseño Indians of Southern California*. University of California Publications in American Archaeology and Ethnology 8(3):69-186.

Goodwin, Riordan

2013 *Cultural Resources Assessment Stratford Ranch Residential Project, City of Perris, Riverside County California*. LSA Associates, Inc., Riverside, CA. On file at HELIX.

Hedges, Ken, and Christina Beresford
1986 *Santa Ysabel Ethnobotany*. San Diego Museum of Man Ethnic Technology Notes No. 20.

Jefferson, P., and H. Clough,
1974 P-33-013711. Site record, on file at Eastern Information Center, UC Riverside.

Jenkins, D.
1982 P-33-002531/CA-RIV-002531. Site record, on file at Eastern Information Center, UC Riverside.

Kowta, M.
1969 *The Sayles Complex: A Late Milling Stone Assemblage from Cajon Pass and the Ecological Implications of its Scraper Planes*. University of California Publications in Anthropology 6, Berkeley.

Kroeber, A.L.
1976 *Handbook of the Indians of California*. Dover Publications, New York. Originally published in 1925 as *Bulletin 78* of the Bureau of American Ethnology of the Smithsonian Institution, Washington, D.C.

Masiel-Zamora, Myra Ruth
2013 *Analysis of 'Éxva Teméeku, a Luiseño Indian Village Site Named Temeku, Located In Temecula, California*. Master's thesis, Department of Anthropology, San Diego State University.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, Orlando.

Morton, Douglas M., Jonathan C. Matti, Van M. Diep, Ursula Edwards-Howells
2001 *Geologic Map of the Sunnymead 7.5' Quadrangle, Riverside County, California: U.S. Geological Survey Open-File Report 01-450*. Electronic document available at https://pubs.usgs.gov/of/2001/0450/, accessed February 27, 2017.

National Cooperative Soil Survey

2012 Cieneba Series. Data provided by the United States Department of Agriculture and the National Resources Conservation Service. Electronic document available at https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CIENEBA.html, accessed February 24, 2017.

2003 Monserate Series. Data provided by the United States Department of Agriculture and the National Resources Conservation Service. Electronic document available at https://soilseries.sc.egov.usda.gov/OSD_Docs/M/MONSERATE.html, accessed February 24, 2017.

NETR Online

2017 Historic Aerials. Nationwide Environmental Title Research, LLC. Electronic document, available at: http://www.historicaerials.com, accessed February 26, 2017.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS)

2003 *National Soil Survey Handbook, Title 430-VI, Part 629: Glossary of Landform and Geologic Terms.* Electronic document available at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052234.doc, accessed on February 28, 2017.

Wallace, William J.

1978 Post-Pleistocene Archeology, 9000 to 2000 B.C. In *California*, edited by Robert F. Heizer, pp. 25-36. *The Handbook of North American Indians*, vol. 8. W.C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Web Soil Survey

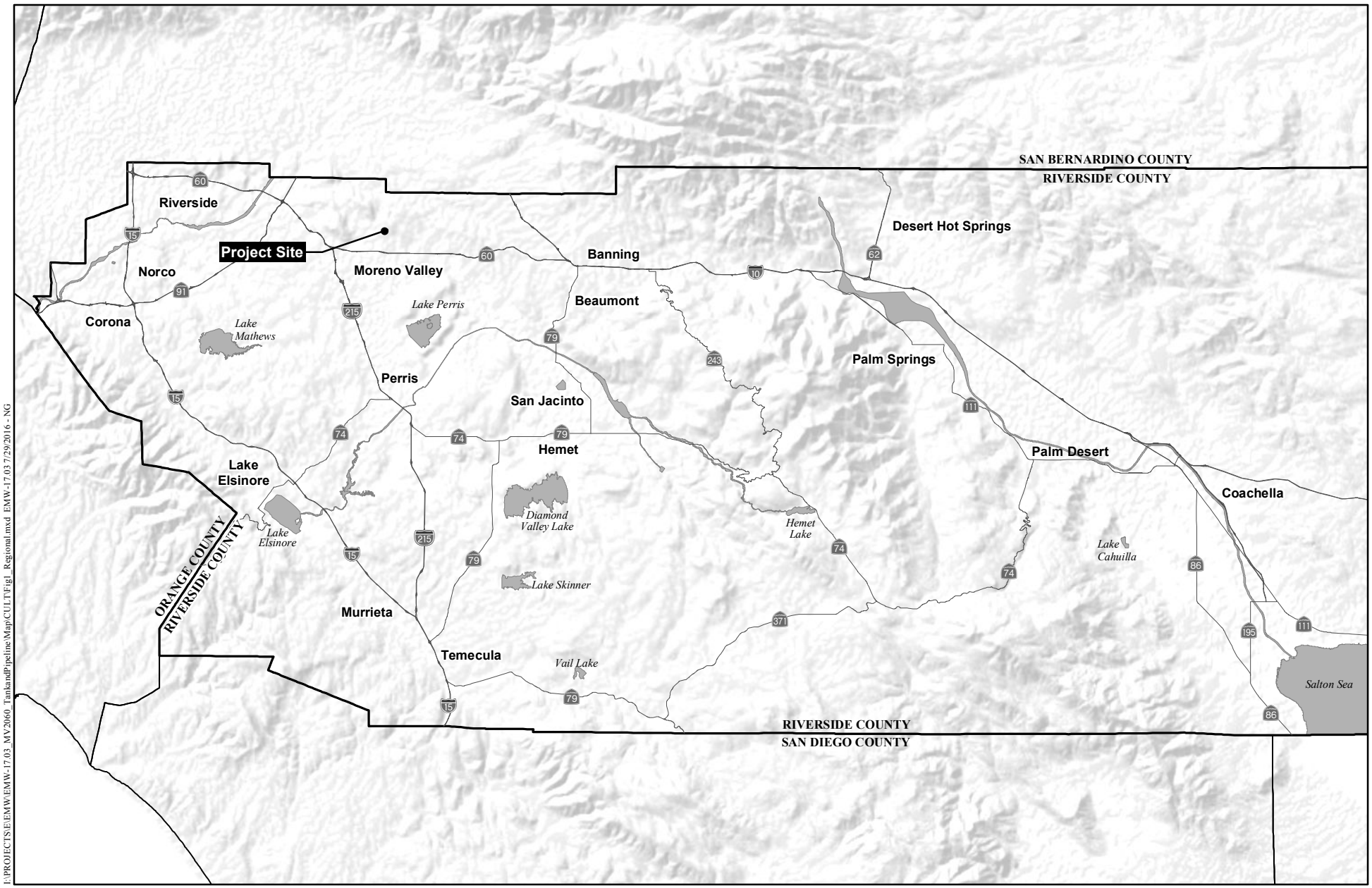
2017 Natural Resource Conservation Service. United States Department of Agriculture. Electronic document, available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Willey, George R., and Philip Phillips

1958 *Method and Theory in American Archaeology*. University of Chicago Press, Chicago.

Wirth Associates

1983 *Devers-Serrano-Villa Park Transmission System Supplement to the Cultural Resources Technical Report – Public Review Document and Confidential Appendices.* Wirth Associates. Report on file at Eastern Information Center, UC Riverside.



I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\CULT\Fig1_Regional.mxd EMW-17.03 7/29/2016 - NG

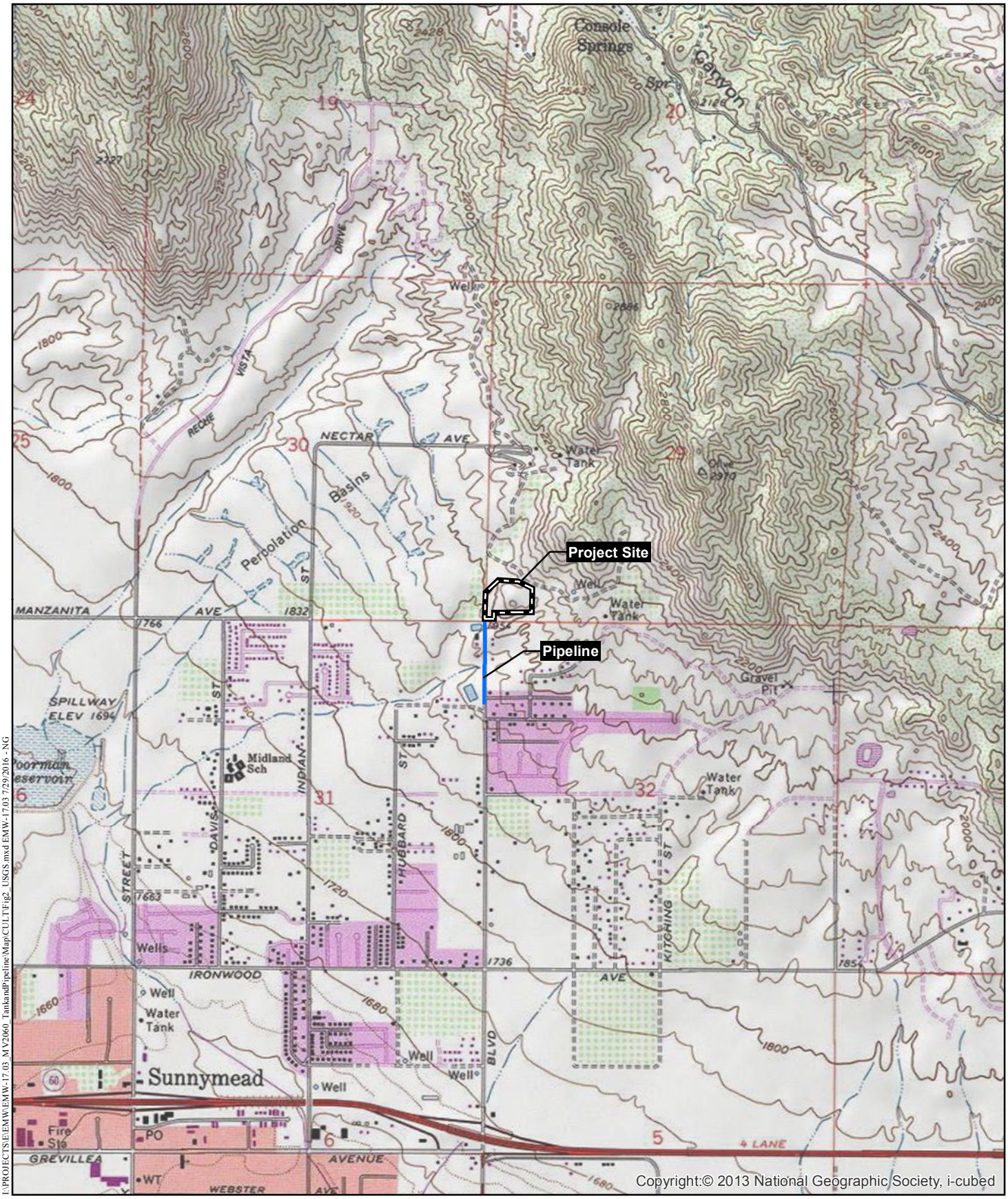
Regional Location

JUDSON TANK AND PIPELINE PROJECT

HELIX Environmental Planning

N 0 10 Miles

Figure 1



I:\PROJECTS\EIE\MWEMW-17.03_MV2060_TankandPipeline\Map\CUL\TFig2_USGS.mxd EMW-17.03 7/29/2016 - NG

Project Vicinity (USGS Topography)

JUDSON TANK AND PIPELINE PROJECT

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2

I:\PROJECTS\E\EMW\EMW-17.03_MV2060_Tank and Pipeline\Map\CULT\Fig3_Aerial.mxd EMW-17.03 4/10/2019 -RK

Project Vicinity (Aerial Photograph)

JUDSON TANK AND PIPELINE PROJECT

HELIX Environmental Planning

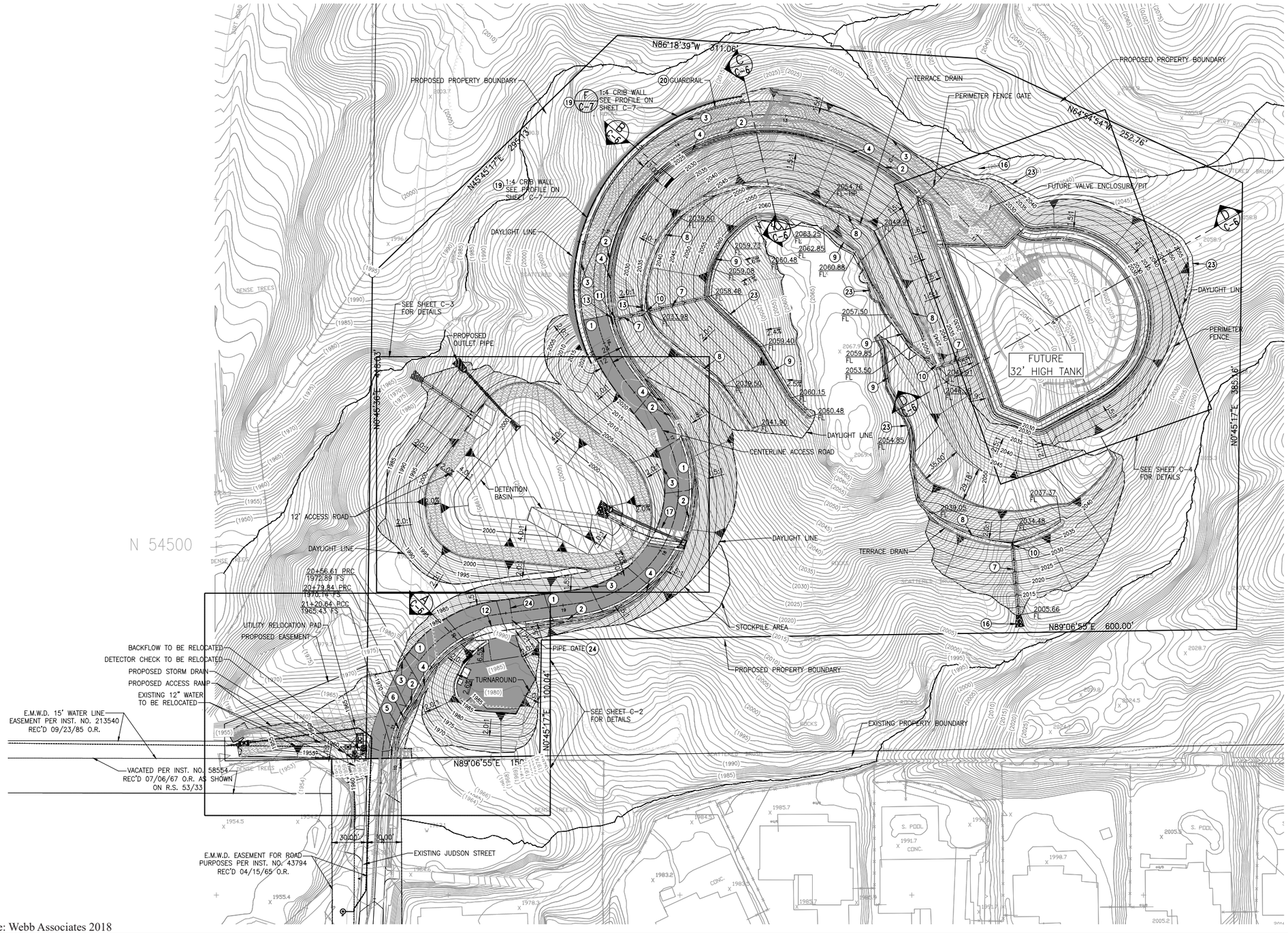
N

0 500 Feet

Figure 3

CONSTRUCTION NOTES

1. 4" ASPHALT CONCRETE OVER 6" AGGREGATE BASE
2. 6" TYPE "A-6" CURB AND GUTTER PER RIVERSIDE COUNTY STD 200
3. TYPE "D-1" CURB PER RIVERSIDE COUNTY STD. 203
4. 5' SHOTCRETE SWALE PER DETAIL 1 ON SHEET C-10
5. 5' CONCRETE U-DITCH PER DETAIL 2 ON SHEET C-10
6. TRANSITION FOR 5' SHOTCRETE SWALE TO 5' CONCRETE U DITCH PER DETAIL 5 ON SHEET C-10
7. DOWNDRAIN PER DETAIL 13 ON SHEET C-11
8. 6' TERRACE DRAIN PER DETAIL 9 ON SHEET C-11
9. INTERCEPTOR DRAIN PER DETAIL 10 ON SHEET C-11
10. TERRACE DRAIN AND DOWN DRAIN INTERSECTION PER DETAIL 7 ON SHEET C-10.
11. DOWNDRAIN TO SHOTCRETE SWALE TRANSITION STRUCTURE PER DETAIL 3 ON SHEET C-10
12. ARIZONA CROSSING FOR 5' SHOTCRETE DITCH PER DETAIL 11 ON SHEET C-11
13. SPLASH WALL PER DETAIL 12 ON SHEET C-11
16. RIP RAP OUTLET PER DETAIL 4 ON SHEET C-10
17. SLOPED ARIZONA CROSSING PER DETAIL 14 ON SHEET C-12.
19. CRIB WALL PER SPECIFICATIONS
20. CRIB WALL GUARD RAIL PER DETAIL 16 ON SHEET C-12
21. RETAINING WALL PER COUNTY OF RIVERSIDE BUILDING DEPARTMENT RETAINING WALLS STANDARD AND PER PLAN AND PROFILE ON SHEETS C-1 & C-7.
23. CHAIN LINK FENCE PER RCFC&WCD STANDARD DRAWING NUMBER M801.
24. PIPE SWING GATE PER RCFC&WCD STANDARD DRAWING NUMBER M820.



Source: Webb Associates 2018

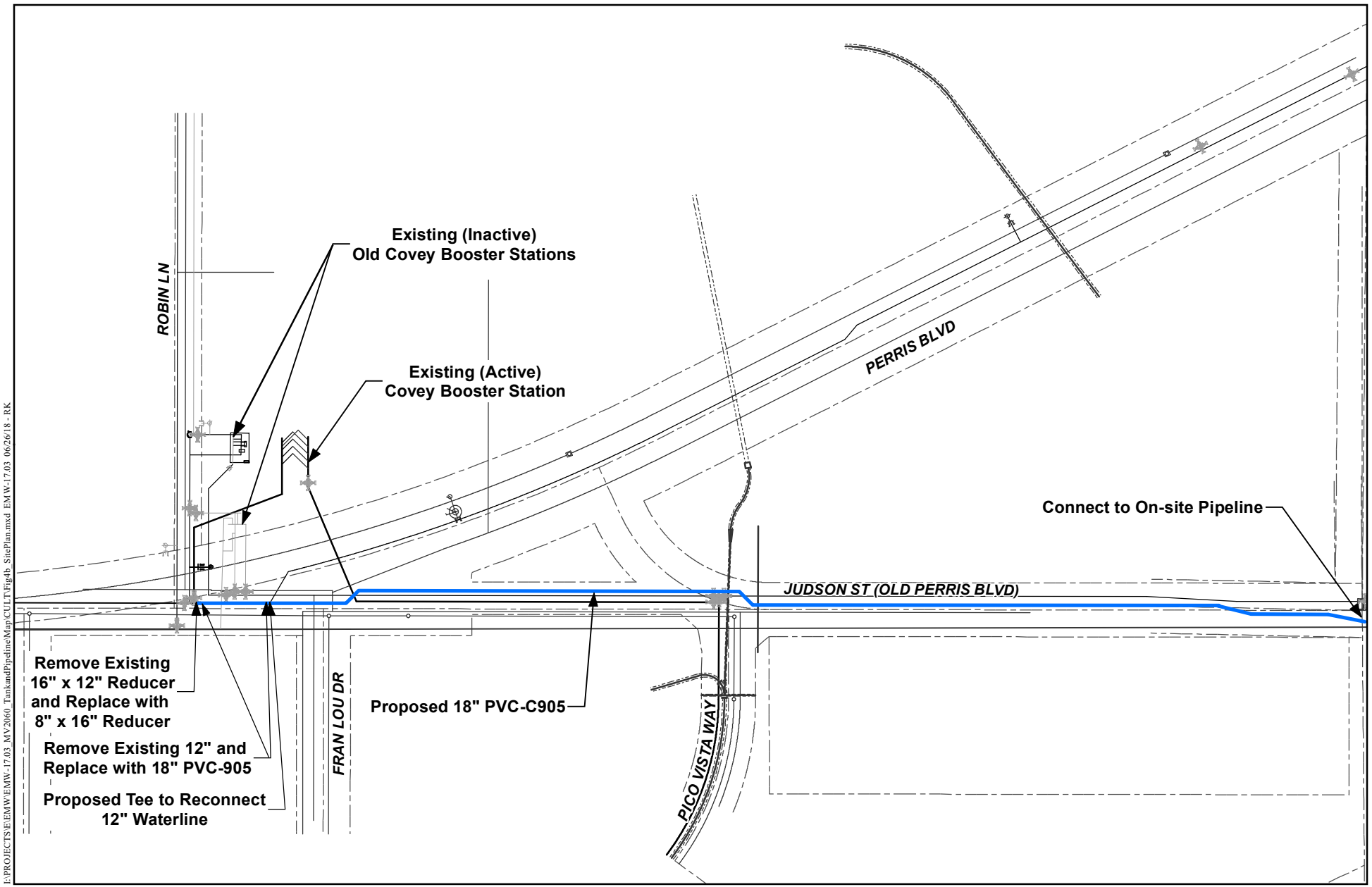
Site Plan

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

Figure 4a

HELIX Environmental Planning

I:\PROJECTS\E\EMW\EMW-17.03_MV2060_TankandPipeline\Map\CULTFig4a_SitePlan.mxd EMW-17.03 1/18/19 RK



Site Plan

JUDSON POTABLE WATER STORAGE TANK AND TRANSMISSION PIPELINE PROJECT

HELIX Environmental Planning

0 150 Feet

Figure 4b