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# RANCHO CALIFORNIA WATER DISTRICT INITIAL STUDY AND DRAFT MITIGATED NEGATIVE DECLARATION FOR THE JOAQUIN RANCH PUMP STATION DISINFECTION SYSTEM IMPROVEMENTS [PROJECT NO. D2199]

**OCTOBER 2024** 

Prepared by



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> 592-227 (REPORTS/CEQA/592-227) VEM/WGH/blt

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PART 1 PROJECT INFORMATION



# **PART 1 - PROJECT INFORMATION**

#### A. RANCHO CALIFORNIA WATER DISTRICT

Rancho California Water District (the District) is located in southwestern Riverside County, approximately 40 miles south of the City of Riverside and approximately 65 miles north of the City of San Diego. The District's total service area encompasses approximately 99,000 acres (154.7 square miles) and is comprised of the City of Temecula, portions of the City of Murrieta, and unincorporated areas in Riverside County. The District provides retail water service to a variety of residential, commercial, and agricultural customers. The District was formed in 1965 and merged with the adjacent Santa Rosa Ranches Water District in 1977. The mission of the District is to deliver reliable, high-quality water and reclamation services to its customers and communities in a prudent and sustainable manner.

The District currently serves a residential population of approximately 151,400 as well as about 9,000 acres of agriculture and ranch lands, primarily vineyards and citrus and avocado orchards. Land use planning within the District's service area is governed by the <u>City of Temecula General</u> <u>Plan</u> (2005), the <u>City of Murrieta General Plan 2035</u> (adopted in 2011 and updated in 2020), and the <u>Southwest Area Plan</u> (SWAP, as amended through September 28, 2021) of the <u>County of Riverside General Plan</u> (2015). The Project site is located within the planning area covered by the <u>City of Murrieta General Plan 2035</u> (2020).

#### **B. PROJECT DESCRIPTION**

#### 1. Proposed Project

The District's Joaquin Ranch Pump Station Disinfection System Improvements Project (the Project) generally consists of construction and operation of chloramination disinfection facilities at the existing Joaquin Ranch Pump Station. Construction of the Project is anticipated to include the following:

• Demolition of the existing chlorine injection facilities that include a fabricated steel enclosure, sodium hypochlorite generation equipment, salt and sodium hypochlorite storage tanks, fiberglass generation shed, metering pumps, and associated piping and controls.





- Site preparation and grading;
- Construction of site access improvements to accommodate tanker trucks for chemical deliveries;
- Construction of a masonry equipment building with a chlorine room, an ammonia room, and electrical/analyzer room. The chlorine room and the ammonia room will each have the capacity to contain 110% of the total storage volume of each chemical;
- Within the chlorine room, installation of a polyethylene storage tank for 12.5% bulk sodium hypochlorite solution (SHS), including an antioxidant inner surface that is designed to resist oxidation from the SHS, and SHS metering pumps and piping to replace the existing onsite sodium hypochlorite generation equipment, salt tank, day tank, and associated metering pumps;
- Within the ammonia room, installation of a polypropylene storage tank for 40% liquid ammonium sulfate (LAS) storage tank and LAS metering pumps and piping;
- Installation of a split air conditioning system that includes a common outdoor unit (compressor) and individual ductless indoor units in each chemical room and the electrical/analyzer rooms;
- Installation of a chemical fume odor scrubber on the sodium hypochlorite tank vent;
- Installation of chemical dosing controls and equipment, including reconfiguration of the existing pump station programable logic controller (PLC) and installation of water quality analyzers for monochloramines and free chlorine to control the metering pumps;
- Installation of chemical injection equipment, including injection quills, double containment site piping for SHS, and a static mixer.

Project operation consists of operating the Joaquin Ranch Pump Station continuously with the new disinfection facilities in place. Approximately one daily vehicle trip to the site for routine operation and maintenance purposes is currently taking place and is expected to continue with the operation of the new disinfection facilities. Additionally, operation includes one monthly tanker truck delivery of 12.5% bulk SHS and one monthly tanker truck delivery of 40% LAS.





### 2. Purpose

The existing Joaquin Ranch Pump Station (Pump Station) conveys water from the 1305 Pressure Zone to the 1500 Pressure Zone. The District's water supply comes from groundwater and from water imported from The Metropolitan Water District of Southern California (MWD). MWD currently disinfects its water with chloramines, while the District currently uses chlorine disinfection.

The District uses imported MWD water during the summer months to meet increased water demand. The proposed disinfection facilities will allow the District to switch their winter month disinfection operations from chlorination to chloramination to provide their customers with chloraminated water year-round.

#### C. ENVIRONMENTAL SETTING

#### 1. Location

The Project is located on District-owned property at 42581 Vineyard Parkway, which is situated along Vineyard Parkway near the intersection of Vineyard Parkway and Whitaker Way, southwest of Interstate 15, northeast of Murrieta Creek, in the City of Murrieta, in Riverside County, California. Refer also to **Figures 1 and 2** herein.

#### 2. Climate

Climate in the Project area is characterized by low humidity, high summer temperatures, and mild winters. Summer high temperatures are often 90 or more degrees Fahrenheit (°F). Fall, winter, and spring high temperatures are typically in the 60s and 70s. The area normally receives an average annual rainfall of approximately 15 inches, most of which occurs during December through February.





#### 3. Land Use

The Project site contains the District's existing Joaquin Ranch Pump Station. The site is surrounded by residential development to the north and east and by open space and Murrieta Creek to the west and south.

## D. COMPLIANCE WITH CEQA

This document has been prepared in compliance with the provisions of the California Environmental Quality Act, codified in California Public Resources Code, Division 13, Section 21000 *et seq* (CEQA), the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 *et seq*), and the District's *Local Guidelines for Implementing the California Environmental Quality Act (CEQA)*, adopted by the District on June 8, 2023 by Resolution No. 2023-6-5. Pursuant to CEQA, this Initial Study has been prepared to determine whether the Project may have a significant effect on the environment.

This Initial Study for the District's Joaquin Ranch Pump Station Disinfection System Improvements has been prepared by Krieger & Stewart, Incorporated under contract with the District to comply with the provisions of CEQA.

## E. LEAD AGENCY

The District is lead agency for the Project, as it is the public agency with the primary responsibility for preparing CEQA documents and for carrying out and approving the Project. Since the District is responsible for the Project, it must comply with the requirements of CEQA and the CEQA Guidelines issued by the State of California.

The District routinely constructs new facilities, maintains them, and replaces them as necessary to maintain adequate, reliable, and safe service to its customers. The Project is a continuation of the authority that the District has exercised in the past.





## F. PUBLIC INFORMATION DOCUMENT

This is a public information document prepared in compliance with the provisions of the California Environmental Quality Act, codified in California Public Resources Code, Division 13, Section 21000 et seq (CEQA), the California Code of Regulations, Title 14, Section 15000 et seq (State CEQA Guidelines), and the District's *Local Guidelines for Implementing the California Environmental Quality Act (CEQA)*, adopted by the District on June 8, 2023 by Resolution No. 2023-6-5. This Initial Study for the Joaquin Ranch Pump Station Disinfection System Improvements has been prepared by Krieger & Stewart, Incorporated under contract with the District to comply with the provisions of CEQA.

The purposes of this Initial Study are to provide the District with information to use as a basis for identifying the potential environmental impacts of the Project, for determining the appropriate CEQA document to prepare for the Project, to facilitate environmental assessment of the Project, and to provide documentation of the factual basis for the finding in the Project's CEQA document. Additionally, this document identifies mitigation intended to avoid or reduce any adverse environmental impacts of the Project.



PART 2 ENVIRONMENTAL EFFECTS AND CHECKLIST



### PART 2 - ENVIRONMENTAL EFFECTS AND CHECKLIST

#### A. **PROJECT INFORMATION**

#### 1. Project Title:

Joaquin Ranch Pump Station Disinfection System Improvements

#### 2. Lead Agency Name and Address:

Rancho California Water District 42135 Winchester Road Temecula, CA 92590

#### 3. Contact Person and Phone Number:

Dan Ruiz Senior Director of Engineering and Planning Rancho California Water District (951) 296-6900

#### 4. **Project Location:**

Refer to Part 1.C(1) on Page 3 herein. Refer also to Figures 1 and 2 herein.

#### 5. Project Sponsor's Name and Address:

Rancho California Water District 42135 Winchester Road Temecula, CA 92590

#### 6. General Plan Designation:

Civic/Institutional (C/I)

#### 7. Zoning:

Civic/Institutional (C/I)

#### 8. Description of Project:

Refer to **Part 1.B**, beginning on **Page 1** herein.

#### 9. Surrounding Land Uses and Setting:

Refer to Part 1.C(2) and Part 1.C(3), beginning on Page 3 herein.

- **10. Other public agencies whose approval may be required** (e.g., permits, financing approval, or participation agreement):
  - State Water Resources Control Board Division of Drinking Water (Amendment to Domestic Water Supply Permit)
  - > Murrieta Fire Department (permit for storage of hazardous materials)





11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

On May 10, 2024, the District sent formal notification letters to the following Native American tribes:

- Pechanga Band of Indians
- Rincon Band of Luiseño Indians
- Agua Caliente Band of Cahuilla Indians
- Morongo Band of Mission Indians

In response to said formal notification letters, the District received written responses from Pechanga Band of Indians (Pechanga) and Rincon Band of Luiseño Indians (Rincon).

Pechanga has requested to consult with the District on the Project. The District provided additional Project information and documents to Pechanga, and consultation was initiated on July 25, 2024. The District and Pechanga participated in virtual consultation meetings on July 25, 2024 and September 19, 2024. Consultation was closed with consensus of Pechanga on September 26, 2024. The District and Pechanga have developed mitigation measures intended to avoid or reduce the potential impacts of the Project on tribal cultural resources. Said mitigation measures are described in **Issues V and XVIII** of the Environmental Checklist herein and are set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A**.

Rincon requested additional information and documents pertaining to the Project in order to make a determination as to whether they would request consultation. Available requested documents were provided to Rincon, and Rincon replied with a recommendation that the District work with Pechanga pertaining to tribal cultural resources that may be discovered on the Project site.





# **B.** ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" 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 & Hazardous Materials	Hydrology/Water Quality
□ Land Use/Planning	□ Mineral Resources
□ Noise	D Population/Housing
Public Services	□ Recreation
□ Transportation	Tribal Cultural Resources
□ Utilities/Service Systems	U Wildfire
Mandatory Findings of Significance	⊠ None





C. **DETERMINATION** (To be completed by the Lead Agency):

On the basis of this initial evaluation:

- □ 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 is required.
- □ I find that the proposed project MAY have a "potentially significant" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- □ 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, nothing further is required.

Villia D. H.M.

William G. Huffman KRIEGER & STEWART, INCORPORATED District Consulting Engineer RANCHO CALIFORNIA WATER DISTRICT

October 29, 2024

Date





# D. EVALUATION OF ENVIRONMENTAL IMPACTS

- 1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources 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 will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
- 4. "Negative Declaration: Less Than Significant 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", as described in (5) below, may be cross-referenced).
- 5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a. Earlier Analyses Used. Identify and state where they are available for review.





- b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
- c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9. The explanation of each issue should identify:
  - a. The significance criteria or threshold, if any, used to evaluate each question; and
  - b. The mitigation measure identified, if any, to reduce the impact to less than significant.





## E. ENVIRONMENTAL CHECKLIST

## Issue I. <u>Aesthetics</u>

Except as provided in Public Resources Code Section 21099, would the Project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X

The Project and its associated features and appurtenances will be located on the District's existing property, as described in **Part 1.C** of this Initial Study. The Project consists of belowground and low-lying structures and facilities, including site access improvements; a disinfection building housing chemical storage tanks, electrical controls, and analyzers; and appurtenant disinfection system equipment. The Project site is not located within a designated scenic vista, and the proposed facilities will not obstruct public views of a scenic vista, including the hills to the south and west of the Project site. For these reasons, the Project would not have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources including	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				$\boxtimes$

There are no "Officially Designated State Scenic Highways" within close proximity to the Project Site. Interstate 15, which is located approximately 1.4 miles northeasterly of the Project site, is listed as an "Eligible State Scenic Highway". The Project consists of low-lying and belowground facilities and would not substantially damage any scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. Refer also to **Issue I(a)** above.





## Issue I. <u>Aesthetics</u> (continued)

existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	otentially ignificant Impact	Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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The Project site is a developed site containing an existing pump station and is surrounded by roadways, residential development, and open space. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Further, the Project would not conflict with the zoning designation of the Project site, which is Civic/Institutional.

		Less Than		
		Significant		
	Potentially Significant	with Mitigation	Less Than Significant	
d) Would the project erects a new course of substantial	Impact	Incorporated	Impact	No Impact
d) would the project create a new source of substantial	1	I	1	1
night of glare which would adversely affect day of			X	
inglitume views in the area?				

The Project includes both indoor and outdoor lighting for safety and security. Outdoor lights will be directed downward and contained within the Project site, and would not adversely affect day or nighttime views in the area. For these reasons, the Project will not create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.





## Issue II. Agriculture and Forest Resources

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 Dept. 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.

a)	Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	Program of the California Resources Agency, to non-agricultural use?				X

Based on maps available from the State of California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program, online at <u>https://maps.conservation.ca.gov/DLRP/CIFF</u>, the Project site is located within an area of land categorized as "Urban and Built-Up Land", and adjoins an area to the northwest and west that is categorized as Farmland of Local Importance". These two designations are defined below.

**Urban and Built-Up Land** is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, construction, institutional facilities, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

*Farmland of Local Importance* is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

There is no land categorized as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively, Farmland) located on or adjacent to the Project site. For these reasons, construction and operation of the Project would not convert Farmland to non-agricultural use.





### Issue II. <u>Agriculture and Forest Resources</u> (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?				$\boxtimes$

The Project site is zoned Civic/Institutional by the City of Murrieta. The Project site is not zoned for agricultural use, and there are no Williamson Act contracts in effect on the Project site. For these reasons, the Project will not conflict with existing zoning for agricultural use or with a Williamson Act Contract.

c)	Would the project conflict with existing zoning for,		Less Than		
	or cause rezoning of, forest land (as defined in	Detentially	Significant	Loss Thom	
	Public Resources Code Section 12220(g)),	Significant	Mitigation	Significant	
	timberland (as defined by Public Resources Code	Impact	Incorporated	Impact	No Impact
	Section 4526), or timberland zoned Timberland				•
	Production (as defined by Government Code				$\times$
	Section 51104(g))?				

The Project site consists of a District-owned property in the City of Murrieta with a zoning designation of Civic/Institutional. There are no lands zoned for forest land or timberland located on or adjoining the Project site. For these reasons, construction and operation of the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d)	Would the project result in the loss of forest land or conversion of forest land to non-forest use?				$\boxtimes$

The Project site does not contain nor adjoin any forest land. Therefore, construction and operation of the Project will not result in the loss of forest land or conversion of forest land to non-forest use. Refer also to **Issue II(c)** above.





## Issue II. <u>Agriculture and Forest Resources</u> (continued)

e) Wou existi natur	ld the project involve other changes in the ing environment which, due to their location or re, could result in conversion of Farmland to	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
non-a non-f	agricultural use or conversion of forest land to forest use?				$\boxtimes$

The Project does not involve changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, as there are no such resources located on the Project site. Refer also to **Issues II(a) through II(d)**, above.

# Issue III. <u>Air Quality</u>

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Would the project conflict with or obstruct implementation of the applicable air quality plan?				X

The Project is located within the South Coast Air Basin (SCAB), which encompasses all of Orange County, and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. Air quality conditions within the SCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

A project is considered to conflict with or obstruct implementation of the applicable air quality plan if it would result in population or employment growth that would exceed the estimates for such growth that are set forth in the applicable air quality plan.

Project facilities will be operated as part of the District's existing water system, and the Project does not have the potential to result in population or employment growth in the area beyond temporary employment for construction of Project facilities. For these reasons, the Project would not conflict with or obstruct any applicable air quality plan.

Potential impacts related to greenhouse gases are described in Issue VIII herein.





## Issue III. <u>Air Quality</u> (continued)

		Less Than Significant		
<ul> <li>b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality threshold?</li> </ul>	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact

As described in **Issue III(a)** above, the Project is located within the South Coast Air Basin (SCAB). Air quality conditions in the SCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

State and federal designations based on the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS) for the project area are listed below. "Attainment" is the category given to an area that has had no CAAQS or NAAQS violations in the past 3 years. "Non-Attainment" is the category given to an area that has had one or more such violations in the past 3 years. An area is considered "Unclassified" when there is insufficient data.

Under the CAAQS, the Project area is classified as Non-Attainment for ozone  $(O_3)$ , for particulate matter measuring 2.5 microns or less in diameter  $(PM_{2.5})$ , and for particulate matter measuring greater than 2.5 microns and up to 10 microns in diameter  $(PM_{10})$ . The Project area is classified as Attainment for carbon monoxide (CO), nitrogen dioxide  $(NO_2)$ , sulfur dioxide  $(SO_2)$ , sulfates  $(SO_4)$ , and lead. The Project area is unclassified for hydrogen sulfide  $(H_2S)$  and visibility reducing particles. Additional information about each of these pollutants and the CAAQS is available at the California Air Resources Board website at <u>www.arb.ca.gov/resources/california-ambient-air-quality-standards.</u>

Under the NAAQS, the Project area is classified as Non-Attainment for  $O_3$  and  $PM_{2.5}$ , as Attainment for  $PM_{10}$ , and as Unclassified/Attainment for CO, NO<sub>2</sub>, SO<sub>2</sub>, and lead. Additional information about these pollutants and the NAAQS is available on the United States Environmental Protection Agency's website at <u>www.epa.gov/criteria-air-pollutants</u>.

Project construction air pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod, 2022.1.1.22). A copy of the CalEEMod report for the Project is included in **Appendix E** herein. Peak day air pollutant emissions estimated to be generated during construction are set forth in **Table 1** below.





 Table 1

 Estimated Peak Day Construction Equipment Exhaust Emissions for Construction of Joaquin Ranch Pump Station Disinfection System Improvements

	Pollutants (pounds/day <sup>(1)</sup> )					
	VOC	NOx	со	SO <sub>x</sub>	$PM_{10}$	PM <sub>2.5</sub>
Project Construction Emissions	9.4	15.6	17.1	0.02	0.84	0.66
SCAQMD Significance Thresholds <sup>(2)</sup>	75	100	550	150	150	55

(1) Peak day

(2) Mass Daily Thresholds for Construction (SCAQMD, March 2023)

Construction activities will result in a temporary increase in quantities of air pollutants in the Project area, including airborne dust, resulting from operation of construction vehicles and equipment. Dust will be mitigated to the extent possible using dust palliatives (such as water) and best management practices (BMPs) specified in the construction contract documents for the Project. Air pollutant emissions resulting from Project construction are well below the significance thresholds established by SCAQMD and will be short-term.

Ongoing operation of the Project will generate small quantities of air pollutant emissions resulting from once-daily District vehicle trips to the Project site for routine operation and maintenance and two tanker truck trips per month for chemical deliveries. The daily District vehicle trips are already taking place as part of operation and maintenance of the existing Pump Station; however, they are included in the calculations shown in **Table 2** below to provide a conservative estimate of total operation emissions. Therefore, Project operation would not result in an increase in vehicle trips or air pollutant emissions over existing conditions.

Table 2 Estimated Peak Day Operation Emissions for the Joaquin Ranch Pump Station Disinfection System Improvements Project							
	Pollutants (pounds/day <sup>(1)</sup> )						
	voc	NOx	со	SOx	<b>PM</b> <sub>10</sub>	PM2.5	
Maintenance Vehicle and Chemical							
Delivery Trucks	0.89	2.74	4.76	0.01	0.37	0.16	
SCAQMD Significance Thresholds <sup>(2)</sup>	55	55	550	150	150	55	

(1) Peak day

(2) Mass Daily Thresholds for Operation (SCAQMD, March 2023)





For the reasons described above, air pollutant emissions generated by construction and operation of the Project will be less than significant and will not result in an increase in  $O_3$ ,  $PM_{10}$ , or  $PM_{2.5}$ , for which the Project area is designated Non-Attainment under the CAAQS and/or the NAAQS.

# Issue III. <u>Air Quality</u> (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project expose sensitive receptors to substantial pollutant concentrations?			$\boxtimes$	

Sensitive receptors nearest the Project site are residences on adjacent properties to the north, east, and southeast, with the nearest residence located approximately 50 feet northeasterly of the Project site. Quantities of air pollutant emissions, including dust, will temporarily increase during Project construction; however, as described in **Issue III(b)** herein, said increases will be less than significant and short-term. Ongoing operation of the Project will result in an insignificant increase in air pollutant emissions as a result of two monthly tanker truck trips to the site for chemical deliveries. For these reasons, construction and operation of the Project will not expose sensitive receptors to substantial pollutant concentrations.

			Less Than		
			Significant		
		Potentially Significant	with Mitigation	Less Than Significant	
d)	Would the project result in other emissions (such as	Impact	Incorporated	Impact	No Impact
	those leading to odors) adversely affecting a substantial number of people?			X	

Project construction may result in some odors during placement of asphalt at the site. These asphalt odors will be less than significant and short-term. Both chemicals (SHS and LAS) that will be stored and used onsite during Project operation have the potential to release unpleasant odors, particularly during chemical delivery. The delivery process includes pumping the chemicals from a truck into the storage tanks. The tanks are vented to allow the displaced air to escape. To mitigate the potential for this vented air to cause objectionable odors at nearby residences, the tank vents will be routed to an odor control system that will scrub the vented air of chemical odors. Because of the odor control system incorporated into the Project design, chemical odors are unlikely to be detected at nearby properties during Project operation. For these reasons, the Project will not result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.





# Issue IV. Biological Resources

a)	Would the project 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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	Wildlife Service?				

Certain species of plants and animals have low populations, limited distributions, or both. Such species are vulnerable to further declines in population and distribution and may be subject to extirpation as the human population grows and the habitats these species occupy are converted to urban or other uses. State and federal laws, particularly the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) provide the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS) with mechanisms for conserving and protecting native plant and animal species. Many plants and animals have been formally listed as "Threatened" or "Endangered" under FESA, CESA, or both, while many others have been designated as candidates for such listing. Additionally, others have been designated as "Species of Special Concern" by CDFW, as "Species of Concern" by USFWS, or are on lists of rare, threatened or endangered plants developed by the California Native Plant Society (CNPS). Collectively, all of these listed and designated species are referred to as "special status species".

The Federal Migratory Bird Treaty Act (MBTA), codified in 50 CFR Section 10.13, makes it unlawful to "take" (i.e. harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) migratory birds or their nests, eggs, feathers, or any part thereof. With few exceptions, all native bird species are protected by the MBTA. Birds protected under the MBTA are also referred to as "special status species".

LSA Associates, Inc. (LSA) performed a biological resources assessment of the Project Site, the methods, findings, and recommendations of which are set forth in the report titled, <u>Biological Resources</u> <u>Assessment, Joaquin Ranch Pump Station Project, Murrieta, Riverside County, California</u>, dated April 2024 (Biological Report). A copy of the Biological Report is included in **Appendix B** herein. The following summary is based on the Biological Report.





Special status species that may occur on the Project site include burrowing owl (<u>Athene cunicularia</u> <u>hypugaea</u>), Cooper's hawk (<u>Accipiter cooperii</u>), and nesting birds protected under the federal Migratory Bird Treaty Act, which are described in additional detail below.

## **Burrowing Owl**

Burrowing owl is designated as a California Species of Special Concern. Potential burrowing owl habitat is limited to approximately one acre of the Project site and is bordered by trees that serve as perching habitat for raptors that prey on burrowing owl; therefore, burrowing owl is not expected to occur on the Project site. Although not expected, burrowing owl requires special consideration at construction sites; therefore, to avoid or reduce potential impacts on burrowing owl, Mitigation Measure BIO-1 is included in the Project. Mitigation Measure BIO-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A** herein.

# > <u>Cooper's Hawk</u>

Cooper's hawk is a raptor species of bird that is protected under both the Migratory Bird Treaty Act and the California Fish and Game Code. The existing ornamental trees on the Project site provide low-quality nesting habitat for this species, which has a low probability of occurring on the site. Any Project effects to Cooper's hawk would not be significant with implementation of the avoidance and mitigation measures for nesting birds included in Mitigation Measure BIO-2. Mitigation Measure BIO-2 is included in the Project. Mitigation Measure BIO-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program included in Appendix A herein.

## > Nesting Birds

Ornamental trees on the Project site provide potentially suitable habitat for nesting birds protected by the Migratory Bird Treaty Act, the California Fish and Game Code, or both. In order to avoid or reduce potential impacts to nesting birds, Mitigation Measure BIO-2 is included in the Project. Mitigation Measure BIO-2 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A** herein.

With incorporation of Mitigation Measures BIO-1 and BIO-2, the Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.



# Mitigation Measure BIO-1: Burrowing Owl

To determine whether burrowing owl is present on the Project site, a pre-construction burrowing owl survey will be conducted by a qualified biologist in accordance with California Department of Fish and Wildlife's 2012 <u>Staff Report on Burrowing Owl Mitigation</u>. If burrowing owl is detected, coordination with the California Department of Fish and Wildlife (CDFW) will be required, including preparation of an impact assessment in accordance with the 2012 <u>Staff Report on Burrowing Owl Mitigation</u>. If no burrowing owl is detected during the preconstruction burrowing owl survey, then Project construction may commence. If Project construction does not commence within 14 days after performance of the preconstruction burrowing owl survey, then an additional burrowing owl preconstruction survey will be conducted by a qualified biologist prior to commencement of construction to determine whether burrowing owl have since moved onto the site.

## Mitigation Measure BIO-2: Nesting Birds

The Project site contains potentially suitable habitat for nesting bird species. To avoid potential effects to nesting birds, a preconstruction nesting bird survey will be conducted by a qualified biologist no less than 3 days and not more than 7 days prior to any construction activities, including vegetation removal. If no nesting birds are found during the preconstruction survey, then construction may commence within 7 days of completion of the preconstruction survey.

If nesting birds are found during the preconstruction survey, the qualified biologist will establish an exclusionary buffer or buffers around the nests. The buffer(s) will be clearly marked in the field by construction personnel under guidance of the qualified biologist. No construction activities are allowed within the buffer zone(s) until the qualified biologist determines that the young have fledged or the nest is no longer active.

Whether or not any nesting birds were identified during the preconstruction survey, if more than 7 days have lapsed since the preconstruction survey and construction or vegetation removal have not yet commenced, then another preconstruction nesting bird survey will be conducted to determine whether any nesting birds have moved into the site.





# Issue IV. <u>Biological Resources</u> (continued)

b)	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans,	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact
	policies, regulations or by the California Department	mpaer	meorporated	impact	No impact
	of Fish and Wildlife or U.S. Fish and Wildlife Service?				X

Based on the Biological Report cited in **Issue IV(a)**, there are no riparian habitats or natural communities of concern located on the Project site. Therefore, the Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community.

c)	Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	through direct removal, filling, hydrological interruption, or other means?				X

Based on the Biological Report cited in **Issue IV(a)** above, there are no wetlands or other jurisdictional waters located on the Project site. Therefore, construction and operation of the Project will not have a substantial adverse effect on state or federally protected wetlands.

d)	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X

The Project site is developed and maintained for weed abatement, and it is largely surrounded by development; therefore, the Project site does not provide for regional wildlife movement, nor does it serve as a wildlife corridor or nursery site. For these reasons, the Project would not interfere substantially with the movement of any native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.





# Issue IV. <u>Biological Resources</u> (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X

The Project site contains non-native ornamental trees, including eucalyptus and birch trees, that may be removed during Project construction. The Project is not subject to local development ordinances, and removal of the non-native trees onsite would not conflict with local policies or ordinances protecting biological resources.

f) Wo ado	uld the project conflict with the provisions of an pred Habitat Conservation Plan. Natural	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Con loca	nmunity Conservation Plan, or other approved Il, regional, or state habitat conservation plan?				X

The Project site is located within the planning boundaries of the Western Riverside County MSHCP; however, the District is not a signatory to the MSHCP and is not pursuing an MSHCP Participating Special Entity designation for the Project. For these reasons, the Project is not subject to compliance with the MSHCP and is instead subject to the requirements of the Federal Endangered Species Act and the California Endangered Species Act.

# Issue V. <u>Cultural Resources</u>

		Less Than Significant		
a) Would the project cause a substantial adverse	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
change in the significance of a historical resource pursuant to §15064.5?		X		

CEQA Guidelines Section 15064.5(3) states, in part, that "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 (Pub. Res. Code § 5024.1, Title 14 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".

Further, California Public Resources Code Section 5020.1(j) states that "a 'Historical resource' includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

*CRM TECH performed a historical and archaeological resources survey of the Project site, the methods, results, and recommendations of which are set forth in the report, <u>Cultural Resource Assessment for the</u> <u>Joaquin Ranch Pump Station Disinfection Improvements Project, dated April 2, 2024 (Cultural Report), a copy of which is included in Appendix C herein.*</u>

As part of its historical and archaeological resources study of the Project site, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and conducted an intensive-level field survey of the Project site. Representatives of the Pechanga Band of Indians and the Soboba Band of Luiseño Indians were present at CRM TECH's field survey of the Project site.

Based on the Cultural Report, no historical or archaeological resources had been recorded within or in the vicinity of the Project site, and no such resources were found during the field survey of the Project site. The identification of potential tribal cultural resources is beyond the scope of the Cultural Report, and is addressed through communication between the District and local Native American tribes. Tribal cultural resources are addressed in **Issue XVIII** herein.

Although no historical or archaeological resources were identified within or in the vicinity of the Project site, mitigation will be implemented in order to avoid or reduce potential impacts on previouslyundiscovered cultural resources that may be encountered during ground-disturbing activities.





Mitigation Measures CUL-1 through CUL-4 are summarized below and are set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in **Appendix A** herein. With implementation of Mitigation Measures CUL-1 through CUL-4, the Project will not cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to §15064.5.

#### Mitigation Measure CUL-1: Archaeological Monitoring

Prior to start of construction, the District shall retain a qualified archaeological monitor for all grading, trenching, and other ground disturbance activities. The archaeological monitor shall have the authority to halt or divert construction activities as necessary in the event that suspected archaeological or tribal resources are unearthed during Project construction.

## Mitigation Measure CUL-2: Cultural Resources Worker Sensitivity Training

The Project Archaeologist and the Consulting Tribe(s) shall attend the pre-grading meeting with District representatives, the construction manager, and contractor/subcontractor personnel and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The training will include a brief review of the cultural sensitivity of the Project site and the surrounding areas; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that begin work on the Project following the initial training, and will conduct earthwork or grading activities, must take the Cultural Resources Worker Sensitivity Training prior to beginning work. The Project Archaeologist and the Consulting Tribe(s) will make themselves available to provide the training on an as-needed basis.

## Mitigation Measure CUL-3: Inadvertent Finds

If any subsurface cultural resources are encountered during Project construction, activities within 100 feet of the encounter shall be halted until the qualified monitors can examine these finds, determine their significance, and, if significant, notify the District, Project Archaeologist, and Consulting Tribe(s). Tribal and archaeological monitors will set up a temporary Environmentally Sensitive Area (ESA) fence at the 100-foot boundary. A meeting will be convened between the District, Project Archaeologist, and Consulting Tribe(s) (the parties) to discuss the significance of the find, determine a plan that would reduce potential effects to a





level that is less than significant, and implement appropriate mitigation measures. Recommended measures could include, but are not limited to, the following:

- 1. Preservation in place;
- 2. *Controlled grading or trenching; and/or*
- *3. Excavation, recovery, and reburial onsite.*

If the parties find that any excavated cultural resources meet eligibility requirements for listing on the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during grounddisturbing activities include:

- Prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and/or cryptocrystalline silicates;
- Groundstone artifacts, including mortars, pestles, and grinding slabs;
- Historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and metal objects;
- Historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements.

# Mitigation Measure CUL-4: Phase IV Report

Prior to final inspection, the Project Archaeologist shall submit two (2) copies of the Phase IV Cultural Resources Monitoring Report (Phase IV Report) that complies with the District's requirements for such reports. The Phase IV Report shall include evidence of the required Cultural Resources Worker Sensitivity Training that is described in Mitigation Measure CUL-2. The District will review the Phase IV Report to determine adequate mitigation compliance. Provided the Phase IV Report is adequate, two (2) copies of said report shall be submitted to the Eastern Information Center (EIC) at the University of California, Riverside (UCR) or current location, and one (1) copy shall be submitted to the Pechanga Cultural Resources Department.





#### Issue V. <u>Cultural Resources</u> (Continued)

		Less Than Significant		
b) Would the project cause a substantial adverse	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
change in the significance of an archaeological resource pursuant to §15064.5?		X		

Refer to **Issue V(a)** above. As set forth in the Cultural Report, no archaeological resources have been identified on or in the vicinity of the Project site. Mitigation Measure CUL-1, summarized above and set forth in **Appendix A** herein, is incorporated into the Project to ensure that Project construction will not result in a significant adverse impact on any previously-undiscovered historical or archaeological resources discovered during Project construction. With incorporation of Mitigation Measure CUL-1, described in **Issue V(a)** above, the Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. Potential impacts upon tribal cultural resources are described in **Issue XVIII** herein.

		T (T)		
		Less Than		
		Significant		
	Potentially	with	Less Than	
	Significant	Mitigation	Significant	
	Impact	Incorporated	Impact	No Impact
c) Would the project disturb any human remains,	Impuer	meorporatea	Impuer	i to impuet
including those interred outside of dedicated	_	_		_
comptaries?				

There are no known cemeteries or burial grounds located on or adjacent to the Project site. To avoid or reduce potential impacts upon any human remains that may be inadvertently encountered during Project construction, Mitigation Measure CUL-5 is incorporated into the Project. Mitigation Measure CUL-5 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in **Appendix A** herein. Additionally, the Project will comply with the provisions of Section 15064.5 of the State CEQA Guidelines.

## Mitigation Measure CUL-5: Human Remains

In accordance with California Health and Safety Code §7050.5, if human remains are encountered during Project construction, construction will be halted and the County Coroner will be notified of the find immediately. The County Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant (MLD). With the permission of the District, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations within 48 hours of being granted access





to the discovery site. No further disturbance shall occur until a determination of origin and disposition for the remains has been made pursuant to California Public Resources Code *§*5097.98.

# Issue VI. Energy

			Less Than Significant		
a) W ei	Vould the project result in potentially significant nvironmental impact due to wasteful, inefficient, or	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
u d	nnecessary consumption of energy resources, uring project construction or operation?				X

The primary energy resource that will be consumed during construction of the Project is fuel needed by the construction contractor for operating construction vehicles and equipment. Operation of the Project will require fuel for travel of one District vehicle trip to the Project site daily and two tanker truck trips to the site on a monthly basis for chemical deliveries. The daily District vehicle trip is already taking place for operation and maintenance of the existing Joaquin Ranch Pump Station on the Project site, and the two monthly tanker truck trips will commence with operation of the new disinfection facilities. Additionally, electricity will be used to operate the pumps, electrical switchgear, controls, site lighting, and telemetry system. This energy use is needed for construction and operation of the facilities as part of the District's water system and would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources.

		Less Than Significant		
b) Would the project conflict with or obstruct a state or	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
efficiency?				$\boxtimes$

Construction and operation of the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Refer also to **Issue VI(a)** above.





## Issue VII. Geology and Soils

a)	Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	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.				X
	ii) Strong seismic ground shaking?			X	
	iii) Seismic-related ground failure, including liquefaction?				X
	iv) Landslides?				$\mathbf{X}$

- i) Based on information available in the online mapping system "Earthquake Zones of Required Investigation", or "EQ-Zapp", provided by the California Geological Survey on its website at <u>http://conservation.ca.gov/cgs/geohazards/eq-zapp</u>, the Project site is not located within an earthquake fault zone. The fault nearest the Project site is the Wildomar Fault, in the Elsinore Fault Zone, which is located approximately one mile to the northeast. For these reasons, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.
- ii) Being located in seismically-active southern California, the Project site is subject to strong seismic ground shaking. The Project does not include any structures intended for more than occasional human occupancy, and Project facilities will be designed and constructed in accordance with the specific geotechnical recommendations provided a report based on the geotechnical study that will be conducted during Project design. For these reasons, construction and operation of the Project is not expected to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.
- iii) Based on the online EQ-Zapp application, cited in **Issue VII(a)(i)** above, the Project site is located within a liquefaction zone, which is an area where historical occurrence of liquefaction, or local geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacements, such that measures that are consistent with established





practice and that will reduce seismic risk to acceptable levels are needed. The <u>Murrieta</u> <u>General Plan 2035</u> (2020) states that "A majority of the alluvial deposits along the Murrieta Creek lie within a liquefaction hazard zone", and Exhibit 12-5, Liquefaction Susceptibility Map of said general plan shows that the Project site is located in an area mapped as having "Moderate" liquefaction susceptibility. The Project does not include facilities intended for more than occasional human occupation, and Project facilities will be designed and constructed in accordance with the specific geotechnical recommendations set forth in a geotechnical study report prepared as part of a geotechnical study of the Project site that will be conducted during Project design. For these reasons, the Project will not expose people or structures to substantial adverse effects related to seismic-related ground failure, such as liquefaction.

iv) Based on the online EQ-Zapp application cited in Issue VII(a)(i) above, the Project site is not located in an Earthquake Induced Landslide Zone. Further, based on the California Geological Survey map, "Landslide Inventory Map of the Murrieta Quadrangle, Riverside County, California", dated December 2011, there are no known landslides or rockslides located in the vicinity of the Project site. Further, the Project Site is relatively flat and is not known to be subject to landslides. For these reasons, the Project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

# Issue VII. <u>Geology and Soils</u> (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in substantial soil erosion or the loss of topsoil?			$\boxtimes$	

Besides the area of the Project site occupied by the existing Joaquin Ranch Pump Station facilities, the Project site contains ornamental trees and ruderal, non-native grassland vegetation that has been maintained for weed abatement. With the exception of the areas occupied by the proposed Project facilities, ground surfaces disturbed during Project construction will be returned to near-preconstruction conditions at completion of construction. No erosion related to the Project is expected to occur after completion of Project construction and final site stabilization. Best management practices will be implemented by the construction contractor to avoid or reduce erosion during Project construction to the maximum extent practicable, and the Project will comply with the <u>National Pollutant</u>




<u>Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction</u> <u>and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002</u>, issued by the California State Water Resources Control Board. For these reasons, and because the Project site is relatively flat, the Project would not result in substantial soil erosion or substantial impacts related to the loss of topsoil.

#### Issue VII. <u>Geology and Soils</u> (Continued)

c)	Would the project 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-	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				$\boxtimes$

Based on information available from the online Web Soil Survey provided by the United States Department of Agriculture (USDA) Natural Resources Conservation Service, soils at the Project site consist of Riverwash (RsC), which are described as gravelly coarse sand to gravelly sand; Greenfield sandy loam (GyA), which is described as primarily sandy loam and loam; and Hanford coarse sandy loam (HeC2), which is described as coarse sandy loam and fine sandy loam. These soils are classified as well drained. The Project will be designed and constructed in accordance with the specific geotechnical recommendations set forth in a geotechnical study report for the Project site, which will be prepared during Project design. The Project does not include facilities whose construction and operation are capable of causing on- or off-site landslide, lateral spreading, liquefaction, or collapse.

For the above reasons, the Project would not expose people or critical structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving unstable geologic units or soils. Refer also to **Issue VII(a)** above.

			Less Than		
			Significant		
		Potentially	with	Less Than	
(h	Would the project be located on expansive soil as	Significant	Mitigation	Significant	
u)	defined in Table 19.1 D of the Uniform Duilding	Impact	Incorporated	Impact	No Impact
	defined in Table 18-1-b of the Uniform Building	1	1	1	1
	Code (1994), creating substantial direct or indirect	_	_	_	
	risks to life or property?				
	r r y				

Based on the Web Soil survey data in **Issue VII(c)**, onsite soils consist of primarily sands and loams, which are not known to be expansive. The Project would not create substantial direct or indirect risks to life or property related to expansive soil.





#### Issue VII. Geology and Soils (Continued)

			Less Than		
			Significant		
e)	Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
	sewers are not available for the disposal of waste water?				X

The Project does not include septic tanks or alternative wastewater disposal systems.

			Less Than		
			Significant		
		Potentially	with	Less Than	
		Significant	Mitigation	Significant	
f) Would the project dire	ectly or indirectly destroy a	Impact	Incorporated	Impact	No Impact
unique paleontologica geologic feature?	l resource or site or unique		$\boxtimes$		

Federal, state, and local regulations and policies provide protection for paleontological resources. These include, but are not limited to, the federal Paleontological Resources Preservation Act of 2009 (Public Law 111-011, Title VI, Subtitle D) and California Public Resources Code Section 30244.

CRM TECH performed a paleontological resources assessment of the Project site, the methods, results, findings, and recommendations of which are set forth in the report, <u>Paleontological Resources</u> <u>Assessment for the Joaquin Ranch Pump Station Disinfection Systems Improvements</u> Project, dated April 2, 2024 (Paleontological Report), a copy of which is included in **Appendix D** herein.

As part of its assessment, CRM TECH initiated a paleontological records search, conducted a literature review, and conducted a systematic field survey of the Project site in accordance with the guidelines of the Society of Vertebrate Paleontology.

Based on the findings of the paleontological resources assessment, no paleontological resources or potentially fossiliferous sediments were observed on the Project site, and the Project has a low potential to impact significant, nonrenewable paleontological resources. Although no impacts to unique paleontological resources or unique geologic features are anticipated, Mitigation Measure PALEO-1 is incorporated into the Project to prevent an adverse impact upon any resource that may be present in subsurface soils. Mitigation Measure PALEO-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, a copy of which is attached to the draft Mitigated Negative Declaration in Appendix A herein. With incorporation of PALEO-1, construction and





operation of the Project would not directly or indirectly destroy a unique paleontological resource or geological feature.

#### Mitigation Measure PALEO-1: Paleontological Resources

The following measures will be implemented to protect any paleontological resources that may be uncovered during ground disturbance at the Project site:

- If any paleontological resources or suspected paleontological resources are uncovered during Project construction, all work in the vicinity of the discovery shall be halted until a qualified paleontologist can evaluate the nature and significance of the find.
- If a qualified paleontologist determines that a specimen uncovered during Project construction is potentially significant, then all future ground-disturbing actions associated with Project construction will be monitored by a qualified paleontological monitor. The paleontological monitor will be prepared to quickly salvage fossil specimens upon discovery to avoid construction delays and shall have the authority to temporarily halt or divert construction equipment and activities to allow for removal of abundant or large specimens.
- Specimens recovered from the Project site by the qualified paleontological monitor will be, in accordance with standard paleontological practice, identified and curated at a repository with permanent retrievable storage that will allow for additional research in the future.

#### Issue VIII. Greenhouse Gas Emissions

a) Would the project generate greenhouse gas	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
emissions, either directly or indirectly, that may have a significant impact on the environment?			X	

Gases that trap heat in the Earth's atmosphere are referred to as greenhouse gases (GHGs). GHGs that are emitted due to human activities, primarily from the combustion of fossil fuels (e.g. gasoline in motor vehicles), are carbon dioxide ( $CO_2$ ), methane ( $CH_4$ ), and nitrous oxide ( $N_2O$ ). The most common GHG that results from human activities is  $CO_2$ , followed by  $CH_4$  and  $N_2O$ , respectively.

To quantify and combine these three GHGs into a single figure, each gas is converted to "carbon dioxide equivalent" ( $CO_2e$ ) units.  $CO_2e$  is defined by the United States Environmental Protection Agency





(USEPA) as, "A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP)...The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP." The GWPs for carbon dioxide, methane, and nitrous oxide are 1, 25, and 298, respectively.

The Project is expected to generate GHGs during construction and operation. GHGs emitted during construction would result from operating construction vehicles and equipment and from workers' vehicles commuting to and from the Project Site. Estimated quantities of GHGs that would be generated during Project construction total approximately 2,826 metric tons of CO<sub>2</sub>e, as calculated by reports generated using the California Emissions Estimator Model (CalEEMod, Version 2022.1.1.22). A copy of the CalEEMod output report for the Project is included in **Appendix E** herein.

GHGs emitted during ongoing operation and maintenance would result from daily District vehicle trips to and from the Project site and two monthly tanker truck trips for chemical deliveries. The daily District vehicle trips are already taking place for operation of the existing pump station; however, they have been included in the calculation to generate a conservative estimate of the GHGs generated during operation. Based on the CalEEMod report cited above, Project operation is expected to generate 1,520 metric tons of  $CO_2e$  per year.

SCAQMD has a significance threshold of 10,000 metric tons of CO<sub>2</sub>e per year; therefore, estimated Project construction GHG emissions of 2,826 metric tons of CO<sub>2</sub>e and Project operation emissions of 1,520 metric tons of CO<sub>2</sub>e per year are not considered significant. Construction GHG emissions are temporary and will cease upon completion of construction.

For the reasons described above, the Project will not generate GHG emissions that would, either directly or indirectly, have a significant impact on the environment.





#### Issue VIII. <u>Greenhouse Gas Emissions</u> (Continued)

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	
b) Would the project conflict with an applicable plan,	Impact	Incorporated	Impact	No Impact
policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases?				X

As described in **Issue VIII**(*a*) above, construction of the Project would generate insignificant quantities of GHGs, while operation of the Project would not result in an increase in GHG emissions over existing conditions. For these reasons, construction and operation of the Project will not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

#### Issue IX. Hazards and Hazardous Materials

		Less Than		
		Significant		
	Potentially	with	Less Than	
	Significant	Mitigation	Significant	
a) Would the project create a significant hazard to the	Impact	Incorporated	Impact	No Impact
public or the environment through the routine transport, use, or disposal of hazardous materials?			$\boxtimes$	

Small quantities of fuel, lubricants, adhesives, paint, and coatings will be used during construction of the Project. Said use will be short-term and strictly controlled, and waste materials will be properly disposed of. Such materials will not be allowed to enter any drainage. Operation of the Project involves the transport, use, and storage of 12.5% bulk sodium hypochlorite solution (SHS), which is classified as a hazardous material, and liquid ammonium sulfate (LAS), which is acidic. Both of these chemicals will be transported via tanker truck, in accordance with applicable safety regulations, to the Project site on a monthly basis. Both the SHS and LAS will be stored onsite in polyethylene tanks designed to contain said chemicals, in separate rooms for each chemical, each room with the capacity to contain at least 100% of the associated tank volume. Additionally, each of the chemical storage rooms will be air conditions to mitigate chemical concentration degradation and to reduce the formation of vapors, fumes, and odors. The disinfection process that will be used at the site does not produce a chemical waste stream; therefore, the Project does not include the disposal of any hazardous materials. Permits required for the storage and use of the chemicals, pursuant to the 2022 California Fire Code, will be obtained as applicable. Project operation will be in accordance with all applicable requirements for the transportation, storage, and use of the chemicals. For the reasons described above, construction and operation of the Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.





#### Issue IX. <u>Hazards and Hazardous Materials</u> (Continued)

b)	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	the release of hazardous materials into the environment?			X	

As described in **Issue IX(a)** above, the Project would not 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)	•) Would the project emit hazardous emissions or	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	substances, or waste within one-quarter mile of an existing or proposed school?				X

Murrieta Canyon Academy is located approximately 0.20 mile north of the Project site, Thompson Middle School is located approximately 0.25 mile north of the Project site, and the adjoining Murrieta Valley High School is located approximately 0.30 mile north of the Project site. The Project will store and use hazardous materials onsite; however, said materials will be sufficiently contained onsite and do not have the potential to impact any nearby school. Refer also to **Issue IX(a)** herein.

d) V ii c	Would the project be located on a site which is ncluded on a list of hazardous materials sites compiled pursuant to Government Code Section	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6 h	55962.5 and, as a result, would it create a significant nazard to the public or the environment?				X

The Project site is not located on a site included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. According to maps and data available to the public on EnviroStor (the California Department of Toxic Substances Control (DTSC) database located online at <u>http://www.envirostor.dtsc.ca.gov/public</u>), the nearest such site is known as "Crossroads Investors III, LLC", located at 24250 Adams Avenue, Murrieta, CA 92562, approximately 0.85 mile northeasterly of the Project site. The site Crossroads Investors III, LLC site included a lead acid battery processing and reclamation facility in the 1950s which resulted in lead contamination in the soil. In 2002, the DTSC certified that all remediation actions had been completed. The site is no occupied by Rock Valley





Christian Church. For these reasons, the Project will not create a significant hazard to the public or the environment related to a hazardous materials site.

#### Issue IX. Hazards and Hazardous Materials (Continued)

e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within	Potentially	Less Than Significant with	Less Than	
	two miles of a public airport or public use airport, would the project result in a safety hazard or	Impact	Mitigation Incorporated	Impact	No Impact
	excessive noise for people residing or working in the project area?				X

The airport nearest the Project site is the French Valley Airport, located approximately 5.50 miles northeasterly of the Project site. According to maps included in the <u>Riverside County Airport Land Use</u> <u>Compatibility Plan</u> (2004, as amended), the Project site is not located within a compatibility zone, noise contour, or mapped airspace of the French Valley Airport. The Project would not result in a safety hazard or excessive noise related to proximity to an airport.

f) Would the project impair implementation of or	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
physically interfere with an adopted emergency response plan or emergency evacuation plan?				X

The Project will be constructed within the District's existing Joaquin Ranch Pump Station site. Transportation corridors will remain open during Project construction and no lane closures are expected. During ongoing operation of Project facilities, there are expected to be two tanker truck trips to the site monthly to deliver chemicals, as well as one daily District vehicle trip to the site, which is already taking place as part of operation and maintenance of existing facilities onsite. The two monthly tanker trips are not considered significant and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.





#### Issue IX. <u>Hazards and Hazardous Materials</u> (Continued)

		Less Than		
	Potentially	Significant	Less Than	
	Significant	Mitigation	Significant	
g) Would the project expose people or structures,	Impact	Incorporated	Impact	No Impact
either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?			$\boxtimes$	

Based on maps available on the Fire Hazard Severity Zone Viewer available on the California Department of Forestry and Fire Protection's Fire Resource and Assessment Program website (http://frap.fire.ca.gov), the Project site is not located in an area designated as a moderate, high, or very high fire hazard severity zone. There is a slight risk of fire occurring during Project construction; however, the risk is less than significant and short-term. Additionally, construction contract documents for the Project will require construction contractors to comply with safety standards specified in Title 8 of the California Code of Regulations and that any equipment or machinery that poses a risk of emitting sparks or flame be equipped with an arrestor, thereby further limiting potential impacts. Project facilities do not include structures intended for more than occasional human occupation. Chemicals stored on the Project site (SHS and LAS) are not flammable; however, contact between the SHS and combustible material could result in fire. Chemical storage, use, and delivery at the Project site will be conducted in accordance with existing federal, state, and local laws regulating such materials. Further, onsite chemical storage is designed with secondary containment features that will contain a minimum of 100% of the stored chemical volumes, and permits for the storage and use of the chemicals onsite will be obtained from the local fire marshal. For these reasons, construction and operation of the Project will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

			Less Than		
			Significant		
		Potentially	with	Less Than	
a)	Would the project violate any water quality	Significant	Mitigation	Significant	NT T
	standards or waste discharge requirements or	Impact	Incorporated	Impact	No Impact
	otherwise substantially degrade surface or	_	_	_	
	groundwater quality?		Ш		

#### Issue X. <u>Hydrology and Water Quality</u>

The Project includes constructing and operating disinfection system improvements at the District's existing Joaquin Ranch Pump Station. The chemicals that will be delivered, stored, and used onsite will be securely stored in buildings that can contain the entire volumes of the chemical storage tanks, preventing discharge of any of the chemicals to the ground onsite or offsite. The Project does not have





a waste stream. Construction and operation of the Project will comply with all applicable water quality standards and other requirements of the State Water Resources Control Board and the State of California San Diego Regional Water Quality Control Board (Regional Board). For these reasons, the Project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

### Issue X. <u>Hydrology and Water Quality</u> (Continued)

<ul> <li>Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may</li> </ul>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
impede sustainable groundwater management of the basin?				$\boxtimes$

The Project does not have a water demand beyond that required during construction. Therefore, the Project does not have the potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge.

c) Would the project 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Result in substantial erosion or siltation on- or off-site?			$\boxtimes$	
<ul><li>ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?</li></ul>			X	
<ul> <li>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?</li> </ul>	П	п	п	X
substantial additional sources of polluted runoff?				
iv) Impede or redirect flood flows?				$\mathbf{X}$

i) The Project site is currently occupied by the existing Joaquin Ranch Pump Station facilities and open space containing non-native grassland vegetation and ornamental trees. As part of the Project, some of the ornamental trees are expected to be removed, and additional paved areas, estimated to be somewhere between 4,000 to 5,000 square feet, will be added to the site to accommodate the upgraded facilities and to provide access to tanker trucks for chemical deliveries to the site during ongoing Project operation. The site is relatively flat, and these





would not result in substantial erosion or siltation on- or off-site. Refer also to **Issue VII(b)** herein.

- *Because the Project includes additional paving onsite, anticipated to be between 4,000 and 8,000 square feet, quantities of surface runoff are expected to increase; however, the increase is not expected to be significant, and would not increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite. Refer also to Issue X(c)(i) above.*
- iii) The Project would not create or contribute any runoff water or result in stormwater runoff that would exceed the capacity of existing or planned drainage systems or provide substantial additional sources of polluted runoff. Refer also to **Issues** X(c)(i) and X(c)(ii) above.
- iv) Project facilities do not have the potential to impede or redirect flood flows. Refer also to Issues X(c)(i) through X(c)(iii) above.

#### Issue X. <u>Hydrology and Water Quality</u> (Continued)

d) In flood hazard, tsunami, or seiche zones, would	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
project risk release of pollutants due to project inundation?			X	

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map No. 06065C2715G, effective 08/28/2008 and revised to reflect a Letter of Map Revision (LOMR) effective April 7, 2014, the Project site is located within an area mapped as a 1% annual chance (100-year) flood plain. Although the Project site is located within a flood hazard zone, Project facilities would not release pollutants as a result of inundation due to flooding. Chemical storage facilities onsite are designed to include secondary containment features with the capacity to contain a minimum of 100% of the stored chemical volumes. Based on the California Official Tsunami Inundation Maps available on the California Department of *Conservation* website at https://www.conservation.ca.gov/cgs/tsunami/maps, there are no tsunami inundation areas mapped within Riverside County. There are no water bodies of sufficient size located near the Project site that would put the site at risk of a seiche. The nearest large body of water is Lake Elsinore, which is located





approximately eight miles northwesterly of the Project site. For these reasons, the Project would not risk release of pollutants due to inundation.

#### Issue X. <u>Hydrology and Water Quality</u> (Continued)

e) Would the project conflict with or obstruct	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
implementation of a water quality control plan or sustainable groundwater management plan?				$\mathbf{X}$

The water quality control plan applicable to the Project area is the <u>Water Quality Control Plan for the</u> <u>Colorado River Basin Region</u>, as amended through March 30, 2023. The Project does not include features that will conflict with or obstruct water quality policies or objectives, and will not conflict with or obstruct implementation of the water quality control plan cited above.

The Project site overlies the adjudicated Temecula Valley Groundwater Basin. The Project does not have the potential to adversely impact groundwater in said basin. The Project site is not located within an area covered by a groundwater sustainability plan.

For the reasons described above, the Project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

#### Issue XI. Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project physically divide an established community?				X

The Project is located at the District's existing Joaquin Ranch Pump Station site and does not have the potential to physically divide an established community.





#### Issue XI. Land Use and Planning (Continued)

	Potentially	Less Than Significant with	Less Than	
b) Would the project cause a significant environmental impact due to a conflict with any land use plan,	Significant Impact	Mitigation Incorporated	Significant Impact	No Impact
policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				$\mathbf{X}$

The Project is being constructed on existing District-owned Joaquin Ranch Pump Station site, which is zoned by the City of Murrieta as Civic/Institutional. Project construction and operation will take place within the bounds of the existing site. The Project will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

#### Issue XII. Mineral Resources

		Less Than Significant		
a) Would the project result in the loss of availability of	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
a known mineral resource that would be of value to the region and the residents of the state?				X

Project facilities will be located within the District's existing Joaquin Ranch Pump Station site, which is not known to contain any mineral resources that would be of value to the region or to the residents of the state. The Project would not impact the availability of any known mineral resources or mineral resource recovery sites. For these reasons, the Project would not 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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
on a local genera use plan?	on a local general plan, specific plan, or other land use plan?				X

The <u>Murrieta General Plan 2035</u> states, in Chapter 8, that "The extent and significance of mineral deposits in the City and Sphere of Influence are largely unknown." Known mineral resources in the City are depicted on Exhibit 8-1 of said general plan, and no such resources are shown to be located on or adjacent to the Project site; therefore, the Project will not result in the loss of availability of a local-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Refer also to **Issue XII(a)** above.





#### Issue XIII. Noise

a)	Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	ordinance, or applicable standards of other agencies?			$\boxtimes$	

The Project will generate increased noise levels in the area temporarily during construction as a result of construction vehicles and equipment operating onsite. Said construction noise will comply with the provisions of City of Murrieta, California Municipal Code Section 16.30, Noise.

Ongoing Project operation is expected to generate noise resulting from one daily District vehicle trip to the site for routine operation and maintenance and two monthly tanker truck trips to the site for chemical deliveries. The daily District vehicle trip is already taking place as part of operating the existing Joaquin Ranch Pump Station. The two monthly tanker truck trips will take place during daytime hours and will not result in a substantial increase in noise in the vicinity.

For the reasons described above, the Project will not result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established for the area.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?			$\boxtimes$	

The Project is not expected to result in excessive groundborne vibration or groundborne noise during Project construction or operation. Any groundborne vibration or groundborne noise generated during Project construction are not expected to be perceptible at any residences, with the nearest being located approximately 50 feet northeasterly of the Project site. Ongoing Project operation will not generate groundborne vibration or groundborne noise. For these reasons, the Project will not result in the generation of excessive groundborne vibration or groundborne noise levels. Refer also to **Issue XIII(a)** above.





#### Issue XIII. Noise (Continued)

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	project expose people residing or working in the project area to excessive noise levels?				X

The airport nearest the Project site is the French Valley Airport, a public use airport owned by County of Riverside, located approximately 5.50 miles northeasterly of the Project site. Based on maps included in the <u>Riverside County Airport Land Use Compatibility Plan</u> (2004, as amended), the Project site does not lie within a compatibility zone or a noise contour of the French Valley Airport. For these reasons, the Project will not expose people residing or working in the Project area to excessive noise levels related to airports.

### Issue XIV. <u>Population and Housing</u>

a) V p e	Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
0 0	or indirectly (for example, through extension of road or other infrastructure)?				X

The Project is intended to improve the disinfection facilities at the existing Joaquin Ranch Pump Station and will not require the District to hire additional permanent employees and would not induce unplanned growth in the area, either directly or indirectly.

b) Would the project displace substantial numbers of	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
existing people or housing, necessitating the construction of replacement housing elsewhere?				X

The Project is located on the District's existing Joaquin Ranch Pump Station site, does not include the construction or destruction of any housing, and does not have the potential to displace any existing people or housing.





#### Issue XV. <u>Public Services</u>

a) Wo phy new new fac sig ma or pul	build the project result in substantial adverse ysical impacts associated with the provision of w or physically altered governmental facilities, ed for new or physically altered governmental ilities, the construction of which could cause nificant environmental impacts, in order to intain acceptable service ratios, response times, other performance objectives for any of the blic services:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i)	Fire protection?				X
ii)	Police protection?				X
iii)	Schools?				X
iv)	Parks?				X
v)	Other public facilities?				X

- *i)* The Project does not include any features or facilities that would require additional or unusual fire protection resources.
- *ii)* The Project does not include any features or facilities that would require enhanced levels of police protection.
- *iii)* The Project does not have the potential to increase or decrease the area's population and would therefore not result in a greater or lesser demand for schools. The Project will not adversely impact any school.
- *iv)* The Project does not have the potential to increase or decrease the area's population, and therefore will not result in a greater or lesser demand for parks. The Project will not adversely impact any park.
- v) The Project will not adversely affect other public facilities.





#### Issue XVI. <u>Recreation</u>

<ul> <li>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical</li> </ul>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
deterioration of the facility would occur or be accelerated?				X

Construction and operation of the Project do not have the potential to increase or decrease the area's population, and would therefore not result in increased or decreased use of parks or other recreational facilities. Refer also to **Issue XIV(a)** herein.

<ul> <li>b) Does the project include recreational facilities or require the construction or expansion of recreational</li> </ul>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
facilities which might have an adverse physical effect on the environment?				$\boxtimes$

The Project does not include recreational facilities and will not require the construction or expansion of any recreational facilities.

#### Issue XVII. <u>Transportation</u>

		Potentially	Less Than Significant with	Less Than	
a)	Would the project conflict with a program, plan, ordinance, or policy addressing the circulation	Significant Impact	Mitigation Incorporated	Significant Impact	No Impact
system, pedestr	stem, including transit, roadway, bicycle, and destrian facilities?			X	

Minor, temporary impacts to traffic are expected to occur during construction of the Project due to workers' vehicles and construction vehicles and equipment at the Project site; however, said impacts will be less than significant and short-term. Operation of the Project will increase vehicle trips in the area above existing conditions by two monthly tanker truck trips to the Project site for chemical deliveries. These two monthly tanker truck trips are not of a frequency that would result in a substantial impact to traffic or transportation in the area. For these reasons, construction and operation of the Project will not conflict with a program, plan, ordinance, or policy addressing the circulation system.





#### Issue XVII. <u>Transportation</u> (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	

Construction of the Project is expected to result in approximately ten worker vehicles traveling to and from the Project site per day. For the purposes of this analysis, we have assumed that workers will commute a total of 40 miles per day each, round-trip, which results in a total of 400 vehicle miles traveled (VMT) per day during construction. This amount of daily VMT will only occur during Project construction and is not significant considering the existing traffic levels in the area and the short-term nature of construction. Operation of the Project is expected to require approximately one District vehicle trip to and from Project site daily, which is already taking place as part of current operation at the existing Joaquin Ranch Pump Station, as well as two monthly tanker truck trips for chemical deliveries. For this analysis, we have assumed that each truck trip will result in 100 miles round trip, for a total increase of 200 VMT per month over existing conditions. This increase in VMT is not considered significant. For these reasons, construction and operation of the Project will not conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

<ul> <li>Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or</li> </ul>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
dangerous intersections) or incompatible uses (e.g., farm equipment)?				X

The Project will be constructed within the District's existing Joaquin Ranch Pump Station site and does not include any construction in roads or on other nearby properties. For these reasons, construction and operation of the Project will not substantially increase hazards due to a geometric design feature or incompatible uses.





#### Issue XVII. **Transportation (Continued)**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in inadequate emergency access?				$\boxtimes$

No road or lane closures are anticipated during Project construction of operation. Therefore, the Project will not result in inadequate emergency access at the Project site or in the local vicinity.

#### Issue XVIII. **Tribal Cultural Resources**

a)	We cha res 210 lan the obj An	ould the project cause a substantial adverse ange in the significance of a tribal cultural cource, defined in Public Resources Code section 074 as either a site, feature, place, cultural adscape that is geographically defined in terms of e size and scope of the landscape, sacred place, or ject with cultural value to a California Native nerican tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	i)	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), or				X
	ii)	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 (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a				
		California Native American tribe.		$\mathbf{X}$		

i) Based on the cultural resources report prepared by CRM TECH, cited in Issue V(a) herein and included in Appendix C, there are no known tribal cultural resources or other cultural resources on the Project site that are 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). Therefore, construction and operation of the Project will not cause a substantial adverse change in the significance of a tribal cultural resource that is 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). Refer also to





*Issue V(a)* herein, which describes measures to avoid or reduce potential impacts to resources that are inadvertently discovered during Project construction activities.

- *ii)* On May 10, 2024, the District sent formal notification letters to the following Native American tribes:
  - Pechanga Band of Indians
  - Rincon Band of Luiseño Indians
  - Agua Caliente Band of Cahuilla Indians
  - Morongo Band of Mission Indians

In response to said formal notification letters, the District received written responses from Pechanga Band of Indians (Pechanga) and Rincon Band of Luiseño Indians (Rincon). As of the date of this writing, the District has not received responses from either Agua Caliente Band of Cahuilla Indians or Morongo Band of Mission Indians.

Rincon requested additional information and documents pertaining to the Project in order to make a determination as to whether they would like to request consultation. The available information was provided to Rincon, and Rincon replied with a recommendation that the District work with Pechanga pertaining to cultural resources that may be discovered on the Project site.

Pechanga has requested to consult with the District on the Project. The District provided additional Project information and documents to Pechanga, and participated in virtual consultation meetings with Pechanga on July 25, 2024 and September 19, 2024. The District and Pechanga have developed mitigation measures intended to avoid or reduce the potential impacts of the Project on any tribal cultural resources that may be discovered onsite during Project construction. Pechanga approved the District's proposed mitigation measures on August 26, 2024. Said mitigation measures are described below and in **Issue V** herein, and are set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A**.

#### Mitigation Measure TCR-1: Native American Monitoring

Prior to commencement of ground-disturbing activities on the Project site, the District will secure agreement with the Pechanga Band of Indians (Pechanga) for tribal monitoring of the site during ground-disturbing construction activities. The District will provide a minimum of 30 days advance notice to Pechanga of all mass grading and trenching activities. Pechanga representatives shall have the authority to





temporarily halt and redirect ground-disturbing activities onsite in the event that suspected archaeological resources are unearthed.

#### Mitigation Measure TCR-2: Final Disposition of Resources

In the event that Native American cultural resources are discovered during construction activities, the following procedures will be carried out for final disposition of the discoveries. One or more of the following treatments, in order of preference, shall be employed with Pechanga, and evidence of the treatment(s) conducted shall be provided to the District.

- 1. <u>Preservation In Place</u>. If feasible, preservation in place will be employed, leaving resources in the place where they were found, with no development affecting the integrity of the resources.
- 2. <u>Reburial on the Project Property</u>. The measures for reburial shall include, at minimum, measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation has been completed, with an exception that sacred items, burial goods, and Native American human remains are excluded. Any reburial process shall be culturally appropriate, and a listing of contents and location of the reburial shall be included in the confidential Phase IV Report. The Phase IV Report shall be filed with the District under a confidential cover and is not subject to public records requests.
- 3. <u>Curation</u>. If preservation in place or reburial is not feasible, then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets the criteria set forth in the State of California's <u>Guidelines for the Curation of Archeological Collections</u>, ensuring access and use. The collection and associated records shall be transferred, including title, and shall be accompanied by payment of the fees necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility, stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the Project Archaeologist to the District. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American human remains. Results



concerning any inadvertent finds shall be included in the Phase IV Report. Evidence of compliance with this mitigation measure, if a significant archaeological resource is found, shall be provided to the District upon completion of a treatment plan and final report detailing the significance and treatment finding.

#### Mitigation Measure TCR-3: Non-Disclosure

It is understood by all parties that, unless otherwise required by law, the site of any reburial of Native American human remains, associated grave goods, or other artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. In accordance with California Government Code §7927.000, the County Coroner, District, Project Archaeologist, and any other parties shall withhold public disclosure of information related to the reburial of any Native American human remains, grave goods, or other artifacts.

#### Issue XIX. <u>Utilities and Service Systems</u>

a)	Would the project require or result in the relocation or construction of new or expanded water	Potentially	Less Than Significant with	Less Than	
	wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications	Significant Impact	Mitigation Incorporated	Significant Impact	No Impact
	facilities, the relocation or construction of which could cause significant environmental effects?			$\boxtimes$	

The Project consists of construction and operation of disinfection system improvements at the District's existing Joaquin Ranch Pump Station, as described in **Part 1(B)** herein. The proposed facilities will be powered from the existing electrical service and no modification to the service will be required.

b)	Would the project have sufficient water supplies available to serve the project and reasonably	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	foreseeable future development during normal, dry, and multiple dry years?				$\boxtimes$

Water needed during construction, such as for dust control, will be available from the District's existing water supplies, and construction water demand will be less than significant and short-term. Operation of the Project facilities does not have a water demand. For these reasons, the Project have sufficient





water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.

#### Issue XIX. <u>Utilities and Service Systems</u> (Continued)

c)	Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	serve the project's projected demand in addition to the provider's existing commitments?				X

The Project will not include any waste generating facilities and will have no impact to the existing wastewater flow.

d) Woul	Would the project generate solid waste in excess of	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				

Project operation will not generate solid waste. Small quantities of solid waste may be generated during Project construction; however, said quantities of solid waste would be minimal and would be recycled or accommodated by a local landfill. For these reasons, the project will not generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure. Further, the Project will not otherwise impair the attainment of solid waste reduction goals.

e) Would the project comply with federal state and	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
local management and reduction statutes and regulations related to solid waste?				$\boxtimes$

The Project will comply with all federal, state, and local statutes and regulations related to solid waste. Refer also to **Issue XIX(d)** above.





#### Issue XX. <u>Wildfire</u>

If the Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

		Less Than Significant		
a) Would the project substantially impair an adopted	Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact	No Impact
emergency response plan or emergency evacuation plan?				X

Based on maps available on the California Board of Forestry and Fire Protection State Responsibility Area Viewer, the Project Site is not located within a state responsibility area (SRA) or a very high fire hazard severity zone. Based on Exhibit 12-8 Very High Fire Hazard Zones of the <u>Murrieta General</u> <u>Plan 2035</u> (2020), the Project is not located in or adjoining an area mapped as a high fire hazard zone. The Project does not have the potential to substantially impair an adopted emergency response plan or emergency evacuation plan.

b)	Due to slope, prevailing winds, or other factors, would the project exacerbate wildfire risks and thereby expose project occupants to pollutant	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	concentrations from a wildfire or the uncontrolled spread of a wildfire?				X

The Project does not include habitable structures, and there would be no project occupants except for District employees who are expected to visit the site daily for operation and maintenance purposes. Further, construction and operation of the Project will not exacerbate wildfire risks. Refer also to **Issue** *XX(a)* above.

c) Would the project 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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
or that may result in temporary or ongoing impacts to the environment?				X

The Project does not require the installation or maintenance of associated infrastructure that will exacerbate fire risk or result in temporary or ongoing impacts to the environment related to fire risk. Refer also to **Issue XX(a)** above.





#### Issue XX. <u>Wildfire</u> (Continued)

d)	Would the project expose people or structures to significant risks, including downslope or	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	runoff, post-fire slope instability, or drainage changes?				X

The Project site is relatively flat and, after completion of construction, disturbed surfaces not containing above ground facilities will be returned to near-preconstruction conditions. Construction and operation of the Project will not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

#### Issue XXI. Mandatory Findings of Significance

a)	Does the project have the potential to substantially 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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	animal, or eliminate important examples of the major periods of California history or prehistory?		X		

#### Biological Resources

As described in **Issue IV** herein, the Project site contains suitable or potentially suitable habitat for burrowing owl, Cooper's hawk, and other nesting birds. Potential Project impacts to burrowing owl, Cooper's hawk, and nesting birds will not be significant with incorporation of Mitigation Measures BIO-1 and BIO-2, which are set forth in the Mitigation Monitoring and Reporting Program for the Project, attached to the Mitigated Negative Declaration included in **Appendix A** herein.

#### > Archaeological and Historical Resources

As described in **Issue V** herein, a historical/archaeological resources assessment was conducted at the Project site. Based on the assessment, there are no resources present on the Project site that meet the criteria for listing in the California Register of Historical Resources or qualify as a historical or archaeological resource under CEQA. Construction and operation of the Project is not expected to eliminate known important examples of major periods of California history or prehistory; however, in order to avoid or reduce potential impacts upon any previously





undiscovered historical or archaeological resources that may be present in subsurface deposits, Mitigation Measures CUL-1 through CUL-5 are incorporated into the Project and is set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A** herein. With incorporation of Mitigation Measures CUL-1 through CUL-5, the Project would not eliminate important examples of the major periods of California history or prehistory.

#### Paleontological Resources

As described in **Issue VII(f)** herein, a paleontological resources assessment was conducted at the Project site. Based on said assessment, the Project has a low potential to impact significant, nonrenewable paleontological resources. Although no impacts are anticipated, Mitigation Measure PALEO-1 is incorporated into the Project to prevent an adverse impact upon any paleontological resource that may be present in subsurface soils. Mitigation Measure PALEO-1 is set forth in the Mitigation Monitoring and Reporting Program for the Project, a copy of which is included in **Appendix A** herein. With incorporation of Mitigation Measure PALEO-1, the Project will not eliminate important examples of the major periods of California prehistory.

#### Issue XXI. <u>Mandatory Findings of Significance</u> (Continued)

<ul> <li>b) Does the project have impacts that are individually limited, but cumulatively considerable?</li> <li>("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past</li> </ul>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
projects, the effects of other current projects, and the effects of probable future projects.)				$\boxtimes$

None of the impacts or potential impacts of the Project are cumulatively considerable.

	Less Than		
	Significant		
Potentially	with	Less Than	
Significant	Mitigation	Significant	
Impact	Incorporated	Impact	No Impact
			$\boxtimes$
	Potentially Significant Impact	Less Than SignificantPotentiallywithSignificantMitigationImpactIncorporated	Less Than Significant Potentially with Less Than Significant Mitigation Significant Impact Incorporated Impact

As described herein, none of the environmental effects of the Project will cause substantial adverse effects on human beings, either directly or indirectly.



PART 3 REFERENCES AND SOURCES



#### PART 3 - REFERENCES AND SOURCES

- California Air Resources Board Website for California Ambient Air Quality Standards, <u>www.arb.ca.gov/resources/california-ambient-air-quality-standards</u>
- California Board of Forestry and Fire Protection State Responsibility Area Viewer, <u>bof.fire.ca.gov/</u> projects-and-programs/state-responsibility-area-viewer
- California Department of Conservation, Division of Land Resources Protection, California Important Farmland Finder, <u>https://maps.conservation.ca.gov/DLRP/CIFF</u>
- California Code of Regulations, Title 14, Division 6, Chapter 3; <u>Guidelines for Implementation of the</u> <u>California Environmental Quality Act</u>, Section 15000 *et seq*; as amended December 28, 2018
- California Department of Conservation Tsunami Program Website, <u>conservation.ca.gov/cgs/tsunami/maps</u>
- California Department of Toxic Substances Control Website, EnviroStor Database, <u>www.envirostor.dtsc.ca.gov/public</u>
- California Department of Transportation California Scenic Highway Mapping System Website, <u>www.dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-</u> <u>scenic-highways</u>
- California Earthquake Hazards Zone Application ("EQ-Zapp"), www.conservation.ca.gov/cgs/geohazards/eq-zapp, updated September 23, 2021, accessed 04/22/2024
- City of Murrieta, Murrieta General Plan 2035, Adopted 2011 and Updated 2020
- <u>California Emissions Estimator Model® (CalEEMod) Software, Version 2022.1.1.22</u>, accessed online at <u>caleemod.com</u>
- County of Riverside Assessor-County Clerk-Recorder website for Agricultural Preserves, <u>https://www.rivcoacr.org/agricultural-preserve-information</u>
- Federal Emergency Management Agency (FEMA) Map Service Center Website, <u>www.msc.fema.gov</u>
- Fire Hazard Severity Zone Viewer, Fire Resource and Assessment Program, California Department of Forestry and Fire Protection, <u>https://frap.fire.ca.gov</u>
- Google Earth Pro, Version 7.3.6.9796, build date February 22, 2024
- Kennedy Jenks, <u>Rancho California Water District 2020 Urban Water Management Plan</u>, adopted June 10, 2021
- Office of the State Fire Marshal Website, <u>osfm.fire.ca.gov</u>
- <u>Riverside County Airport Land Use Compatibility Plan</u>, by Mead & Hunt and Coffman Associates, Adopted by the Riverside County Airport Land Use Commission on October 14, 2004, as amended
- Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey, available online at <u>http://websoilsurvey.sc.egov.usda.gov/</u>, accessed 04/24/2024
- South Coast Air Quality Management District Website, www.aqmd.gov
- Sustainable Groundwater Management Act (SGMA) Groundwater Management Website, <u>www.water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management</u>
- United States Environmental Protection Agency Website for National Ambient Air Quality Standards, <u>www.epa.gov/criteria-air-pollutants</u>



FIGURES



ISF1.DWG -227\_ 592



592-227\_ISF2.DWG

### APPENDIX A

DRAFT MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM

#### RANCHO CALIFORNIA WATER DISTRICT JOAQUIN RANCH PUMP STATION DISINFECTION SYSTEM IMPROVEMENTS DRAFT MITIGATED NEGATIVE DECLARATION

- **Project:** The Joaquin Ranch Pump Station Disinfection System Improvements (the Project) generally consists of construction and operation of chloramination disinfection facilities at the existing Joaquin Ranch Pump Station. The Project also includes demolition and removal of the existing chlorine injection facilities and construction of site access improvements to accommodate tanker trucks for chemical deliveries. A more detailed description of the Project is included in the Project Initial Study, a copy of which is available for review at Rancho California Water District's office, located at 42135 Winchester Road, Temecula, CA 92590 or online at <a href="https://www.ranchowater.com/127/CEQA-Compliance">www.ranchowater.com/127/CEQA-Compliance</a>.
- Location: The Project site is located at 42581 Vineyard Parkway, which is situated along Vineyard Parkway near the intersection of Vineyard Parkway and Whitaker Way, southwest of Interstate 15, northeast of Murrieta Creek, in the City of Murrieta, Riverside County, California. Figures 1 and 2, copies of which are included with the Initial Study for the Project, depict the location of the Project facilities.

#### Entity: Rancho California Water District

The District's Board of Directors, having conducted a careful and independent review of the Initial Study for the Project, having reviewed the written comments received prior to the public meeting of the Board, and having heard at a public meeting of the Board the comments of any and all concerned persons or entities, including the recommendation of District staff, 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 Board's findings is as follows:

Construction and operation of the Project as modified will not result in significant adverse impacts upon any threatened or endangered species of plants or animals, nor will it result in damage to or destruction of any significant examples of California history or prehistory or tribal cultural resources. Potential impacts related to biological resources and historical/archaeological/paleontological/tribal cultural resources will be avoided or reduced by adhering to the terms of a Mitigation Monitoring and Reporting Program (see Exhibit A, attached, which is incorporated herein by reference) prior to and throughout construction of the Project.

The Board of Directors hereby finds that the Mitigated Negative Declaration reflects its independent judgment. The Initial Study was prepared by Krieger & Stewart, the District's Consulting Engineer for this project. The Initial Study may be viewed at the office of Rancho California Water District, 42135 Winchester Road, Temecula, CA 92590 or online at <u>www.ranchowater.com/127/CEQA-Compliance</u>.

Date:

Dan Ruiz Senior Director of Engineering and Planning RANCHO CALIFORNIA WATER DISTRICT

# MITIGATION MONITORING AND REPORTING PROGRAM EXHIBIT A TO THE MITIGATED NEGATIVE DECLARATION

#### Section I – Introduction

Section 21081.6 of the California Environmental Quality Act (CEQA) requires that a mitigation monitoring program be prepared prior to the approval of any project which incorporates mitigation measures as a condition of approval. Mitigation measures are generally adopted to reduce the potentially significant adverse environmental impacts of a project to a level that is less than significant. The mitigation monitoring program must ensure compliance with mitigation measures prior to and during project construction (and, if applicable, during project operation).

Since the project considered by the Initial Study for Rancho California Water District's Joaquin Ranch Pump Station Disinfection System Improvements (Project) incorporates mitigation measures as a condition of approval, this mitigation monitoring and reporting program has been prepared and incorporated into the Mitigated Negative Declaration for the Project.

## Section II – Biological Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue IV of the Project Initial Study, there is potential for burrowing owl, Cooper's hawk, other nesting bird species, or a combination of the these, to be present on the Project site. Without mitigation, the Project could potentially result in significant adverse impacts upon these bird species. This Mitigation Monitoring and Reporting Program is intended to reduce potential impacts by the Project upon biological resources by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measures (**BIO-1 and BIO-2**) will be implemented in order to ensure that construction of Project facilities does not result in a significant adverse impact upon burrowing owl, Cooper's hawk, or other nesting birds. Each measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

#### **BIO-1:** Burrowing Owl

To determine whether burrowing owl is present on the Project site, a preconstruction burrowing owl survey will be conducted by a qualified biologist in accordance with California Department of Fish and Wildlife's 2012 *Staff Report on Burrowing Owl Mitigation*. If burrowing owl is detected during the survey, coordination with the California Department of Fish and Wildlife (CDFW) will be required, including preparation of an impact assessment in accordance with the 2012 *Staff Report on Burrowing Owl Mitigation*. If no burrowing owl is detected during the preconstruction burrowing owl is detected during the preconstruction burrowing owl is detected during the preconstruction burrowing owl survey, the Project construction may commence. If Project construction does not commence within 14 days after performance of the preconstruction burrowing owl survey, then an additional burrowing owl preconstruction survey will be conducted by a qualified biologist prior to commencement of construction to determine whether burrowing owl have since moved onto the site.

# Responsible Party: Rancho California Water District Project Manager (District Project Manager)

#### Implementation Period: Prior to (and Possibly During) Project Construction

#### **BIO-2:** Nesting Birds

The Project site contains potentially suitable habitat for nesting bird species. To avoid potential effects to nesting birds, a preconstruction nesting bird survey will be conducted by a qualified biologist no less than 3 days and not more than 7 days prior to any construction activities, including vegetation removal. If no nesting birds are found during the preconstruction survey, then construction may commence within 7 days of completion of the preconstruction survey.

If nesting birds are found during the preconstruction survey, the qualified biologist will establish an exclusionary buffer or buffers around the nests. The buffer(s) will be clearly marked in the field by construction personnel under guidance of the qualified biologist. No construction activities, including vegetation removal, are allowed within the buffer zone(s) until the qualified biologist determines that the young have fledged or the nest is no longer active.

Whether or not any nesting birds were identified during the preconstruction survey, if more than 7 days have lapsed since the preconstruction survey and construction or vegetation removal have not yet commenced, then another preconstruction nesting bird survey will be conducted to determine whether any nesting birds have moved into the site.

## Responsible Party: District Project Manager Implementation Period: Prior to and During Project Construction

# Section III – Historical and Archaeological Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue V of the Project Initial Study, the Project would not result in an adverse impact upon any known historical or archaeological resources (cultural resources). This Mitigation Monitoring and Reporting Program is intended to avoid or reduce the potential for impacts by the Project upon previouslyundiscovered cultural resources that may be present in subsurface soil deposits by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measures (CUL-1 through CUL-5) will be implemented in order to ensure that construction of Project facilities does not result in significant adverse impacts upon any previouslyundiscovered cultural resources that may be uncovered during Project construction. Each measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

#### CUL-1: Archaeological Monitoring

Prior to start of construction, the District shall retain a qualified archaeological monitor for all grading, trenching, and other ground disturbance activities. The archaeological monitor shall have the authority to halt or divert construction activities as necessary in the event that suspected archaeological or tribal resources are unearthed during Project construction.

#### **Responsible Party: District Project Manager**

#### **Implementation Period: Prior to and During Ground Disturbing Activities**

#### CUL-2: Cultural Resources Worker Sensitivity Training

The Project Archaeologist and the Consulting Tribe(s) shall attend the pre-construction meeting with District representatives, the construction manager, and contractor/subcontractor personnel and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The training will include a brief review of the cultural sensitivity of the Project site and the surrounding areas; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that begin work on the Project following the initial training and will conduct earthwork or grading activities, must take the Cultural Resources Worker Sensitivity Training prior to beginning work. The

Project Archaeologist and the Consulting Tribe(s) will make themselves available to provide the training on an as-needed basis.

# Responsible Party: Project Archaeologist and District Project Manager Implementation Period: Prior to (and, if necessary, During) Ground Disturbing Activities

#### CUL-3: Inadvertent Finds

If any subsurface cultural resources are encountered during Project construction, construction activities within 100 feet of the encounter shall be halted until the qualified monitors can examine the find, determine its significance, and, if significant, notify the District, Project Archaeologist, and Consulting Tribe(s). Tribal and archaeological monitors will set up a temporary Environmentally Sensitive Area (ESA) fence at the 100-foot boundary. A meeting will be convened between the District, Project Archaeologist, and Consulting Tribe(s) (the parties) to discuss the significance of the find, determine a plan that would reduce potential effects to a level that is less than significant, and implement appropriate mitigation measures. Recommended measures could include, but are not limited to, the following:

- 1. Preservation in place;
- 2. Controlled grading or trenching; and/or
- 3. Excavation, recovery, and reburial onsite.

If the parties find that any excavated cultural resources meet eligibility requirements for listing on the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- Prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and/or cryptocrystalline silicates;
- Groundstone artifacts, including mortars, pestles, and grinding slabs;
- Historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and metal objects;
- Historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements.

# Responsible Party: Project Archaeologist and District Project Manager Implementation Period: During Ground Disturbing Activities
#### CUL-4: Phase IV Report

Prior to final inspection, the Project Archaeologist shall submit two (2) copies of the Phase IV Cultural Resources Monitoring Report (Phase IV Report) that complies with the District's requirements for such reports. The Phase IV Report shall include evidence of the required Cultural Resources Worker Sensitivity Training that is described in Mitigation Measure CUL-2. The District will review the Phase IV Report to determine adequate mitigation compliance. Provided the Phase IV Report is adequate, two (2) copies of said report shall be submitted to the Eastern Information Center (EIC) at the University of California, Riverside (UCR) or current location, and one (1) copy shall be submitted to the Pechanga Cultural Resources Department.

## Responsible Party: Project Archaeologist and District Project Manager Implementation Period: After Construction and Prior to Final Inspection

#### CUL-5: Human Remains

In accordance with California Health and Safety Code §7050.5, if human remains are encountered during Project construction, construction will be halted and the County Coroner will be notified of the find immediately. The County Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant (MLD). With the permission of the District, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations within 48 hours of being granted access to the discovery site. No further disturbance shall occur until a determination of origin and disposition for the remains has been m ade pursuant to California Public Resources Code §5097.98.

Responsible Party: District Project Manager Implementation Period: During Ground Disturbing Activities

# Section IV – Paleontological Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue VII of the Project Initial Study, a paleontological resources assessment was conducted for the Project site. Based on the paleontological resources assessment report, no paleontological resources or potentially fossiliferous sediments were observed on the Project site, and the Project has a low potential to impact significant, nonrenewable paleontological resources. This Mitigation Monitoring and Reporting Program is intended to avoid or reduce the potential for impacts by the Project upon previouslyundiscovered paleontological resources that may be present in subsurface soil deposits by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measure (**PALEO-1**) will be implemented in order to ensure that construction of Project facilities does not result in significant adverse impacts upon any previously-undiscovered paleontological resources that may be uncovered during Project construction. The measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

#### PALEO-1: Paleontological Resources

The following measures will be implemented to protect any paleontological resources uncovered during ground disturbance at the Project site:

- If any paleontological resources or suspected paleontological resources are uncovered during Project construction, all work in the vicinity of the discovery shall be halted until a qualified paleontologist can evaluate the nature and significance of the find.
- If a qualified paleontologist determines that a specimen uncovered during Project construction is potentially significant, then all future ground-disturbing actions associated with Project construction will be monitored by a qualified paleontological monitor. The paleontological monitor will be prepared to quickly salvage fossil specimens upon discovery to avoid construction delays and shall have the authority to temporarily halt or divert construction equipment and activities to allow for removal of abundant or large specimens.
- Specimens recovered from the Project site by the qualified paleontological monitor will be, in accordance with standard paleontological practice, identified and curated at a repository with permanent retrievable storage that will allow for additional research in the future.

## **Responsible Party: Rancho California Water District Project Manager Implementation Period: During Ground Disturbing Activities**

# Section V – Tribal Cultural Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue XVIII of the Project Initial Study, there are no known tribal cultural resources or other cultural resources on the Project site, and the Project would not result in an adverse impact upon any known tribal cultural resources. This Mitigation Monitoring and Reporting Program is intended to avoid or reduce the potential for impacts by the Project upon previously-undiscovered tribal cultural resources

that may be present in subsurface soil deposits by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measures (**TCR-1 through TCR-3**) will be implemented in order to ensure that construction of Project facilities does not result in significant adverse impacts upon any previouslyundiscovered tribal cultural resources that may be uncovered during Project construction. Each measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

#### TCR-1: Native American Monitoring

Prior to commencement of ground-disturbing activities on the Project site, the District will secure agreement with the Pechanga Band of Indians (Pechanga) for tribal monitoring of the site during ground-disturbing construction activities. The District will provide a minimum of 30 days advance notice to Pechanga of all mass grading and trenching activities. Pechanga representatives shall have the authority to temporarily halt and redirect ground-disturbing activities onsite in the event that suspected archaeological resources are unearthed.

## Responsible Party: District Project Manager Implementation Period: Prior to and During Ground Disturbing Activities

#### TCR-2: Final Disposition of Resources

In the event that Native American cultural resources are discovered during construction activities, the following procedures will be carried out for final disposition of the discoveries. One or more of the following treatments, in order of preference, shall be employed with Pechanga, and evidence of the treatments shall be provided to the District.

- 1. <u>Preservation In Place</u>. If feasible, preservation in place will be employed, leaving resources in the place where they were found, with no development affecting the integrity of the resources.
- 2. <u>Reburial on the Project Property</u>. The measures for reburial shall include, at minimum, measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation has been completed, with an exception that sacred items, burial goods, and Native American human remains are excluded. Any reburial process shall be culturally appropriate, and a

listing of contents and location of the reburial shall be included in the confidential Phase IV Report. The Phase IV Report shall be filed with the District under a confidential cover and is not subject to public records requests.

3. <u>Curation</u>. If preservation in place or reburial is not feasible, then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets the criteria set forth in the State of California's *Guidelines for the Curation of Archeological Collections*, ensuring access and use. The collection and associated records shall be transferred, including title, and shall be accompanied by payment of the fees necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility, stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the Project Archaeologist to the District. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American human remains. Results concerning any inadvertent finds shall be included in the Phase IV Report. Evidence of compliance with this mitigation measure, if a significant archaeological resource is found, shall be provided to the District upon completion of a treatment plan and final report detailing the significance and treatment finding.

## Responsible Party: Project Archaeologist and District Project Manager Implementation Period: During, and Possibly After, Ground Disturbing Activities

#### TCR-3: Non-Disclosure

It is understood by all parties that, unless otherwise required by law, the site of any reburial of Native American human remains, associated grave goods, or other artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. In accordance with California Government Code §7927.000, the County Coroner, District, Project Archaeologist, and any other parties shall withhold public disclosure of information related to the reburial of any Native American human remains, grave goods, or other artifacts.

## Responsible Party: Project Archaeologist, District Project Manager, and Any Other Parties Implementation Period: During and After Project Construction

APPENDIX B

**BIOLOGICAL RESOURCES ASSESSMENT** 

## **BIOLOGICAL RESOURCES ASSESSMENT**

JOAQUIN RANCH PUMP STATION PROJECT MURRIETA, RIVERSIDE COUNTY, CALIFORNIA



April 2024

## **BIOLOGICAL RESOURCES ASSESSMENT**

## JOAQUIN RANCH PUMP STATION PROJECT MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

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LSA Project No. 20231429



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## **EXECUTIVE SUMMARY**

Rancho California Water District retained LSA to prepare a Biological Resources Assessment. This report has been prepared for compliance with the California Environmental Quality Act.

The project site does not have habitat for federally/State listed species. In addition, the project site is not within federally designated critical habitat.

The project provides low quality habitat for non-listed special-status species including Cooper's hawk (*Accipiter cooperii*), and low quality foraging habitat for pallid bat (*Antrozous pallidus*), Western mastiff bat (*Eumops perotis*), and pocketed free-tailed bat (*Nyctinomops femorosacca*). Project effects to Cooper's hawk are not considered substantial with implementation of avoidance measures for nesting birds. The loss of low quality bat foraging habitat is not considered substantial. A habitat assessment was conducted for burrowing owl, which is not expected to occur on the project site. However, to avoid effects to this species, a preconstruction survey is required within 14 days prior to construction.

The project site provides suitable habitat for nesting birds protected by the Migratory Bird Treaty Act and the California Fish and Game Code. To avoid potential effects to nesting birds, prior to construction activities, a preconstruction nesting bird survey will be conducted by a qualified biologist no less than 3 days and not more than 7 days prior to any construction activities and vegetation removal.

No jurisdictional waters subject to the regulatory authority of the United States Army Corps of Engineers, the California Department of Fish and Wildlife, or the Regional Water Quality Control Board are present on the project site.

The ornamental trees on site may qualify as a protected tree(s) under the City of Murrieta tree preservation ordinance. If ornamental trees are to be removed, an arborist survey would be required. If a tree to be removed qualifies as a protected tree, a tree removal permit would be required from the City of Murrieta.

The project site is within the planning boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The Rancho California Water District (RCWD) is the lead agency for the project and is not signatory to the MSHCP. The RCWD is not pursuing an MSHCP Participating Special Entity designation for the project. Therefore, the project is not subject to compliance with the MSHCP.



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## **ABBREVIATIONS AND ACRONYMS**

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CWA	federal Clean Water Act
FESA	Federal Endangered Species Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NRCS	Natural Resources Conservation Service
project	San Joaquin Ranch Pump Station Project
RCWD	Rancho California Water District
RWQCB	Regional Water Quality Control Board
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey



## INTRODUCTION

Rancho California Water District (RCWD) retained LSA to prepare a Biological Resources Assessment for the approximately 2.1-acre proposed RCWD San Joaquin Ranch Disinfection Improvements project (project). The project site is located at 42581 Vineyard Parkway, in Murrieta, Riverside County, California. The project site is depicted on the United States Geological Survey (USGS) *Murrieta, California* 7.5-minute topographic quadrangles in Section 18, Township 7 South, Range 3 West (see Figure 1, Regional and Project Location).

The RCWD proposes the construction of chloramination disinfection system improvements.



SOURCE: USGS 7.5' Quad - Murrieta (1979), CA

J:\20231429\GIS\Pro\Joaquin Ranch Pump Station (4/26/24)



## **METHODS**

#### LITERATURE REVIEW

A literature review to determine the existence or potential occurrence of special-interest plant and animal species within the project site and in the project vicinity. Database records for the *Murrieta*, *Temecula Wildomar* and *Fallbrook, California* USGS 7.5-minute quadrangles were searched on February 5, 2024, using the California Department of Fish and Wildlife (CDFW) Natural Diversity Database application Rarefind 5. Current and historic aerial photographs were reviewed using Google Earth. The United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation website was consulted for critical habitat areas and species that may require consideration. Mapped soil types were determined using the WebSoil Survey (Natural Resources Conservation Service Web Soil Survey version 3.4.0 [NRCS n.d.]). The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Volume 1, Parts 1 and 2, was also reviewed (Riverside County Transportation and Land Management Agency 2003)

#### **FIELD SURVEYS**

LSA Biologists Denise Woodard and Chrissy Kent conducted a general field survey of the project site on January 31, 2024, between 7:00 a.m. and 8:30 a.m. Weather conditions during the survey consisted of cloudy skies (100 percent), a temperature of approximately 49 degrees Fahrenheit, and winds ranging from 1 to 3 miles per hour. The entire study area was surveyed on foot by walking along transects spaced at approximately 30 feet. Observations regarding general site conditions, vegetation, potential jurisdictional waters, and suitability of habitat for special-status plants, wildlife, and other biological resources present were recorded. All plant and animal species observed during the field survey were noted. All plant and animal species observed or otherwise detected during this field survey were noted. Species observed are listed in Appendix A.

The entire project site was surveyed on foot and notes were taken on general site conditions, vegetation, and suitability of habitat for various special-interest elements. All plant and animal species observed or otherwise detected during this field survey were noted. Plant species observed are listed in Appendix A.

A burrowing owl (*Athene cunicularia*) habitat assessment was conducted during the general field survey. The survey was conducted by walking over suitable habitat within the study area along transects spaced at approximately 30 feet. Any potential burrowing owl burrows encountered during the survey were examined for owl sign (e.g., feathers, pellets, whitewash, and prey remnants).



## RESULTS

### **EXISTING SITE CONDITIONS**

The project site is considered primarily developed by the existing RCWD's pump station facility. The westerly and extreme easterly portions of the project site, not directly affected by the pump station infrastructure, are vegetated by ruderal/non-native grasslands and ornamental trees. The ruderal/ non-native grasslands are maintained for weed abatement. Surrounding land uses including residential development to the northeast, undeveloped land, and Murrieta Creek to the southwest. Vineyard Parkway borders the southeasterly side of the project site. The project is within the boundaries of the MSHCP, as discussed in further detail below.

#### **Topography and Soils**

The project site is relatively flat with an elevation of approximately 1,110 feet above mean sea level. The mapped soils on the project site consist of Greenfield sandy loam, 0 to 2 percent slopes, Handford coarse sandy loam, deep, 2 to 8 percent slopes, eroded, and riverwash (see Figure 2, Soils). Soils observed on the project site appeared consistent with sandy loam designations; however, riverwash no longer occurs as a result of the development of the existing facility.

#### Vegetation

Vegetation on the project site is best described as ruderal/non-native grasslands and ornamental . Dominant ruderal/non-native grasslands species identified include shortpod mustard (*Hirschfeldia incana*), common Mediterranean grass (*Schismus barbatus*), and dove weed (*Croton setigerus*). Ornamental trees species identified include Eucalyptus (*Eucalyptus* sp.) and alder trees (*Alnus* sp.) that roughly occur within the middle of the project site. Ornamental shrubs and trees also occur along the westerly site boundary.

Figure 3, Vegetation, Land Use and Nest Locations, shows vegetation and photograph locations, and Figure 4, Site Photographs, shows detailed site photographs. A complete list of plant species observed is provided in Appendix A, and wildlife species are discussed below.

#### Wildlife

Wildlife species observed within the project site are consistent with the existing setting and include red-shoulder hawk (*Buteo lineatus*), yellow-rumped warbler (*Setophaga coronata*), lesser goldfinch (*Spinus psaltria*), and Botta's pocket gopher (*Thomomys bottae*). A complete list can be found in Appendix A.

#### WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN

The MSHCP is a comprehensive multi-jurisdictional effort that includes western Riverside County and multiple cities. The MSHCP provides for the assembly of a Conservation Area consisting of Core Areas and Linkages for the conservation of species (Covered Species) and their associated habitats. Covered Species are 146 species of plants and animals of various federal and State listing statuses.



SOURCE: USGS 7.5' Quad - Murrieta (1979), CA



SOURCE: Google Maps (2023)

J:\20231429\GIS\Pro\Joaquin Ranch Pump Station (4/26/24)



**Photo 1:** View of exiting pump station.



**Photo 2:** View of ruderal non-native grasslands and ornamental trees.



**Photo 3**: View of ruderal non-native grasslands and ornamental trees.



Photo 4: View of existing pump station

## LSA

FIGURE 4

Joaquin Ranch Pump Station Site Photographs



The Conservation Area is to be assembled from portions of the MSHCP Criteria Area, which consists of quarter-section (i.e., 160-acre) Criteria Cells, each with specific criteria for species conservation within that cell. The overall goal of this plan is to maintain biological and ecological diversity within a rapidly urbanizing region. The MSHCP was prepared to provide for the take and mitigation of the species covered under the MSHCP pursuant to the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). The MSHCP allows for the issuance of take at the local level, by MSHCP permittees, including the City of Murrieta, thereby streamlining the take authorization process on a project-by-project basis.

The RCWD is the lead agency for this project and is not signatory to the MSHCP. The RCWD is not pursuing obtaining an MSHCP Participating Special Entity designation for the project. Due to the project not being processed through the MSHCP for Covered Species, the project is subject to FESA and/or CESA for any project effects to threatened, endangered, and/or candidate species.

#### **SPECIAL-STATUS SPECIES**

Species in danger of extinction or that may soon be in danger of extinction may be listed as endangered or threatened under the federal and California Endangered Species Acts. The USFWS can also designate critical habitat areas that are essential to the conservation of a listed species. In addition to threatened and endangered species, the CDFW maintains lists of plant species considered rare and animal species designated as Species of Special Concern, as well as other species that it considers in need of monitoring.

Threatened and endangered species, plant species considered rare, Species of Special Concern, and other special-status species that have been reported from the general project vicinity are included in Appendix B along with assessments of habitat suitability on the project site.

#### **Threatened/Endangered Species and Critical Habitats**

The results of the literature search indicated the potential occurrence of the following 19 threatened, endangered, fully protected, candidate, or proposed threatened or endangered species in the general project vicinity:

- Munz's onion
- San Diego ambrosia
- Thread-leaved brodiaea
- Orcutt's brodiaea
- San Diego button celery
- Parish's meadowfoam
- Spreading navarretia
- California Orcutt grass
- Vernal pool fairy shrimp
- San Diego fairy shrimp
- Quino checkerspot
- Riverside fairy shrimp
- Arroyo chub



- Arroyo toad
- California red-legged frog
- Western spadefoot
- Southwestern pond turtle
- Swainson's hawk
- Western yellow-billed cuckoo
- Coastal California gnatcatcher
- Least Bell's vireo
- San Bernardino kangaroo rat

Under provisions of Section 7(a)(2) of FESA, a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed threatened or endangered species or destroy or adversely modify critical habitat. The USFWS designates as threatened or endangered, species that are at risk of extinction and may also adopt recovery plans that identify specific areas that are essential to the conservation of a listed species. Critical habitat areas that may require special management considerations or protections can also be designated.

The CESA is administered by the CDFW and prohibits the "take" of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Section 2050 to 2097). "Take" is defined as hunt, pursue, catch, capture, or kill. Sections 2091 and 2081 of CESA allow the CDFW to authorize exceptions to the prohibition of "take" of State-listed threatened or endangered plant and animal species for purposes such as public and private development. The CDFW requires formal consultation to ensure that a proposed project's actions would not jeopardize the continued existence of any listed species or destroy or adversely affect listed species' habitats.

None of the species listed above occur on the project site due to lack of suitable habitat (see Table B in Appendix B).

The site is not within designated critical habitat of any species.

#### **Non-Listed Special-Interest Species**

Of the 68 non-listed special-interest species identified in Appendix B, the following four species have a low probability for occurrence:

- Cooper's hawk
- Pallid bat
- Western mastiff bat
- Pocketed free-tailed bat

Any potential project effects to Cooper's hawk will be avoided through implementation of the nesting bird avoidance and minimization measures detailed in the impact and recommendations section of this report. The project site provides foraging habitat for these species but does not provide day roosting habitat, and no direct effects are anticipated.



#### **Burrowing Owl**

Burrowing owl, a California Species of Special Concern, occurs in open habitats with low vegetation throughout the region. This special-status species requires special consideration at proposed construction sites because its habit of nesting underground makes it vulnerable to grading and other project-related soil disturbance.

A burrowing owl habitat assessment was conducted during the January 31, 2024, field survey. No burrows that could have been occupied by this species were found. Although, ground squirrels are active on the site, habitat is limited to approximately one acre and is bordered by trees that serve as perching habitat for raptors (e.g., hawks and large owls) that prey on burrowing owl. Therefore, due to limited habitat and the presence of trees for prey species, burrowing owl is not expected to occur on the project site.

#### **NESTING BIRDS**

The project site contains potentially suitable nesting habitat for Cooper's hawk, a special-status nesting bird, as well as nesting habitat for other non-special-status bird species. Two unoccupied, medium-sized stick nests were observed within the ornamental trees on site (Figure 3). Nesting bird species with potential to occur within the project site are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the Migratory Bird Treaty Act (16 United States Code 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey.

#### JURISDICTIONAL WATERS

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the federal Clean Water Act (CWA) is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce), or it may be indirect (through a nexus identified in the USACE regulations). To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics, each with its unique set of mandatory wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

The CDFW, under Sections 1600 through 1616 of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams (defined by the presence of a channel bed and banks, and at least an intermittent flow of water) where fish or wildlife resources may be adversely affected.

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of the USACE (i.e., waters of the United States, including any wetlands). The RWQCB may also assert authority over "waters of the State" under waste discharge requirements pursuant to the California Porter-Cologne Water Quality Control Act.



No jurisdictional waters subject to the regulatory authority of the USACE, the CDFW, or the RWQCB are present on the project site.

## IMPACTS AND RECOMMENDATIONS

The following is a discussion of potential disturbances and recommendations for avoidance, minimization, and mitigation measures per applicable local, State, and federal policy.

#### THREATENED AND ENDANGERED SPECIES AND CRITICAL HABITAT

The project site does not provide habitat for any threatened, endangered, fully protected, candidate, or proposed threatened or endangered species; thus, there would be no project-related effects to threatened or endangered species.

No federally designated critical habitat is present within the project site; thus, there would be no project-related effects to critical habitat.

#### **NON-LISTED SPECIAL-INTEREST SPECIES**

The project would not have substantial effects to non-listed species with implementation of the burrowing owl and nesting bird avoidance measures detailed below.

#### **Burrowing Owl**

• To avoid any project effects to the bird species, within 14 days prior to construction activities and vegetation removal, a pre-construction burrowing owl survey will be conducted in accordance with CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*.

#### **NESTING BIRDS AND BURROWING OWL**

The project site contains suitable habitat for burrowing owl and nesting bird species. To avoid potential effects to burrowing owl and nesting birds, implementation of the following measures would be required:

- Within 14 days prior to construction activities and vegetation removal, a pre-construction burrowing owl survey will be conducted in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are found during the pre-construction survey, coordination with CDFW would be required. An impact assessment in accordance with the 2012 Staff Report would need to be prepared prior to commencing project activities to determine appropriate mitigation, including the acquisition and conservation of occupied replacement habitat.
- Prior to construction activities, including vegetation removal, a pre-construction nesting bird survey will be conducted by a qualified biologist no less than 3 days and not more than 7 days prior to any construction activities and vegetation removal. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. The buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist. No construction activities will be allowed within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.



#### JURISDICTIONAL WATERS

No jurisdictional waters subject to the regulatory authority of the USACE, the CDFW, or the RWQCB are present on the project site. Therefore, the project would have no effects to jurisdictional waters.

#### WILDLIFE MOVEMENT, CORRIDORS, AND NURSERY SITES

Wildlife movement includes seasonal migration along corridors and daily movements for foraging. Migration corridors may include areas of unobstructed movement of deer, riparian corridors providing cover for migrating birds, routes between breeding waters and upland habitat for amphibians, and areas between roosting and feeding areas for birds.

The 2.1 acre project site is essentially developed and is bordered by development to the northeast. Therefore, the project site does not provide for regional wildlife movement or serve as a wildlife corridor or nursery site.

No nursery sites occur on the project site. Therefore, the project would have no effects on nursery sites.

#### NATURAL COMMUNITIES OF CONCERN

No natural communities of concern are present. Therefore, the project would have no effects to natural communities of concern.

#### LOCAL POLICIES AND ORDINANCES

The project must comply with the City of Murrieta Tree Preservation Ordinance Number 16.42 (available at: https://codelibrary.amlegal.com/codes/murrieta/latest/murrieta\_ca/0-0-0-27143). The tree preservation ordinance provides regulations for the protection, preservation, and maintenance of significant tree resources and to establish minimum mitigation measures for trees removed as a result of new development. The ordinance *Protected Tree Replacement Standards* designates a protected tree as a mature native oak tree, a mature native tree, a mature tree, a historically significant tree, or any tree required to be planted or preserved as environmental mitigation or conditional approval for a discretionary permit.

The ornamental trees on site may qualify as a protected tree(s). If ornamental trees are to be removed, an arborist survey would be required. If a tree to be removed qualifies as a protected tree, a tree removal permit would be required from the City of Murrieta.

#### ADOPTED HABITAT CONSERVATION PLAN

The project is within the planning boundaries of the MSHCP and within a MSHCP criteria area. The RCWD is the lead agency for the project but is not signatory to the MSHCP. The RCWD is not pursuing an MSHCP Participating Special Entity designation for the project. Therefore, the project is not subject to compliance with the MSHCP.

## LSA

## **CUMULATIVE IMPACTS**

According to Section 15130 of the *State of California Environmental Quality Act (CEQA) Guidelines*, "cumulative impacts" refers to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects. The project site is considered developed but would contribute to the incremental loss of ruderal/nonnative grasslands in the region, including potential habitat for special-status species. Cumulative impacts potentially include habitat fragmentation, increased edge effects, reduced habitat quality, and increased wildlife mortality. Cumulative impacts are not considered substantial with the implementation of avoidance measures identified in this document.



## REFERENCES

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## **APPENDIX A**

## **PLANT SPECIES OBSERVED**

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## **Table A: Plant Species Observed**

Scientific Name	Common Name					
EUDICOT FLOWERING PLANTS						
Asteraceae	Sunflower Family					
Ambrosia acanthicarpa	Flatspine bur ragweed					
Artemisia californica	California sagebrush					
Corethrogyne filaginifolia	Common sandaster					
Ericameria sp.	Goldenbush					
Erigeron canadensis	Canadian horseweed					
Heterotheca grandiflora	Telegraph weed					
Logfia gallica*	Narrowleaf cottonrose					
Pulicaria paludosa*	Spanish false fleabane					
Sonchus asper*	Prickly sow thistle					
Betulaceae	Birch Family					
Alnus sp.						
Brassicaceae	Mustard Family					
Hirschfeldia incana*	Shortpod mustard					
Sisymbrium irio*	London rocket					
Crassulaceae	Stonecrop Family					
Crassula connata	Sand pygmyweed					
Euphorbiaceae	Spurge Family					
Croton setigerus	Dove weed					
Fabaceae	Pea Family					
Trifolium sp.	Clover					
Vicia villosa*	Winter vetch					
Geraniaceae	Geranium Family					
Erodium cicutarium*	Redstem stork's bill					
Myrtaceae	Myrtle Family					
Eucalyptus sp.*	Eucalyptus					
Polygonaceae	Buckwheat Family					
Eriogonum fasciculatum	California buckwheat					
Sapindaceae	Soapberry Family					
Cupaniopsis anacardioides*	Carrotwood					
Tamaricaceae	Tamarisk Family					
Tamarix sp.*	Tamarisk					
MONOCOT FLC	OWERING PLANTS					
Cyperaceae	Sedge Family					
Cyperus eragrostis	Tall flatsedge					
Poaceae	Grass Family					
Bromus rubens*	Red brome					
Schismus sp.*	Mediterranean grass					
Турһасеае	Cattail Family					
Typha sp.	Cattail					
BIRDS						
Trochilidae	Hummingbirds					
Calypte anna	Anna's hummingbird					
Accipitridae	Kites, Hawks, and Eagles					
Buteo lineatus	Red-shouldered hawk					
Tyrannidae	Tyrant Flycatchers					
Sayornis nigricans	Black phoebe					
Tyrannus vociferans	Cassin's kingbird					



## **Table A: Plant Species Observed**

Scientific Name	Common Name	
Corvidae	Crows and Ravens	
Corvus brachyrhynchos	American crow	
Turdidae	Thrushes	
Sialia mexicana	Western bluebird	
Fringillidae	Finches	
Haemorhous mexicanus	House finch	
Spinus psaltria	Lesser goldfinch	
Passerellidae	New World Sparrows	
Pipilo maculatus	Spotted towhee	
Melozone crissalis	California towhee	
Zonotrichia leucophrys	White-crowned sparrow	
Icteridae	Blackbirds, Orioles and Allies	
Sturnella neglecta	Western meadowlark	
Parulidae	Wood Warblers	
Setophaga coronata	Yellow-rumped warbler	
AMP	HIBIANS	
Hylidae	Treefrogs and Relatives	
Hyliola cadaverina	California treefrog	
MAI	MMALS	
Sciuridae	Squirrels	
Spermophilus beecheyi	California ground squirrel	
Geomyidae	Pocket Gophers	
Thomomys bottae	Botta's pocket gopher	

\* = Nonnative species



## **APPENDIX B**

## **SPECIAL-STATUS SPECIES SUMMARY**

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability	
Bryophytes					
Schizymenium shevockii	US: –	Metamorphic rock in mesic sites in cismontane	Seasonally	Absent. No Metamorphic rock	
	CA: 1B	woodland at 750 to 1,400 meters (2,460 to 4,600 feet)	following rains	mesic sites or suitable	
Shevock's copper moss		elevation. Known only from Fresno, Mariposa,		vegetation.	
		Riverside, and Tulare Counties, California.			
Sphaerocarpos drewei	US: –	Found within soil openings in chaparral and coastal	Seasonally	Absent. No chaparral and	
	CA: 1B	sage scrub in Riverside and San Diego Counties.	following rains	coastal sage scrub. In addition,	
Bottle liverwort		Elevation from 90 to 600 meters (300 to 2,000 feet).		the site is disturbed by weed	
				abatement activities.	
Tortula californica	US: –	Rock outcrops, vertical rock walls and soil banks with	Capsules mature	Absent. No rock outcrops and	
	CA: 1B	appropriate moisture conditions, at 10 to 1,460 meters	in spring	vertical rock walls and soil	
California screw moss		(30 to 4,800 feet) elevation. Known only from Modoc,		banks with moisture. Project is	
		Kern, Los Angeles, Modoc, Monterey, Riverside, San		not within known range of this	
		Diego, Santa Barbara, and Ventura Counties, California.		species.	
		Plants	T		
Abronia villosa var. aurita	US: –	Sandy areas (generally flats and benches along washes)	Blooms mostly	Absent. No suitable soils or	
	CA: 1B	in chaparral and coastal sage scrub, and improbably in	March through	vegetation. In addition, the site	
Chaparral sand-verbena		desert dunes or other sandy areas, below 1,600 meters	August	is disturbed by weed	
		(5,300 feet) elevation. In California, reported from	(annual or	abatement activities.	
		Riverside, San Diego, Imperial, Los Angeles, and	perennial herb)		
		Ventura Counties. Believed extirpated from Orange			
		County. Also reported from Arizona and Mexico (Baja			
		California). Plants reported from desert communities			
		are likely misidentified.			
Allium marvinii	US: –	Openings in clay soils in chaparral. Known only from the	Blooms April	Absent. No suitable soils or	
	CA: 1B	Yucaipa and Beaumont areas of the San Bernardino	through May	vegetation. In addition, the site	
Yucaipa onion	MSHCP: S	Mountains; 760 to 1,065 meters (2,500 to 3,500 feet)	(perennial	is not within the elevational	
		elevation.	bulbiferous herb)	range of this species.	
Allium munzii	US: FE	Seasonally moist sites on clay soils (generally) or within	Blooms April	Absent. No seasonally moist	
	CA: ST/1B	rocky outcrops (pyroxenite) on rocky-sandy loams (such	through May	areas with clay or sandy loam	
Munz's onion	MSHCP: S	as Cajalco, Las Posas, and Vallecitos) with clay subsoils,	(perennial	soils with clay subsoils. In	
		in openings within coastal sage scrub, pinyon juniper	bulbiferous herb)	addition, the site is disturbed	
		woodland, and grassland, at 300 to 1,070 meters (1,000		by weed abatement activities.	
		to 3,500 feet) elevation. Known only from western			
		Riverside County in the greater Perris Basin (Temescal			
		Canyon-Gavilan Hills/Plateau, Murrieta-Hot Springs			

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		areas) and within the Elsinore Peak (Santa Ana		
		Mountains) and Domenigoni Hills regions.		
Almutaster pauciflorus	US: –	CNPS: alkaline. • Meadows and seeps Inyo (INY), Kern	Blooms June	Absent. No meadows or seeps.
	CA: 2B	(KRN), Riverside (RIV), San Bernardino (SBD)	through October	
Alkali marsh aster			(perennial herb)	
Ambrosia pumila	US: FE	Open, seasonally wet, generally low areas in floodplains	Generally non-	Absent. No floodplains, vernal
	CA: 1B	or at edges of vernal pools or playas, usually in sandy	flowering	pools, or playas. In addition,
San Diego ambrosia	MSHCP: S	loam or on clay (including upland clay slopes), at 20 to	(perennial herb)	the site is disturbed by weed
		487 meters (70 to 1,600 feet) elevation. Known from		abatement activities.
		western Riverside and western San Diego Counties.		
		Also occurs in Mexico.		
Arctostaphylos rainbowensis	US: –	Generally in gabbro chaparral in northwestern San	<b>Blooms December</b>	Absent. No suitable soils or
	CA: 1B	Diego and southwestern Riverside Counties at 205 to	through March	vegetation. Not observed
Rainbow manzanita	MSHCP: C	790 meters (670 to 2,600 feet) elevation. Known only	(evergreen shrub)	during the February 2024 field
		from Riverside and San Diego Counties, California.		survey.
Ayenia compacta	US: –	Rocky canyons and sandy and gravelly washes from 150	Blooms March	Absent. No suitable habitat.
	CA: 2B	to 1,095 meters (500 to 3,600 feet) elevation in desert	through April	The site is outside the known
California ayenia		scrub. In California, occurs in Providence Mountains,	(subshrub)	range of this species.
		Eagle Mountains, and west edge of Sonoran Desert.		
Brodiaea filifolia	US: FT	Usually on clay or associated with vernal pools or	Blooms March	Absent. No vernal pools or
	CA: SE/1B	alkaline flats; occasionally in vernally moist sites in fine	through June	suitable vegetation.
Thread-leaved brodiaea	MSHCP: S	soils (clay loam, silt loam, fine sandy loam, loam, loamy	(perennial herb)	
		fine sand). Typically associated with needlegrass or		
		alkali grassland or vernal pools. Occurs from 25 to 1,120		
		meters (80 to 3,700 feet) elevation. Known only from		
		Los Angeles, Orange, Riverside, San Bernardino, San		
		Diego, and San Luis Obispo Counties, California.		
Brodiaea orcuttii	US: –	Clay and some serpentine soils, usually associated with	Blooms May	Absent. No suitable soils.
	CA: 1B	streams or vernal pools, from 30 to 1,700 meters (100	through July	
Orcutt's brodiaea	MSHCP: C	to 5,600 feet) elevation. In California, known only from	(perennial herb)	
		Riverside and San Diego Counties. Also occurs in		
		Mexico.		
Brodiaea santarosae	US: –	Santa Rosa basalt in grassland at 580 to 1,045 meters	Blooms May	Absent. No basalt grasslands.
	CA: 3	(1,900 to 3,430 feet) elevation. Known only from	through June	
Santa Rosa Basalt brodiaea		Riverside and San Diego Counties, California.	(perennial herb)	

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Calochortus weedii var. intermedius	US: –	Dry, open rocky slopes and rock outcrops in chaparral,	Blooms May	Absent. No dry rocky slopes
	CA: 1B	coastal sage scrub, and grassland, at 105 to 855 meters	through July	and rock outcrops or suitable
Intermediate mariposa-lily	MSHCP: P	(340 to 2,800 feet) elevation. Known only from Los	(perennial herb)	vegetation.
		Angeles, Orange, Riverside, and San Bernardino		
		Counties, California. In the western Riverside County		
		area, this species is known from the hills and valleys		
		west of Lake Skinner and Vail Lake (The Vascular Plants		
		of Western Riverside County, California. F.M. Roberts et		
		al., 2004). Appears to intergrade with <i>Calochortus</i>		
		<i>plummerae</i> , which is mostly east and north of Santa		
		Ana Mountains.		
Caulanthus simulans	US: –	Recently burned areas or disturbed sites such as	Blooms (Feb)	Absent. Site lacks burned
	CA: 4.2	streambeds in chaparral, coastal sage scrub, riparian	March through	areas, streambeds, and
Payson's jewel-flower	MSHCP: C	areas, and grassland at 60 to 2,200 meters (200 to	May (June)	suitable vegetation.
		7,200 feet) elevation. Known from San Diego County	(annual herb)	
		(Collections in western Riverside County misidentified,		
		are C. heterophyllus var. pseudosimulans).		
Ceanothus pendletonensis	US: –	Chaparral, cismontane woodland. Granitic, 110-870	Blooms March	Absent. No suitable habitat. In
	CA: 1B	meters (360-2,860 feet) elevation. In California, known	through June	addition, the site is outside the
Pendleton ceanothus		from San Diego County.	(perennial shrub)	known range of this species.
Centromadia pungens ssp. laevis	US: –	Generally alkaline areas in chenopod scrub, meadows,	Blooms April	Absent. No alkaline areas or
	CA: 1B	playas, riparian woodland, valley and foothill grassland	through	suitable vegetation.
Smooth tarplant	MSHCP: S	below 480 meters (1,600 feet) elevation. Known from	November	
		Riverside and San Bernardino Counties, extirpated from	(annual herb)	
		San Diego County.		
Chaenactis glabriuscula var. orcuttiana	US: –	Sandy areas of coastal bluff scrub and coastal sand	Blooms January	Absent. No coastal bluff scrub
	CA: 1B	dunes below 100 meters (300 feet) elevation. In	through August	or dunes. The site is outside
Orcutt's pincushion		California, known only from Los Angeles, Orange	(annual herb)	the known range of this
		(believed extirpated), San Diego, and Ventura Counties.		species.
		Also occurs in Mexico.		
Chorizanthe parryi var. parryi	US: –	Sandy or rocky soils in chaparral, coastal scrub, oak	Blooms April	Absent. No suitable soils or
	CA: 1B	woodlands, and grassland at 40 to 1,705 meters (100 to	through June	vegetation.
Parry's spineflower	MSHCP: C	5,600 feet) elevation. Known only from Los Angeles,	(annual herb)	
		Riverside, and San Bernardino Counties.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Chorizanthe polygonoides var.	US: –	Generally clay soils in chaparral, coastal sage scrub, and	Blooms April	Absent. No suitable soils or
longispina	CA: 1B	grassland at 30 to 1,530 meters (100 to 5,000 feet)	through July	vegetation.
	MSHCP: C	elevation. In California, known only from Orange,	(annual herb)	
Long-spined spineflower		Riverside, Santa Barbara, and San Diego Counties. Also		
		occurs in Mexico.		
Clinopodium (Satureja) chandleri	US: –	Rocky moist sites in oak woodland or tall dense	Blooms March	Absent. No rocky moist areas
	CA: 1B	chaparral or at the margins these communities in	through May	or suitable vegetation.
San Miguel savory	MSHCP: S	coastal sage scrub or grassland, at 110 to 1,210 meters	(perennial herb)	
		(400 to 4,000 feet) elevation. Prefers moist rocky		
		canyons with trees or large shrubs. Known only from		
		Orange, Riverside, and San Diego Counties, and Baja		
		California, Mexico. In western Riverside County		
		restricted to Santa Ana Mountains.		
Comarostaphylis diversifolia ssp.	US: –	Chaparral or cismontane woodland at 30 to 790 meters	Blooms April	Absent. No suitable
diversifolia	CA: 1B	(100 to 2,600 feet). In California, known only from	through June	vegetation.
		Orange, Riverside, and Santa Barbara, and San Diego	(evergreen shrub)	
Summer holly		Counties. Also occurs in Mexico.		
Dudleya multicaulis	US: –	Heavy, often clay soils or around granitic outcrops in	Blooms April	Absent. No suitable soils or
	CA: 1B	chaparral, coastal sage scrub, and grassland below 790	through July	vegetation.
Many-stemmed dudleya	MSHCP: S	meters (2,600 feet) elevation. Known only from Los	(perennial herb)	
		Angeles, Orange, Riverside, San Bernardino, and San		
		Diego Counties.		
Dudleya viscida	US: –	Rocky areas in coastal bluff scrub, chaparral, coastal	Blooms May	Absent. No rocky areas or
	CA: 1B	sage scrub, and cismontane woodland from 10 to 550	through June	suitable vegetation. In
Sticky dudleya	MSHCP: P	meters (30 to 1,800 feet) elevation. Known only from	(perennial herb)	addition, the site is outside the
		Orange and San Diego Counties, California.		known range of this species.
Eryngium aristulatum var. parishii	US: FE	Vernal pools and similar mesic habitats in coastal scrub	Blooms April	Absent. No vernal pools or
	CA: SE/1B	and grassland at 15 to 620 meters (50 to 2,000 feet)	through June	similar mesic habitats or
San Diego button-celery	MSHCP: C	elevation. In California, known only from Los Angeles,	(annual or	suitable vegetation.
		Orange, Riverside and San Diego Counties. In Riverside	perennial herb)	
		County, this species is known only from the Santa Rosa		
		Plateau. Also occurs in Mexico.		
Geothallus tuberosus	US: –	Mesic soils in coastal scrub and vernal pools at 10 to	Ephemeral	Absent. No vernal pools or
	CA: -/1B	600 meters (30 to 2,000 feet). Known only from	liverwort	similar mesic habitats present.
Campbell's liverwort		southwestern Riverside and western San Diego		
		Counties.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Harpagonella palmeri	US: –	Clay soils in openings in coastal sage scrub, juniper	Blooms March	Absent. No suitable soils.
	CA: 4	woodland, and grassland below 830 meters (2,700 feet)	through May	
Palmer's grapplinghook	MSHCP: C	elevation. In California, known only from Orange,	(annual herb)	
		Riverside, and San Diego Counties and the Channel		
		Islands. Also occurs in Arizona and Mexico.		
Hesperocyparis (Callitropsis, Cupressus)	US: –	Evergreen tree found in closed-cone coniferous forest	Year-round	Absent. No suitable
forbesii	CA: 1B	and chaparral at elevations from 255 to 1,500 meters	(evergreen tree)	vegetation.
		(800 to 5,000 feet). In California, known from Orange		
Tecate cypress		and San Diego Counties. Trees known from Riverside		
		County are planted. Also occurs in Mexico.		
Horkelia truncata	US: –	Clay soils in chaparral and woodland; 300 to 1,500	Blooms May	Absent. No suitable soil or
	CA: 1B	meters (1,000 to 4,900 feet) elevation. Known from	through June	vegetation.
Ramona horkelia		Peninsular Ranges in San Diego County and from Baja	(perennial herb)	
		California.		
Lasthenia glabrata ssp. coulteri	US: –	Vernal pools and alkaline soils in marshes, playas, and	<b>Blooms February</b>	Absent. Site lacks vernal pools,
	CA: 1B	similar habitats below 1,220 meters (4,000 feet)	through June	alkaline soils in marshes,
Coulter's goldfields	MSHCP: S	elevation. Known from Colusa, Merced, Tulare, Orange,	(annual herb)	playas, and similar habitat.
		Riverside, Santa Barbara, San Diego, San Luis Obispo,		
		Tehama, Ventura, and Yolo Counties. Believed		
		extirpated from Kern, Los Angeles, and San Bernardino		
		Counties, and possibly also from Tulare County. Also		
		occurs in Mexico.		
Lepidium virginicum var. robinsonii	US: –	Dry soils in coastal sage scrub and chaparral below 885	Blooms January	Absent. No suitable
	CA: 4	meters (2,900 feet) elevation. In California, known only	through July	vegetation.
Robinson's pepper-grass		from Los Angeles, Orange, Riverside, Santa Barbara, San	(annual herb)	
		Bernardino and San Diego Counties, and Santa Cruz		
		Island. Also occurs in Mexico.		
Lilium parryi	US: –	Bulbiferous perennial herb of wet areas in meadows	Blooms July	Absent. The site is outside the
	CA: 1B	and riparian and montane coniferous forests at 1,220 to	through August	known elevational range of
Lemon lily	MSHCP: P	2,790 meters (4,000 to 9,200 feet) elevation. In	(perennial herb)	this species. In addition, no
		California, known from Los Angeles, Riverside, San		suitable wet areas.
		Bernardino, and San Diego Counties. Also occurs in		
		Arizona and Mexico.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Limnanthes alba ssp.	US: –	Seasonally wet meadows and edges of vernal pools and	Blooms April	Absent. No seasonally wet
parishii	CA: SE/1B	intermittent streams; 550 to 2,000 meters (1,800 to	through June	meadows, vernal pools, or
	MSHCP: C	6,600 feet) elevation. Known from Peninsular Ranges in	(annual herb)	intermittent streams.
Parish's meadowfoam		Riverside and San Diego Counties.		
Monardella hypoleuca ssp. intermedia	US: –	Understory of chaparral, oak woodland, and	Blooms primarily	Absent. No suitable
	CA: 1B	occasionally coniferous forest at 200 to 1,250 meters	June through	vegetation.
Intermediate monardella		(660 to 4,100 feet) elevation. Known only from the	August (perennial	
		Santa Ana Mountains area of Orange, Riverside, and	rhizomatous herb)	
		San Diego Counties, California.		
Myosurus minimus ssp. apus	US: –	Alkaline areas in vernal pools at 20 to 640 meters (70 to	Blooms March	Absent. No vernal pools.
	CA: 3.1	2,100 feet) elevation. In California, known only from	through June	
Little mousetail	MSHCP: S	the Central Valley of the coastal and inland areas of	(annual herb)	
		Southern California. Also occurs in Oregon and Mexico.		
Navarretia fossalis	US: FT	In vernal pools, playas, shallow freshwater marshes,	Blooms April	Absent. No vernal pools,
	CA: 1B	and similar sites at 15 to 820 meters (50 to 2,700 feet)	through June	playas, shallow-freshwater
Spreading navarretia	MSHCP: S	elevation. In California, known only from Los Angeles,	(annual herb)	marshes, or similar habitat.
		San Luis Obispo, Riverside, and San Diego Counties.		
		Also occurs in Mexico.		
Navarretia prostrata	US: –	Vernal pools, usually alkaline, from 15 to 1,210 meters	Blooms April	Absent. No vernal pools.
	CA: 1B	(50 to 4,000 feet) elevation. Known only from Alameda,	through July	
Prostrate vernal pool navarretia	MSHCP: S	Fresno, Los Angeles, Merced, Monterey, Orange,	(annual herb)	
		Riverside, San Benito, San Diego, and San Luis Obispo		
		Counties. Presumed extirpated from San Bernardino		
		County.		
Orcuttia californica	US: FE	Vernal pools from 15 to 660 meters (50 to 2,200 feet)	Blooms April	Absent. No vernal pools.
	CA: SE/1B	elevation. In California, known from Los Angeles,	through August	
California Orcutt grass	MSHCP: S	Ventura, Riverside, and San Diego Counties. Also occurs	(annual grass)	
		in Mexico.		
Pseudognaphalium leucocephalum	US: –	Sand and gravel at the edges of washes or mouths of	Blooms usually	Absent. No sand and gravel at
	CA: 2B	steep canyons at 0 to 2,100 meters (0 to 7,000 feet)	August through	edge of wash or mouth of
White rabbit-tobacco		elevation. In California, known from Los Angeles,	November	steep canyon. In addition, the
		Orange, Riverside, Santa Barbara, San Diego, San Luis	(perennial herb)	site is maintained for weed
		Obispo, and Ventura Counties. Also occurs in Arizona,		abatement.
		New Mexico, Texas, and Mexico.		
Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
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Scutellaria bolanderi ssp.	US: –	Mesic areas in gravelly soils of stream banks or in oak	Blooms June	Absent. No mesic areas,
austromontana	CA: 1B	or pine woodland (rarely chaparral) at 425 to 2,000	through August	stream banks, oaks, or pine
		meters (1,400 to 6,600 feet) elevation. Known from	(perennial herb)	woodland.
Southern mountains skullcap		Riverside and San Diego Counties. Believed extirpated		
		from San Bernardino County and perhaps Los Angeles		
		County.		
Sibaropsis hammittii	US:-	Clay soils in openings in chaparral and grassland at	Blooms March	Absent. No suitable soils. In
	CA: 1B	elevations 700 to 1,065 meters (2,300 to 3,500 feet)	through April	addition, the site is outside the
Hammitt's clay-cress	MSHCP: S	elevation. Known from Riverside and San Diego	(annual herb)	known elevational range of
		Counties.		this species.
Symphyotrichum defoliatum	US: –	Vernally wet sites (such as ditches, streams, and	Blooms July	Absent. No vernally wet areas.
	CA: 1B	springs) in many plant communities below 2,040	through	
San Bernardino aster		meters (6,700 feet) elevation. In California, known from	November	
		Ventura, Kern, San Bernardino, Los Angeles, Orange,	(perennial herb)	
		Riverside, and San Diego Counties. May also occur in		
		San Luis Obispo County. In the western Riverside		
		County area, this species is scarce, and documented		
		only from Temescal and San Timoteo Canyons (The		
		Vascular Plants of Western Riverside County, California.		
		F.M. Roberts et al., 2004).		
Tetracoccus dioicus	US: –	Dry stony slopes in chaparral and coastal sage scrub at	Blooms April	Absent. Site lacks dry, stony
	CA: 1B	165 to 1,000 meters (500 to 3,300 feet) elevation.	through May	slopes and suitable vegetation.
Parry's tetracoccus		Known in California only from Orange, Riverside, and	(perennial	
		San Diego Counties. Also occurs in Mexico.	deciduous shrub)	
		Invertebrates		
Bombus crotchii	US: –	Inhabits open scrub (including chaparral) and grassland	Spring and	Absent. No scrub habitat and
	CA: SCE	from coastal California to crest of Sierra-Cascade and in	summer	vegetation is disturbed by
Crotch bumble bee		desert edge areas, south into Mexico. Primarily nests		weed abatement activities.
		underground. Suitable bumble bee habitat requires the		Therefore, the ruderal/non-
		continuous availability of flowers on which to forage		native grassland vegetation
		throughout the duration of the colony (spring through		present does not provide a
		fall), colony nest sites, and overwintering sites for the		continuous availability of
		queens.		flowers to support a colony.

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Branchinecta lynchi	US: FT	Vernal pools and similar features in unplowed grassland	Seasonally	Absent. No vernal pools.
	CA: SA	areas. Pools must contain water continuously for at	following rains;	
Vernal pool fairy shrimp	MSHCP: S	least 18 days in all but the driest years to allow for	typically January	
		reproduction. Known from the Central Valley and	through April	
		adjacent foothill areas, the central coast and south		
		coast ranges, from the transverse ranges near Santa		
		Clarita, from the Santa Rosa Plateau, Skunk Hollow, and		
		the Stowe Road vernal pool west of Hemet in Riverside		
		County, and from northwest San Diego County. May		
		also occur in Orange County. Occurs at up to about		
		2,300 feet elevation in areas north of Kern County and		
		at up to 5,600 feet elevation in areas to the south.		
Branchinecta sandiegonensis	US: FE	Small, shallow (usually less than 30 centimeters deep),	Seasonally	Absent. No vernal pools.
	CA: SA	relatively clear but unpredictable vernal pools on	following rains in	
San Diego fairy shrimp		coastal terraces. Pools must retain water for a	late fall, winter	
		minimum of 13 days for this species to reproduce (3 to	and spring	
		8 days for hatching, and 10 to 20 days to reach		
		reproductive maturity). Known from Orange and San		
		Diego Counties, and Baja California.		
Euphydryas editha quino	US: FE	Meadows or openings within coastal sage scrub or	January through	Absent. No meadows or
	CA: SA	chaparral below about 5,000 feet where food plants	late April	suitable native vegetation that
Quino checkerspot butterfly	MSHCP: C	(Plantago erecta and/or Orthocarpus purpurascens) are		would serve as host plants.
		present. Historically known from Santa Monica		
		Mountains to northwest Baja California; currently		
		known only from southwestern Riverside County,		
		southern San Diego County, and northern Baja		
		California.		
Linderiella santarosae	US: –	Southern basalt flow vernal pools with cool clear to	Seasonally	Absent. No permanent water
	CA: SA	milky waters that are moderately predictable and	following rains;	sources. The site is outside the
Santa Rosa Plateau fairy shrimp	MSHCP: S	remain filled for extended periods of time. Known only	typically January	known range of this species.
		from the Santa Rosa Plateau of western Riverside	through April	
		County.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Streptocephalus woottoni	US: FE	Warm-water vernal pools (i.e., large, deep pools that	Seasonally	Absent. No vernal pools or
	CA: SA	retain water into the warm season) with low to	following rains;	preferred vegetation.
Riverside fairy shrimp	MSHCP: S	moderate dissolved solids, in annual grassland areas	typically January	
		interspersed through chaparral or coastal sage scrub	through April	
		vegetation. Suitable habitat includes some artificially		
		created or enhanced pools, such as some stock ponds,		
		that have vernal pool like hydrology and vegetation.		
		Known from areas within about 50 miles of the coast		
		from Ventura County south to San Diego County and		
		Baja California.		
		Fish		
Gila orcuttii	US: –	Perennial streams or intermittent streams with	Year-round	Absent. No perennial or
	CA: SSC	permanent pools; slow water sections of streams with		intermittent streams with
Arroyo chub	MSHCP: C	mud or sand substrates; spawning occurs in pools.		permanent pools.
		Native to Los Angeles, San Gabriel, San Luis Rey, Santa		
		Ana, and Santa Margarita River systems; introduced in		
		Santa Ynez, Santa Maria, Cuyama, and Mojave River		
		systems and smaller coastal streams.		
		Amphibians		
Anaxyrus (Bufo) californicus	US: FE	Washes and arroyos with open water; sand or gravel	March through	Absent. No suitable habitat on
	CA: SSC	beds; for breeding, pools with sparse overstory	July	project site. The site has been
Arroyo toad	MSHCP: S	vegetation. Coastal and a few desert streams from		graded and is disturbed by
		Santa Barbara County to Baja California.		weed abatement activities.
Rana draytonii	US: FT	Deep, quiet pools of streams, marshes, and occasionally	December	Absent. Site lacks pools of
	CA: SSC	ponds, with dense, shrubby vegetation at edges, usually	through April	streams, marshes, ponds, and
California red-legged frog	MSHCP: S	below 1,200 meters (4,000 feet). Foothills surrounding		shrubby vegetation.
		the Sacramento Valley and coastal streams from Marin		
		County to northwestern Baja California; Believed to be		
		extirpated between Los Angeles County and the		
		Mexican border. Below about 1,000 feet elevation.		
Spea hammondii	US: PT	Grasslands and occasionally hardwood woodlands;	October through	Absent. No rain pools. The site
	CA: SSC	largely terrestrial but requires rain pools or other	April (following	has been graded and is
Western spadefoot	MSHCP: C	ponded water persisting at least three weeks for	onset of winter	disturbed by weed abatement
		breeding; burrows in loose soils during dry season.	rains)	activities.
		Occurs in the Central Valley and adjacent foothills, the		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		non-desert areas of southern California, and Baja		
		California.		
Taricha torosa	US: –	Breeds in ponds, reservoirs, and slow-moving streams	October through	Absent. No ponds, reservoirs,
	CA: SSC	with long-lasting (at least through July), clean water;	May	or slow-moving streams.
Coast Range newt	MSHCP: C	uses nearby upland areas including grassland,		
		chaparral, and woodland; coastal drainages from		
		Mendocino County south to San Diego County, with		
		populations from San Luis Obispo County south		
		designated as sensitive.		
	-	Reptiles		
Actinemys pallida (Emys marmarota in	US: PT	Inhabits permanent or nearly permanent water. Absent	Year-round with	Absent. No permanent water
part)	CA: SSC	from desert regions, except in the Mojave Desert along	reduced activity	sources.
	MSHCP: C	the Mojave River and its tributaries. Requires basking	November	
Southwestern pond turtle		sites such as partially submerged logs, rocks, or open	through March	
		mud banks.		
Anniella stebbinsi	US: –	Inhabits sandy or loose loamy soils with high moisture	Nearly year	Not Expected. The site
	CA: SSC	content under sparse vegetation in Southern California.	round, at least in	contains sandy loam soils,
Southern California legless lizard			southern areas	however, soils observed were
				more compacted than lose due
				to previous grading.
Arizona elegans occidentalis	US: –	Scrub and grassland habitats, often with loose or sandy	Most active	Not Expected. Although the
	CA: SSC	soils. Patchily distributed from the eastern portion of	March through	site contains grassland, it lacks
California glossy snake		San Francisco Bay to southern San Joaquin Valley and in	June (nocturnal)	loose or sandy soils and scrub
		non-desert areas of southern California. Also occurs in		habitat. In addition, the site
		Baja California, Mexico.		has been graded and is
				disturbed by weed abatement
				activities.
Aspidoscelis hyperythra	US: –	Prefers washes and other sandy areas with patches of	March through	Absent. No washes, sandy
	CA: SA	brush and rocks, in chaparral, coastal sage scrub,	July with reduced	areas, or suitable vegetation.
Orangethroat whiptail	MSHCP: C	juniper woodland, and oak woodland from sea level to	activity August	
		915 meters (3,000 feet) elevation. Perennial plants	through October	
		required. Occurs in Riverside, Orange, San Diego	-	
		Counties west of the crest of the Peninsular Ranges, in		
		extreme southern San Bernardino County near Colton,		
		and in Baja California.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Aspidoscelis tigris stejnegeri	US: –	Woodlands, riparian areas, and sparsely vegetated	April through	Not Expected. Although
	CA: SSC	areas in a wide variety of habitats including coastal sage	August	grasslands are present, this
Coastal whiptail	MSHCP: C	scrub and sparse grassland. Occurs in valleys and		species is not expected to
		foothills from Ventura County to Baja California.		occur due to the
				disturbed/developed site
				conditions.
Crotalus ruber	US: –	Desert scrub, thornscrub, open chaparral and	Mid-spring	Not Expected. Although the
	CA: SSC	woodland; occasional in grassland and cultivated areas.	through mid-fall	contains grasslands, this
Red diamond rattlesnake	MSHCP: C	Prefers rocky areas and dense vegetation. Morongo		species is not expected to
		Valley in San Bernardino and Riverside Counties to the		occur due to the
		west and south into Mexico.		disturbed/developed site
				conditions.
Diadophis punctatus similis	US: –	Under cover of rocks, wood, bark, boards, and other	Diurnal.	Absent. The site is outside the
	CA: SA	surface debris in a variety of habitats. Prefers moist	Crepuscular and	known range of this species.
San Diego ringneck snake		habitats of coastal San Diego County, northern Baja	nocturnal during	
		California and southwestern San Bernardino County.	warmer periods.	
Phrynosoma blainvillii (coronatum)	US: –	Primarily in sandy soil in open areas, especially washes	April through July	Absent. No sandy soils or cover
	CA: SSC	and floodplains, in many plant communities. Requires	with reduced	from predators. The large trees
Coast horned lizard	MSHCP: C	open areas for sunning, bushes for cover, patches of	activity August	on site provide roosting
		loose soil for burial, and an abundant supply of ants or	through October	habitat for raptors that may
		other insects. Occurs west of the deserts from northern		prey on this species.
		Baja California north to Shasta County below 2,400		
		meters (8,000 feet) elevation.		
Plestiodon (Eumeces) skiltonianus	US: –	Occurs in variety of plant communities including coastal	Diurnal. Activity is	Absent. No suitable
interparietalis	CA: SSC	sage, mesic chaparral, oak woodlands, pinyon-juniper,	bimodal; from	vegetation.
		and riparian woodlands to pine forests. Found west of	early spring	
Coronado skink		the deserts from Riverside County to Baja California.	through early fall.	
Salvadora hexalepis virgultea	US: –	Coastal chaparral, washes, sandy flats and rocky areas.	Active diurnally	Absent. No suitable soils,
	CA: SSC	Widely distributed throughout lowlands, up to 2,130	throughout most	substrates, and vegetation.
Coast patch-nosed snake		meters (7,000 feet) elevation, of Southern California	of the year	
		from coast to the eastern border.		
Thamnophis hammondii	US: –	Highly aquatic. Only in or near permanent sources of	Diurnal Year-	Absent. No permanent water
	CA: SSC	water. Streams with rocky beds supporting willows or	round	sources.
Two-striped garter snake		other riparian vegetation. From Monterey County to		
		northwest Baja California.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		Birds		
Accipiter cooperii	US: –	Forages in a wide range of habitats, but primarily in	Year-round	Low. The small stand of
(nesting)	CA: SA	forests and woodlands. These include natural areas as		ornamental trees provides low
	MSHCP: C	well as human-created habitats such as plantations and		quality nesting habitat for this
Cooper's hawk		ornamental trees in urban landscapes. Usually nests in		species.
		tall trees (20 to 60 feet) in extensive forested areas		
		(generally woodlots of 4 to 8 hectares with canopy		
		closure of greater than 60 percent). Occasionally nests		
		in isolated trees in more open areas.		
Aimophila ruficeps canescens	US: –	Steep, rocky coastal sage scrub and open chaparral	Year-round,	Absent. No steep, rocky areas
	CA: SA	habitats, particularly scrubby areas mixed with	diurnal activity	of suitable vegetation.
Southern California rufous-crowned	MSHCP: C	grasslands. From Santa Barbara County to		
sparrow		northwestern Baja California.		
Aquila chrysaetos	US: –	Generally open country of the Temperate Zone	Year-round	Absent. The ornamental trees
(nesting & wintering)	CA: CFP	worldwide. Nesting primarily in rugged mountainous	diurnal	on site are not considered to
	MSHCP: C	country. Uncommon resident in Southern California.		be substantial enough to
Golden eagle				support nesting habitat. In
				addition, the
				disturbed/developed site does
				not support substantial
				foraging habitat.
Artemisiospiza (Amphispiza) belli belli	US: –	Occupies chaparral and coastal sage scrub from west	Year-round,	Absent. No chaparral or
	CA: SA	central California to northwestern Baja California.	diurnal activity	coastal sage scrub.
Bell's sage sparrow	MSHCP: C			
Athene cunicularia	US: –	Open, treeless areas with low, sparse vegetation,	Year-round	Not Expected. No suitable
(burrow sites)	CA: SSC	usually on flat or gently sloping terrain, including		burrows were observed during
	MSHCP: S	grasslands, sparse scrub (cover less than 30 percent),		the field survey and the
Burrowing owl		farmland, airfields, airports, road embankments,		ornamental trees on site
		cemeteries, urban vacant lots, desert areas, and other		provide perching habitat for
		open habitat. They usually occupy ground squirrel		raptors (e.g., hawks and large
		burrows but may also utilize man-made structures such		owl species) that prey on
		as culverts or debris piles, usually temporarily.		burrowing owls.

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Buteo swainsoni	US: –	Open desert, grassland, or cropland containing	Spring and fall (in	Not Expected. No suitable
(nesting)	CA: ST	scattered, large trees or small groves. Breeds in stands	migration)	nesting habitat and foraging
	MSHCP: C	with few trees in juniper-sage flats, riparian areas, and		habitat is limited due to the
Swainson's hawk		in oak savannah in the Central Valley. Forages in		disturbed/developed site
		adjacent grasslands or suitable grain or alfalfa fields, or		conditions.
		livestock pastures. Breeds and nests in western North		
		America; winters in South America. Uncommon		
		breeding resident and migrant in the Central Valley,		
		Klamath Basin, Northeastern Plateau, Lassen County,		
		and Mojave Desert. Very limited breeding reported		
		from Lanfair Valley, Owens Valley, Fish Lake Valley, and		
		Antelope Valley. In Southern California, now mostly		
		limited to spring and fall transient. Formerly abundant		
		in California with wider breeding range.		
Campylorhynchus brunneicapillus	US: –	Inhabits coastal sage scrub, nesting almost exclusively	Year-round (non-	Absent. No coastal sage scrub
sandiegensis	CA: SSC	in thickets of cholla (Opuntia prolifera) and prickly pear	migratory)	with cholla thickets.
	MSHCP: C	(Opuntia littoralis and Opuntia oricola), typically below		
Coastal cactus wren		150 meters (500 feet) elevation. Found in coastal areas		
		of Orange County and San Diego Counties, and extreme		
		northwestern Baja California, Mexico.		
Coccyzus americanus occidentalis	US: FT	Breeds and nests in extensive stands of dense	June through	Absent. No extensive stands of
(nesting)	CA: SE	cottonwood/willow riparian forest along broad, lower	September	dense cottonwood/willow
	MSHCP: S	flood bottoms of larger river systems at scattered		riparian forest along large river
Western yellow-billed cuckoo		locales in western North America; winters in South		systems.
		America.		
Elanus leucurus	US: –	Typically nests in riparian trees such as oaks, willows,	Year-round	Absent. No riparian trees
(nesting)	CA: CFP	and cottonwoods at low elevations. Forages in open		suitable for nesting.
	MSHCP: C	country. Found in South America and in southern areas		
White-tailed kite		and along the western coast of North America.		
Eremophila alpestris actia	US: –	Open grasslands and fields, agricultural area, open	Year-round	Not Expected. Although the
	CA: SA	montane grasslands. This subspecies is resident from	interior (inland	site contains grasslands, this
California horned lark	MSHCP: C	northern Baja California northward throughout non-	areas)	species is not expected to
		desert areas to Humboldt County, including the San		occur due to the
		Joaquin Valley and the western foothills of the Sierra		disturbed/developed site
		Nevada (north to Calaveras County). Prefers bare		conditions.
		ground such as plowed or fall-planted fields for nesting,		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		but may also nest in marshy soil. During the breeding		
		season, this is the only subspecies of horned lark in		
		non-desert southern California; however, from		
		September through April or early May, other		
		subspecies visit the area.		
Nycticorax nycticorax	US: –	Requires marshes, swamps, ponds, lakes, lagoons,	Year-round	Absent. No suitable nesting
(nesting colony)	CA: SA	mangroves, reservoirs, or estuaries for foraging. Also	diurnal activity	habitat.
	MSHCP: C	occurs along the margins of large riverine and fresh and		
Black-crowned night-heron		saline emergent habitats. Occasionally grassland, rice		
		fields, man-made ditches, canals, reservoirs, and wet		
		agricultural fields.		
Polioptila californica californica	US: FT	Inhabits coastal sage scrub in low-lying foothills and	Year-round	Absent. No coastal sage scrub.
	CA: SSC	valleys up to about 500 meters (1,640 feet) elevation in		
Coastal California gnatcatcher	MSHCP: C	cismontane southwestern California and Baja California.		
Vireo bellii pusillus	US: FE	Riparian forests and willow thickets. The most critical	April through	Absent. No riparian forests and
	CA: SE	structural component of Least Bell's Vireo habitat in	September	willow thickets.
Least Bell's vireo	MSHCP: S	California is a dense shrub layer 2 to 10 feet (0.6–3.0		
		meter) above ground. Willows usually dominant. Nests		
		from central California to northern Baja California.		
		Winters in southern Baja California.		
		Mammals		
Antrozous pallidus	US: –	Most common in open, dry habitats with rocky areas	Year-round;	Low. Site does not contain
	CA: SSC	for roosting. Day roosts in caves, crevices, rocky	nocturnal	preferred habitat for general
Pallid bat		outcrops, tree hollows or crevices, mines and		roosting. However, trees on
		occasionally buildings, culverts, and bridges. Night		site may provide space for
		roosts may be more open sites, such as porches and		night roosting allowing them
		open buildings. Grasslands, shrublands, woodlands, and		to be present within the
		forest in western North America.		project area during foraging
				activities.
Eumops perotis californicus	US: –	Occurs in many open, semi-arid to arid habitats,	Year-round;	Low. No roosting habitat but
	CA: SSC	including conifer and deciduous woodlands, coastal	nocturnal	may forage on site.
Western mastiff bat		scrub, grasslands, chaparral, etc.; roosts in crevices in		
		vertical cliff faces, high buildings, and tunnels, and in		
		palm fronds; travels widely when foraging.		

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Myotis yumanensis	US: –	Optimal habitats are open forests and woodlands with	Primarily the	Absent. No roosting or
	CA: SA	sources of water over which to feed. Common and	warmer months	preferred foraging habitat.
Yuma myotis		widespread in California. Uncommon in the Mojave and		
		Colorado Desert regions, except for mountains. Ranging		
		generally from sea level to 2,440 meters (8,000 feet).		
		Roosts in buildings, mines, caves or crevices;		
		occasionally in swallow nests and under bridges.		
Nyctinomops femorosaccus	US: –	Usually associated with cliffs, rock outcrops, or slopes.	Year-round;	Low. No roosting habitat but
	CA: SSC	May roost in buildings (including roof tiles) or caves.	nocturnal	may forage on site.
Pocketed free-tailed bat		Rare in California, where it is found in Riverside, San		
		Diego, Imperial and possibly Los Angeles Counties.		
		More common in Mexico.		
Lepus californicus bennettii	US: –	Variety of habitats including herbaceous and desert	Year-round,	Not Expected. Although the
	CA: SA	scrub areas, early stages of open forest and chaparral.	diurnal and	site contains grasslands, this
San Diego black-tailed jackrabbit	MSHCP: C	Most common in relatively open habitats. Restricted to	crepuscular	species is not expected to
		the cismontane areas of Southern California, extending	activity	occur due to the disturbed/
		from the coast to the Santa Monica, San Gabriel, San		developed site conditions. In
		Bernardino, and Santa Rosa Mountain ranges.		addition, the ornamental trees
				on site provide perching
				habitat for raptors (e.g., hawks
				and large owl species) that
				prey on this species.
Chaetodipus californicus femoralis	US: –	Found in a variety of habitats including coastal sage	Year-round	Not Expected. Although the
	CA: SSC	scrub, chaparral and grassland in northern Baja		site contains grasslands, this
Dulzura pocket mouse		California, San Diego and extreme southwestern and		species is not expected to
		western Riverside Counties. Limit of range to northwest		occur due to the
		(at interface with <i>C. c. dispar</i> ) unclear.		disturbed/developed site
				conditions.
Chaetodipus fallax fallax	US: –	Found in sandy herbaceous areas, usually associated	Year-round	Not Expected. Although the
	CA: SSC	with rocks or coarse gravel in coastal scrub, chaparral,		site contains grasslands, this
Northwestern San Diego pocket mouse	MSHCP: C	grasslands, and sagebrush, from Los Angeles County		species is not expected to
		through southwestern San Bernardino, western		occur due to the
		Riverside, and San Diego Counties to northern Baja		disturbed/developed site
		California.		conditions.

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Dipodomys merriami parvus	US: FE	Gravelly and sandy soils of alluvial fans, braided river	Nocturnal, active	Absent. No gravelly and sandy
	CA: SE	channels, active channels and terraces; San Bernardino	year-round	soils of alluvial fans, braided
San Bernardino kangaroo rat	MSHCP: S	Valley (San Bernardino County) and San Jacinto Valley		river channels, active channels
		(Riverside County). In San Bernardino County, this		and terraces.
		species occurs primarily in the Santa Ana River and its		
		tributaries north of Interstate 10, with small remnant		
		populations in the Etiwanda alluvial fan, the northern		
		portion of the Jurupa Mountains in the south		
		Bloomington area, and in Reche Canyon. In Riverside		
		County, this species occurs along the San Jacinto River		
		east of approximately Sanderson Avenue, and along		
		Bautista Creek. Remnant populations may also occur		
		within Riverside County in Reche Canyon, San Timoteo		
		Canyon, Laborde Canyon, the Jurupa Mountains, and		
		the Santa Ana River Wash north of State Route 60.		
Dipodomys stephensi	US: FT	Found in plant communities transitional between	Year-round,	Absent. The non-native
	CA: ST	grassland and coastal sage scrub, with perennial	nocturnal	grasslands on site are
Stephens' kangaroo rat	MSHCP: C	vegetation cover of less than 50%. Most commonly		considered unsuitable for this
		associated with Artemisia tridentata, Eriogonum		species due to the
		fasciculatum, and Erodium. Requires well-drained soils		disturbed/developed site
		with compaction characteristics suitable for burrow		conditions.
		construction (neither sandy nor too hard). Not found in		
		soils that are highly rocky or sandy, less than 20 inches		
		deep, or heavily alkaline or clay, or in areas exceeding		
		25% slope. Occurs only in western Riverside County,		
		northern San Diego County, and extreme southern San		
		Bernardino County, below 915 meters (3,000 feet)		
		elevation. In northwestern Riverside County, known		
		only from east of Interstate 15. Reaches its northwest		
		limit in south Norco, southeast Riverside, and in the		
		Reche Canyon area of Riverside and extreme southern		
		San Bernardino Counties.		
Perognathus longimembris brevinasus	US: –	Prefers sandy soil for burrowing, but has been found on	Nocturnal. Active	Absent. No coastal sage scrub.
	CA: SSC	gravel washes and stony soils. Found in coastal sage	late spring to	
Los Angeles pocket mouse	MSHCP: S	scrub in Los Angeles, Riverside, and San Bernardino	early fall.	
		Counties.		

**APPENDIX C** 

CULTURAL RESOURCES ASSESSMENT

# CULTURAL RESOURCE ASSESSMENT FOR THE

# JOAQUIN RANCH PUMP STATION DISINFECTION SYSTEM IMPROVEMENTS PROJECT

Project No. D2199 APN 904-050-044

City of Murrieta Riverside County, California

For Submittal to:

Rancho California Water District 42135 Winchester Road Temecula, CA 92590

#### **Prepared for:**

Krieger and Stewart, Inc. 3830 Orange Street, #1509 Riverside, CA 92502

#### **Prepared by:**

CRM TECH 1016 East Cooley Drive, Suite A/B Colton, CA 92324

Bai "Tom" Tang, Principal Investigator Michael Hogan, Principal Investigator

# April 2, 2024 CRM TECH Contract No. 4082A

Cultural Resource Assessment for the Joaquin Ranch Pump Station Disinfection System Improvements Project (Project No. D2199), City of Murrieta, Riverside County, California
Nicole A. Raslich, Archaeologist/Report Writer Sal Z. Boites, Archaeologist Nina Gallardo, Archaeologist/Native American Liaison Michael Hogan, Principal
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April 2, 2024
Rancho California Water District 42135 Winchester Road Temecula, CA 92590 (951) 296-6900
Krieger and Stewart, Inc. 3830 Orange Street, #1509 Riverside, CA 92502 (951) 684-6900
Murrieta, Calif., 7.5' quadrangle; Temecula Land Grant, T7S R3W, San Bernardino Baseline and Meridian
Approximately 2 acres
Southwestern Riverside County; Rancho California Water District; Temecula Land Grant; Joaquin Ranch Pump Station; no "historical resources" under CEQA

# MANAGEMENT SUMMARY

Between November 2023 and April 2024, at the request of Krieger and Stewart, Inc., CRM TECH performed a cultural resources study on approximately 2 acres of developed land at the existing Joaquin Ranch Pump Station in the City of Murrieta, Riverside County, California. The pump station is located southwest of the intersection of Hayes Avenue and Vineyard Parkway (APN 904-050-044), in a portion of the Temecula Land Grant lying within T7S R3W, San Bernardino Baseline and Meridian, as depicted in the U.S. Geological Survey Murrieta, Calif., 7.5' quadrangle.

The study is a part of the environmental review process for proposed improvements to the disinfection system at the pump station. The Rancho California Water District, as the lead agency for the project, required the study pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to provide the District with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and carried out an intensive-level field survey. Through the various avenues of research, this study did not encounter any "historical resources" within or adjacent to the project area. Additionally, the project area, especially the portion of the project area that will be impacted, appears to have a relatively low sensitivity for cultural resources dating to the precontact and historic periods. Therefore, CRM TECH recommends to the Rancho California Water District a determination of *No Impact* regarding cultural resources.

No further cultural resources investigation is recommended unless project plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are discovered during earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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# INTRODUCTION

Between June 2023 and April 2024, at the request of Krieger and Stewart, Inc., CRM TECH performed a cultural resources study on approximately 2 acres of partially developed land at the existing Joaquin Ranch Pump Station in the City of Murrieta, Riverside County, California (Figure 1). The subject property is located at 42581 Vineyard Parkway (APN 904-050-044), which is along the northwest side of Vineyard Parkway, southwest of Hayes Avenue (Figure 2), in a portion of the Temecula Land Grant lying within T7S R3W, San Bernardino Baseline and Meridian, as depicted in the U.S. Geological Survey Murrieta, Calif., 7.5' quadrangle (Figure 3).

The study is a part of the environmental review process for proposed improvements to the disinfection system at the existing pump station. The Rancho California Water District, as the lead agency for the project, required the study pursuant to the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of this study is to provide the District with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and carried out an intensive-level field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.



Figure 1. The project vicinity. (Based on USGS Santa Ana, Calif., 1:250,000 quadrangle [USGS 1979a])



Figure 2. Aerial view of project area. (Based on Google Earth imagery)



Figure 3. The project area shown on the USGS maps. (Based on USGS Murrieta and Wildomar, Calif., 1:24,000 quadrangles [USGS 1979b; 1997])

# **PROJECT DESCRIPTION**

The existing Joaquin Ranch Pump Station was constructed in 1984. Existing facilities at the station include a concrete masonry building housing three (3) electric-driven pumps and associated mechanical equipment. The associated electrical panels are located outdoors adjacent to the pump station building (RCWD 2023:5-6). The Water District is proposing the construction of chloramination disinfection system improvements at the facility. The construction would include site access improvements, two storage tanks and associated pumps and piping (RCWD 2023:6).

According to in-process design plans (personal communication from the client), any new structures/piping will be in the currently paved area. However, the paved area could be expanded slightly (Figure 4). It is possible that foundations will be approximately 3 feet below the existing surface. Chemical feed piping and electrical conduits may be approximately 4 feet below the surface. Water piping, however, may be approximately 7 feet below the surface, though only approximately 20 feet of such piping may be needed.



Figure 4. The existing facility and possible improvements.

## SETTING

## CURRENT NATURAL SETTING

The somewhat trapezoid-shaped project area (the existing Joaquin Ranch Pump Station property; Figures 2, 3) is situated approximately 150 feet east-northeast of Murrieta Creek, and approximately 1.9 miles south of Interstate 15. The property abuts Vineyard Parkway along its southeastern end, undeveloped natural terrain to the southwest and west, with residences to the north and northwest. The entire property is enclosed with chain link fencing with a gate located on the southeast corner of the property has been extensively disturbed due to past construction activities associated with the pump station and associated water facilities. The above-surface infrastructure on the developed portion of the property consists of a pumphouse, electrical house, metal piping, and pipe fittings. The entire southeastern portion of the project area is covered with asphalt, housing the pump station infrastructure (Figure 5) while the northwestern portion remains undeveloped and hosts several oak trees (Figure 6). Soils in the unpaved portion of the project area and vicinity consist of a mediumbrown, medium- to coarse-grained sands mixed with small rocks. Approximate elevations on the property range from 1,109 feet above mean sea level at the northwest corner to 1,115 feet above mean sea level at the southeast corner.



Figure 5. Overview of the existing facilities in the project area. (view to the north-northeast from Vineyard Parkway; January 31, 2024)



Figure 6. Overview of the undeveloped portion of the project area. (view to the southwest; January 31, 2024)

#### **CULTURAL SETTING**

#### **Prehistoric Context**

The oldest prehistoric sites currently known in Riverside County date to at least 10,000 years ago. The term "prehistoric period" refers to the time prior to the arrival of non-Indians, when Native lifeways and traditions in the region remained relatively intact and viable. In the Murrieta area, foreign influences profoundly changed Native lifeways during the late 1700s signifying the beginning of the "historic period." Straddled between prehistoric and historic periods is the Protohistoric, marking a time when the presence of Europeans in nearby areas began impacting Native cultures.

The earliest evidence of human occupation in western Riverside County was discovered below the surface of an alluvial fan in the northern portion of the Lakeview Mountains, overlooking the San Jacinto Valley, with radiocarbon dates clustering around 9,500 B.P. (Horne and McDougall 2008). Another site found near the shoreline of Lake Elsinore, close to the confluence of Temescal Wash and the San Jacinto River, yielded radiocarbon dates between 8,000 and 9,000 B.P. (Grenda 1997). Additional sites with isolated Archaic dart points, bifaces, and other associated lithic artifacts from the same age range have been found in the nearby Cajon Pass area of San Bernardino County, typically atop knolls with good viewsheds (Basgall and True 1985; Goodman and McDonald 2001; Goodman 2002; Milburn et al. 2008).

The cultural history of southern California has been summarized into numerous chronologies, including those developed by Chartkoff and Chartkoff (1984), Warren (1984), and others. Specifically, the prehistory of western Riverside County has been addressed by O'Connell et al. (1974), McDonald et al. (1987), Keller and McCarthy (1989), Grenda (1993), Goldberg (2001), and Horne and McDougall (2008). Although the beginning and ending dates of different cultural horizons vary regionally, the general framework of the prehistory of western Riverside County can be broken into three primary periods:

- Paleoindian Period (ca. 18,000-9,000 B.P.): Native peoples of this period created spearhead bases designed to be hafted to wooden shafts. The distinctive method of thinning bifaces and spearhead preforms by removing long, linear flakes leave diagnostic Paleoindian markers at toolmaking sites. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Sites from this period are very sparse across the landscape and most are deeply buried.
- Archaic Period (ca. 9,000-1,500 B.P.): Archaic sites are characterized by abundant lithic scatters of considerable size with many biface thinning flakes, bifacial preforms broken during manufacture, and well-made groundstone bowls and basin metates. As a consequence of making dart points, many biface thinning waste flakes were generated at individual production stations, which is a diagnostic feature of Archaic sites.
- Late Prehistoric Period (ca. 1,500 B.P.-contact): Sites from this period typically contain small lithic scatters from the manufacture of small arrow points, expedient stone grinding tools such as tabular metates and unshaped manos, wooden mortars with stone pestles, acorn or mesquite bean granaries, ceramic vessels, shell beads suggestive of extensive trading networks, and steatite implements such as pipes and arrow shaft straighteners.

#### **Ethnohistoric Context**

According to most schemes, the Perris Valley belonged to the Late Prehistoric San Luis Rey Complex, which has been equated with the ethnohistoric Luiseño Indians (True 1966). The San Luis Rey Complex has been divided into San Luis Rey I and San Luis Rey II, dating to 1400-1750 A.D. and 1750-1850 A.D., respectively, overlapping the Protohistoric and early Historic Periods. Artifacts and features typical of the San Luis Rey Complex include triangular (e.g., Cottonwood series) projectile points, bone awls, stone and shell artifacts for adornment, stone grinding implements, bedrock milling features, and human cremations.

The project area lies within the traditional territory of the "Luiseño" Indians, a Takic-speaking people. The ethnohistoric name of the group derived from Mission San Luis Rey, which held jurisdiction over most of the traditional Luiseño territory during the late 18th and early 19th centuries. The Luiseño territory extended from present-day Riverside to Escondido and Oceanside, with the nearby Temecula Valley at its geographical center. Luiseño oral history, as recorded in traditional songs, tells the creation story from the birth of the first people, the *kaamalam*, to the sickness, death, and cremation of *Wiyoot*, the most powerful and wise one, at Lake Elsinore. In anthropological literature, the leading sources on Luiseño culture and history are Kroeber (1925), Strong (1929), and Bean and Shipek (1978).

Anthropologists have divided the Luiseño into several autonomous lineages or kin groups, which represented the basic political unit among most southern California Indians. According to Bean and Shipek (1978:551), each Luiseño lineage possessed a permanent base camp, or village, on the valley floor and another in the mountain regions for acorn collection. Luiseño villages were made up of family members and relatives, where chiefs of the village inherited their position and each village owned its own land. Villages were usually located in sheltered canyons or near year-round sources of freshwater, always near subsistence resources.

Nearly all resources of the environment were exploited by the Luiseño in a highly developed seasonal mobility system. The Luiseño people were primarily hunters and gatherers. They collected seeds, roots, wild berries, acorns, wild grapes, strawberries, wild onions, and prickly pear cacti, and hunted deer, elks, antelopes, rabbits, wood rats, and a variety of insects. Bows and arrows, atlatls or spear throwers, rabbit sticks, traps, nets, clubs, and slings were the main hunting tools. Each lineage had exclusive hunting and gathering rights in their procurement ranges. These boundaries were respected and only crossed with permission (Bean and Shipek 1978:551).

It is estimated that when Spanish colonization of Alta California began in 1769, the Luiseño had approximately 50 active villages with an average population of 200 each, although other estimates place the total Luiseño population at 4,000-5,000 (Bean and Shipek 1978:557). Some of the villages were forcefully moved to the Spanish missions, while others were largely left intact (Bean and Shipek:558). Ultimately, Luiseño population declined rapidly after European contact because of diseases such as smallpox as well as harsh living conditions at the missions and, later, on the Mexican ranchos, where the Native people often worked as seasonal ranch hands. After the American annexation of Alta California, the large number of non-Native settlers further eroded the foundation of the traditional Luiseño society. During the latter half of the 19th century, almost all of the remaining Luiseño villages were displaced, their occupants eventually removed to the various reservations. Today, the nearest Native American groups of Luiseño heritage live on the Soboba, Pechanga, and Pala Indian Reservations.

#### **Protohistoric Context**

The presence of Europeans in the region undoubtedly began to change Native American lifeways. Even before 1542, when Juan Rodríguez Cabrillo, said to be searching for a northwest passage to Spain, visited Alta California, the presence of Spaniards in Mexico had to have had some impact on Native people in California. After Cabrillo's visit, a few Spanish galleons made periodic stops along the coast while Russian fur traders began moving down the coast of northern California and, by 1765, were as far south as the Farallon Islands off the coast of San Francisco. The periodic visits and long-distance presence would have reinforced rumors and certainly initiated ideological changes. Material goods, especially introduced technologies, whether rumored or actually traded, would have also induced some changes.

Partially because of the presence of the Russians, in 1769 Spain established Mission San Diego de Alcala and thus began the physical presence of Europeans in southern California. During this protohistoric/historic period, several developments in Native American cultures, including changes in material culture and settlement strategies, took place (True and Waugh 1982). This transition coincided with the establishment of Jesuit missions in upper Baja California Sur and Spanish explorations into western Arizona near the confluence of the Salt and Gila Rivers. These changes in native lifeways may have been the result of population pressures, increased movement of people away from areas occupied by Europeans, new material goods being traded through the area, new technologies and consumer goods being spread, introduced diseases, as well as any combination of the these and/or other such factors.

#### **Historic Context**

As noted above, in the present-day State of California, the "historic period" began in 1769 with the establishment of Mission San Diego de Alcala. For several decades after that, however, Spanish colonization activities were largely confined to the coastal regions and left little impact on the arid hinterland of the territory. Although the first explorers, including Pedro Fages and Juan Bautista de Anza, traveled through the San Jacinto Plains as early as 1772-1774 (Beck and Haase 1974:15), no Europeans were known to have settled in the vicinity until the early 19th century.

During most of the Spanish and Mexican Periods in the history of Alta California, what is now the southwestern portion of Riverside County was nominally a part of the extensive land holdings of Mission San Luis Rey, which was established near present-day Oceanside in 1798. In 1797, the Temecula Valley received its first European visitors when Father Juan Norberto de Santiago and his military escorts traveled through the area in search of a new mission site. With the founding of Mission San Luis Rey later that year, the Temecula Valley became a part of the new mission's vast land holdings. During the next 20 years, it grew into Mission San Luis Rey's principal grain producer, and a granary, a chapel, and a residence for the *majordomo* were established at the Luiseño village of *Tem<u>eeku</u>*, located near the confluence of Temecula and Murrieta Creeks (Hudson 1989:8, 19).

In 1834, the Temecula Valley, under the name of Rancho Temecula, was officially awarded to Mission San Luis Rey. Just a year later, the *rancho* was surrendered to the Mexican government during secularization of the mission system. In the decade that followed, the Mexican government granted several large tracts of former mission land in and around the Temecula Valley to various private owners. The project area became the property of Felix Valdez, who received in 1844 a grant that included almost the entire Temecula Valley, also under the name of Rancho Temecula. As elsewhere in Alta California, cattle raising was the most prevalent economic activity on this and other nearby *ranchos*.

In 1884, at the height of the land boom of the 1880s, the Temecula Land and Water Company founded the town of Murrieta on 160 acres of land in Rancho Temecula, and named it after Juan Murrieta, one of the owners of the rancho and a well-respected local dignitary (Gunther 1984:343-345). For more than 100 years after its birth, Murrieta remained a small, quiet farming community. As late as the 1960s-1970s, Murrieta was still largely rural in character, known to the outside world mainly for racehorse breeding. During the 1980s, however, the quest for affordable housing among commuters to the coastal regions dramatically altered the community's characteristics and its course of development.



Beginning in 1987, as a new land boom swept through the Temecula Valley, Murrieta embarked upon a period of explosive growth. Since then, like the other formerly agricultural settlements in the valley, Murrieta has experienced rapid growth in residential and commercial development while increasingly taking on the characteristics of a high-tech boomtown. Its total population, numbering 542 in 1970 and approximately 2,200 a decade later, rose to more than 24,000 residents by 1991, when the City of Murrieta was incorporated (City of Murrieta n.d.), with its current population exceeding 113,783.

# **RESEARCH METHODS**

## **RECORDS SEARCH**

On December 15, 2023, CRM TECH archaeologist Nina Gallardo completed the records search at the Eastern Information Center (EIC), University of California, Riverside, which is the State of California's official cultural resource records repository for the County of Riverside. During the records search, Gallardo examined maps and records on file at the EIC for previously identified cultural resources and existing cultural resources reports within a one-mile radius of the project area. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or Riverside County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

## HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH archaeologist Nicole A. Raslich. Among the maps consulted for this study were the U.S. General Land Office's (GLO) land survey plat maps dated 1883 and 1899 and the U.S. Geological Survey's (USGS) topographic maps dated 1901-1997, which are available at the websites of the U.S. Bureau of Land Management and the USGS. The aerial and satellite photographs, taken between 1938 and 2020, are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

# NATIVE AMERICAN PARTICIPATION

On December 11, 2023, CRM TECH submitted a written request to the State of California's Native American Heritage Commission (NAHC) for a records search in the commission's sacred lands file. CRM TECH also contacted the Pechanga Band of Indians and the Soboba Band of Luiseño Indians for participation in the field survey. The correspondences between CRM TECH and the Native American representatives are attached to this report in Appendix 2.

# FIELD SURVEY

On January 31, 2024, CRM TECH archaeologist Sal Z. Boites carried out the intensive-level field survey of the project area. The entire project area was surveyed by walking a series of parallel east-west transects at 5-meter (approximately 16-foot) intervals. In this way, the ground surface in the project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older).



# **RESULTS AND FINDINGS**

## **RECORDS SEARCH**

According to EIC records, one previous cultural resources study of a much larger survey area that included the current project area was completed in 1978 (numbers 0340 in Figure 7); however, no historical/archaeological sites were recorded within or immediately adjacent to the project boundaries. Outside the project area but within a one-mile radius, EIC records show more than 70 previous studies on various tracts of land and linear features, which collectively covered roughly 90 percent of the land within the scope of the records search (Figure 7).

As a result of these and other similar studies in the vicinity, some 63 historical/archaeological sites and isolates dating to both the prehistoric and historic periods have been recorded within the onemile radius of the scope of the records search. The sites consisted of historic era buildings, scattered lithic artifacts, the remains of a Native American village, and many isolates (consisting of 3 or less artifacts) such as lithic flakes. The nearest among these, Site 33-001305, located approximately 500 ft (150 m) to the southwest, was recorded as containing both prehistoric and historic-era resources. The site, located on a knoll on the opposite side of the Murrieta Creek channel, apparently was occupied at one time by a two story house and vineyards, with refuse (ceramic and glass shards, metal frags, nails, a horseshoe) still remaining (Brown 1978:1, 2). This site area had been tilled and deep-plowed in preparation for vineyard (Brown 1978:2). Site 33-001305 is also noted as containing numerous "non-specific" prehistorical remains (a possible knife; lithic flakes; but also including a cresentic) which could belong to cultural assemblages from any time period (Brown 1978:1, 2). Since none of these known cultural resources are found within or in the immediate vicinity of the project area, none of them require further consideration during this study.

#### HISTORICAL RESEARCH

Since the property is within a rancho land grant, earliest mapping endeavors by the US government provide little context regarding man-made features in and around the project area (Figure 8). Later historical sources consulted for this study indicate that by 1897-1898, the town of Murrieta was well established, though no development within the project area had taken place (Figure 9; the house mentioned by Brown [1978] at Site 33-001305 may be shown in this map). According to historical maps, the property remained undeveloped through the early 1950s (Figures 10, 11).

Historical aerial imagines indicate that the property remained vacant, possibly subjected to occasional flooding through 1985, with the beginning of the existing Joaquin Ranch Pump Station facilities present by 1984 (NETR Online 1938-2020; RCWD 2023:5). Agricultural fields were present to the north and east of the property by 1996, with houses appearing to the north and east of the Pump Station by 2005 (NETR Online 1996-2020; Google Earth 1996-2020). Based on these sources, all features now present in the project area are of modern origin.



Figure 7. Previous cultural resources studies within the scope of the records search, listed by EIC file number. Locations of historical/archaeological sites are not shown as a protective measure.



Figure 8. The project area and vicinity in 1854-1883. (Source: GLO 1883, 1899)

Figure 9. The project area and vicinity in 1897-1898. (Source: USGS 1901)



Figure 10. The project area and vicinity in 1939. (Source: USGS 1942a, 1942b)

Figure 11. The project area and vicinity in 1951. (Source: USGS 1953)

# NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC reports in a letter dated January 9, 2024, that the sacred lands record search was positive and recommend that the Pechanga Band of Indians be contacted for further information (Appendix 2). The NAHC also provided a list of additional contacts of Tribes that may be affiliated with the region (Appendix 2). Upon receiving the NAHC's reply, CRM TECH sent written requests for comments to the Pechanga Band of Luiseno Indians on January 9, 2024 (Appendix 2). In addition, The Pechanga Band of Luiseño Indians and the Soboba Band of Luiseno Indians were contacted to participate in the field survey on December 11, 2023. The NAHC's list of Tribal contacts is attached in Appendix 2 for reference by the Rancho California Water District in future government-to-government consultations with the tribes, if necessary

Both the Pechanga and Soboba Bands of Luiseno Indians provided representatives to participate in the field survey. However, as of this time, the Pechanga Band of Luiseno Indians has not responded to requests for information about the cultural significance of the area.

## FIELD SURVEY

During the field survey, the ground surface within and adjacent to the project area was closely inspected for any evidence of human activities dating to the prehistoric or historic period, but none was found. As mentioned above, the ground surface in the project area has been extensively disturbed by past construction activities, and much of it is now under pavement. Visibility of the unpaved ground surface within the property was fair (60 percent). Somewhat dense vegetation, including foxtails, tumbleweeds, wild mustard, and other small grasses and shrubs, was found mostly on the slopes within the project boundary. No tribal or cultural resources more than 50 years of age were encountered during the survey efforts.

# ARCHAEOLOGICAL DISCUSSION/REVIEW

Models of human use of Inland Southern California generally assume that during the Paleoindian and Archaic periods the population density was quite low. Small groups of people roamed across the countryside taking advantage of the rich, readily available resources. Evidence of human occupation in southern California during these early periods has been found, but such evidence is not common. While evidence of habitation sites dating to these early periods has been found, more commonly only a few artifacts are found at any one location that indicate people were in the area during these early times.

Throughout prehistory, people are likely to have used the area around Murrieta Creek to hunt and gather the available resources; however, due to periodic flood episodes and the "open" aspect, the area along the water course would not be a optimal location for camping or establishing a village. Since the Late Prehistoric/Ethnohistoric times, the project area has been within the traditional use territory of the "Luiseño" Indians. Numerous precontact resources have been recorded within one mile of the project area, attesting to it being a favorable location. The site nearest the project area, though, was located on a knoll above the creek. The same can be said for Spanish-Anglo use of the area. Agriculture activities occurred on the lands above the creek bed. Houses and roads were constructed further away, with a house being built on the same knoll where precontact artifacts were recorded. The existing water plant/facility only came into being in 1984.

Based on models of human occupation in the area, it is not likely that any substantial habitation or even camp site would be located within the project area or vicinity, which is actually within the flood plain of Murrieta Creek. Even if there was evidence of use or occupation of the area, it is likely that it would have been swept away in subsequent flood episodes. Additionally, the area of the proposed facility improvements has been disturbed by previous construction activities. Thus, the proposed project appears to have a low potential to impact significant cultural resources.

## MANAGEMENT CONSIDERATIONS

The purpose of this study is to identify any cultural resources within or adjacent to the project area, and to assist the Rancho California Water District in determining whether or not such resources meet the official definition of a "historical resource," as provided in the California Public Resources Code, in particular CEQA. According to PRC §5020.1(j), "'historical resource' includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.".

More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that "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" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

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

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history (PRC §5024.1(c)).

In summary of the research results presented above, no potential "historical resources" dating to prehistoric, protohistoric, ethnohistoric, or historic periods were previously recorded within the project area, and none were found during the present survey. According to CEQA guidelines, the identification of potential "tribal cultural resources" is beyond the scope of this study and needs to be addressed through government-to-government consultations between the Rancho California Water District and the pertinent Native American groups pursuant to Assembly Bill (AB) 52. Based on these findings, and in light of the criteria listed above, the present study concludes that no "historical resources" are known to exist within the project area. Additionally, due to the location of the project area and the previous disturbances that have occurred there, the possibility of significant cultural resources being present below the surface of the project area appears to be low.

# CONCLUSION AND RECOMMENDATIONS

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." As stated above, no "historical resources" were encountered within the project area throughout the course of this study. Additionally, the project area appears to have a low potential to contain significant cultural resources. Therefore, CRM TECH presents the following recommendations to the Rancho California Water District:

- The proposed project will not cause a substantial adverse change to any known "historical resources."
- No further cultural resources investigation will be necessary for this project unless development plans undergo such changes as to include areas not covered by this study and pending the completion of the AB 52 consultation process to ensure the proper identification of potential "tribal cultural resources".
- If buried cultural materials are discovered during any earth-moving operations associated with the project, all work within 100 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.



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# APPENDIX 1: PERSONNEL QUALIFICATIONS

# NICOLE A. RASLICH, M.A. PROJECT ARCHAEOLOGIST/REPORT WRITER

# Education

- 2017 Ph.D. Candidate, Michigan State University, East Lansing
- 2011 M.A., Anthropology, Michigan State University, East Lansing
- 2005 B.A., Natural History of Biology and Anthropology, University of Michigan, Flint
- 2022 Adult First Aid/CPR/AED Certification, American Red Cross
- 2019 "Grant and Research Proposal Writing for Archaeologists," SAA Online Seminar
- 2014 Bruker Industries Tracer S1800 pXRF Training, presented by Dr. Bruce Kaiser, Bruker Scientific
- 2013 Introduction to ArcGIS, Michigan State University

## **Professional Experience**

2022- 2022 2008-2021	Project Archaeologist, CRM Tech, Riverside/Colton, CA Archaeological Technician, Agua Caliente Band of Cahuilla Indians Archaeological Consultant, Saginaw Chippewa Indian Tribe of Michigan
2019	Archaeologist, Sault Tribe of Chippewa Indians, and Little Traverse Bay Band of Odawa Indians
2018	Teaching Assistant, Michigan State University
2017	Adjunct Professor, University of Michigan
2015-2016	Graduate Fellow, Michigan State University Campus Archaeology Program
2015	Archaeologist, Michigan State University, Illinois State Museum, Dickson Mounds Museum
2013-2015	Curation Research Assistant, Michigan State University Museum
2008-2014	Research Assistant, Intellectual Property Issues in Cultural Heritage, Simon Frasier University
2009-2012	Editorial Assistant/Copy Editor, American Antiquity
2009-2011	Archaeologist/Crew Chief, Saginaw Chippewa Indian Tribe of Michigan

#### **Publications and Reports**

2017 "Preliminary Results of a Handheld X-Ray Fluorescence (pXRF) Analysis on a Marble Head Sarcophagus Sculpture from the Collection of the Kresge Art Center, Michigan State University." Submitted to Jon M. Frey, Department of Art, Art History, and Design. Michigan State University

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## MICHAEL HOGAN, PH.D., RPA\* Principal Investigator/Archaeologist

#### Education

1981 B.S., Anthropology, University of California, Riverside; with honors.	
2021 "An Introduction to Geoarchaeology: How Understanding Basic Soils, Sedi and Landforms can make you a Better Archaeologist." SAA Online Semina	ments, ır.
2002 "Section 106—National Historic Preservation Act: Federal Law at the Loca UCLA Extension Course #888.	l Level,"
2002 "Recognizing Historic Artifacts," workshop presented by Richard Norwood Historical Archaeologist.	l,
2002 "Wending Your Way through the Regulatory Maze," symposium presented Association of Environmental Professionals.	by the
1992 "Southern California Ceramics Workshop," presented by Jerry Schaefer.	
1992 "Historic Artifact Workshop," presented by Anne Duffield-Stoll.	

#### **Registrations**

\*Registered Professional Archaeologist 41781498

#### **Professional Experience**

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Field Director/Project Archaeologist/Project Paleontologist, CRM TECH.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
1992-1998	Assistant Research Anthropologist, University of California, Riverside
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1991-1992	Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998	Project Director, Field Director, Crew Chief, and Archaeological Technician for
	various southern California cultural resources management firms.

## **Research Interests**

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

#### **Cultural Resources Management Reports**

Principal investigator for, author or co-author of, and contributor to numerous cultural resources management study reports since 1986.

#### Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.


## NINA GALLARDO, B.A. PROJECT ARCHAEOLOGIST/NATIVE AMERICAN LIAISON

#### Education

2004 B.A., Anthropology/Law and Society, University of California, Riverside.

#### **Professional Experience**

2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.

- Leading and participating in surveys, testing and data recovery excavations, and archaeological monitoring programs;
- Conducting records searches at various information centers;
  - Conducting Native American consultation;
- Producing maps and graphics for projects.

#### **Cultural Resources Management Reports**

Co-author of and contributor to numerous cultural resources management reports since 2004.

## PROJECT ARCHAEOLOGIST Salvadore Z. Boites, M.A.

#### Education

2013	M.A., Applied Anthropology, California State University, Long Beach.
2003	B.A., Anthropology/Sociology, University of California, Riverside.
1996-1998	Archaeological Field School, Fullerton Community College, Fullerton, California

#### **Professional Experience**

2014-	Project Archaeologist, CRM TECH, Colton, California.
2010-2011	Adjunct Instructor, Anthropology, Everest College, Anaheim, California.
2003-2008	Project Archaeologist, CRM TECH, Riverside/Colton, California.
2001-2002	Teaching Assistant, Moreno Elementary School, Moreno Valley, California.
1999-2003	Research Assistant, Anthropology Department, University of California, Riverside.

### **Research Interests**

Cultural Resource Management, Applied Archaeology/Anthropology, Indigenous Cultural Identity, Poly-culturalism.



# APPENDIX 2: CORRESPONDENCE WITH NATIVE AMERICAN REPRESENTATIVES



# SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

#### NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100 West Sacramento, CA 95691 (916)373-3710 (916)373-5471 (Fax) <u>nahc@nahc.ca.gov</u>

Improvements Project (CRM TECH No. 4082A)
County:_Riverside
USGS Quadrangle Name: Murrieta, Calif.
Township         7 South         Range         3 West         SB         BM; Section(s)         Temecula Landgrant
Company/Firm/Agency: <u>CRM TECH</u>
Contact Person: Nina Gallardo
Street Address: 1016 E. Cooley Drive, Suite A/B
City: <u>Colton, CA</u> Zip: <u>92324</u>
Phone: (909) 824-6400 Fax: (909) 824-6405
Email: ngallardo@crmtech.us
<b>Project Description:</b> The primary component of the project is to make improvements to approximately 2 acres of land (Assessor's Parcel Number 904-050-044) is located at 42581

approximately 2 acres of land (Assessor's Parcel Number 904-050-044), is located at 42581 Vineyard Parkway, within the existing Rancho California Water District's Joaquin Ranch Pump Station, in the City of Murrieta, Riverside County, California.

December 11, 2023

From: ngallardo@crmtech.us

Sent: Monday, December 11, 2023 10:37 AM

To: 'Art Ayala'

Cc: Juan Ochoa; 'Paul Macarro'; Molly Earp; 'Ebru Ozdil'

Subject: Cultural study and participation in field survey for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of Murrieta (CRM TECH No. 4082A)

Attachments: 4082 PA Map.jpg; 4082A NAHC Request.docx

Hello,

I'm writing to inform you that CRM TECH will be conducting a cultural resources study for the for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of Murrieta, Riverside County, California (CRM TECH No. 4082A). Information available in our office at this time, which will be updated and completed for this study, indicates that the property was included in a cultural resources study approximately 45 years ago as part of the much larger Proposed Joaquin Ranch Project. While no resources were reported within the current project area during that study, that report is now out-of-date for CEQA compliance purposes. Historic aerial images indicate the property has been very disturbed more recently by the construction of the existing pump station development in 1984. Therefore, I am specifically contacting you to invite the tribe to participate with us in the archaeological field survey for the project. We will contact you again when we have received the RS results back from the EIC and begin to set up a specific time and date for the field survey if the tribe wishes to join us out there on the proposed project.

We are also asking for any information regarding any Tribal Cultural Resources within or near the proposed project location. I'm attaching the proposed project area map and project information. We would appreciate any information that the tribe may provide that CRM TECH can include in our report. Please feel free to email back with any questions, comments and/ or information regarding the proposed project location and the possible availability for the field survey.

Thank you for your time and input on this project.

Nina Gallardo (909) 824-6400 (phone) (909) 824-6405 (fax) CRM TECH 1016 E. Cooley Drive, Ste. A/B Colton, CA 92324 From: ngallardo@crmtech.us
Sent: Monday, December 11, 2023 10:21 AM
To: 'Jessica Valdez'
Cc: 'Joseph Ontiveros'
Subject: Cultural study and participation in field survey for the Proposed Rancho California
Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of
Murrieta (CRM TECH No. 4082A)
Attachments: 4082 PA Map.jpg; 4082A NAHC Request.docx

Hello,

I'm writing to inform you that CRM TECH will be conducting a cultural resources study for the for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of Murrieta, Riverside County, California (CRM TECH No. 4082A). Information available in our office at this time, which will be updated and completed for this study, indicates that the property was included in a cultural resources study approximately 45 years ago as part of the much larger Proposed Joaquin Ranch Project. While no resources were reported within the current project area during that study, that report is now out-of-date for CEQA compliance purposes. Historic aerial images indicate the property has been very disturbed more recently by the construction of the existing pump station development in 1984.

Therefore, I am specifically contacting you to see if the tribe would like to participate in the archaeological field survey for the project. We will contact you again when we have received the RS results back from the EIC and begin to set up a specific time and date for the fieldwork. We are also asking for any information regarding any Tribal Cultural Resources within or near the proposed project location. I'm attaching the proposed project area map and project information. We would appreciate any information that the tribe may provide that CRM TECH can include in our report. Please feel free to email back with any questions, comments and/ or information regarding the proposed project location and the possible availability for the field survey.

Thank you for your time and input on this project.

Nina Gallardo (909) 824-6400 (phone) (909) 824-6405 (fax) CRM TECH 1016 E. Cooley Drive, Ste. A/B Colton, CA 92324 From: Art Ayala <aayala@pechanga-nsn.gov>

Sent: Monday, January 29, 2024 3:13 PM

To: 'ngallardo@crmtech.us'; Juan Ochoa

Cc: Molly Earp; Paul Macarro; Tina Thompson Mendoza; Jessica Oh

Subject: RE: Participation in field survey for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of Murrieta (CRM TECH No. 4082A)

Dear Nina,

Yes, we would like to participate in your survey. We will have our Tribal Monitor Sonya Rodriguez in attendance on Wednesday 1/31 at 7AM.

Sincerely, Arthur Ayala, Monitor Supervisor Pechanga Band of Indians aayala@pechanga-nsn.gov (951)770-6303(office) (951)225-2001 (cell)

From: Jessica Valdez <JValdez@soboba-nsn.gov>

Sent: Tuesday, January 30, 2024 2:18 PM

To: 'ngallardo@crmtech.us'

Cc: Joseph Ontiveros

Subject: RE: Cultural study and participation in field survey for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of Murrieta (CRM TECH No. 4082A)

Nina,

Good afternoon. Thank you for extending the invite for Soboba to participate in the field survey for the proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project (CRM TECH No. 4082A), in the City of Murrieta. Soboba will have a representative join Sal Boites on survey tomorrow. The Soboba representative who will be out onsite with Sal for tomorrow's survey will be Tommy Herrera 951-428-7669.

Sincerely, JESSICA VALDEZ, CULTURAL RESOURCE SPECIALIST (951) 654-5544 Ext. 4139 (951) 663-6261 Cell JValdez@soboba-nsn.gov

CULTURAL RESOURCE 23906 Soboba Rd. San Jacinto, CA 92583 P.O. Box 487 San Jacinto, CA 92581 www.soboba-nsn.gov



CHAIRPERSON Reginald Pagaling Chum ash

ViCe-CHAIRPERSON Buffy McQuillen Yakayo Pomo, Yuki, Nomlaki

SECRETARY Sara Dutschke Miwok

Parliamentarian Wayne Nelson Luiseño

COMMISSIONER Isaac Bojorquez Ohlone-Costanoan

COMMISSIONER Stanley Rodriguez Kum eyaay

Commissioner Laurena Bolden Serrano

Commissioner **Reid Milanovich** Cahuilla

Commissioner Vacant

Executive Secretary Raymond C. Hitchcock Miwok, Nisenan

NAHC HEADQUARTERS 1550 Harbor Boulevard Suite 100 West Sacramento, California 95691 (916) 373-3710 nahc@nahc.ca.gov NAHC.ca.gov STATE OF CALIFORNIA

Gavin Newsom, Governor

# NATIVE AMERICAN HERITAGE COMMISSION

January 9, 2024

Nina Gallardo CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, Riverside County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were <u>positive</u>. Please contact the Pechanga Band of Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: <u>Andrew.Green@nahc.ca.gov</u>.

Sincerely,

ndrew Green

Andrew Green Cultural Resources Analyst

Attachment

Page 1 of 1

#### Native American Heritage Commission Native American Contact List Riverside County 1/9/2024

Tribe Name	Fed (F) Non- Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties
Agua Caliente Band of Cahuilla Indians	F	Patricia Garcia, Director of Historic Preservation	5401 Dinah Shore Drive Palm Springs, CA, 92264	(760) 699-6907	(760) 699- 6919	pagarcia@aguacaliente.net	Cahuilla	Imperial,Riverside,San Bernardino,San Diego
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	N	Joyce Perry, Cultural Resource Director	4955 Paseo Segovia Irvine, CA, 92603	(949) 293-8522		kaamalam@gmail.com	Juaneno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Heidi Lucero, Chairperson, THPO	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(562) 879-2884		jbmian.chairwoman@gmail.com	Juaneno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego
La Jolla Band of Luiseno Indians	F	Norma Contreras, Chairperson	22000 Highway 76 Pauma Valley, CA, 92061	(760) 742-3771			Luiseno	Orange,Riverside,San Diego
Pala Band of Mission Indians	F	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3564		cnejo@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego
Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3515		sgaughen@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego
Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3537		awallick@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego
Pauma Band of Luiseno Indians	F	Temet Aguilar, Chairperson	P.O. Box 369 Pauma Valley, CA, 92061	(760) 742-1289	(760) 742- 3422	bennaecalac@aol.com	Luiseno	Orange,Riverside,San Diego

Tribe Name	Fed (F) Non- Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties
Pechanga Band of Indians	F	Tuba Ebru Ozdil, Pechanga Cultural Analyst	P.O. Box 2183 Temecula, CA, 92593	(951) 770-6313	(951) 695- 1778	eozdil@pechanga-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego,Santa Barbara,Ventura
Pechanga Band of Indians	F	Steve Bodmer, General Counsel for Pechanga Band of Indians	P.O. Box 1477 Temecula, CA, 92593	(951) 770-6171	(951) 695- 1778	sbodmer@pechanga-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego,Santa Barbara,Ventura
Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	(928) 261-0254		historicpreservation@quechantri be.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	P.O.Box 1899 Yuma, AZ, 85366	(760) 919-3600		executivesecretary@quechantrib e.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	(928) 210-8739		culturalcommittee@quechantrib e.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego
Rincon Band of Luiseno Indians	F	Denise Turner Walsh, Attorney General	One Government Center Lane Valley Center, CA, 92082	(760) 689-5727		dwalsh@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego,Santa Barbara,Ventura
Rincon Band of Luiseno Indians	F	Joseph Linton, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	(760) 803-3548		jlinton@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego,Santa Barbara,Ventura
Rincon Band of Luiseno Indians	F	Laurie Gonzalez, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	(760) 484-4835		lgonzalez@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego,Santa Barbara,Ventura

Tribe Name	Fed (F) Non- Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties
Rincon Band of Luiseno Indians	F	Cheryl Madrigal, Cultural Resources Manager/Tribal Historic Preservation Officer	One Government Center Lane Valley Center, CA, 92082	(760) 648-3000		cmadrigal@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,S an Bernardino,San Diego,Santa Barbara,Ventura
Santa Rosa Band of Cahuilla Indians	F	Lovina Redner, Tribal Chair	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659- 2228	lsaul@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,S an Bernardino,San Diego
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654- 4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,S an Bernardino,San Diego
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654- 4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,S an Bernardino,San Diego

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, Riverside County.

> Record: PROJ-2024-000166 Report Type: List of Tribes Counties: Riverside NAHC Group: All

From: ngallardo@crmtech.us
Sent: Tuesday, January 9, 2024 4:24 PM
To: 'Paul Macarro'
Cc: 'Ozdil'; 'Juan Ochoa'; 'Art Ayala'; Molly Earp
Subject: Pos NAHC SLF Results for the Proposed RCWD's Joaquin Ranch Pump Station
Disinfection Improvements Project, Murrieta (CRM TECH # 4082A)
Attachments: SLF Yes Proposed Rancho California Water District's Joaquin Ranch Pump Station
Disinfection Improvements Project 1.9.2024.pdf; 4082 PA Map.jpg; 4082A NAHC Request.docx

Hello Mr. Macarro,

I'm writing to inform you that CRM TECH has received the Native American Heritage Commission (NAHC) SLF Response and NA Contact List for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, in the City of Murrieta, Riverside County, California (CRM TECH No. 4082A). In a letter dated January 9, 2024, the Native American Heritage Commission reports that the result of the Sacred Lands File indicated a positive finding for tribal cultural resources in the vicinity and recommends contacting the Pechanga Band of Indians for further information. Therefore, we are asking for any additional information regarding any Tribal Cultural Resources within or near the proposed project location. I'm attaching the NAHC Positive SLF Results, project information, and a project map. Please feel free to email back with any additional comments and/ or information regarding the proposed project location. We would also appreciate any additional information that the tribe may provide that CRM TECH can include in our report.

Thank you for your time and input on this project.

Nina Gallardo (909) 824-6400 (phone) (909) 824-6405 (fax) CRM TECH 1016 E. Cooley Drive, Ste. A/B Colton, CA 92324



#### PECHANGA CULTURAL RESOURCES

Pechanga Band of Indians

Post Office. Box 2183 • Temecula, CA 92593 Telephone (951) 770-6300 • Fax (951) 506-9491

January 11, 2024

VIA E-Mail and USPS Nina Gallardo,

Project Archaeologist/Native American Liaison CRM TECH 1016 E. Cooley Drive Suite A/B Colton, CA 92324 (909) 824-6400

RE: Request for Information for Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project, City of Murrieta, Riverside County, CA

Dear Ms. Gallardo,

The Pechanga Band of Indians ("the Tribe") appreciates your request for information regarding the above referenced Project. After reviewing the provided maps and our internal documents, we have determined that RCWD's Joaquin Ranch Pump Station Project is located in the heart of Our Ancestral Territory. Although the proposed-Project is not within our Reservation Boundary, at this time we are interested in participating in this Project based upon our 'Ayélkwish/Traditional Knowledge of the area but especially, considering the Project is surrounded by three distinct Sacred Lands Filing's. The first Traditional Cultural Property is located 2.95 miles northwest, the 3.66 miles south-southeast, and the third TCP is 4.80 west-southwest from the Project. There are upwards of 32 recorded Cultural-archaeological sites from 108 yards-to-1 mile from the APE. Historic aerial-records spanning from 1967-to-the present-day depict a property that remained undeveloped until the 1996-record, which showed a constructed RCWD-facility. The Tribe asserts a majority of this Property's native soils, beyond the current pavement remain intact below the plow-zone. Further, this Project is directly adjacent to National Hydrography Dataset (NHD) Blueline known as the Murrieta Creek. The importance of this perennial water to our Culture cannot be understated. Our 'Atáaxum/Luiseño Creation of the World occurs at the very confluence of the Murrieta and Temecula Creeks and is known as 'Éxva Teméeku. The nearness of this longterm waterway to this Project is very concerning to the Tribe. Given a combination of Our Culture's burial practices and a close proximity to long-term water sources often, increases potential impacts to our Ancestor's sacred sites. Considering this Project's close proximity to previously impacted Ancestral human remains, the Project's-APE being within hail of 3 Traditional Cultural Properties, in view of the 32 recorded sites located under a mile from this proposed-Development, considering the presence of Murrieta Creek-Blueline directly adjacent the Project, and because of Pechanga's longstanding experience within this Project's vicinity the Tribe therefore, is interested in participating in this Project. The Pechanga Tribe believes that the possibility for recovering sensitive subsurface resources during ground-disturbing activities for the Project is extremely high.

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Chairperson: Neal Ibanez

Vice Chairperson: Bridgett Barcello

Committee Members: Darlene Miranda Richard B. Scearce, III Robert Villalobos Shevon Torres Juan Rodriguez

Direcctor: Gary DuBois

Coordinator: Paul Macarro

Cultural Analyst: Tuba Ebru Ozdil The Tribe is dedicated to providing comprehensive cultural information to you and your firm for inclusion in the archaeological study as well as to the Lead Agency for CEQA review. At this time, the Tribe requests the following so we may continue the consultation process and to provide adequate and appropriate recommendations for the Project:

- 1) Notification once the Project begins the entitlement process, if it has not already;
- Copies of all applicable archaeological reports, site records, proposed grading plans and environmental documents (EA/IS/MND/EIR, etc);
- 3) Government-to-government consultation with the Lead Agency; and
- 4) The Tribe believes that monitoring by a Riverside County qualified archaeologist and a professional Pechanga Tribal Monitor may be required during earthmoving activities. Therefore, the Tribe reserves its right to make additional comments and recommendations once the environmental documents have been received and fully reviewed. Further, in the event that subsurface cultural resources are identified, the Tribe requests consultation with the Project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

As a Sovereign governmental entity, the Tribe is entitled to appropriate and adequate government-to-government consultation regarding the proposed Project. We would like you and your client to know that the Tribe does not consider initial inquiry letters from project consultants to constitute appropriate government-to-government consultation, but rather tools to obtain further information about the Project area. Therefore, the Tribe reserves its rights to participate in the formal environmental review process, including government-to-government consultation with the Lead Agency, and requests to be included in all correspondence regarding this Project.

Please note that we are interested in participating in surveys within the 'Atáaxum-Payómkawichum Ancestral Territory. Prior to conducting any surveys, please contact the Cultural Department to schedule specifics. If you have any additional questions or comments, please contact me at pmacarro@pechanga-nsn.gov or 951-770-6306.

Sincerely, 6 Larre

Paul E. Macarro Cultural Coordinator Pechanga Reservation

Pechanga Cultural Resources • Pechanga Band of Indians Post Office Box 2183 • Temecula, CA 92592

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

APPENDIX D

PALEONTOLOGICAL RESOURCES ASSESSMENT

PALEONTOLOGICAL RESOURCES ASSESSMENT For the

# JOAQUIN RANCH PUMP STATION DISINFECTION SYSTEMS IMPROVEMENTS PROJECT

Project No. D2199 APN 904-050-044

42581 Vineyard Parkway City of Murrieta, Riverside County, California

#### For Submittal to:

Rancho California Water District 42135 Winchester Road Temecula, CA 92590

#### **Prepared for:**

Krieger and Stewart 3602 University Avenue Riverside, CA 92501

#### **Prepared by:**

Ron Schmidtling, Principal Paleontologist Nicole Raslich, Report Writer CRM TECH 1016 East Cooley Drive, Suite A/B Colton, CA 92324

April 2, 2024

Approximately 2 acres USGS Murrieta, Calif., 7.5' (1:24,000) quadrangle Temecula Land Grant, T7S R3W, San Bernardino Baseline and Meridian CRM TECH Project No. 4082P

# **EXECUTIVE SUMMARY**

Between November 2023 and April 2024, at the request of Krieger & Stewart, Inc., CRM TECH performed a paleontological resource assessment on approximately 2 acres of land in the City of Murrieta, Riverside County, California. The subject property of the study is located at 42581 Vineyard Parkway, APN 904-050-044, southwest of the intersection of Hayes Avenue and Vineyard Parkway, in Township 7 South, Range 3 West in the Temecula Land Grant, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey Murrieta, California, 7.5' quadrangle.

The study is part of the environmental review process for the proposed Joaquin Ranch Pump Station Disinfection Improvements Project, which includes the construction of a chloramination disinfection system on the property. The Rancho California Water District, as the lead agency, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the District with the necessary information and analysis to determine whether the proposed project would adversely affect any significant, nonrenewable paleontological resources, as required by CEQA, and to design a paleontological mitigation program, if necessary.

In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during project construction, CRM TECH initiated a paleontological records search, conducted a literature review, and carried out a systematic field survey of the project area, in accordance with the guidelines of the Society of Vertebrate Paleontology.

Based on the research results of the current study, the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be low. Therefore, CRM TECH recommends to the City of Murrieta a conclusion of *No Impact* regarding paleontological resources. However, if any buried paleontological resources or suspected paleontological resources are encountered during any earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified paleontologist can evaluate the nature and significance of the finds.

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# **INTRODUCTION**

Between November 2023 and April 2024, at the request of Krieger & Stewart, Inc., CRM TECH performed a paleontological resource assessment on approximately 2 acres of land in the City of Murrieta, Riverside County, California (Figure 1). The subject property of the study is located at 42581 Vineyard Parkway (APN 904-050-044), which is along the northwest side of Vineyard Parkway, southwest of Hayes Avenue (Figure 2), in Township 7 South, Range 3 West in the Temecula Land Grant, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey Murrieta, California, 7.5' quadrangle (Figure 3).

The study is part of the environmental review process for the proposed Joaquin Ranch Pump Station Disinfection Improvements Project, which includes the construction of a chloramination disinfection system on the property. The Rancho California Water District, as the lead agency, required the study in compliance with the California Environmental Quality Act (CEQA, PRC §21000, et seq.). The purpose of the study is to provide the District with the necessary information and analysis to determine whether the proposed project would adversely affect any significant, nonrenewable paleontological resources, as required by CEQA, and to design a paleontological mitigation program, if necessary.

In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during the project, CRM TECH initiated a paleontological records search, conducted a literature review, and carried out a field survey of the project area. The following report is a complete account of the methods, results, and final conclusion of this study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.



Figure 1. The project vicinity, shown on a portion of the USGS Santa Ana, Calif., 1:250,000 quadrangle.



Figure 2. Aerial view of project area. (Based on Google Earth imagery)



Figure 3. The project area shown on the USGS maps.

# PALEONTOLOGICAL RESOURCES

# DEFINITION

Paleontological resources represent the remains of prehistoric life, exclusive of any human remains, and include the localities where fossils were collected as well as the sedimentary rock formations in which they were found. The defining character of fossils or fossil deposits is their geologic age, typically older than recorded human history and/or older than the middle Holocene Epoch, which dates to circa 5,000 radiocarbon years (Society of Vertebrate Paleontology 2010:11).

Common fossil remains include marine and freshwater mollusk shells; the bones and teeth of fish, amphibians, reptiles, and mammals; leaf imprint assemblages; and petrified wood. Fossil traces, another type of paleontological resource, include internal and external molds (impressions) and casts created by these organisms. These items can serve as important guides to the age of the rocks and sediments in which they are contained and may prove useful in determining the temporal relationships between rock deposits from one area and those from another as well as the timing of geologic events. They can also provide information regarding evolutionary relationships, development trends, and environmental conditions.

Fossil resources generally occur only in areas of sedimentary rock (e.g., sandstone, siltstone, mudstone, claystone, or shale). Because of the infrequency of fossil preservation, fossils, particularly vertebrate fossils, are considered nonrenewable paleontological resources. Occasionally fossils may be exposed at the surface through the process of natural erosion or because of human disturbances; however, they generally lay buried beneath the surficial soils. Thus, the absence of fossils on the surface does not preclude the possibility of their being present within subsurface deposits, while the presence of fossils at the surface is often a good indication that more remains may be found in the subsurface.

# SIGNIFICANCE CRITERIA

According to guidelines proposed by Scott and Springer (2003:6) of the San Bernardino County Museum, paleontological resources can be considered to be of significant scientific interest if they meet one or more of the following criteria:

- 1. The fossils provide information on the evolutionary relationships and developmental trends exhibited among organisms, living or extinct;
- 2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
- 3. The fossils provide data regarding the development of biological communities or the interactions between paleobotanical and paleozoological biotas;
- 4. The fossils demonstrate unusual or spectacular circumstances in the history of life; and/or
- 5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

# PALEONTOLOGICAL SENSITIVITY

The fossil record is unpredictable, and the preservation of organic remains is rare, requiring a particular sequence of events involving physical and biological factors. Skeletal tissue with a high percentage of mineral matter is the most readily preserved within the fossil record; soft tissues not intimately connected with the skeletal parts, however, are the least likely to be preserved (Raup and Stanley 1978). For this reason, the fossil record contains a biased selection not only of the types of organisms preserved but also of certain parts of the organisms themselves. As a consequence, paleontologists are unable to know with certainty the quantity of fossils or the quality of their preservation that might be present within any given geologic unit.

Sedimentary units that are paleontologically sensitive are those geologic units (mappable rock formations) with a high potential to contain significant nonrenewable paleontological resources. More specifically, these are geologic units within which vertebrate fossils or significant invertebrate fossils have been determined by previous studies to be present or are likely to be present. These units include, but are not limited to, sedimentary formations that contain significant paleontological resources anywhere within their geographical extent as well as sedimentary rock units temporally or lithologically amenable to the preservation of fossils.

A geologic formation is defined as a stratigraphic unit identified by its lithic characteristics (e.g., grain size, texture, color, and mineral content) and stratigraphic position. There is a direct relationship between fossils and the geologic formations within which they are enclosed and, with sufficient knowledge of the geology and stratigraphy of a particular area, it is possible for paleontologists to reasonably determine the formation's potential to contain significant nonrenewable vertebrate, invertebrate, marine, or plant fossil remains.

The paleontological sensitivity for a geologic formation is determined by the potential for that formation to produce significant nonrenewable fossils. This determination is based on what fossil resources the particular geologic formation has produced in the past at other nearby locations. Determinations of paleontologic sensitivity must consider not only the potential to yield a large collection of fossil remains but also the potential to yield a few fossils that can provide new and significant taxonomic, phylogenetic, and/or stratigraphic data.

The Society of Vertebrate Paleontology issued a set of standard guidelines intended to assist paleontologists to assess and mitigate any adverse effects/impacts to nonrenewable paleontological resources. The guidelines defined four categories of paleontological sensitivity for geologic units that might be impacted by a proposed project, as listed below (Society of Vertebrate Paleontology 2010:1-2):

- **High Potential**: Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.
- **Undetermined Potential**: Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment.
- Low Potential: Rock units that are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances.
- **No Potential**: Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

## SETTING

The Murrieta quadrangle is located in the northern part of the Peninsular Ranges Province and is diagonally crossed by the active Elsinore fault zone. This is a major fault zone of the San Andreas fault system that separates the Santa Ana Mountains block to the west from the Perris block to the east. Both blocks are relatively stable internally and within the quadrangle are characterized by the presence of widespread erosional surfaces of low relief (Kennedy & Morton 2003).

The Santa Ana Mountains block, in the Murrieta quadrangle, is underlain by undifferentiated, thicklayered, granular, impure quartzite and well-layered, fissile, phyllitic metamorphic rock of low metamorphic grade which are both Mesozoic in age. Unconformably overlying the metamorphic rocks are remnants of basalt flows, dating to about 7-8 million years ago and have relatively unmodified flow surfaces. Large shallow depressions on the surface of the larger basalt remnants form vernal ponds that contain an endemic flora. Beneath the basalt, the upper part of the metamorphic rocks is deeply weathered. This weathering appears to be the same as the regional Paleocene saprolitic weathering in southern California (Kennedy & Morton 2003).

"The Elsinore fault zone forms a complex of pull-apart basins. The west edge of the fault zone, the Willard Fault, is marked by the high, steep eastern face of the Santa Ana Mountains. The east side of the zone, the Wildomar Fault, forms a less pronounced physiographic step. In the center of the quadrangle a major splay of the fault zone, the Murrieta Hot Springs Fault, strikes east. Branching of the fault zone causes the development of a broad alluvial valley between the Willard Fault and the Murrieta Hot Springs Fault. All but the axial part of the zone between the Willard and Wildomar Faults consist of dissected Pleistocene sedimentary units. The axial part of the zone is underlain by Holocene and latest Pleistocene sedimentary units" (Kennedy & Morton 2003).

The project location lies in the City of Murrieta, located within the northern portion of the Peninsular Range. This geomorphic province is characterized by steep, elongated valleys and ranges that trend northwestward from the tip of Baja California to the Los Angeles Basin. The mountains in the area rise to elevations above 1,400 feet above mean sea level. The City of Murrieta is surrounded by the Santa Ana Mountains and the Santa Rosa Plateau to the west, the Santa Margarita and Agua Tibia ranges to the south and the San Jancito ranges to the east. The ambient environment of the region is characterized by a temperate Mediterranean climate, with seasonal average temperatures ranging between 44 and 91 degrees Fahrenheit. Annual rainfall is approximately 15 inches on average, most of which occurs between November and April.

The rectangular-shaped project area is currently occupied by the Rancho California Water District (RCWD) and is situated 150 feet east of Murrieta Creek, and 1.9 miles south of Interstate 15 (Figure 1). The entire property is enclosed with chain link fencing with a located gate on the southeast corner of the property. The property is adjacent to Vineyard Parkway to the south, and undeveloped natural terrain to the west (Figure 2). The southern portion of the property is an existing RCWD facility that is covered with asphalt. The above surface infrastructure on the developed portion consists of a pumphouse, electrical house, metal piping, and pipe fittings (Figure 4); subsurface infrastructural components are also present.



Figure 4. Overview of the existing facilities in the project area. (view to the north-northeast from Vineyard Parkway; January 31, 2024)

The northern, undeveloped portion of the property is characterized by several oak trees and an earthen surface covered in leaves, duff, and patches of short ruderal grasses rooted in moderately packed silty sand (Figure 5). Elevations on the property range from 1,109 feet, on the northwest corner, and 1,115 feet, on the southeast corner, above mean sea level (Figure 3). In its undisturbed state, flora within the project area would have been typical of the California floristic province, represented by the coastal sage scrub plant community, commonly referred to as "soft chaparral." While native species such as coyote gourd, jimsonweed, and buckwheat remain present, the project area currently contains primarily introduced plant species such as wild mustard, foxtails, and the typical amalgamation of intrusive grasses and small shrubs (Figure 5).



Figure 5. Overview of the undeveloped portion of the project area. (view to the southwest; January 31, 2024)

# METHODS AND PROCEDURES

#### **RECORDS SEARCH**

The paleontological records search service for this study was provided by the Western Science Center (WSC) in Hemet. The WSC maintains files of regional paleontological localities as well as supporting maps and documents. The records search results were used to identify previously performed paleontological resource assessments and known paleontological localities within a one-mile radius of the project location. A copy of the records search results is attached to this report in Appendix 2.

## LITERATURE AND MAP REVIEW

In conjunction with the records search, CRM TECH paleontological report writer Nicole Raslich and CRM TECH principal paleontologist Ron Schmidtling reviewed geological literature and maps pertaining to the project vicinity. Sources consulted during the review included primarily published literature on regional geology, topographic, geologic, and soil maps of the Murrieta area, the Riverside County GIS database on paleontological sensitivity, aerial and satellite photographs available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software, and other materials in the CRM TECH library, including unpublished reports produced during similar surveys in the vicinity.

#### FIELD SURVEY

On January 31, 2024, paleontological surveyor Sal Z. Boites (see App. 1 for qualifications) carried out the field survey of the project area. The survey was conducted on foot by walking along parallel transects spaced 5 meters (approximately 16 feet) apart across the unpaved portion of the project area. In this way, the ground surface in the project area was systematically and carefully examined to determine soil types, verify the geological formations, and search for indications of paleontological remains. In areas of unpaved, open earthen terrain, ground visibility was good (60%).

#### **RESULTS AND FINDINGS**

#### **RECORDS SEARCH**

The records search by the WSC identified no known paleontological localities within the project area but there are multiple localities from one project (the Principe Project) within a one-mile radius [and several others beyond the one mile radius (Stoneburg 2024; see App. 2)]. According to the WSC, the geologic formation that the project area rests upon consists of a mix of alluvial units from the Holocene and late Pleistocene epoch (Stoneburg 2024). The Pleistocene alluvial sediments are likely to contain fossil remains and, thus, are considered to be highly paleontologically sensitive (Stoneburg 2024).

The WSC notes that the "Principe Project" produced many Pleistocene fossils including *Equus sp.*, *Mammut sp.*, and others and that any fossils recovered from the proposed project would be scientifically significant (Stoneburg 2024). Therefore, the WSC concludes that "excavation activity

associated with development of the project area would impact the paleontologically sensitive Pleistocene and Pliocene units and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area" (Stoneburg 2024).

# LITERATURE AND MAP REVIEW

Kennedy and Morton (2003; Figure 6) and, again, Morton and Miller (2006; citing Kennedy and Morton 2003 as their source of mapping) mapped the surface sediments in the project area as **Qyv** which they described as young (Holocene and late Pleistocene) alluvial valley deposits (i.e., fluvial deposits along valley floors), consisting of unconsolidated sand, silt, and clay-bearing alluvium. Dibblee (2008; Figure 7) mapped the surficial sediments in the project area as **Qa**, which is described as unconsolidated, undissected alluvial sand and gravel of valley areas, in places covered with gray clay soil dating to the Holocene [possible Late Pleistocene]. [Note that it is likely that the paleontological resources recovered during the "Principe Project" were recovered from Pauba Formation soils (**Qpfs** in Figure 6) which is known to be very fossiliferous.]

Riverside County paleontological sensitivity map classifies the project area as having a low potential to contain significant paleontological resources (RCIT n.d.). The County, however, states that site-specific research by a qualified paleontologist may determine that the specific property has a low potential for containing significant paleontological resources that would be subject to adverse impacts, indicating that fossils are unlikely to be encountered in this area.

Current and earlier aerial images and maps confirm that the project area is located adjacent to Murrieta Creek (Figure 2). Over the past thousands of years, especially during wetter periods, the subject property was undoubtedly within the flood plain of the creek. As a result, it is expected that the mapped "fluvial deposits consisting of unconsolidated sand, silt, and clay-bearing alluvium" dating to the Recent period within the project area could be relatively thick.

The construction of the existing facilities within the project area in 1984 obviously disturbed/ impacted that portion of the property. According to in-process design plans for the construction of the chloramination disinfection system improvements at the facility, any new structures/piping will be in the currently paved/previously disturbed area (personal communication from the client). However, the paved area could be expanded slightly to accommodate access (Figure 8). Current inprocess design plans suggest that foundations will be approximately 3 feet below the existing surface. Chemical feed piping and electrical conduits may be approximately 4 feet below the surface. Water piping, however, may be approximately 7 feet below the surface, though only approximately 20 feet of such piping may be needed (personal communication from the client).

According to Natural Resources Conservation Service (NRCS 2023), Riverwash (RsC) sediments are present extending into the project area to approximately the edge of the paved area and continuing northward through the unpaved area (Figure 9). "Deep", eroded Hanford coarse sandy loam (HeC2) is mapped as a band in the middle of the project area and Greenfield sandy loam (GyA) is shown as being present in the north-northeastern part of the project area (Figure 9). The Riverwash sediments are described as stratified, extremely gravelly coarse sand to gravelly sand extending to at least 5 feet in depth. The Hanford sediment is described as coarse sandy loam near



Figure 6. 2003 Geological map of the project vicinity. (Source: Kennedy and Morton 2003)



Figure 7. 2008 Geological map of the project vicinity. (Source: Dibblee 2008)



Figure 8. The existing facility and possible improvements. (Figure provided by the client)



Figure 9. Map of soils in the project area. (Source: NRCS 2023)

CRM TECH

the surface, fine sandy loam from 8 to 40 inches below the surface and stratified loamy sand to coarse sandy loam below that to at least a depth of 5 feet (60 inches). The Greenfield sediment is described as a sandy loam from 0 to 26 inches below the surface, a fine sandy loam from 26 to 43 inches below the surface, loam from 43 to 60 inches, and a stratified loamy sand to sandy loam from 60 to 72 inches below the surface (NRCS 2023).

# FIELD SURVEY

The field survey resulted in negative findings for potential paleontological resources; no surficial indications of any fossil remains were discovered within or adjacent to the project area. Approximately one-third to one-half of the study area is covered by asphalt and existing facilities. Somewhat dense vegetation, including foxtails, tumbleweeds, wild mustard, and other small grasses and shrubs, was present, mostly around the edges of the unpaved portion of the property. Visibility of the unpaved ground surface within the property was fair (60 percent). Surface soils were noted as Recent alluvium consisting of loose sands with small gravels. No paleontological resources or potentially fossiliferous sediments were observed.

# SUMMARY DISCUSSION

Geologic mapping indicates that sediments in the project area consist of alluvial/fluvial sand, silt, clay, and gravel deposits dating from the Holocene and late Pleistocene. Soil mapping indicates that river wash sediments (RsC) and coarse sandy loam (HeC2) are present in most of the project area with sandy loam (GyA) present in the northern-northeastern part of the project area. The previous construction of the existing facilities obviously disturbed/impacted the that portion of the subject property, which is where most of the proposed improvements will occur, with the deepest excavation being a relatively short trench reaching some 7 feet below the surface. Located next to Murrieta Creek, Recent sediments from past flooding episodes are present from the surface to an unknown depth below the surface. Boring logs from a geotechnical study, if and when available, may provide insights to the depths of previous disturbances and the thickness of Recent sediments in the project area. Notwithstanding the lack of specific information regarding the depths and extent of previous disturbances will occur in the already disturbed portion of the project area and that the deepest excavations may be for a relatively short distance, it appears that the proposed project improvements have a relatively low potential of impacting significant paleontological resources.

# CONCLUSION AND RECOMMENDATIONS

CEQA guidelines (Title 14 CCR App. G, Sec. V(c)) require that public agencies in the State of California determine whether a proposed project would "directly or indirectly destroy a unique paleontological resource" during the environmental review process. The present study, conducted in compliance with this provision, is designed to identify any significant, non-renewable paleontological resources that may exist within or adjacent to the project area, and to assess the possibility for such resources to be encountered in future excavation and construction activities.

Based on the research results presented above, the proposed project's potential to impact significant, nonrenewable paleontological resources is low in the previously disturbed surface and near-surface soils of Holocene age. While older Pleistocene age alluvial sediments may be present below these Recent and disturbed soils, such older, possibly fossiliferous soils are not likely to impacted. Based on these findings, the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be low. Therefore, CRM TECH recommends to the City of Murrieta a conclusion of *No Impact* regarding paleontological resources. However, if any buried paleontological resources or suspected paleontological resources are encountered during any earthmoving operations associated with the project, all work in that area should be halted or diverted until a qualified paleontologist can evaluate the nature and significance of the finds.

#### REFERENCES

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RCIT (Riverside County Information Technology)

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Scott, Eric, and Kathleen Springer

2003 CEQA and Fossil Preservation in California. *Environmental Monitor* Fall:4-10. Association of Environmental Professionals, Sacramento, California.

Society of Vertebrate Paleontology

2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Available online to download at:

https://vertpaleo.org/wp-content/uploads/2021/01/SVP\_Impact\_Mitigation\_Guidelines.pdf.

Stoneburg, Brittney Elizabeth

2024 Letter of findings, paleontological resources records search for the proposed project. Prepared by Western Science Center, Hemet, California. (See App. 2)

# APPENDIX 1: PERSONNEL QUALIFICATIONS

# RON SCHMIDTLING, M.S. PRINCIPAL PALEONTOLOGIST

## Education

1995	M.S., Geology, University of California, Los Angeles.
1991	Pasadena City College, Pasadena, California.
1985	B.A., Archaeology, Paleontology, Ancient Folklore, and Art History, University of
	Southern Mississippi, Hattiesburg.

#### **Professional Experience:**

Principal Paleontologist, CRM TECH, Colton, California.
Instructor of Earth Science, History of Life, Ecology, and Evolutionary Biology,
Columbia College Hollywood, Reseda, California.
Volunteer, excavation of a camarasaur and a diplodocid in southern Utah, Natural
History Museum of Los Angeles County, California.
Consultant, Getty Conservation Institute, Brentwood, California.
Archaeological and Paleontological Monitor, Michael Brandman Associates, Irvine,
California.
Department of Archaeology, University of California, Los Angeles.
Scientific Illustrator and Teaching Assistant, Department of Earth and Space Sciences and Department of Biological Sciences, University of California, Los Angeles.

#### Memberships

AAPS (Association of Applied Paleontological Sciences), USA; CSEOL (Center for the Study of Evolution and the Origin of Life), Department of Earth Sciences, University of California, Los Angeles.

# **Publications and Reports**

Author, co-author, and contributor on numerous paleontological publications and paleontological resource management reports.

# NICOLE A. RASLICH, M.A. PALEONTOLOGICAL SURVEYOR/MONITOR – REPORT WRITER

#### Education

- 2017 Ph.D. Candidate, Michigan State University, East Lansing
- 2011 M.A., Anthropology, Michigan State University, East Lansing
- 2005 B.A., Natural History of Biology and Anthropology, University of Michigan, Flint
- 2022 Adult First Aid/CPR/AED Certification, American Red Cross
- 2019 "Grant and Research Proposal Writing for Archaeologists," SAA Online Seminar
- 2014 Bruker Industries Tracer S1800 pXRF Training, presented by Dr. Bruce Kaiser, Bruker Scientific
- 2013 Introduction to ArcGIS, Michigan State University

#### **Professional Experience**

2022-	Project Archaeologist/Paleontologist, CRM TECH, Colton, CA
2022	Archaeological Technician, Agua Caliente Band of Cahuilla Indians
2008-2021	Archaeological Consultant, Saginaw Chippewa Indian Tribe of Michigan
2019	Archaeologist, Sault Tribe of Chippewa Indians, and Little Traverse Bay Band of
	Odawa Indians
2018	Teaching Assistant, Michigan State University
2017	Adjunct Professor, University of Michigan
2015-2016	Graduate Fellow, Michigan State University Campus Archaeology Program
2015	Archaeologist, Michigan State University, Illinois State Museum, Dickson Mounds
	Museum
2013-2015	Curation Research Assistant, Michigan State University Museum
2008-2014	Research Assistant, Intellectual Property Issues in Cultural Heritage, Simon Frasier
	University
2009-2012	Editorial Assistant/Copy Editor, American Antiquity
2009-2011	Archaeologist/Crew Chief, Saginaw Chippewa Indian Tribe of Michigan

#### **Publications and Reports**

2017 "Preliminary Results of a Handheld X-Ray Fluorescence (pXRF) Analysis on a Marble Head Sarcophagus Sculpture from the Collection of the Kresge Art Center, Michigan State University." Submitted to Jon M. Frey, Department of Art, Art History, and Design. Michigan State University

2016 Preserving Sacred Sites, Arctic Indigenous Peoples as Cultural Heritage Rights Holders. University of Lapland Printing Centre, Rovaniemi, Finland. 2016. Heinämäki, L., T. M. Herrmann, N. A. Raslich.

# SALVADORE Z. BOITES, M.A. PALEONTOLOGICAL SURVEYOR/MONITOR

### Education

2013	M.A., Applied Anthropology, California State University, Long Beach.
2003	B.A., Anthropology/Sociology, University of California, Riverside.
1996-1998	Archaeological Field School, Fullerton Community College, Fullerton, California.

# **Professional Experience**

2014-	Project Archaeologist, CRM TECH, Colton, California.
2010-2011	Adjunct Instructor, Anthropology, Everest College, Anaheim, California.
2003-2008	Project Archaeologist, CRM TECH, Riverside/Colton, California.
2001-2002	Teaching Assistant, Moreno Elementary School, Moreno Valley, California.
1999-2003	Research Assistant, Anthropology Department, University of California, Riverside.

# **Research Interests**

Cultural Resource Management, Applied Archaeology/Anthropology, Indigenous Cultural Identity, Poly-culturalism.

# MICHAEL HOGAN, PH.D., RPA\* PRINCIPAL INVESTIGATOR

### Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
2021	"An Introduction to Geoarchaeology: How Understanding Basic Soils, Sediments, and Landforms can make you a Better Archaeologist." SAA Online Seminar.
2002	"Section 106—National Historic Preservation Act: Federal Law at the Local Level," UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

#### Registrations

\*Registered Professional Archaeologist 41781498

#### **Professional Experience**

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Field Director/Project Archaeologist/Project Paleontologist, CRM TECH.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
1992-1998	Assistant Research Anthropologist, University of California, Riverside
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1991-1992	Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998	Project Director, Field Director, Crew Chief, and Archaeological Technician for
	various southern California cultural resources management firms.

#### **Research Interests**

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

#### **Cultural Resources Management Reports**

Principal investigator for, author or co-author of, and contributor to numerous cultural resources management study reports since 1986.

#### Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.
### APPENDIX 2 RECORDS SEARCH RESULTS





APPENDIX E

AIR QUALITY CALCULATIONS

# Joaquin Ranch Pump Station Disinfection System Improvements Summary Report

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## 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Joaquin Ranch Pump Station Disinfection System Improvements
Construction Start Date	9/3/2024
Operational Year	2025
Lead Agency	
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	18.6
Location	33.5562250851975, -117.23134281547647
County	Riverside-South Coast
City	Murrieta
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5558
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.23

## 1.2. Land Use Types

Land Use Subtype Size Unit	hit Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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General Light	10.0	1000sqft	2.10	10,000	4,000	 _	
Industry							

#### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-3	Use Local Construction Contractors
Construction	C-9	Use Dust Suppressants

## 2. Emissions Summary

#### 2.1. Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	со	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	_	—	_	-	—	—	-	—	-	_	—	—	—	—	-	—	-
Unmit.	1.99	9.40	15.6	17.1	0.02	0.67	0.20	0.84	0.62	0.05	0.66	—	2,674	2,674	0.11	0.03	0.78	2,685
Mit.	1.99	9.40	15.6	17.1	0.02	0.67	0.20	0.84	0.62	0.05	0.66	—	2,674	2,674	0.11	0.03	0.78	2,685
% Reduced	—	_	_	_	_	_	—	_	—	_	_	_	_	—	—	_	_	_
Daily, Winter (Max)		_	_	-	_	_	_	_	_	_		_	_	_	_	_	_	_
Unmit.	2.02	1.70	15.9	16.8	0.03	0.74	7.21	7.96	0.68	3.46	4.14	—	2,815	2,815	0.11	0.03	0.02	2,826
Mit.	2.02	1.70	15.9	16.8	0.03	0.74	7.21	7.96	0.68	3.46	4.14	-	2,815	2,815	0.11	0.03	0.02	2,826
% Reduced	—	-	_	-	-	-	-	_	-	-	_	-	_	-	-	-	_	-
Average Daily (Max)	—	-	_	-	-	_	_	-	_	-	_	_	-	-	-	-	_	-

#### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Unmit.	0.71	0.85	5.04	5.79	0.01	0.19	0.15	0.27	0.18	0.06	0.19	—	1,091	1,091	0.04	0.01	0.08	1,096
Mit.	0.71	0.85	5.04	5.79	0.01	0.19	0.15	0.27	0.18	0.06	0.19	—	1,091	1,091	0.04	0.01	0.08	1,096
% Reduced	_	-	-	-	—	—	—	-	_	—	—	—	—	_	—	—	—	-
Annual (Max)	—	—	—	—	—	—	—	—						—				—
Unmit.	0.13	0.15	0.92	1.06	< 0.005	0.04	0.03	0.05	0.03	0.01	0.03	—	181	181	0.01	< 0.005	0.01	181
Mit.	0.13	0.15	0.92	1.06	< 0.005	0.04	0.03	0.05	0.03	0.01	0.03	—	181	181	0.01	< 0.005	0.01	181
% Reduced	_	-	-	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

## 2.4. Operations Emissions Compared Against Thresholds

#### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	со	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)		-	_	—	—	-		—		—	—	-	—	—	—	—	-	_
Unmit.	0.75	0.89	2.73	4.76	0.01	0.10	0.27	0.37	0.09	0.07	0.16	11.1	1,465	1,476	1.19	0.03	3.81	1,520
Daily, Winter (Max)		_	—	-	_	-	—	-	—	—	-	-	-	—	-	_	_	—
Unmit.	0.66	0.81	2.74	4.13	0.01	0.10	0.27	0.37	0.09	0.07	0.16	11.1	1,444	1,455	1.19	0.03	2.63	1,498
Average Daily (Max)		_	_	-	-	-		-	_	-	-	-	-	_	-	—	_	_
Unmit.	0.52	0.69	1.68	3.04	0.01	0.06	0.24	0.30	0.06	0.06	0.12	11.1	1,252	1,264	1.19	0.03	3.08	1,306
Annual (Max)	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Unmit.	0.09	0.13	0.31	0.55	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	1.84	207	209	0.20	0.01	0.51	216

## 6. Climate Risk Detailed Report

#### 6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

### 6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	1	4

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 7. Health and Equity Details

## 7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

#### 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.