Rancho California Water District

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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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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 City of Temecula General Plan (2005), the City of Murrieta General Plan 2035 (adopted in 2011 and updated in 2020), and the Southwest Area Plan (SWAP, as amended through September 28, 2021) of the County of Riverside General Plan (2015). The Project site is located within the planning area covered by the City of Murrieta General Plan 2035 (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
- ☐ Population/Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation
- ☐ Tribal Cultural Resources
- ☐ Utilities/Service Systems
- ☐ 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.

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. Aesthetics

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?	☐	☐	☐	☒

*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.*

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

*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. Aesthetics (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?	☐	☐	☐	☒

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

Based on maps available from the State of California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program, online at https://maps.conservation.ca.gov/DLRP/CIFF, 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. Agriculture and Forest Resources (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?	☐	☐	☐	☒

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code 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?	☐	☐	☐	☒

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. Agriculture and Forest Resources (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

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. Air Quality

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?	☐	☐	☐	☒

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. Air Quality (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

*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 www.arb.ca.gov/resources/california-ambient-air-quality-standards.

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_2, SO_2, and lead. Additional information about these pollutants and the NAAQS is available on the United States Environmental Protection Agency's website at www.epa.gov/criteria-air-pollutants.

*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(1))					
	VOC	**NO_X**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Project Construction Emissions	**9.4**	**15.6**	**17.1**	**0.02**	**0.84**	**0.66**
SCAQMD Significance Thresholds(2)	**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(1))					
	VOC	**NO_X**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Maintenance Vehicle and Chemical Delivery Trucks	**0.89**	**2.74**	**4.76**	**0.01**	**0.37**	**0.16**
SCAQMD Significance Thresholds(2)	**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. Air Quality (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?	☐	☐	☒	☐

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 over current conditions 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.*

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

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

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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, Biological Resources Assessment, Joaquin Ranch Pump Station Project, Murrieta, Riverside County, California, 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 (*Athene cunicularia hypugaea*), Cooper's hawk (*Accipiter cooperii*), 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.*

- ***Cooper's Hawk***

  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 Staff Report on Burrowing Owl Mitigation. 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 Staff Report on Burrowing Owl Mitigation. 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. Biological Resources (continued)

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

*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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

*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.*

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

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. Biological Resources (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

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. Cultural Resources

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

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, Cultural Resource Assessment for the Joaquin Ranch Pump Station Disinfection Improvements Project, dated April 2, 2024 (Cultural Report), a copy of which is included in ***Appendix C*** *herein.*

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 previously-undiscovered 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 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.*

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. Cultural Resources (Continued)

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

*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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

*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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

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.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒

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 http://conservation.ca.gov/cgs/geohazards/eq-zapp, 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 Murrieta General Plan 2035 (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. Geology and Soils (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?	☐	☐	☒	☐

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 National Pollutant

Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057-DWQ, NPDES No. CAS000002, 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. Geology and Soils (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒

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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

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)

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

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

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, Paleontological Resources Assessment for the Joaquin Ranch Pump Station Disinfection Systems Improvements 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

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

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_2e, 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_2e per year; therefore, estimated Project construction GHG emissions of 2,826 metric tons of CO_2e and Project operation emissions of 1,520 metric tons of CO_2e 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. Greenhouse Gas Emissions (Continued)

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

*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

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

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. Hazards and Hazardous Materials (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project 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?	☐	☐	☒	☐

*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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

*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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

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 http://www.envirostor.dtsc.ca.gov/public), 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)

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

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 Riverside County Airport Land Use Compatibility Plan (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.

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

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. Hazards and Hazardous Materials (Continued)

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

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.

Issue X. Hydrology and Water Quality

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

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. Hydrology and Water Quality (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

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?	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
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?	☐	☐	☐	☒
iv) Impede or redirect flood flows?	☐	☐	☐	☒

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.*

ii) 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. Hydrology and Water Quality (Continued)

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

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. Hydrology and Water Quality (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

The water quality control plan applicable to the Project area is the Water Quality Control Plan for the Colorado River Basin Region, 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?	☐	☐	☐	☒

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

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project 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?	☐	☐	☐	☒

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

The Murrieta General Plan 2035 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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

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?	☐	☐	☒	☐

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)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

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 Riverside County Airport Land Use Compatibility Plan (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. Population and Housing

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

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.

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

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. Public Services

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

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. Recreation

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

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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

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

Issue XVII. Transportation

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

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. Transportation (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)?	☐	☐	☒	☐

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).

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

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?	☐	☐	☐	☒

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
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	☐	☐	☐	☒
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.	☐	☒	☐	☐

*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. *Preservation In Place. 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. *Reburial on the Project Property. 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. *Curation. 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.

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. Utilities and Service Systems

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

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.*

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

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. Utilities and Service Systems (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

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

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

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.

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

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. Wildfire

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

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

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 Murrieta General Plan 2035 (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.

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

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.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

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. Wildfire (Continued)

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslide, as a result of runoff, post-fire slope instability, or drainage changes?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	☐	☐	☐	☒

The Project site is relatively flat and, after completion of construction, disturbed surfaces not containing aboveground 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 animal, or eliminate important examples of the major periods of California history or prehistory?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	☐	☒	☐	☐

- ***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. Mandatory Findings of Significance (Continued)

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

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

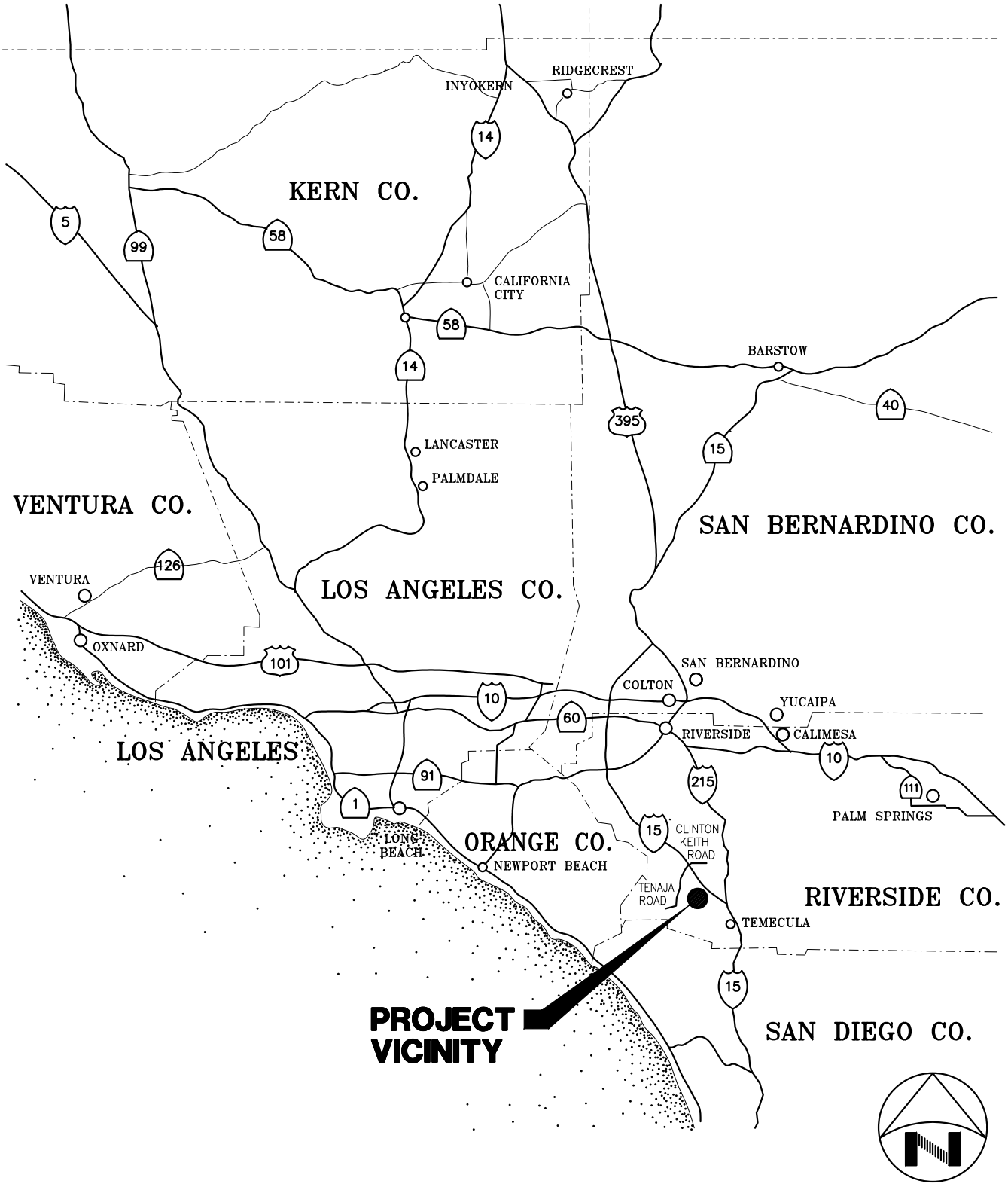
As described herein, none of the environmental effects of the Project will cause substantial adverse effects on human beings, either directly or indirectly.

PART 3
REFERENCES AND SOURCES

PART 3 - REFERENCES AND SOURCES

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

FIGURES



K&S KRIEGER & STEWART Engineering Consultants

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RANCHO CALIFORNIA WATER DISTRICT

JOAQUIN RANCH PUMP STATION
DISINFECTION SYSTEM IMPROVEMENTS

PROJECT VICINITY

FIGURE 1 OF 2

SCALE: N.T.S. DATE: 04/19/24 DRAWN BY: TMW CHECKED BY: VEM W.O.: 592-227

592-227_ISF1.DWG

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RANCHO CALIFORNIA WATER DISTRICT

JOAQUIN RANCH PUMP STATION
DISINFECTION SYSTEM IMPROVEMENTS

PROJECT LOCATION

FIGURE
2
OF 2

SCALE: 1"=1000' DATE: 04/19/24 DRAWN BY: TMW CHECKED BY: VEM W.O.: 592-227

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 www.ranchowater.com/127/CEQA-Compliance.

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 www.ranchowater.com/127/CEQA-Compliance.

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 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 previously-undiscovered 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 previously-undiscovered 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 previously-

undiscovered 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 previously-undiscovered 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. Preservation In Place. 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. Reburial on the Project Property. 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. Curation. 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

LSA

April 2024

BIOLOGICAL RESOURCES ASSESSMENT

JOAQUIN RANCH PUMP STATION PROJECT

MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

Rancho California Water District
42135 Winchester Road
Temecula, California 92595

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

LSA Project No. 20231429

LSA

April 2024

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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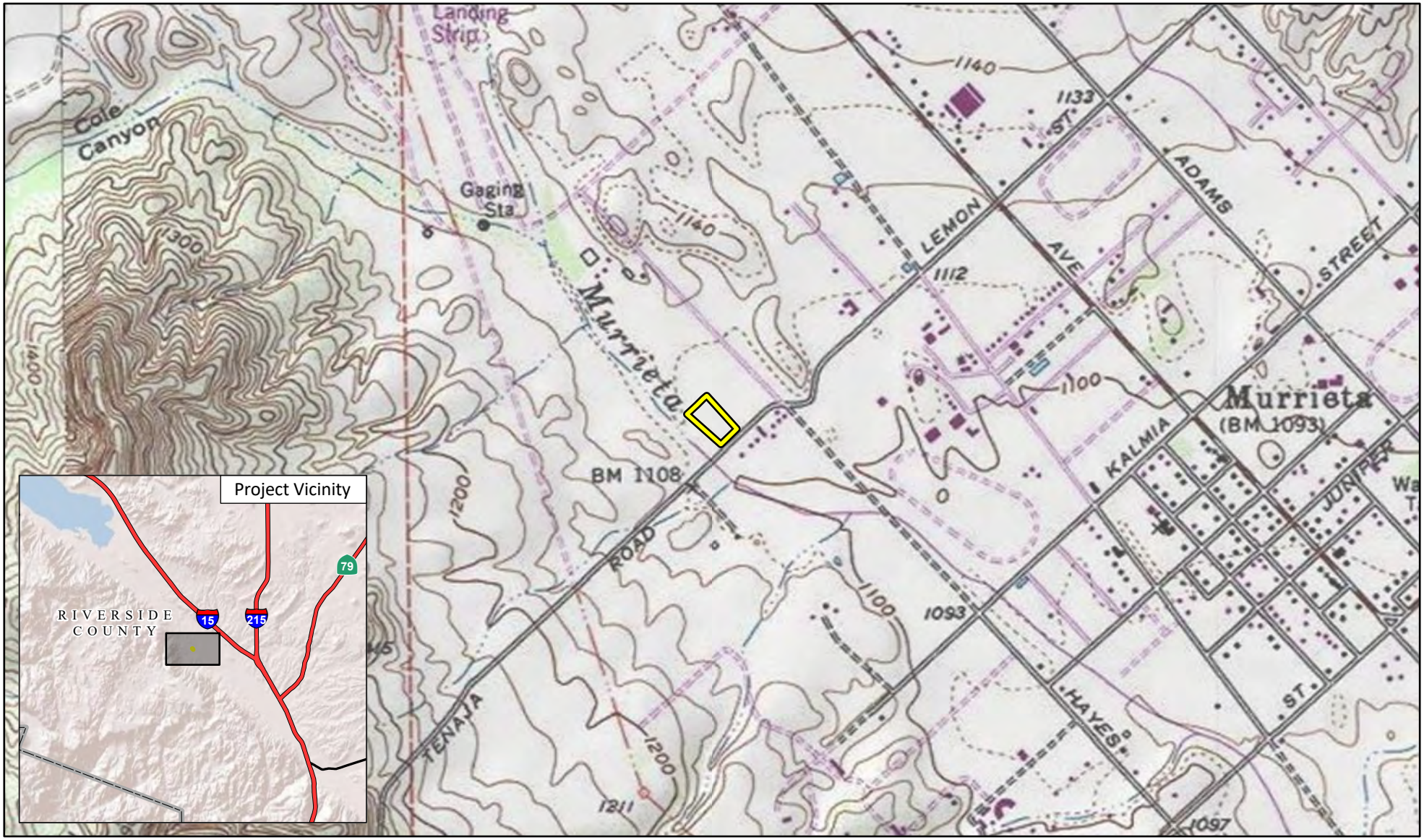
ABBREVIATIONS AND ACRONYMS

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.



Project Location

FIGURE 1

0 640 1280
FEET

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

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

Joaquin Ranch Pump Station

Project and Regional Location

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.

LSA

Project Location

Soils

GyA - Greenfield sandy loam, 0 to 2 percent slopes

HeC2 - Hanford coarse sandy loam, deep, 2 to 8 percent slopes, eroded

RsC - Riverwash

N

0 65 130

FEET

FIGURE 2

Joaquin Ranch Pump Station

Soils

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

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

LSA

Project Location

Site Photograph

Vegetation Community

Developed

Ornamental

Ruderal/Non-native grasslands

0 50 100

FEET

SOURCE: Google Maps (2023)

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

FIGURE 3

Joaquin Ranch Pump Station

Vegetation and Land Use, Nest Locations and Site Photograph Locations

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

I:\20231429\G\PhotoPage.cdr (4/22/2024)

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.

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/non-native 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.

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APPENDIX A

PLANT SPECIES OBSERVED

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 FLOWERING PLANTS	
Cyperaceae	**Sedge Family**
Cyperus eragrostis	Tall flatsedge
Poaceae	**Grass Family**
*Bromus rubens**	Red brome
*Schismus sp.**	Mediterranean grass
Typhaceae	**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
AMPHIBIANS	
Hylidae	**Treefrogs and Relatives**
Hyliola cadaverina	California treefrog
MAMMALS	
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher

* = Nonnative species

APPENDIX B

SPECIAL-STATUS SPECIES SUMMARY

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Limnanthes alba ssp. parishii Parish's meadowfoam	US: – CA: SE/1B MSHCP: C	Seasonally wet meadows and edges of vernal pools and intermittent streams; 550 to 2,000 meters (1,800 to 6,600 feet) elevation. Known from Peninsular Ranges in Riverside and San Diego Counties.	Blooms April through June (annual herb)	**Absent.** No seasonally wet meadows, vernal pools, or intermittent streams.
Monardella hypoleuca ssp. *intermedia* Intermediate monardella	US: – CA: 1B	Understory of chaparral, oak woodland, and occasionally coniferous forest at 200 to 1,250 meters (660 to 4,100 feet) elevation. Known only from the Santa Ana Mountains area of Orange, Riverside, and San Diego Counties, California.	Blooms primarily June through August (perennial rhizomatous herb)	**Absent.** No suitable vegetation.
Myosurus minimus ssp. *apus* Little mousetail	US: – CA: 3.1 MSHCP: S	Alkaline areas in vernal pools at 20 to 640 meters (70 to 2,100 feet) elevation. In California, known only from the Central Valley of the coastal and inland areas of Southern California. Also occurs in Oregon and Mexico.	Blooms March through June (annual herb)	**Absent.** No vernal pools.
Navarretia fossalis Spreading navarretia	US: FT CA: 1B MSHCP: S	In vernal pools, playas, shallow freshwater marshes, and similar sites at 15 to 820 meters (50 to 2,700 feet) elevation. In California, known only from Los Angeles, San Luis Obispo, Riverside, and San Diego Counties. Also occurs in Mexico.	Blooms April through June (annual herb)	**Absent.** No vernal pools, playas, shallow-freshwater marshes, or similar habitat.
Navarretia prostrata Prostrate vernal pool navarretia	US: – CA: 1B MSHCP: S	Vernal pools, usually alkaline, from 15 to 1,210 meters (50 to 4,000 feet) elevation. Known only from Alameda, Fresno, Los Angeles, Merced, Monterey, Orange, Riverside, San Benito, San Diego, and San Luis Obispo Counties. Presumed extirpated from San Bernardino County.	Blooms April through July (annual herb)	**Absent.** No vernal pools.
Orcuttia californica California Orcutt grass	US: FE CA: SE/1B MSHCP: S	Vernal pools from 15 to 660 meters (50 to 2,200 feet) elevation. In California, known from Los Angeles, Ventura, Riverside, and San Diego Counties. Also occurs in Mexico.	Blooms April through August (annual grass)	**Absent.** No vernal pools.
Pseudognaphalium leucocephalum White rabbit-tobacco	US: – CA: 2B	Sand and gravel at the edges of washes or mouths of steep canyons at 0 to 2,100 meters (0 to 7,000 feet) elevation. In California, known from Los Angeles, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Also occurs in Arizona, New Mexico, Texas, and Mexico.	Blooms usually August through November (perennial herb)	**Absent.** No sand and gravel at edge of wash or mouth of steep canyon. In addition, the site is maintained for weed abatement.

Table B: Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Scutellaria bolanderi ssp. *austromontana* Southern mountains skullcap	US: – CA: 1B	Mesic areas in gravelly soils of stream banks or in oak or pine woodland (rarely chaparral) at 425 to 2,000 meters (1,400 to 6,600 feet) elevation. Known from Riverside and San Diego Counties. Believed extirpated from San Bernardino County and perhaps Los Angeles County.	Blooms June through August (perennial herb)	**Absent.** No mesic areas, stream banks, oaks, or pine woodland.
Sibaropsis hammittii Hammitt's clay-cress	US:– CA: 1B MSHCP: S	Clay soils in openings in chaparral and grassland at elevations 700 to 1,065 meters (2,300 to 3,500 feet) elevation. Known from Riverside and San Diego Counties.	Blooms March through April (annual herb)	**Absent.** No suitable soils. In addition, the site is outside the known elevational range of this species.
Symphyotrichum defoliatum San Bernardino aster	US: – CA: 1B	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, 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).	Blooms July through November (perennial herb)	**Absent.** No vernally wet areas.
Tetracoccus dioicus Parry's tetracoccus	US: – CA: 1B	Dry stony slopes in chaparral and coastal sage scrub at 165 to 1,000 meters (500 to 3,300 feet) elevation. Known in California only from Orange, Riverside, and San Diego Counties. Also occurs in Mexico.	Blooms April through May (perennial deciduous shrub)	**Absent.** Site lacks dry, stony slopes and suitable vegetation.
Invertebrates				
Bombus crotchii Crotch bumble bee	US: – CA: SCE	Inhabits open scrub (including chaparral) and grassland from coastal California to crest of Sierra-Cascade and in desert edge areas, south into Mexico. Primarily nests underground. Suitable bumble bee habitat requires the continuous availability of flowers on which to forage throughout the duration of the colony (spring through fall), colony nest sites, and overwintering sites for the queens.	Spring and summer	**Absent.** No scrub habitat and vegetation is disturbed by weed abatement activities. Therefore, the ruderal/non-native grassland vegetation present does not provide a continuous availability of flowers to support a colony.

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Streptocephalus woottoni Riverside fairy shrimp	US: FE CA: SA MSHCP: S	Warm-water vernal pools (i.e., large, deep pools that retain water into the warm season) with low to moderate dissolved solids, in annual grassland areas interspersed through chaparral or coastal sage scrub 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.	Seasonally following rains; typically January through April	**Absent.** No vernal pools or preferred vegetation.
Fish				
Gila orcuttii Arroyo chub	US: – CA: SSC MSHCP: C	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in 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.	Year-round	**Absent.** No perennial or intermittent streams with permanent pools.
Amphibians				
Anaxyrus (Bufo) californicus Arroyo toad	US: FE CA: SSC MSHCP: S	Washes and arroyos with open water; sand or gravel beds; for breeding, pools with sparse overstory vegetation. Coastal and a few desert streams from Santa Barbara County to Baja California.	March through July	**Absent.** No suitable habitat on project site. The site has been graded and is disturbed by weed abatement activities.
Rana draytonii California red-legged frog	US: FT CA: SSC MSHCP: S	Deep, quiet pools of streams, marshes, and occasionally ponds, with dense, shrubby vegetation at edges, usually below 1,200 meters (4,000 feet). Foothills surrounding 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.	December through April	**Absent.** Site lacks pools of streams, marshes, ponds, and shrubby vegetation.
Spea hammondii Western spadefoot	US: PT CA: SSC MSHCP: C	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the	October through April (following onset of winter rains)	**Absent.** No rain pools. The site has been graded and is disturbed by weed abatement activities.

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

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 (nesting colony) Black-crowned night-heron	US: – CA: SA MSHCP: C	Requires marshes, swamps, ponds, lakes, lagoons, mangroves, reservoirs, or estuaries for foraging. Also occurs along the margins of large riverine and fresh and saline emergent habitats. Occasionally grassland, rice fields, man-made ditches, canals, reservoirs, and wet agricultural fields.	Year-round diurnal activity	**Absent.** No suitable nesting habitat.
Polioptila californica californica Coastal California gnatcatcher	US: FT CA: SSC MSHCP: C	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 feet) elevation in cismontane southwestern California and Baja California.	Year-round	**Absent.** No coastal sage scrub.
Vireo bellii pusillus Least Bell's vireo	US: FE CA: SE MSHCP: S	Riparian forests and willow thickets. The most critical structural component of Least Bell's Vireo habitat in 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.	April through September	**Absent.** No riparian forests and willow thickets.
Mammals				
Antrozous pallidus Pallid bat	US: – CA: SSC	Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, rocky outcrops, tree hollows or crevices, mines and occasionally buildings, culverts, and bridges. Night roosts may be more open sites, such as porches and open buildings. Grasslands, shrublands, woodlands, and forest in western North America.	Year-round; nocturnal	**Low.** Site does not contain preferred habitat for general roosting. However, trees on site may provide space for night roosting allowing them to be present within the project area during foraging activities.
Eumops perotis californicus Western mastiff bat	US: – CA: SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and in palm fronds; travels widely when foraging.	Year-round; nocturnal	**Low.** No roosting habitat but may forage on site.

Table B: Special-Status Species Summary

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

Table B: Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Dipodomys merriami parvus San Bernardino kangaroo rat	US: FE CA: SE MSHCP: S	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this 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.	Nocturnal, active year-round	**Absent.** No gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces.
Dipodomys stephensi Stephens' kangaroo rat	US: FT CA: ST MSHCP: C	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with *Artemisia tridentata, Eriogonum fasciculatum,* and *Erodium.* Requires well-drained soils with compaction characteristics suitable for burrow 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.	Year-round, nocturnal	**Absent.** The non-native grasslands on site are considered unsuitable for this species due to the disturbed/developed site conditions.
Perognathus longimembris brevinasus Los Angeles pocket mouse	US: – CA: SSC MSHCP: S	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles, Riverside, and San Bernardino Counties.	Nocturnal. Active late spring to early fall.	**Absent.** No coastal sage scrub.

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

Title: Cultural Resource Assessment for the Joaquin Ranch Pump Station Disinfection System Improvements Project (Project No. D2199), City of Murrieta, Riverside County, California

Authors: Nicole A. Raslich, Archaeologist/Report Writer
Sal Z. Boites, Archaeologist
Nina Gallardo, Archaeologist/Native American Liaison
Michael Hogan, Principal

Consulting Firm: CRM TECH
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Date: April 2, 2024

For Submittal to: Rancho California Water District
42135 Winchester Road
Temecula, CA 92590
(951) 296-6900

Prepared for: Krieger and Stewart, Inc.
3830 Orange Street, #1509
Riverside, CA 92502
(951) 684-6900

USGS Quadrangle: Murrieta, Calif., 7.5' quadrangle; Temecula Land Grant, T7S R3W, San Bernardino Baseline and Meridian

Project Size: Approximately 2 acres

Keywords: 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.

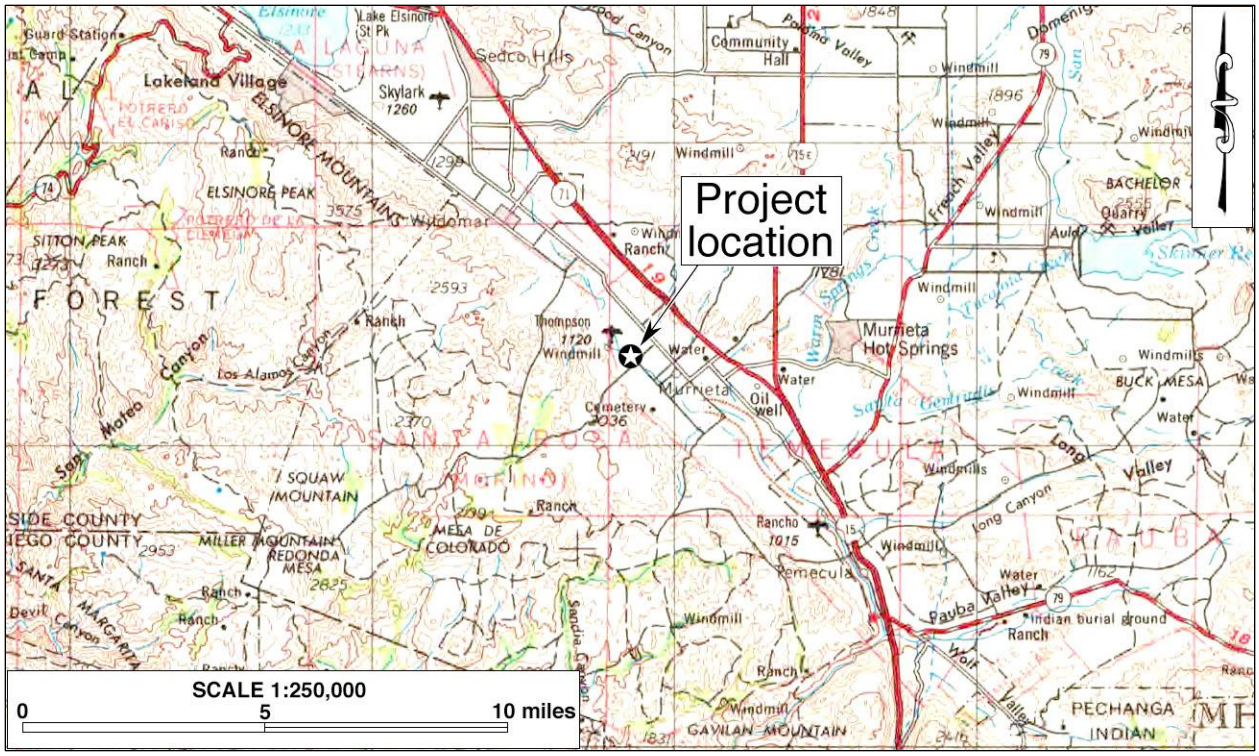

Figure 1. The project vicinity. (Based on USGS Santa Ana, Calif., 1:250,000 quadrangle [USGS 1979a])

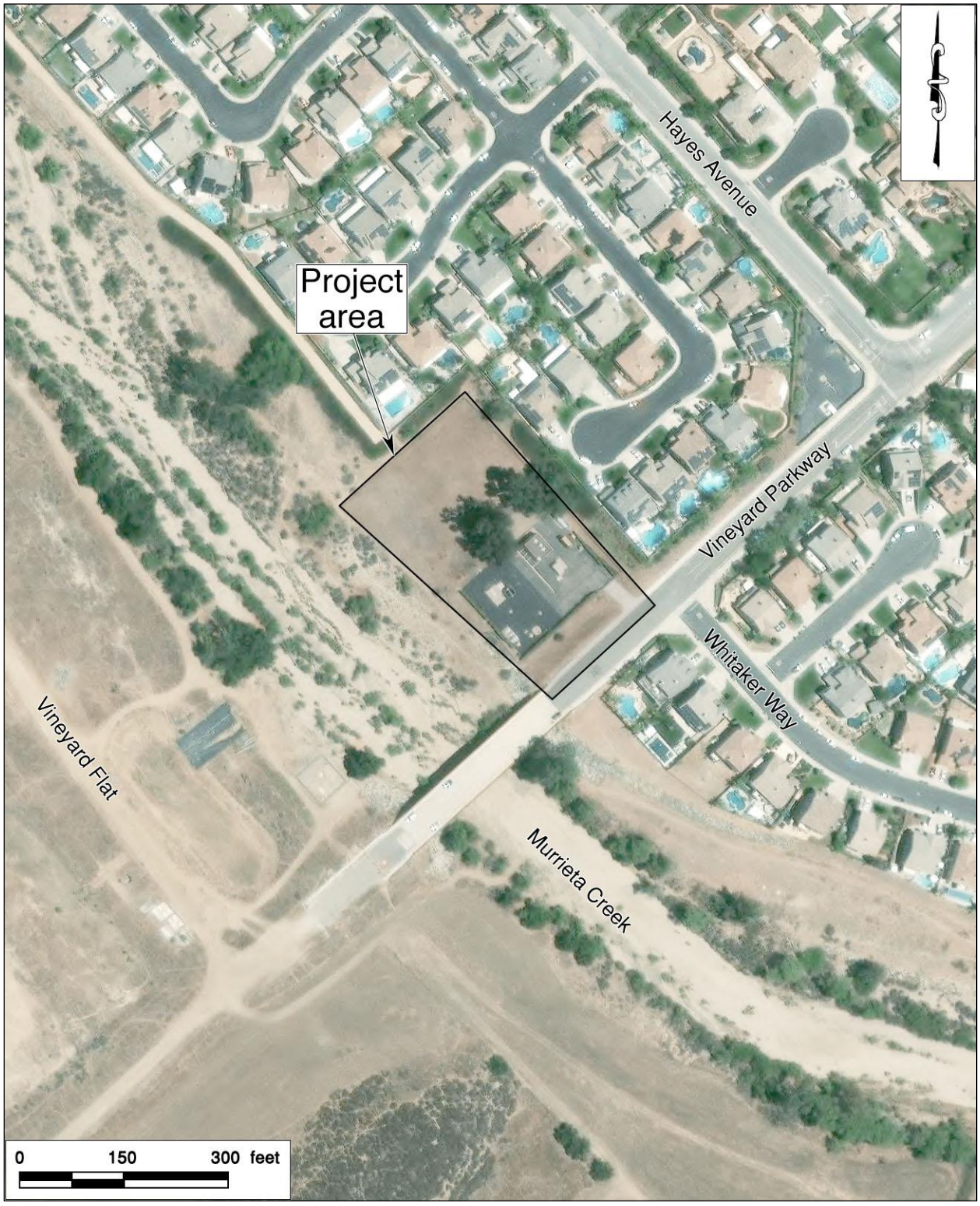

Figure 2. Aerial view of project area. (Based on Google Earth imagery)

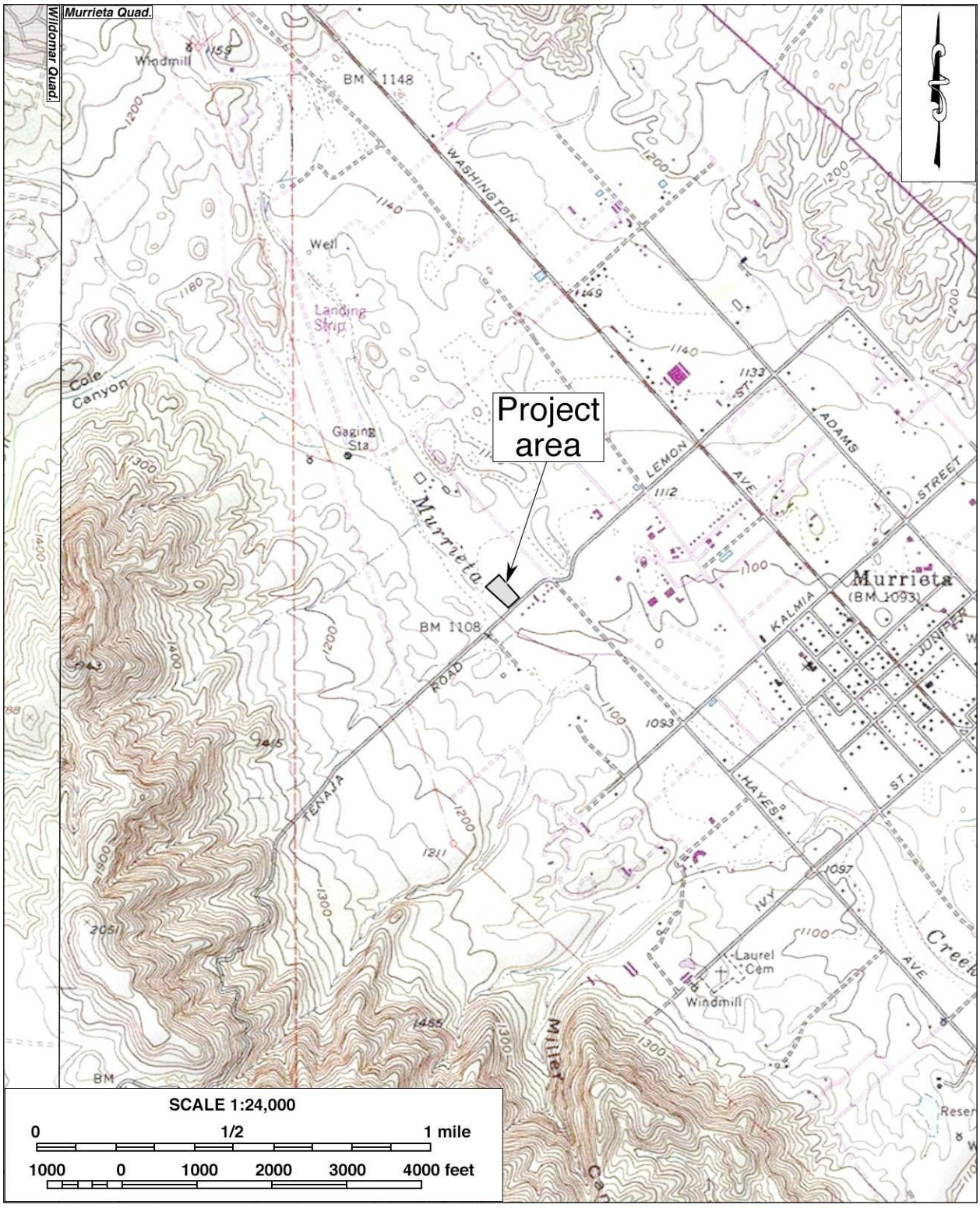

Figure 3. The project area shown on the USGS maps. (Based on USGS Murrieta and Wildomar, Calif., 1:24,000 quadrangles [USGS 1979b; 1997])

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.

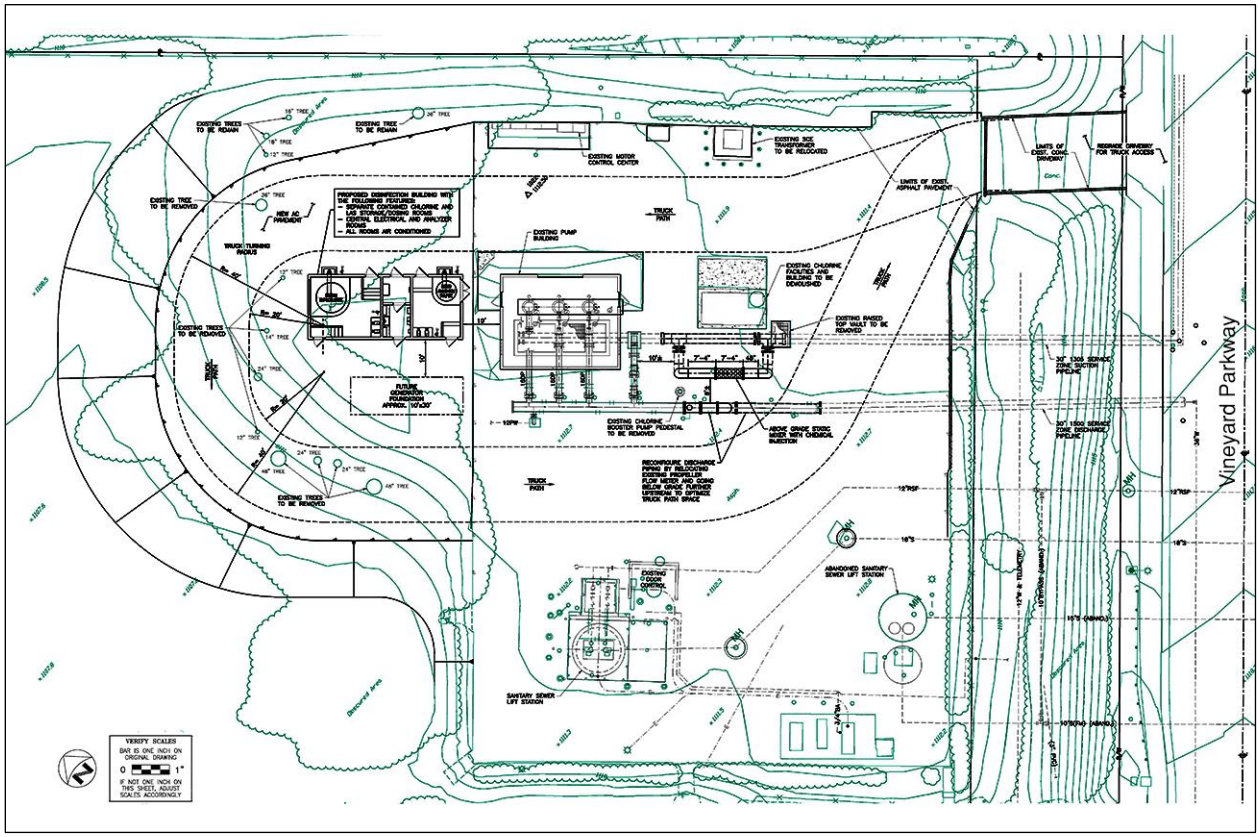

Figure 4. The existing facility and possible improvements.

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. The existing water facilities are located near Vineyard Parkway (Figures 2, 5). Most 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 medium-brown, 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 tool-making 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 *Temeeku*, 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 one-mile 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.

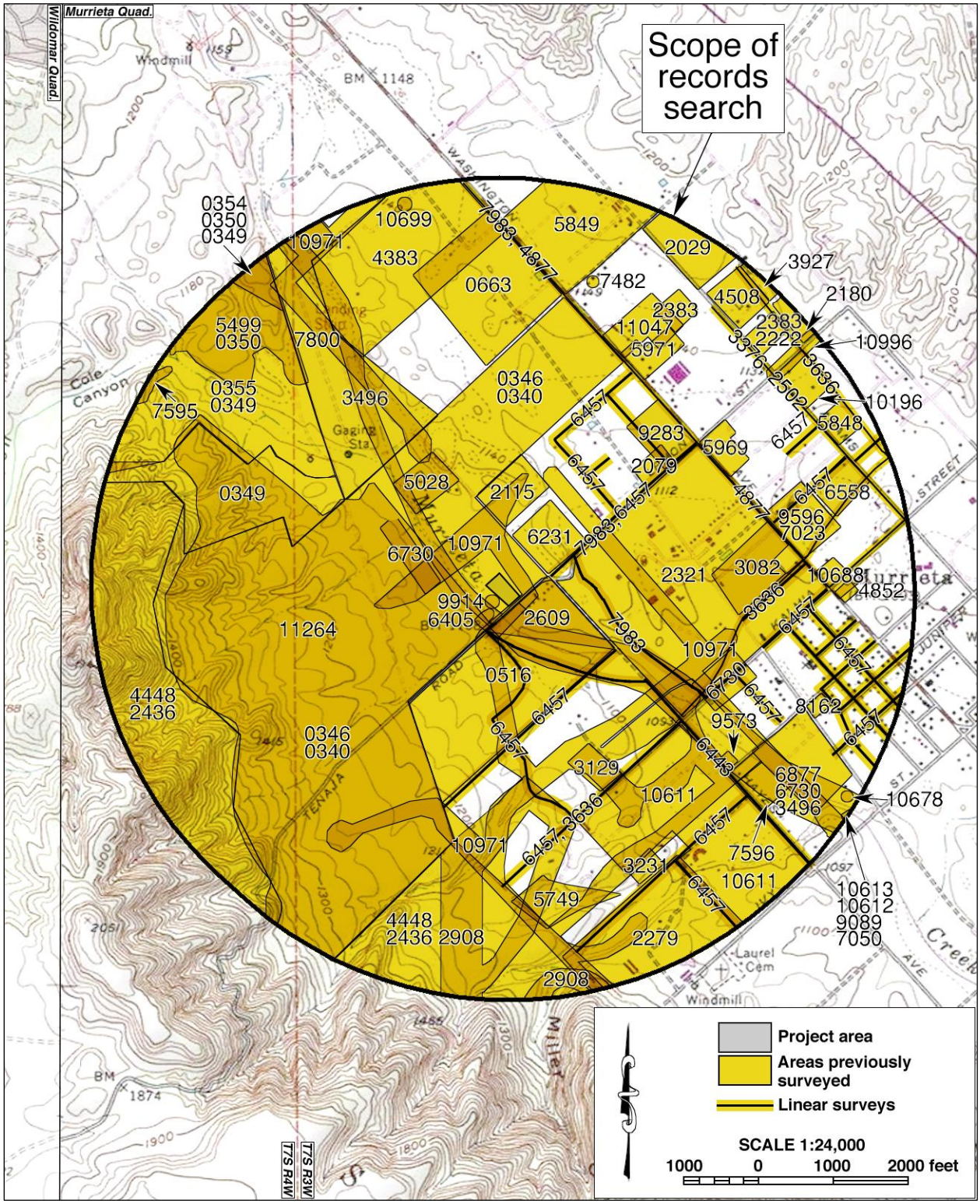

Figure 7. Previous cultural resources studies within the scope of the records search, listed by EIC file number. Locations of historical/archaeological sites are not shown as a protective measure.

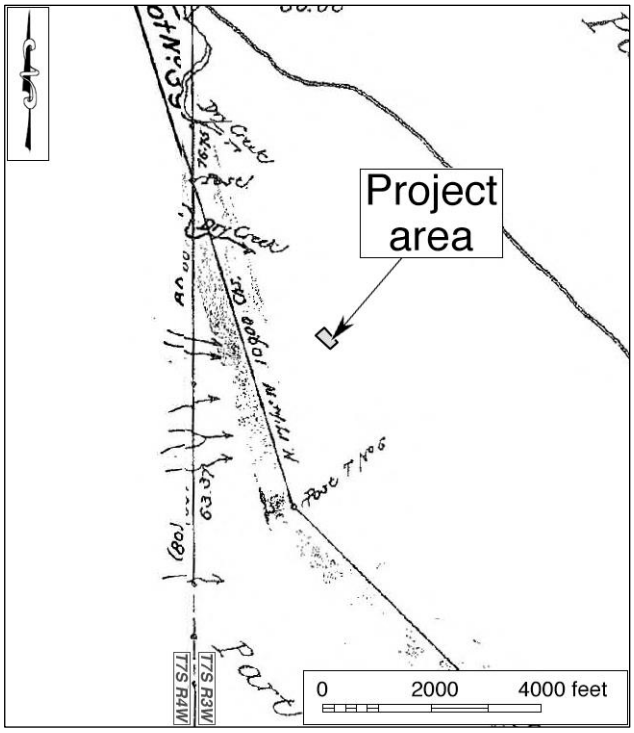

Figure 8. The project area and vicinity in 1854-1883. (Source: GLO 1883, 1899)

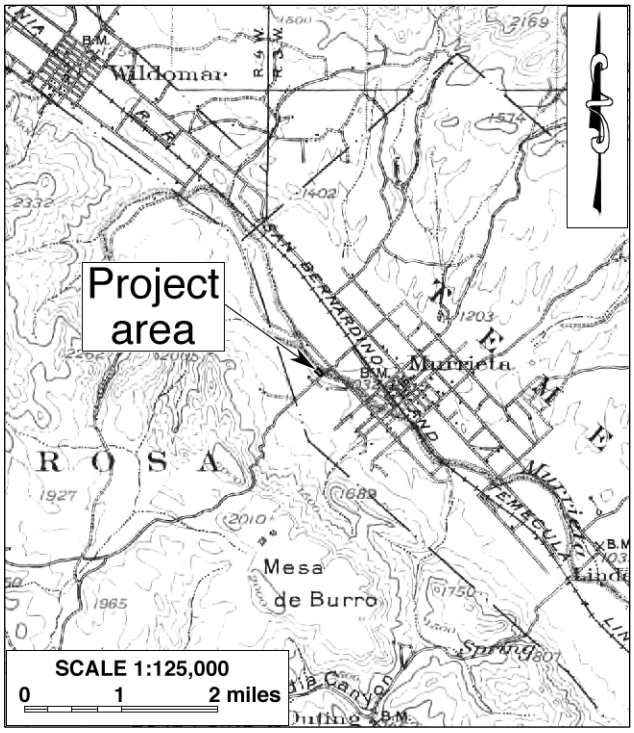

Figure 9. The project area and vicinity in 1897-1898. (Source: USGS 1901)

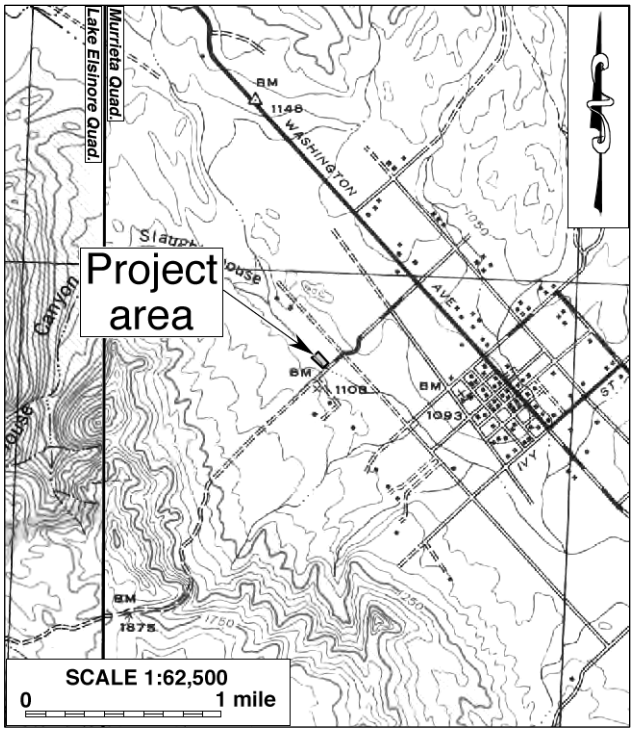

Figure 10. The project area and vicinity in 1939. (Source: USGS 1942a, 1942b)

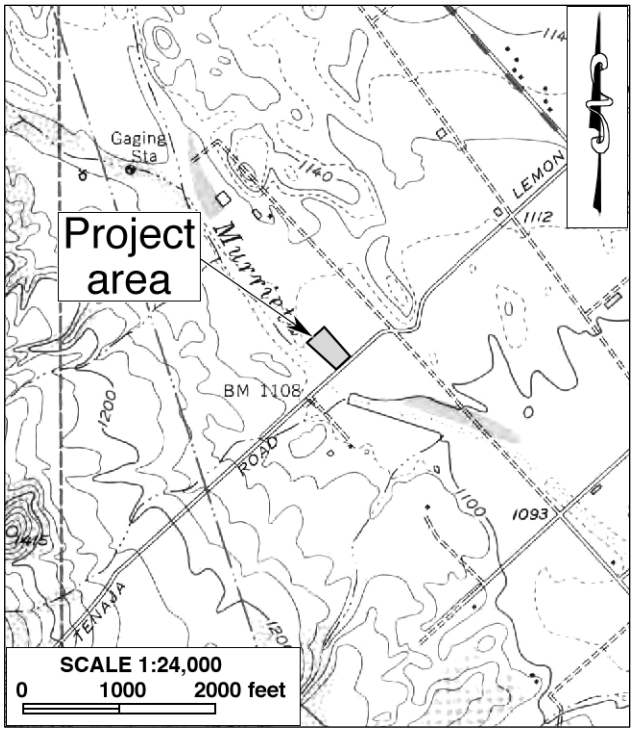

Figure 11. The project area and vicinity in 1951. (Source: USGS 1953)

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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1899 Plat Map: Township No. 7 South Range No. 4 West, San Bernardino Meridian; surveyed in 1854-1880.

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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-	Project Archaeologist, CRM Tech, Riverside/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.

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

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.

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)
nahc@nahc.ca.gov

Project: Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection 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: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: 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 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
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NATIVE AMERICAN HERITAGE COMMISSION

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

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 positive. 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: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

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,San 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,San 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,San 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,San 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@quechantribe.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@quechantribe.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@quechantribe.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,San 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,San 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,San 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,San 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,San 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,San 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,San 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 long-term 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.

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;
2) 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,

Paul E. Macarro

Paul E. Macarro
Cultural Coordinator
Pechanga Reservation

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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LIST OF FIGURES

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.

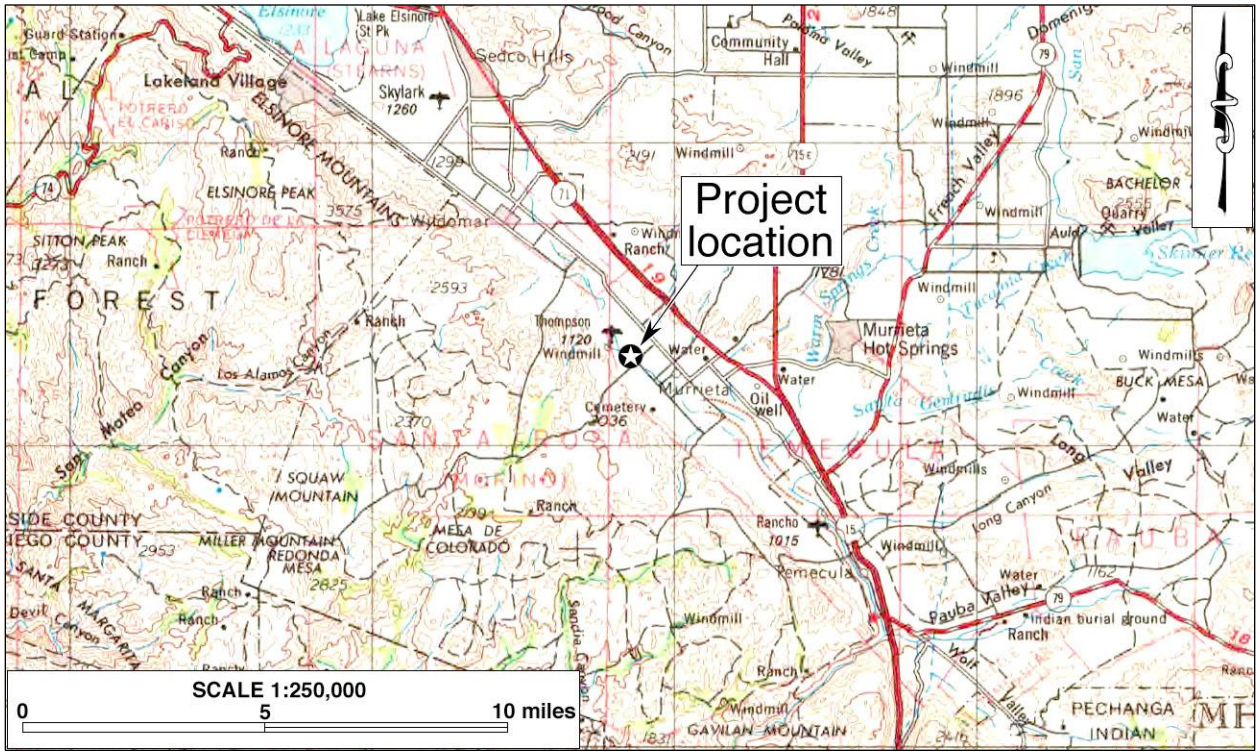

Figure 1. The project vicinity, shown on a portion of the USGS Santa Ana, Calif., 1:250,000 quadrangle.

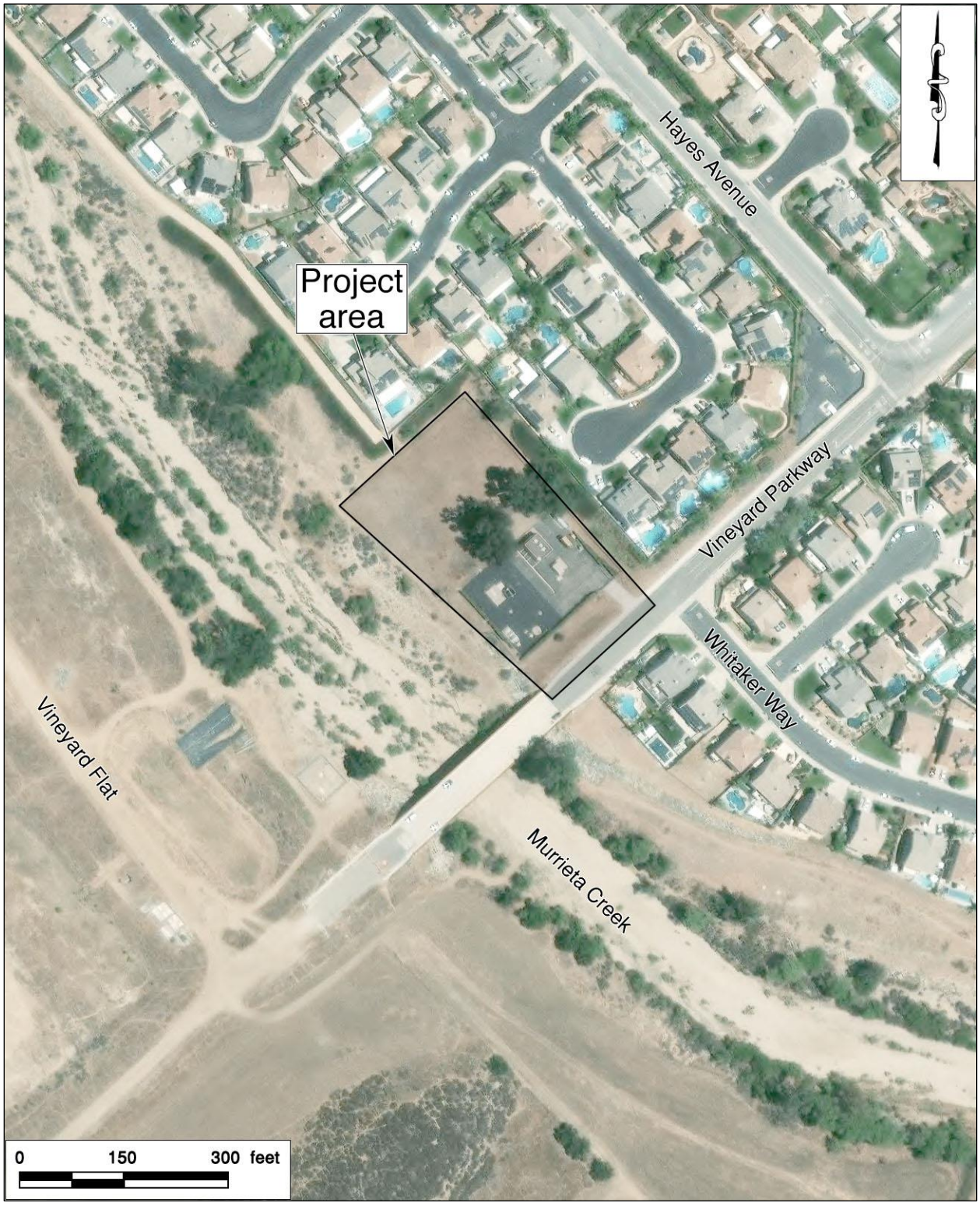

Figure 2. Aerial view of project area. (Based on Google Earth imagery)

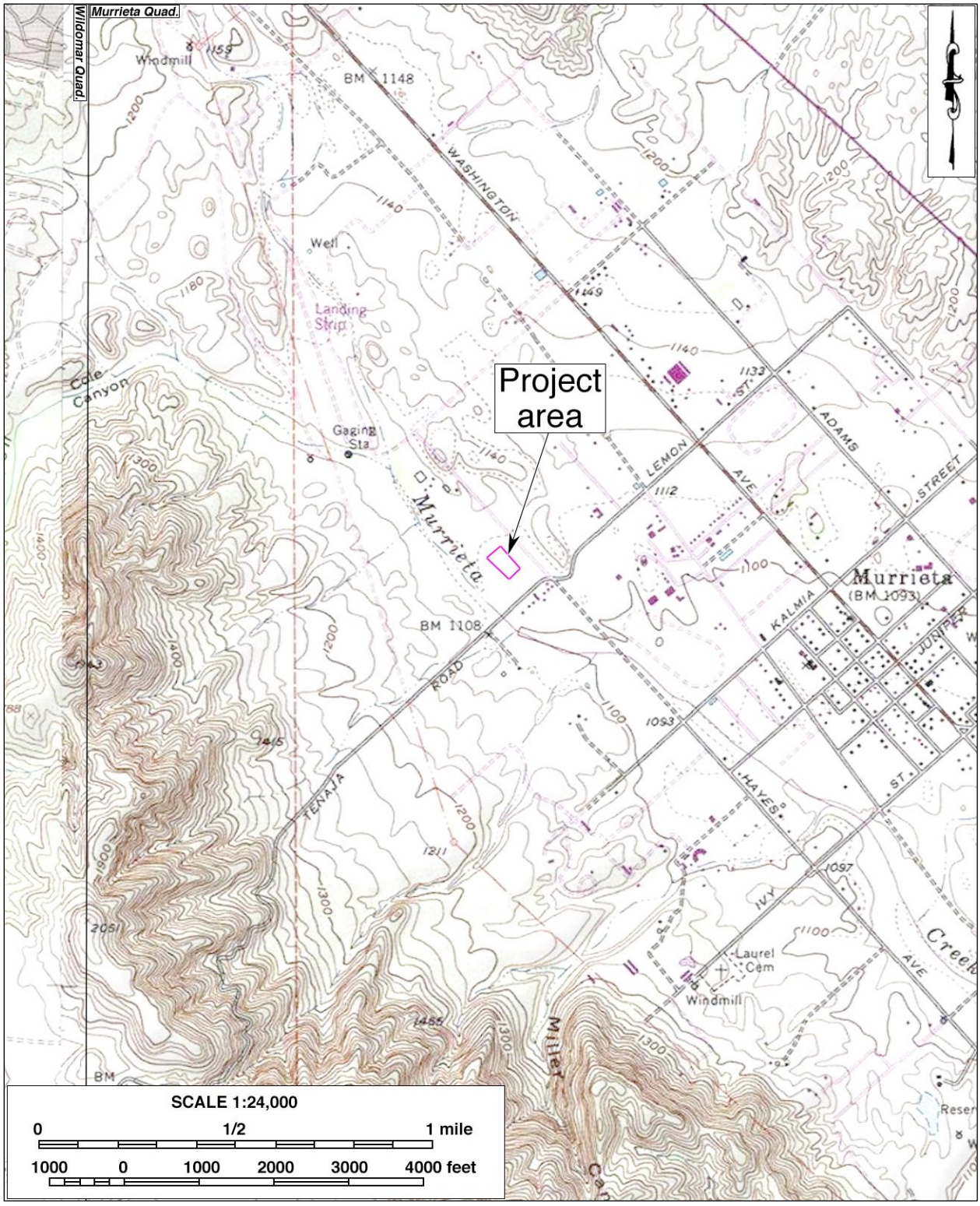

Figure 3. The project area shown on the USGS maps.

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, thick-layered, 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 in-process 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

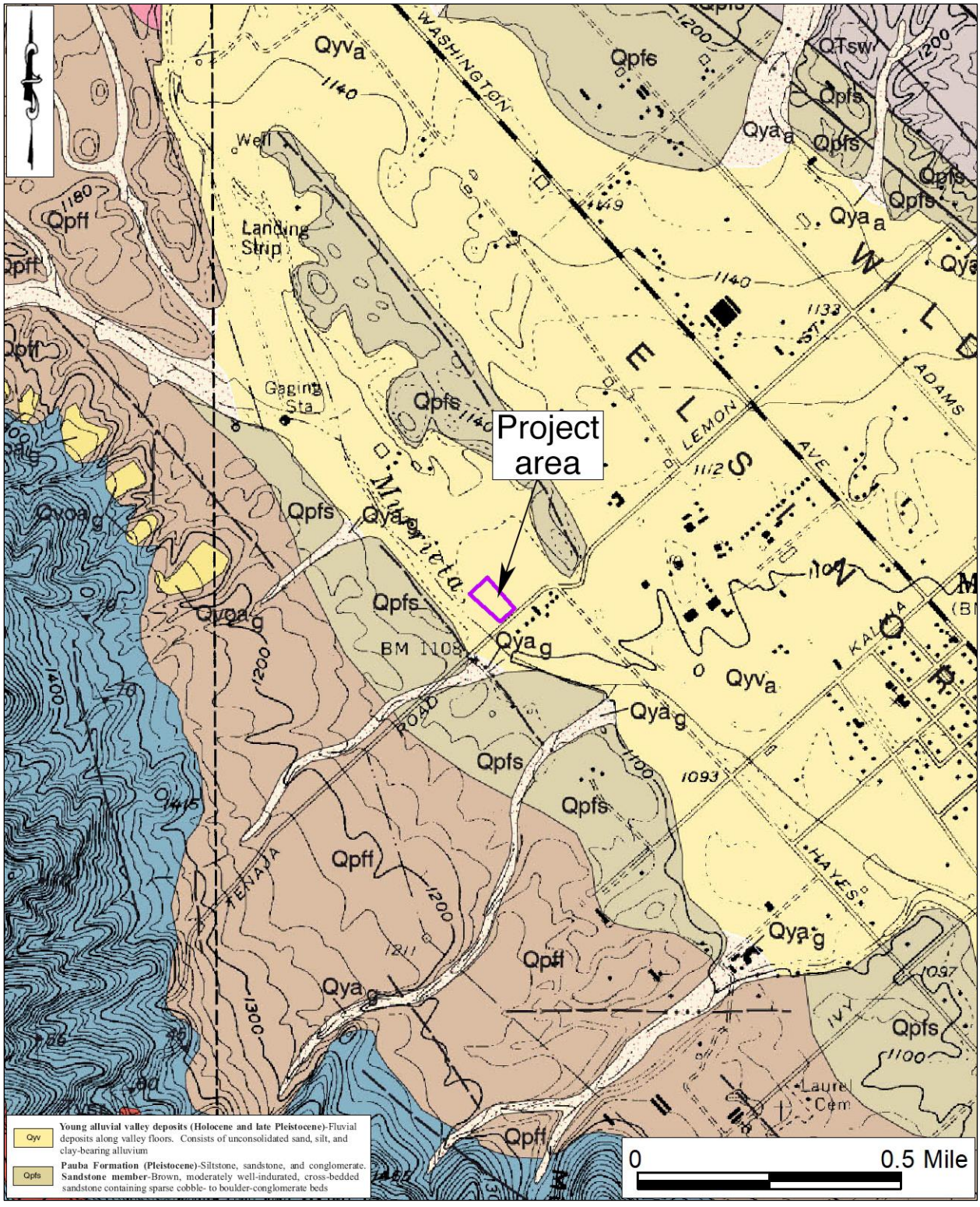

Figure 6. 2003 Geological map of the project vicinity. (Source: Kennedy and Morton 2003)

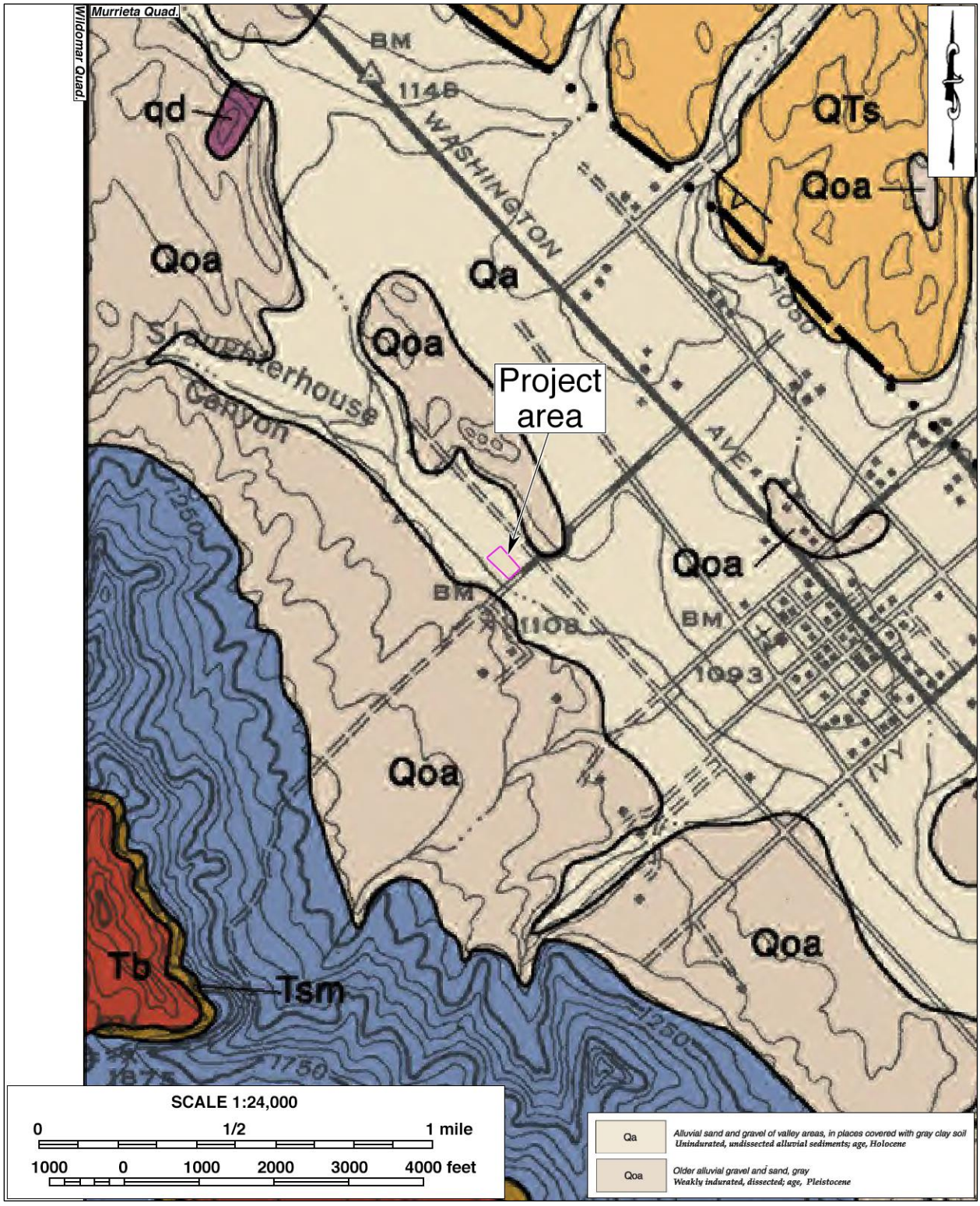

Figure 7. 2008 Geological map of the project vicinity. (Source: Dibblee 2008)

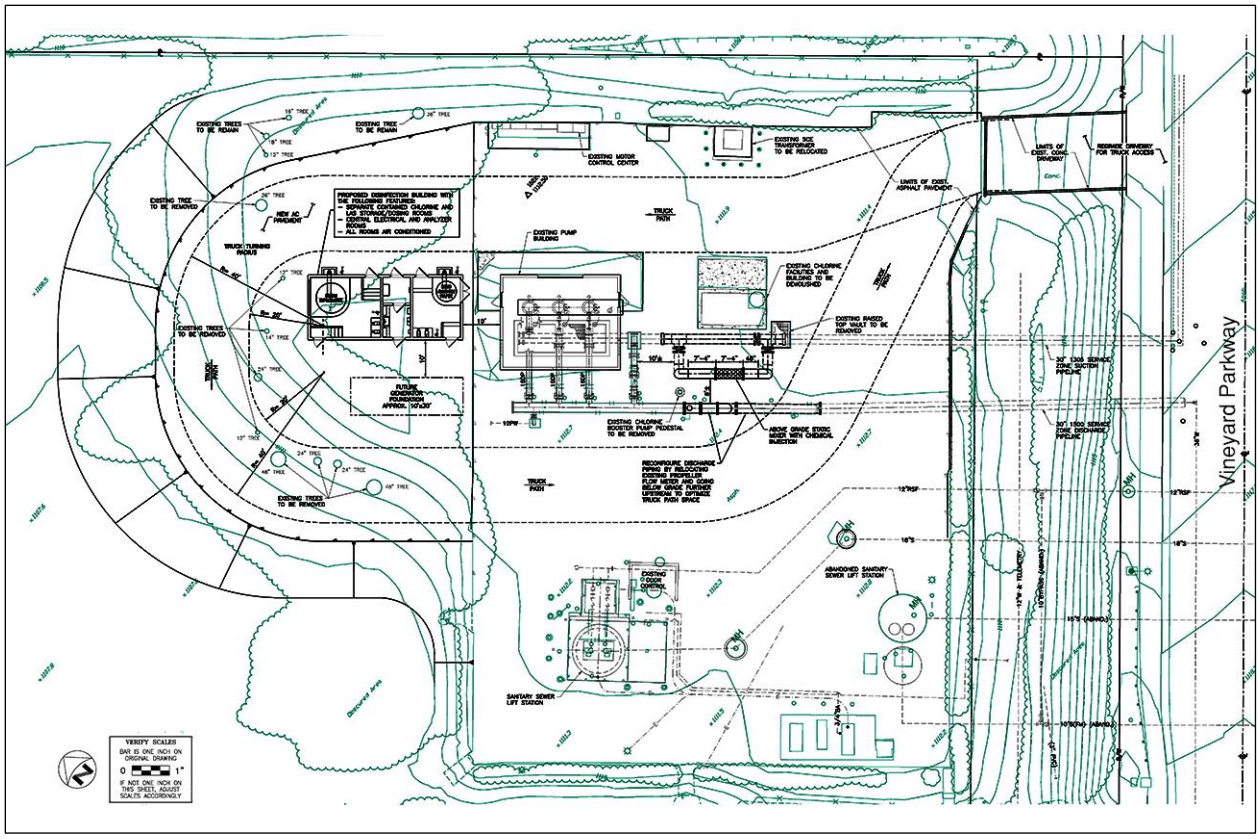

Figure 8. The existing facility and possible improvements. (Figure provided by the client)

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

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 and the depth of Recent sediments in the project area, the facts that proposed subsurface 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 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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2003 CEQA and Fossil Preservation in California. *Environmental Monitor* Fall:4-10. Association of Environmental Professionals, Sacramento, California.

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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:

2020-	Principal Paleontologist, CRM TECH, Colton, California.
2014-	Instructor of Earth Science, History of Life, Ecology, and Evolutionary Biology, Columbia College Hollywood, Reseda, California.
2013, 2015	Volunteer, excavation of a camarasaur and a diplodocid in southern Utah, Natural History Museum of Los Angeles County, California.
1993-2014	Consultant, Getty Conservation Institute, Brentwood, California.
1999-2001	Archaeological and Paleontological Monitor, Michael Brandman Associates, Irvine, California.
1997	Department of Archaeology, University of California, Los Angeles.
1994	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

WESTERN SCIENCE CENTER

Nina Galllardo
CRM TECH
1016 E. Cooley Drive, Suite A/B
Colton, CA

January 17th, 2024

Dear Ms. Gallardo,

This letter presents the results of a record search conducted for the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project in the city of Murrieta, Riverside County, California. The project site is located along the northwest side of Vineyard Parkway and northeast of Vineyard Flat in Township 7 South, Range 3 West in the Temecula Land Grant section of the *Murrieta, CA* USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped as a mix of alluvial units from the Holocene and late Pleistocene, (Kennedy, Morton, Alvarez and Morton 2003). Pleistocene alluvial units are considered to be highly paleontologically sensitive. The Western Science Center does not have localities within the project area, but does have multiple localities from the Principe Project within a 1 mile radius. The Principe Project produced many Pleistocene fossils including *Equus sp., Mammut sp.,* and others.

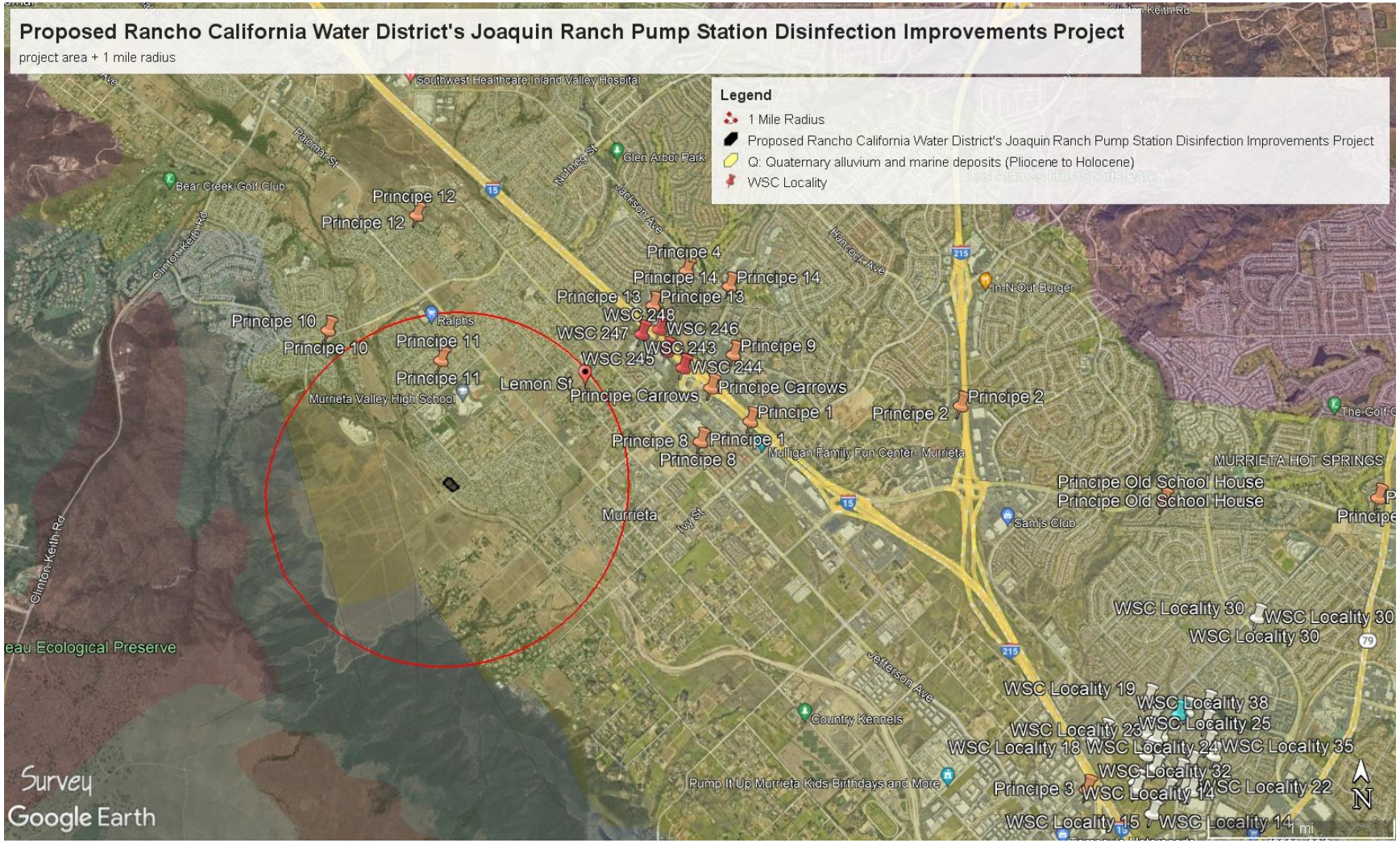
Any fossils recovered from the Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project area would be scientifically significant. Excavation activity associated with development of the project area would impact the paleontologically sensitive Pleistocene 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.

If you have any questions, or would like further information about the Principe Project, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager

2345 Searl Parkway ♦ Hemet, CA 92543 ♦ phone 951.791.0033 ♦ fax 951.791.0032 ♦ WesternScienceCenter.org


Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project
project area + 1 mile radius
Legend
1 Mile Radius
Proposed Rancho California Water District's Joaquin Ranch Pump Station Disinfection Improvements Project
Q: Quaternary alluvium and marine deposits (Pliocene to Holocene)
WSC Locality
Southwest Healthcare Inland Valley Hospital
Glen Arbor Park
Bear Creek Golf Club
Clinton Keith Rd
Principe 12
Principe 4
Principe 14
Principe 13
WSC 248
WSC 247
WSC 246
WSC 243
Principe 9
WSC 245
WSC 244
Principe Carrows
Principe 10
Principe 11
Ralphs
Murrieta Valley High School
Lemon St
Principe 1
Principe 2
Principe 8
Mulligan Family Fun Center - Murrieta
In-N-Out Burger
MURRIETA HOT SPRINGS
Principe Old School House
Sam's Club
Murrieta
Ivy St
Jefferson Ave
Country Kennels
Pump It Up Murrieta Kids Birthdays and More
WSC Locality 30
WSC Locality 19
WSC Locality 38
WSC Locality 25
WSC Locality 23
WSC Locality 18
WSC Locality 24
WSC Locality 35
WSC Locality 32
WSC Locality 22
WSC Locality 14
WSC Locality 15
Principe 3
Survey
Google Earth
N

APPENDIX E

AIR QUALITY CALCULATIONS

Joaquin Ranch Pump Station Disinfection System Improvements Summary Report

Table of Contents

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	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

General Light Industry	10.0	1000sqft	2.10	10,000	4,000	—	—	—

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

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	CO	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	CO	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.