Yucaipa Valley Water District
12770 Second Street / P.O. Box 730
Yucaipa, CA 92399
(909) 797-5118

YUCAIPA VALLEY WATER DISTRICT
INITIAL STUDY AND
DRAFT MITIGATED NEGATIVE DECLARATION
FOR THE
R-16.2 RESERVOIR AND BOOSTER PUMPING STATION PROJECT

JANUARY 2023

Prepared by

KRIEGER & STEWART
Engineering Consultants
(951) 684-6900
Mailing Address: 3890 Orange Street #1509, Riverside, CA 92502
Office Address: 3602 University Avenue, Riverside, CA 92501

818-133
(REPORTS/CEQA/818-133-IS)
VEM/DFS/blt

TABLE OF CONTENTS

TABLE OF CONTENTS

PAGE

PART 1
PROJECT INFORMATION

PART 1 - PROJECT INFORMATION

A. INTRODUCTION

Yucaipa Valley Water District (YVWD or the District) is a special district that provides water supply, treatment, and distribution; recycled water supply and distribution services; and wastewater collection and treatment within its service area. Formed in 1971, YVWD acquired many of the private water companies serving the Yucaipa Valley. YVWD serves customers in the Cities of Yucaipa and Calimesa, as well as some unincorporated portions of Riverside and San Bernardino Counties.

B. PROJECT DESCRIPTION

1. Proposed Project

The R-16.2 Reservoir and Booster Pumping Station Project (the Project) generally consists of construction and operation of two 0.6 million-gallon (MG) potable water storage reservoirs to serve the 16 Pressure Zone, one 0.3 MG recycled water storage reservoir, one potable water booster pumping station configured and equipped to pump to the 17 Pressure Zone, one recycled water booster station configured and equipped to pump to the 17 Pressure Zone, construction of a concrete drainage swale and a retention basin to convey and retain stormwater runoff on the site, and demolition and removal of the existing potable water R-16.2 Reservoir.

The proposed pump stations will convey water and recycled water to the 17 Pressure Zone through 16-inch diameter (potable) and 12-inch diameter (recycled) transmission pipelines. Pumping rates for the stations have been preliminarily set at approximately 1,000 gallons per minute (gpm).

Construction of the Project includes the following activities:

- Construction of two new 0.6 MG bolted steel potable water storage reservoirs, each with diameters of approximately 65 feet and heights of approximately 34

feet above the ground surface (New Potable Water Reservoir R-16.2.1 and New Potable Water Reservoir R-16.2.2).

- Construction of a potable water booster pumping station, with a nominal pumping rate of approximately 1,000 gpm, within a masonry block building enclosure.
- Site grading and paving of the reservoir and booster pumping station site (within APN 0321-101-22).
- Constructing a tubular steel fence, approximately seven feet in height, around the perimeter of the reservoir and booster pumping station site.
- Constructing a storm water retention basin with dimensions of approximately 90 feet by 40 feet, with a depth of 4 feet and a capacity of approximately 80,000 gallons in an area of the Project site that is located just north of the existing R-16.2 Reservoir.
- Constructing a concrete swale that extends generally around the eastern and northern boundaries of the reservoir and pumping station site and discharges into the storm water retention basin.
- Construction of approximately 480 linear feet (LF) of 16-inch diameter potable water pipeline commencing from an existing potable water pipeline in Oak Glen Road, extending northerly along a proposed easement within APN 0321-241-05, to an existing easement along the reservoir access road, then continuing westerly within the existing easement to the reservoir site (APN 0321-101-22), then north to the proposed new potable water Reservoirs R-16.2.1 and R-16.2.2.
- Construction of approximately 450 linear feet LF of 12-inch diameter recycled water pipeline along essentially the same alignment as the 16-inch diameter potable water pipeline to the location of the new recycled water Reservoir 16.2. This pipeline will be connected to a future recycled water pipeline in Oak Glen Road.
- Demolition and removal of the existing potable water R-16.2 Reservoir that is on the Project site, which consists of a 210,000-gallon bolted steel tank.
- Construction of a new 0.3 MG bolted steel recycled water storage reservoir with an estimated maximum height of 34 feet above the ground surface (New Recycled Water Reservoir R-16.2).

- Construction of a recycled water booster pumping station, with a nominal pumping rate of approximately 1,000 gpm, within a masonry block building enclosure.
- Installation of an emergency backup generator to power the booster pumping stations in the event of a power failure.
- Connection of the new facilities to YVWD's existing SCADA system, as each is brought online.

Operation of the Project includes placing the Project facilities into service and using same for water storage and distribution within the District's potable and recycled water systems. Project construction and start-up will be completed in phases.

2. Purpose

The purpose of the Project is to replace the existing 16.2 Reservoir (which has reached the end of its useful life), to provide facilities needed for YVWD to maintain continuous and adequate water service to its customers, to provide for adequate fire protection and planned growth, and to increase use of recycled water to offset groundwater use for non-potable uses.

C. ENVIRONMENTAL SETTING

1. Location

The Project is located at the site of the District's existing R-16.2 Reservoir (APN 0321-101-22, at 36400 Oak Glen Road, Yucaipa, CA 92399), as well as within an existing easement along James Birch Road, within a proposed easement within APN 0321-241-05, and within the existing right-of-way of Oak Glen Road. The aforementioned locations are collectively referred to herein as the Project site. The Project site is generally located northerly of Oak Glen Road, along James Birch Road, and at a site located at the westerly terminus of James Birch Road, in the City of Yucaipa, San Bernardino 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 dry 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 14 inches, most of which occurs during December through March.

3. Land Use

Land use on the Project site consists of the existing R-16.2 Reservoir, open space areas, and a portion of James Birch Road, as depicted on **Figure 2** herein. The Project site is surrounded by open space to the north, west, and east and by residential property, open space, and Oak Glen Road to the south.

D. COMPLIANCE WITH CEQA

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) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 *et seq*). Pursuant to CEQA and the State CEQA Guidelines, this Initial Study for the R-16.2 Reservoir and Booster Pumping Station Project 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.

E. LEAD AGENCY

Yucaipa Valley Water 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 City 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 domestic water service to its customers. The Project is a continuation of the authority that the District has exercised in the past.

PART 2
ENVIRONMENTAL EFFECTS AND CHECKLIST

PART 2 - ENVIRONMENTAL EFFECTS AND CHECKLIST

A. PROJECT INFORMATION

1. Project Title:

R-16.2 Reservoir and Booster Pumping Station Project

2. Lead Agency Name and Address:

Yucaipa Valley Water District
12770 Second Street
Yucaipa, California 92399

3. Contact Person and Phone Number:

Matthew Porras, Implementation Manager
(909) 797-5118
mporras@yvwd.us

4. Project Location:

36400 Oak Glen Road,
Yucaipa, CA 92399
Refer also to **Part 1.C(1)** on page 3 herein and to **Figures 1 and 2** herein.

5. Project Sponsor's Name and Address:

Yucaipa Valley Water District
12770 Second Street
Yucaipa, California 92399

6. General Plan Designation:

Rural Residential - RL-1

7. Zoning:

Rural Residential

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)**, on page 4 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

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.?

No Native American tribe has contacted Yucaipa Valley Water District to request notification on Projects within the District's service area. Therefore, the District does not plan to consult with any Native American tribes on this project unless a request is received from a tribe prior to or during the CEQA public review process.

Tribal Cultural Resources are also discussed in **Issue XVIII** herein.

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:

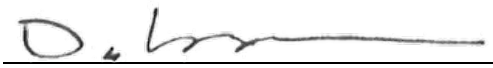
❑ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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.



David F. Scriven
KRIEGER & STEWART, INCORPORATED
for YUCAIPA VALLEY WATER DISTRICT

January 23, 2023
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 includes constructing and operating two 0.6 MG potable water storage reservoirs, one 0.3 MG recycled water reservoir, one potable water booster pumping station, one recycled water booster station, and associated pipelines and appurtenances. The Project also includes demolition and removal of the existing 210,000-gallon water storage tank (R-16.2 Reservoir) on the Project site, which is approximately 40 feet in diameter and extends approximately 24 feet above the ground surface.

The two proposed potable water storage reservoirs are estimated to be approximately 65 feet in diameter and extend approximately 34 feet above the ground surface, and are the largest structures proposed as part of the Project.

The Project is not located within a designated scenic vista, and no scenic vistas will be obstructed by Project facilities; therefore, construction and operation of 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?	❑	❑	❑	☒

The Project is not located on or adjacent to an "Officially Designated State Scenic Highway". The nearest scenic highway to the Project site is Oak Glen Road, located just south of the Project site. Oak Glen Road is not a state scenic highway, but is a "Yucaipa Designated Scenic Highway", as shown on "Figure T-4, Scenic Highways" in the City of Yucaipa General Plan, dated April 2016. Highway 38, located approximately 3.5 miles northerly of the Project site, is identified by the California Department of Transportation's California Scenic Highway Mapping System as an

"Eligible State Scenic Highway - Not Officially Designated" and is also designated as a San Bernardino County Designated Scenic Highway.

While construction is expected to be visible from Oak Glen Road, particularly construction of the pipelines located within a proposed easement extending from Oak Glen Road northerly to James Birch Road, these impacts will be less than significant and temporary. For these reasons, construction and operation of the Project will not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

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 is located in an urbanized area and will not conflict with applicable zoning and other regulations governing scenic quality.

	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 lights for security and safety at the Project site. Each booster pumping station will have two lights that operate on a photo cell (to turn on when it becomes dark), and there will be an additional pole-mounted light with one fixture that turns on at night and one fixture connected to a switch. Said lights will be directed downward and within the Project site and will not adversely affect day or nighttime views in the area. 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 the California Important Farmland Finder mapping system, available online at https://maps.conservation.ca.gov/DLRP/CIFF/, the portion of the Project site where the reservoirs and booster pumping stations will be located is within an area of land categorized as "Grazing Land". The pipelines extending from the reservoir site south to Oak Glen Road will traverse land designated as "Farmland of Local Importance". Grazing Land and Farmland of Local Importance are defined in below. Areas immediately surrounding the Project site consist primarily of areas designated as Grazing Land and Farmland of Local Importance, with the residential property located south of the reservoir site designated as "Unique Farmland" (defined below). The Project site is the existing R-16.2 Reservoir site, an existing easement along James Birch Road, and a proposed easement extending between James Birch Road and Oak Glen Road. The reservoir site is not currently used for grazing purposes, and construction and operation of Project facilities will not impact grazing uses in adjacent properties. The location of the pipelines proposed within land designated as Farmland of Local Importance is not currently being farmed, and construction and operation of the pipelines would not prevent future farming uses of the property. For these reasons, construction and operation of the Project will not convert Farmland to non-agricultural use.

Grazing Land *is land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.*

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.*

Unique Farmland *is land that contains lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.*

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 and adjoining properties are zoned "Rural Residential" by the City of Yucaipa, and there are no Williamson Act contracts 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 is the existing R-16.2 Reservoir site, an existing easement along James Birch Road, and a proposed easement extending between James Birch Road and Oak Glen Road. There are no lands zoned for forest land or timberland located on or adjacent to the Project site. Therefore, construction and operation of the Project will not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

Issue II. Agriculture and Forest Resources (continued)

	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.*

	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. 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 site 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 results in population or employment growth that would exceed the estimates for such growth that are set forth in the applicable air quality plan. The air quality plan applicable to the Project area is

the Final 2016 Air Quality Management Plan, dated March 2017 (Air Quality Plan), which was prepared and adopted by the SCAQMD.

The Air Quality Plan sets forth goals and strategies for achieving federal air quality standards and healthful air amidst a growing population. The growth projections in the Air Quality Plan are based on The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP), dated April 2016, which was prepared and adopted by the Southern California Association of Governments (SCAG).

The potable water facilities included in the Project are intended to provide potable water storage and pumping capacity to serve existing and planned development in the area. The recycled water facilities included in the Project are intended to increase use of recycled water for approved recycled water uses to offset the use of potable water for such uses. Therefore, the Project does not have the potential to result in an increase in population or employment growth, either directly or indirectly, that exceed projections for the area. For these reasons, the Project will not conflict with or obstruct implementation of the Air Quality Plan.

*Impacts related to greenhouse gases are discussed 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 SCAB 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 SCAB is classified as Non-Attainment for ozone (O_3), for particulate matter measuring greater than 2.5 microns and up to 10 microns or less in diameter (PM_{10}), and for particulate matter measuring 2.5 microns or less in diameter ($PM_{2.5}$). The SCAB is classified as Attainment for carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), sulfates (SO_4), and lead (Pb). Additional information about each of these pollutants and the CAAQS is available at the California Air Resources Board website at www.arb.ca.gov.

Under the NAAQS, the SCAB is classified as Non-Attainment for O_3 and $PM_{2.5}$ and as Attainment for CO, NO_2, SO_2, PM_{10}, 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 will result in a temporary increase in quantities of air pollutants in the area, including airborne dust, that are expected to result from 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. Quantities of construction air pollutant emissions will not exceed the daily construction thresholds set forth by SCAQMD (as listed in ***Tables 1, 2, and 3****) and will not result in a cumulatively considerable net increase in O_3, PM_{10}, or $PM_{2.5}$ emissions, for which the Project region is designated non-attainment under the CAAQS, the NAAQS, or both.*

Project construction air pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2). A copy of the CalEEMod output report is included in ***Appendix D*** *herein.*

As shown in ***Tables 1*** *through* ***3****, below, short-term air pollutant emissions expected to be generated during construction of the Project will not exceed the peak daily construction thresholds set forth by SCAQMD and are considered less than significant.*

Table 1 Estimated Peak Day Construction Equipment Exhaust Emissions for Potable Water Reservoir R-16.2.1, Potable Water Booster Pumping Station, and 12" and 16" Pipelines						
	Pollutants (pounds/day)					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Project Construction Emissions	**7.1087**	**64.2941**	**47.0972**	**0.1120**	**3.0317**	**2.7483**
SCAQMD Thresholds for Construction(1)	75	100	550	150	150	55
Exceeds Threshold? (Yes/No)	No	No	No	No	No	No

(1) South Coast AQMD Air Quality Significance Thresholds, April 2019

Table 2 Estimated Peak Day Construction Equipment Exhaust Emissions for Potable Water Reservoir R-16.2.2						
	Pollutants (pounds/day)					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Project Construction Emissions	**7.1087**	**64.2941**	**47.0972**	**0.1120**	**3.0317**	**2.7483**
SCAQMD Thresholds for Construction(1)	75	100	550	150	150	55
Exceeds Threshold? (Yes/No)	No	No	No	No	No	No

(1) South Coast AQMD Air Quality Significance Thresholds, April 2019

Table 3 Estimated Peak Day Construction Equipment Exhaust Emissions for Recycled Water Storage Reservoir R-16.2 and Recycled Water Booster Pumping Station						
	Pollutants (pounds/day)					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Project Construction Emissions	**7.1087**	**64.2941**	**47.0972**	**0.1120**	**3.0317**	**2.7483**
SCAQMD Thresholds for Construction(1)	75	100	550	150	150	55
Exceeds Threshold? (Yes/No)	No	No	No	No	No	No

(1) South Coast AQMD Air Quality Significance Thresholds, April 2019

Ongoing operation of the Project will generate air pollutant emissions resulting from approximately one District vehicle trip to the site daily for routine operation and maintenance. Said daily vehicle trip is already taking place for operation and maintenance of the existing R-16.2 Reservoir, and therefore, ongoing operation would not result in an increase of air pollutant emissions over existing conditions.

For the reasons described above, air pollutant emissions generated by construction and operation of the Project will be less than significant.

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?	❑	❑	☒	❑

The nearest sensitive receptor is a residence that is located directly south of the existing reservoir site, and there are other residences in the vicinity, south of Oak Glen Road. Quantities of air pollutant emissions will temporarily increase during construction of Project facilities and demolition and removal of the existing reservoir; however, as described in ***Issue III(b)*** *herein, said increases will not exceed the daily construction emissions thresholds established by the SCAQMD and will be less than significant. Ongoing operation of the Project is expected to result in approximately one District vehicle trip to the site daily, which would generate insignificant air pollutant emissions, and is a current part of operations at the existing R-16.2 Reservoir site. The Project includes an emergency standby generator that will be operated as needed during a power failure and for routine testing and maintenance. Said generator will meet the requirements of the South Coast Air Quality Management District for emergency standby engines, as set forth in "Rule 1470: Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines". 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 the placement of asphalt on the reservoir and booster pumping station site. These asphalt odors will be less than significant, and short-term. Operation of the Project would not generate other emissions, including those leading to odors. 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".

LSA Associates, Inc. performed a biological resources assessment and MSHCP consistency analysis of the Project site, the findings and recommendations of which are set forth in the report titled, Biological Resources Assessment Yucaipa Valley Water District 16.2 Reservoir and Booster Pumping Station Project, City of Yucaipa, San Bernardino County, California, dated November 2020 (LSA Report). A copy of the LSA Report is included in ***Appendix B*** *herein.*

*Based on the LSA Report, the Project site is not located within designated critical habitat for any special-status species. The Project site contains low-quality habitat for Crotch bumble bee (*Bombus crotchii*), which is a non-listed special-status species. However, as stated in the LSA Report, "Due to the relatively small project footprint, existing development, historic grading and maintenance of the study area, and recent fire damage, impacts from the project are anticipated to have a less than significant effect on this non-listed special-interest species, if present".*

Trees, shrubs, and other vegetation may provide nest sites for birds protected by the Migratory Bird Treaty Act or the California Fish and Game Code. Based on the LSA Report, the Project site contains suitable habitat for nesting birds. In order to avoid or reduce potential impacts to nesting birds, Mitigation Measure BIO-1 is incorporated into the Project. Mitigation Measure BIO-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in ***Appendix A*** *herein.*

With incorporation of Mitigation Measure BIO-1, 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: Nesting Birds

Vegetation removal on the Project site will be conducted during the period of September 1 through January 31, which is outside the nesting season. If vegetation removal cannot be conducted outside the nesting season and will take place during the breeding season (February 1 through August 31), then a nesting bird preconstruction survey will be conducted by a qualified biologist within three days prior to ground-disturbing activities at the Project site. If nesting birds are found during the preconstruction survey, then a qualified biologist will establish an exclusionary buffer around the nest(s).

The exclusionary buffer will be clearly marked in the field by construction personnel under the guidance of the qualified biologist. No construction or vegetation clearing will be conducted within the exclusionary buffer until the qualified biologist has determined that the young have fledged or the nest is no longer active.

Nesting bird habitat on or near the Project site will be re-surveyed during the bird breeding season (February 1 through August 31) if there is a lapse in construction activities for longer than seven days.

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 LSA Report cited in **Issue IV(a)** above, no riparian habitat or other sensitive natural communities are located on the Project site or adjacent areas. 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 LSA Report cited in **Issue IV(a)** above, there are no wetlands located on or adjacent to 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 is located within the existing R-16.2 Reservoir site and lands adjoining said site. Based on the LSA Report cited in **Issue IV(a)** above, "The Project would not limit wildlife movement locally and in the region as there are expansive areas of undeveloped land northeast of the [Project site] that offer the same or better quality opportunities for wildlife movement. Therefore, the Project would not 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.*

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?	❑	❑	☒	❑

*Based on the LSA Report cited in **Issue IV(a)** above, several Aleppo pine trees were planted to the south and north of the existing R-16.2 Reservoir during prior development of the site, and removal of said trees is subject to Division 9: Plant Protection and Management of the City of Yucaipa Municipal Code. Some of these trees will be removed as part of the Project. Tree removal and disposal will comply with Chapter 2 of Division 9 of the Yucaipa Municipal Code. With compliance with Chapter 9 of the City's Municipal Code, the Project will not conflict with any 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 not within an area associated with an adopted habitat conservation plan, natural community conservation plan, or other approved conservation plan; therefore, the Project will not conflict with the provisions of any such plans.

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, Historical/Archaeological Resources Survey Report Potable Water Reservoir R-16.2 and Booster Pumping Station Project, City of Yucaipa, San Bernardino County, California, dated December 1, 2020 (CRM TECH 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 intensive field reconnaissance of the Project area, reviewed the results of previously completed historical and archaeological resources records searches in the Project vicinity, and contacted the Native American Heritage Commission to request a search of the Sacred Lands File.

Based on the CRM TECH Report, the existing water tank and the nearby segment of James Birch Road "both date to the 1969-1973 era and are thus at least close to the age threshold to be considered historical in origin (i.e., more than 50 years of age). As nondescript infrastructure features of standard design and construction and completely utilitarian character, however, neither of them demonstrates any remarkable architectural, engineering, artistic, or aesthetic qualities, nor are they known to be associated with any persons or events of recognized historic significance. As such, they have no potential to qualify as 'historical resources' and requires no further consideration under CEQA provisions on cultural resources."

The CRM TECH Report notes that the Project site is within the boundary of Site 36-026762 (CA-SBR-16910H), which is the 235-acre Casa Blanca Ranch that contains the 1882 ranch house of John C. Dunlap; however, the Project site is in an area that was simply part of the ranch land on the fringe of the recorded site, and none of the buildings or other important features are located within the Project

site boundaries. No other historical or archaeological features were discovered during the field survey or background research.

Based on its findings, CRM TECH recommends to the District a finding of No Impact *regarding cultural resources. CRM TECH further recommends that, "if buried cultural materials are encountered during any earth-moving operations associated with the Project, all work within 50 feet of the discovery shall be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds."*

In order to avoid or reduce potential impacts upon historical or archaeological resources, Mitigation Measure CUL-1 is incorporated into the Project. Mitigation Measure CUL-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in ***Appendix A*** *herein. With incorporation of Mitigation Measure CUL-1, the Project will not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.*

Mitigation Measure CUL-1: Cultural Resources

In the event that any object uncovered during Project construction activities appears to be a historical or archaeological artifact (or appears to be older than 40 years), all work within fifty (50) feet of the discovery shall be immediately halted or diverted, and the following steps shall be taken:

- *The construction contractor shall halt all work within a 50-foot radius of the discovery. Work outside the 50-foot radius may continue.*
- *The construction contractor shall immediately contact Yucaipa Valley Water District (District) via telephone to notify the District of the find.*
- *The District will contact a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualifications Standards to evaluate the nature and significance of the find.*
- *If the qualified archaeologist determines that the find is not a significant historical or archaeological resource, then construction may resume with approval of the District.*
- *If the qualified archaeologist determines that the find is a significant historical or archaeological resource, then construction shall not resume until a plan has been developed to preserve or protect the resource as appropriate and as determined by the District in collaboration with the qualified archaeologist.*

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. 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. However, in the event that there are previously-undiscovered human remains on the Project site, Mitigation Measure CUL-2 is incorporated into the Project to avoid or reduce potential impacts on such remains. Mitigation Measure CUL-2 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in **Appendix A** herein. With incorporation of Mitigation Measure CUL-2, the Project will avoid or reduce impacts on human remains to the extent practicable.*

In the event that any human remains are encountered during Project construction, the County Coroner will be notified immediately, and all work in the area will be halted or diverted until a qualified archaeologist or historian evaluates the nature and significance of the find. The Project will comply with the provisions of Section 15064.5 of the State CEQA Guidelines.

Mitigation Measure CUL-2: Human Remains

In the event that any human remains, or what appear to be human remains, are uncovered or encountered during Project construction, the construction contractor shall immediately notify the San Bernardino County Coroner via telephone. After notifying the County Coroner, the contractor shall also notify Yucaipa Valley Water District via telephone. In the event that the remains are determined to be of Native American origin, Yucaipa Valley Water District will contact the Native American Heritage Commission to determine the appropriate disposition of the remains.

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 Project facilities is fuel needed by the construction contractor for operating construction vehicles and equipment. Electricity (to power the pumping stations), fuel (for travel by approximately one District vehicle to the site per day), and diesel fuel (for operation of the emergency backup generator) will be used during ongoing operation. These energy resources will only be used as needed for operation of the Project facilities and will not be used in a wasteful or inefficient manner. For these reasons, the Project will not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

	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) A geotechnical study of the Project site was conducted by Leighton Consulting, Inc., the findings, conclusions, and recommendations of which are set forth in the report, Geotechnical Exploration Yucaipa Valley Water District Two Proposed 0.5-MG Tanks (Reservoir) R-16.2.1 and R-16.2.2 36500± James Birch Road Yucaipa, San Bernardino, California San Bernardino County APN 0321-101-22, dated December 4, 2020 (Leighton Report). Based on the Leighton Report, the Project site "is situated outside of any currently-designated Earthquake Fault Zones as mapped by the State of California, the County of San Bernardino and/or the City of Yucaipa." The Leighton Report further states that, "there is no indication of active surface faulting trending through or towards this tank site." The active fault closest to the Project site is in the San Andreas Fault Zone, which is approximately 1.1 miles north of the site. For these reasons, construction and operation of the Project will 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. Based on the map, Earthquake Shaking Potential for California 2016, prepared by the California Geological Survey (CGS) and the United States Geological Survey (USGS), the Project site is located in a region identified as one that is "near major active faults and will on average experience stronger earthquake shaking more frequently. This intense shaking can damage even strong, modern buildings". The Project does not include any structures intended for more than occasional human occupation (booster station buildings) and will be designed and constructed in accordance with the recommendations set

forth in the Leighton Report cited in ***Issue VII(a)(i)*** *above. 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 Leighton Report cited in* ***Issue VII(a)(i)*** *above, soil deposits that underlay the Project site consist of well graded soils with cobble and boulders, which are all resistant to liquefaction. Further, groundwater shallower than 50 feet below ground surface is not expected to be present on the site; therefore, the potential for liquefaction at the Project site is considered very low. A large magnitude earthquake, on a local fault could result in seismically-induced differential settlement. The Project will be designed and constructed in accordance with the recommendations of the geotechnical study. For these reasons, construction and operation of the Project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.*

iv) *Based on the Leighton Report, test pits and observations at the Project site did not indicate any discontinuities or evidence of prior slope failures in native earth materials. Further, based on the relatively dense nature of the native soils, properly-compacted fill, and relatively low heights of proposed slopes, the design slopes are anticipated to be stable if fill is properly compacted. For these reasons, construction and operation of the Project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.*

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

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

A majority of the areas that will be disturbed as part of Project construction have already been disturbed, particularly by prior agriculture use and during construction and operation of the existing R-16.2 Reservoir. The Project is expected to result in a minor loss of topsoil where construction disturbance takes place. The Project includes cut 2:1 cut and fill slopes. Slopes will be constructed with hydroseeding or 3/4" crushed rock over jute matting to prevent or minimize erosion. Although

some soil erosion may result during Project construction as a result of disturbed soils or stockpiles that may be present during construction, contract documents will require the construction contractor to use standard erosion control measures and best management practices to prevent or minimize erosion.

Disturbed ground surfaces will be paved or returned to near-preconstruction conditions after Project construction, and no erosion related to the Project is expected to occur after completion of construction and final site stabilization.

For the reasons described above, the Project would not result in substantial soil erosion or substantial impacts related to the loss of topsoil.

Issue VII. Geology and Soils (Continued)

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	❑	❑	❑	☒

*Based on the Leighton Report cited in **Issue VII(a)(i)** above, the Project site is underlain primarily by Old Axial Valley Deposits (Qoa_2), with Undocumented Artificial Fill (Afu). The Afu soils are to the located to the north of the existing R-16.2 Reservoir, where the proposed retention basin will be located. The Qoa_2 soils consist primarily of silty sand and sands with gravel, cobbles, and small boulders, and the Afu soils consist primarily of silty sand with gravel and trace cobbles. It is supposed that the Afu was placed during construction of the existing R-16.2 Reservoir. The Leighton Report states that, "Based on the relatively dense nature of native soils and properly compacted fill as well as the relatively low heights of proposed slopes, design slopes are anticipated to be grossly stable if fill is properly compacted." Project facilities will be designed and constructed in accordance with the specific geotechnical design recommendations set forth in the Leighton Report. For these reasons, the Project is not located on a geologic unit or soil that is unstable or would become unstable as a result of the Project, potentially resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse related to unstable soils.*

Issue VII. Geology and Soils (Continued)

	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 information available on the United States Department of Agriculture National Resources Conservation Service Web Soil Survey, available online at websoilsurvey.nrcs.usda.gov, the Project site and surrounding areas are underlain by Greenfield sandy loam, 2 to 9 percent slopes (GtC) and Saugus sandy loam, 30 to 50 percent slopes (ShF). Said soils are not considered to be expansive. Therefore, the Project will not create substantial direct or indirect risks to life or property related to expansive soil.

	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 geological 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), California Public Resources Code Section 30244, and City of Yucaipa General Plan (Adopted April 2016).

There are no known paleontological resources present at the Project site, and the Project site does not contain any visible unique geological features. Based on "Figure PR-6, Cultural and Paleontological Resource Sensitivity Overlay Districts" of the City of Yucaipa General Plan (2016), the Project site is located within an area mapped as "Paleontological Resource Sensitivity Areas", which refers to areas where paleontological resources are known or likely to be present.

To prevent an adverse impact upon any previously undiscovered paleontological resource that may be present in subsurface soil deposits, Mitigation Measure PALEO-1 is incorporated into the Project. 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 included 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 uncovered during ground disturbance at the Project site:

- *If any potential 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 the Project will be monitored by a qualified paleontological monitor.*
- *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, 21, and 310, respectively.

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 in the SCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD has set a significance threshold for GHGs at 10,000 metric tons per year of CO_2e for industrial facilities. At this time, SCAQMD has not published GHG thresholds for other types of facilities; therefore, for the purposes of analyzing the potential impacts of subject Project, we consider GHG emissions in excess of 10,000 metric tons per year of CO_2e to be considered significant.

The Project is estimated to generate GHG emissions during construction as a result of construction equipment and vehicles operating on the Project site, as well as workers commuting to and from the site during construction. Estimated quantities of greenhouse gas emissions generated during construction total approximately 1,490 metric tons of CO_2e during the initial contract, and a total of 4,471 for construction of all project facilities during the various phases of construction, which is well below the significance threshold of 10,000 metric tons of CO_2e cited above. Construction GHGs are temporary, and their generation will cease upon completion of construction. Some GHGs will be generated during ongoing Project operation as a result of one District vehicle trip to and from the site daily. This single vehicle trip would result in insignificant quantities of GHG emissions, is part of existing District operations and does not result in an increase over existing conditions.

Quantities of Project GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2), and copies of the model output reports are included in ***Appendix D*** *herein. For the reasons described above, the Project will not generate GHG emissions that will, 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?	❑	❑	❑	☒

The City of Yucaipa Climate Action Plan, dated September 2015, identifies how GHG reduction measures will be implemented and monitored by the City of Yucaipa to ensure that progress is made toward GHG reduction goals.

*As described in **Issue VIII(a)** above, construction and operation of the Project would generate insignificant quantities of GHGs, with a majority of the GHGs being generated on a short-term, temporary basis during construction. For these reasons, construction and operation of the Project will not conflict with either of the plans cited above or 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 Project construction. 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. Further, operation of the Project does not involve the generation, transport, use, storage, or disposal of any hazardous materials. Therefore, 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?	❑	❑	❑	☒

Construction and operation of the Project do not have the potential to 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. Refer also to ***Issue IX(a)*** *above.*

	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?	❑	❑	❑	☒

The Project site is not located within one-quarter mile of an existing or proposed school. The nearest school is Wilson Creek Junior and Senior High School, located approximately 1.1 miles northwesterly of the Project site. Therefore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Refer also to ***Issue IX(a)*** *above.*

	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), the nearest such site is the Jorco Chemical Company site, a voluntary cleanup site located approximately 6.5 miles southwesterly of the Project site, in the City of Redlands. Therefore, the Project will not have an impact on, nor be impacted by, a hazardous materials site and will not create a significant hazard to the public or the environment.

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 Redlands Municipal Airport, which is a general aviation airport owned by the City of Redlands. The Redlands Municipal Airport is located approximately 7.5 miles northwesterly of the Project site. The Project site is not located within the planning area, compatibility zones, or noise contours of the Redlands Municipal Airport. For these reasons, the Project will not result in a safety hazard or excessive noise related to airports.

	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?	❑	❑	☒	❑

Transportation corridors would remain open during Project construction. Lane closures are expected to be needed during connection of the proposed pipelines to existing pipelines within Oak Glen Road. Such lane closures will be short-term and will not require a complete road closure. For these reasons, construction and operation of the Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

	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 "Figure 5-3, Fire Safety Overlay District" of the City of Yucaipa General Plan (2016), the Project site is within an area mapped as "FR2 Fire Safety Review Area 2", which includes "relatively flat land that is either partially or completely developed, or , if it is not developed, is usually suitable for development. Present and future development within Area 2 is exposed to the impacts of wildland fires and other natural hazards primarily due to its proximity to FR1 [Fire Safety Review Area 1]".

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. 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 construction and operation of two bolted steel potable water storage reservoirs, a potable water storage booster pumping station, a bolted steel recycled water storage reservoir, a recycled water booster pumping station, and potable water and recycled water pipelines. Project facilities do not have a waste stream and will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

	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.

Issue X. Hydrology and Water Quality (Continued)

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 includes grading and paving of the reservoir and booster pumping stations site. Current impervious surfaces on the Project site include the existing R-16.2 Reservoir. The net impervious surfaces added to the Project site total approximately 33,000 square feet. To address impacts relating to stormwater runoff and site drainage, the Project includes a concrete drainage swale and an 80,000-gallon retention basin. Therefore, stormwater runoff and flows will not result in substantial erosion or siltation on- or off-site.

ii) The quantity and rate of surface runoff is expected to increase as a result of the increase in improved surface area; however, increased runoff will flow to the concrete drainage swale and to the 80,000-gallon retention basin, and will not result in flooding on- or off-site. Refer also to ***Issue X(c)(i)*** *above.*

iii) The stormwater drainage facilities included in the Project, which consist of a concrete drainage swale and an 80,000-gallon retention basin, will accommodate any increase in runoff resulting from the additional impervious surfaces on the Project site. Due to the nature of the Project (water system facilities), the Project would not contribute substantial additional sources of polluted runoff. For these reasons, the Project would not result in increased 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) Based on "Figure S-2A, Drainage and Recharge Facilities" of the City of Yucaipa General Plan (2016), the Project site is not in the path of a drainage channel or natural drainage

channel or an existing or proposed drainage basin. Further, based on "Figure S-2A, Drainage and Recharge Facilities" of the City of Yucaipa General Plan (2016), the Project is not located within a 100-Year or 500-Year Flood Area. For these reasons, the Project does not have the potential to impede or redirect flood flows. Refer also to ***Issue X(c)(i)*** *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?	❑	❑	❑	☒

The Project site is not located within a flood hazard, tsunami, or seiche zone. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Map Number 06071C8745H, effective date August 28, 2008, the Project site is located in "Zone X, Area of Minimal Flood Hazard" and is not located within a flood hazard area or a floodway area. Based on the California Official Tsunami Inundation Maps available on the California Department of Conservation website at conservation.ca.gov/cgs/tsunami/maps, there are no tsunami inundation areas mapped within San Bernardino County, and the nearest such area is in Orange County, along areas bordering the Pacific Ocean. There are no large bodies of water located in the vicinity of the Project site that could result in impacts from a seiche, and the Project is not located within a seiche zone. For these reasons, the Project is not at risk of inundation.

	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 Santa Ana River Basin (Adopted 1995 and updated in 2008, 2011, 2016, and 2019). 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 is located within the Yucaipa Basin (Basin No. 8-02.07), for which is there is a Groundwater Sustainability Agency (GSA), the Yucaipa Basin GSA, which was formed pursuant to the provisions of the Sustainable Groundwater Management Act (SGMA). The Project does not have a water demand and will not conflict with or obstruct implementation of the Yucaipa Basin

Groundwater Sustainability Plan. Therefore, the Project will not conflict with or obstruct any 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 on the existing District-owned R-16.2 Reservoir site and adjoining easements; therefore, the Project does not have the potential to physically divide an established community.

	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 located on the existing District-owned R-16.2 Reservoir site and adjoining easements. The Project will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact.

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?	❑	❑	❑	☒

There are no known mineral resources on the Project site. Based on NR-4, Mineral Resources Zone web map, accessed November 2020, the Project site is located within an area mapped as Mineral Resources Zone 3 (MRZ-3), Aggregate Resources. The Project site has historically been used for agriculture and open space, and there are no known mineral resources on the site that would be of value to the region and the residents of the state. For these reasons, construction and operation of the Project will 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.

Issue XII. Mineral Resources (Continued)

	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?	❑	❑	❑	☒

There are no known mineral resources located on the Project site, and the project is not located on or in close proximity to a locally-important mineral resource recovery site. Therefore, construction and operation of the Project will not 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. 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. With the exception of a portion of the proposed pipelines, construction of facilities will take place at least 150 feet northerly of the nearest residential structure, and noise generated by construction will be temporary, ceasing upon completion of construction.

The Project will not result in a permanent increase in ambient noise levels, as the booster pumping stations will be housed in masonry block buildings. The backup generator will produce noise when operated; however, the generator will be equipped with a sound attenuated enclosure. Further, the generator will be operated only as needed during a power failure or for routine testing and maintenance. For these reasons, Project construction and operation would not result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established for the area.

Issue XIII. Noise (Continued)

	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?	❑	❑	☒	❑

Project operation would not result in any groundborne vibration or groundborne noise that would be perceptible at the nearest residence, which is located on adjoining property directly south of the Project site. Project construction is expected to result in some groundborne vibration and groundborne noise during demolition of the existing R-16.2 Reservoir and during excavation for construction of the new facilities; however, due to the distance of the nearest residential structure (approximately 150 feet to the south) from the reservoir and pumping stations site, the perception of groundborne vibration or groundborne noise at said location is expected to be less than significant, and short-term. For these reasons, the Project would not result in the generation of excessive groundborne vibration or groundborne noise levels.

	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 nearest airport is the Redlands Municipal Airport, which is located approximately 7.5 miles northwesterly of the Project site (refer also to ***Issue IX(e)*** *herein). According to "Figure 2A: Compatibility Map", "Figure 3B: Aircraft Noise Concerns", and "Figure 3C: Airspace Plan" of the Redlands Municipal Airport Land Use Compatibility Plan (2003), the Project site is located outside the planning area, compatibility zones, and noise contours of the Redlands Municipal Airport. For these reasons, the Project would 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 consists of water and recycled water storage and transmission facilities that increase the capacity of such facilities over existing conditions; however, these facilities are intended to serve existing and planned development in the area and do not induce substantial unplanned population growth. Further, the Project would not result in a need for the District to hire additional employees. The Project does not have the potential to induce substantial, unplanned population 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 an existing District-owned property and adjoining easements, and will not displace any existing people or housing.

Issue XV. Public Services

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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 does 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?	❑	❑	❑	☒

Construction and operation of 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 and lane closures during connection of Project pipelines to existing pipelines in Oak Glen Road; however, said impacts will be less than significant and short-term. Operation of the Project will generate approximately one round-trip vehicle trip to the site per day, which would not substantially impact traffic or transportation because a daily vehicle trip to the site is already part of the District's operation of the existing R-16.2 Reservoir. For these reasons, construction and operation of the Project will not conflict with a program, plan, ordinance, or policy addressing the circulation systems, including the City of Yucaipa General Plan (2016).

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 workers' vehicles traveling to and from the Project site per day. Because of the Project's proximity to the larger nearby cities of Redlands and Moreno Valley, with populations of approximately 72,000 and 210,000, respectively, it is estimated that workers will be commuting from these local areas. For the purposes of this analysis, we have assumed that workers will commute a total of 20 miles per day each, round-trip, which results in a total of 200 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 suburban location. Operation of the Project will require approximately one daily District vehicle trip to and from the Project site; however, this is an existing ongoing activity that is necessary for operation of the existing reservoir. Therefore, no increase in VMT will result from operation of the Project. 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 on an existing District-owned property and two adjoining easements. No additional vehicle trips will be made to the Project site during operation over existing conditions, and no roads or intersections will be redesigned as part of the Project. Therefore, construction and operation of the Project will not substantially increase hazards due to a geometric design feature or incompatible uses.

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

Project facilities will be located at the existing R-16.2 Reservoir site and two adjoining easements. While lane closures are expected during Project construction to connect Project pipelines to existing pipelines within Oak Glen Road, such lane closures would not require a road closure and would be short-term. For these reasons, 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)?	❑	❑	❑	☒
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 report, Historical/Archaeological Resources Survey Report Potable Water Reservoir R-16.2 and Booster Pumping Station Project, City of Yucaipa, San Bernardino County, California, by CRM TECH, dated December 1, 2020 (CRM TECH Report; copy included in **Appendix C** herein), 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.*

ii) No Native American tribe has contacted the District to request notification on Projects within the District's service area. Therefore, the District does not plan to consult with any Native American tribes on this project unless a request is received from a tribe prior to or during the CEQA public review process. The Project site has been previously disturbed in the past, and the District is not aware of any significant Native American resources located on the Project site; however, to avoid or reduce potential impacts upon tribal cultural resources, Mitigation Measure TCR-1 is incorporated into the Project. Mitigation Measure TCR-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, a copy of which is included in ***Appendix A*** *herein.*

Mitigation Measure TCR-1: Tribal Cultural Resources

There are no known tribal cultural resources on the Project site, including any such resources 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). However, in the event that any potential tribal cultural resource is discovered during ground-disturbing activities pursuant to the Project, the District will contact a qualified archaeologist, meeting Secretary of the Interior's standards, to assess the find and determine the appropriate next steps. The District will consult in good faith with the archaeologist and local tribes on the disposition and treatment of any artifacts or other cultural materials encountered during activities pursuant to the Project.

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 includes new electric service to power the proposed booster pumping stations, and the Project also includes stormwater drainage and retention facilities to manage stormwater flows on the Project site. Said facilities will not result in significant environment effects. For these reasons, the Project will not result in the relocation or construction of new or expanded utilities, the relocation or construction of which could cause significant environmental effects.

	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?	❑	❑	❑	☒

Project operation does not have a water demand. Water needed during construction, such as for dust control, will be available from the District's existing water supplies. Construction water demand will be less than significant and short-term. For these reasons, sufficient water supplies are available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.

	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 generate sanitary wastewater.

Issue XIX. Utilities and Service Systems (Continued)

	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?	❑	❑	☒	❑

Solid waste will be generated during Project construction, particularly resulting from demolition and removal of the existing reservoir. This waste, including the demolished reservoir, will be taken to a local landfill. The Project will not generate solid waste during ongoing operation. 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 is not located within a state responsibility area (SRA). The nearest SRA is located approximately 0.5 mile easterly of the Project site. Based on maps available on the Office of the State Fire Marshal website (osfm.fire.ca.gov), the Project site is located on the southern boundary of an area designated as a very high fire hazard severity zone. Because the Project is located within

the existing District-owned R-16.2 Reservoir site and adjoining easements, Project operation does not have the potential to substantially impair an adopted emergency response plan or emergency evacuation plan. Connecting the proposed pipelines to existing pipelines within Oak Glen Road is expected to require lane closures. Said lane closures would be short-term and would not result in a road closure. For these reasons, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

Issue XX. Wildfire (Continued)

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

*The Project does not include habitable structures, and there would be no project occupants. Occupation of the site would be short-term for operation and maintenance purposes. Further, construction and operation of the Project will not exacerbate wildfire risks. For these reasons, the Project would not exacerbate wildfire risks and thereby expose persons to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire. Refer also to **Issue XX(a)** above.*

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Potentially Significant Impact ❑	Less Than Significant with Mitigation Incorporated ❑	Less Than Significant Impact ❑	No Impact ☒

*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.*

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 will be constructed within the existing District-owned R-16.2 Reservoir site and two adjoining easements. The site area proposed for the new reservoirs and booster pumping stations will be paved, and the drainage swale will be concrete-lined. Other areas, such as those along the

pipeline alignments, will be returned to preconstruction conditions when construction is complete. The total area of impervious surfaces added by the Project is approximately 33,000 square feet. Any additional runoff resulting from the addition of impervious surfaces will be addressed by the drainage swale and retention basin that are included in the Project. For these reasons, 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

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

➢ ***Biological Resources***

*As described in **Issue IV** herein, no sensitive species were observed during a biological survey of the Project site; however, suitable habitat for nesting birds was observed. Therefore, Mitigation Measure BIO-1 is incorporated into the Project and is set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A** herein. With incorporation of Mitigation Measure BIO-1, construction and operation of the Project would not 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.*

➢ ***Historical and Archaeological 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 Measure CUL-1 is incorporated into the Project and is set forth in the Mitigation*

*Monitoring and Reporting Program included in **Appendix A** herein. With incorporation of Mitigation Measure CUL-1, 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, there are no known paleontological resources present on the Project site; however, based on "Figure PR-6, Cultural and Paleontological Resource Sensitivity Overlay Districts" of the City of Yucaipa General Plan (2016), the Project site is located within an area mapped as "Paleontological Resource Sensitivity Areas", which refers to areas where paleontological resources are known or likely to be present. Therefore, Mitigation Measure PALEO-1 is incorporated into the Project and is set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A** herein. With incorporation of Mitigation Measure PALEO-1, the Project will not eliminate important examples 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.

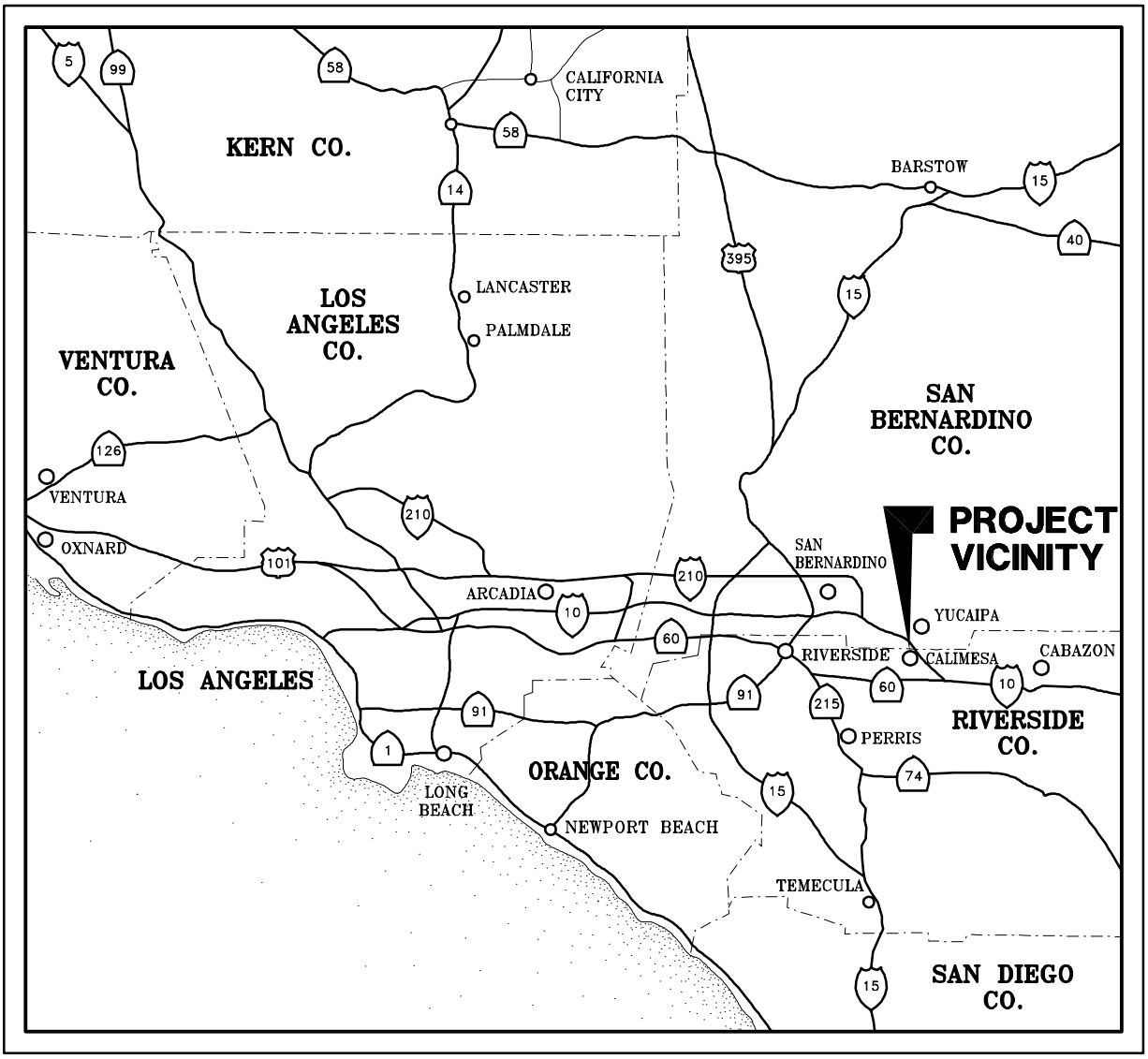
PART 3
REFERENCES AND SOURCES

PART 3 - REFERENCES AND SOURCES

- California Air Resources Board Website for California Ambient Air Quality Standards, www.arb.ca.gov/desig/desig.htm
- California Board of Forestry and Fire Protection State Responsibility Area Viewer, bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer
- 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 Important Farmland Finder mapping system, accessed online at maps.conservation.ca.gov/DLRP/CIFF
- California Earthquake Hazards Zone Application (EQ Zapp), California Department of Conservation, accessed online at conservation.ca.gov/cgs/geohazards/eq-zapp
- California Emissions Estimator Model® (CalEEMod) Software, Version 2016.3.2, downloaded from caleemod.com, August 2019
- City of Redlands Airport Plans and Maps, accessed online at cityofredlands.org/pod/airport-plans-maps
- City of Yucaipa GIS, accessed online at yucaipa.maps.arcgis.com
- City of Yucaipa General Plan, Placeworks, Adopted by City of Yucaipa April 2016
- Earthquake Shaking Potential for California 2016 (map), California Geological Survey and United States Geological Survey, accessed online at www.conservation.ca.gov/cgs/Documents/MS_048.pdf
- Federal Emergency Management Agency (FEMA) Map Service Center Website, www.msc.fema.gov
- Geotechnical Exploration Yucaipa Valley Water District Two Proposed 0.5-MG Tanks (Reservoir) R-16.2.1 and R-16.2.2 36500± James Birch Road Yucaipa, San Bernardino California San Bernardino County APN 0321-101-22, Leighton Consulting, Inc., December 4, 2020
- Office of the State Fire Marshal Website, osfm.fire.ca.gov
- San Bernardino Countywide Plan, County of San Bernardino, Adopted October 27, 2020
- South Coast Air Quality Management District Website, www.aqmd.gov
- Sustainable Groundwater Management Act (SGMA) Groundwater Management Website, 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
- Western Regional Climate Center Website, www.wrcc.dri.edu

FIGURES



KRIEGER & STEWART
Engineering Consultants

3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951 · 684 · 6900

YUCAIPA VALLEY WATER DISTRICT

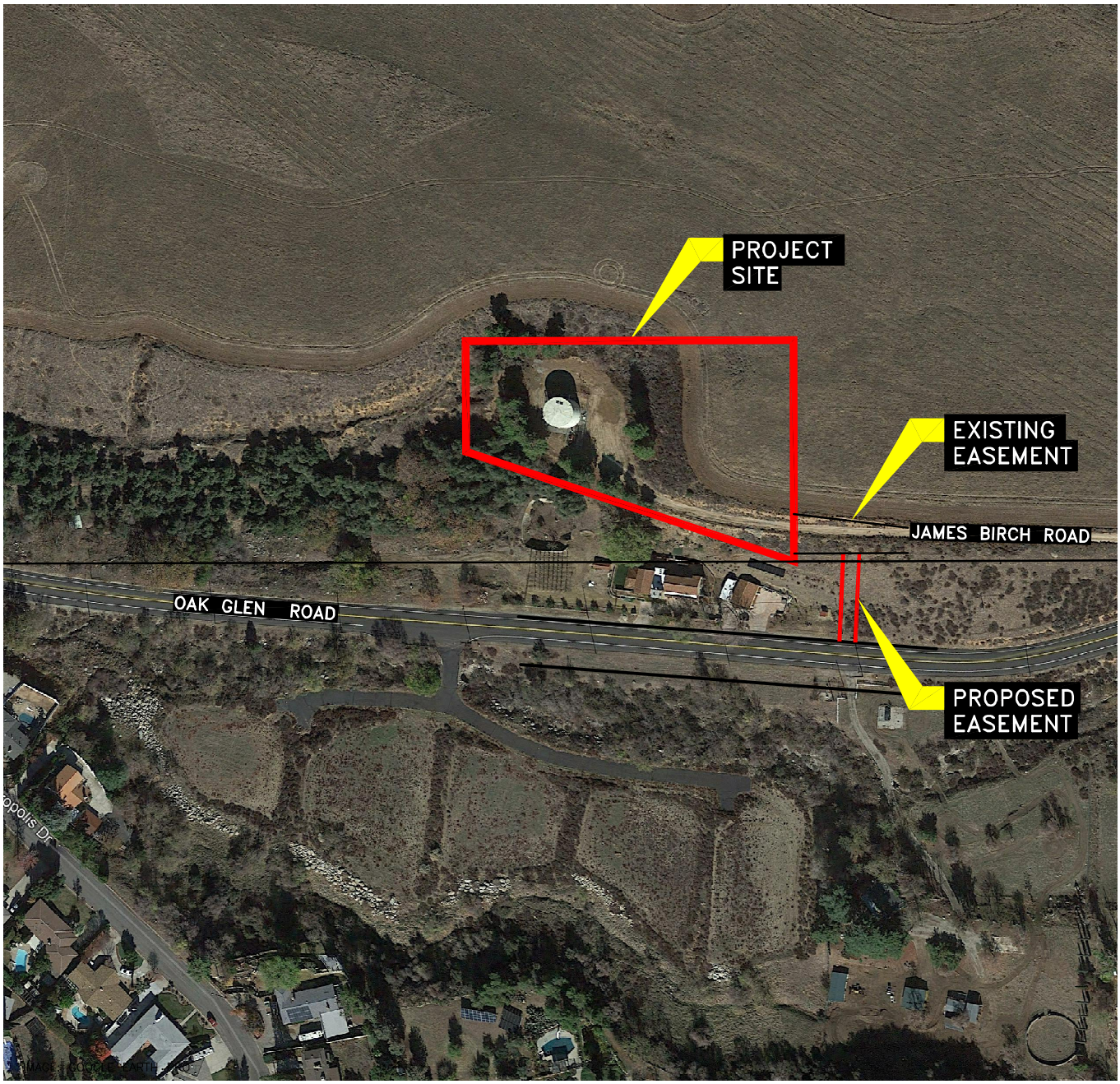
16.2 RESERVOIR AND BOOSTER PUMPING STATION PROJECT

PROJECT VICINITY

FIGURE 1 OF 2

SCALE: N.T.S. DATE: 11-10-20 DRAWN BY: MWE CHECKED BY: VEM W.O.: 818-133

818-133_f1.dwg



KRIEGER & STEWART
Engineering Consultants
3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951 · 684 · 6900

YUCAIPA VALLEY WATER DISTRICT

16.2 RESERVOIR AND BOOSTER PUMPING STATION PROJECT

PROJECT LOCATION

FIGURE 2 OF 2

SCALE: 1"=500'± DATE: 11/10/20 DRAWN BY: MWE CHECKED BY: VEM W.O.: 818-133

818-113_f2.dwg

APPENDIX A

DRAFT MITIGATED NEGATIVE DECLARATION
AND
MITIGATION MONITORING AND REPORTING PROGRAM

YUCAIPA VALLEY WATER DISTRICT
R-16.2 RESERVOIR AND BOOSTER PUMPING STATION PROJECT
MITIGATED NEGATIVE DECLARATION

Project: The Project generally consists of construction and operation of two 0.6 million-gallon (MG) potable water storage reservoirs to serve the 16 Pressure Zone, one 0.3 MG recycled water storage reservoir, one potable water booster pumping station configured and equipped to pump to the 17 Pressure Zone, one recycled water booster station configured and equipped to pump to the 17 Pressure Zone, a concrete drainage swale and a retention basin to convey and retain stormwater runoff on the site, approximately 480 linear feet of 16-inch diameter potable water pipeline, and approximately 450 linear feet of 12-inch diameter recycled water pipeline. The Project also includes demolition and removal of the existing potable water R-16.2 Reservoir. A more detailed description of the Project is included in the Project Initial Study. A copy of the Project Initial Study is available for review at Yucaipa Valley Water District's office, located at the address referenced below, and on the District's website at www.yvwd.us.

Location: The Project is located at the site of the District's existing R-16.2 Reservoir at 36400 Oak Glen Road, Yucaipa, CA 92399, as well as within an existing easement along James Birch Road, within a proposed easement within APN 0321-241-05, and within the existing right-of-way of Oak Glen Road. The Project site is generally located northerly of Oak Glen Road, along James Birch Road, and at a site located at the westerly terminus of James Birch Road, in the City of Yucaipa, San Bernardino County, California.

Figures 1 and 2, copies of which are included with each copy of the Initial Study for the Project, depict the locations of the Project facilities. A copy of the Initial Study is available for review at the District's office located at 12770 Second Street, Yucaipa, CA 92399.

Entity: Yucaipa Valley 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 David F. Scriven with Krieger & Stewart, the District's Consulting Engineer for this project. The Initial Study may be viewed at the office of the Yucaipa Valley Water District located at 12770 Second Street, Yucaipa, CA 92399.

Date: _____

_____
Joseph Zoba
General Manager
YUCAIPA VALLEY 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 during project construction (and, if applicable, during project operation). Since the project considered by the Initial Study for the Yucaipa Valley Water District's R-16.2 Reservoir and Booster Pumping Station Project (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 nesting bird species 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, particularly nesting birds, by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measure (**BIO 1**) will be implemented in order to ensure that construction of Project facilities does not result in a significant adverse impact upon nesting birds. 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.

BIO 1: Nesting Birds

Vegetation removal on the Project site will be conducted during the period of September 1 through January 31, which is outside the nesting season. If vegetation removal cannot be conducted outside the nesting season and will take place during the breeding season (February 1 through August 31), then a nesting bird preconstruction survey will be conducted by a qualified biologist within three days prior to ground-disturbing activities at the Project site. If nesting birds are found during the preconstruction survey, then a qualified biologist will establish an exclusionary buffer around the nest(s).

The exclusionary buffer will be clearly marked in the field by construction personnel under the guidance of the qualified biologist. No construction or vegetation clearing will be conducted within the exclusionary buffer until the qualified biologist has determined that the young have fledged or the nest is no longer active.

If there is a lapse in construction activities for longer than seven days during the bird breeding season (February 1 through August 31), then the nesting bird habitat on or near the Project site will be re-surveyed.

Responsible Party: 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 and CUL-2**) 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: Cultural Resources

In the event that any object uncovered during Project construction activities appears to be a historical or archaeological artifact (or appears to be older than 40 years), all work within fifty (50) feet of the discovery shall be immediately halted or diverted, and the following steps shall be taken:

- The construction contractor shall halt all work within a 50-foot radius of the discovery. Work outside the 50-foot radius may continue.
- The construction contractor shall immediately contact Yucaipa Valley Water District (the District) via telephone to notify the District of the find.
- The District will contact a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualifications Standards to evaluate the nature and significance of the find.
- If the qualified archaeologist determines that the find is not a significant historical or archaeological resource, then construction may resume with approval of the District.
- If the qualified archaeologist determines that the find is a significant historical or archaeological resource, then construction shall not resume until a plan has been developed to preserve or protect the resource as appropriate and as determined by the District in collaboration with the qualified archaeologist.

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

CUL-2: Human Remains

In the event that any human remains, or what appear to be human remains, are uncovered or encountered during Project construction, the construction contractor shall immediately notify the San Bernardino County Coroner via telephone. After notifying the County Coroner, the contractor shall also notify Yucaipa Valley Water District via telephone. In the event that the remains are

determined to be of Native American origin, Yucaipa Valley Water District will contact the Native American Heritage Commission to determine the appropriate disposition of the remains.

Responsible Party: 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, the Project would not result in an adverse impact upon any known 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 potential paleontological resource is 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 the Project will be monitored by a qualified paleontological monitor.

- 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: 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 measure (**TCR-1**) 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. 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.

TCR-1: Tribal Cultural Resources

In the event that any potential tribal cultural resource is discovered during ground-disturbing activities pursuant to the Project, the District will contact a qualified archaeologist, meeting Secretary of the Interior's standards, to assess the find and determine the appropriate next steps. The District will consult in good faith with the archaeologist and local tribes on the disposition and treatment of any artifacts or other cultural materials encountered during activities pursuant to the Project.

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

APPENDIX B

BIOLOGICAL RESOURCES ASSESSMENT

BIOLOGICAL RESOURCES ASSESSMENT

YUCAIPA VALLEY WATER DISTRICT 16.2 RESERVOIR AND BOOSTER PUMPING STATION PROJECT

CITY OF YUCAIPA

SAN BERNARDINO COUNTY, CALIFORNIA

LSA

November 2020

BIOLOGICAL RESOURCES ASSESSMENT

YUCAIPA VALLEY WATER DISTRICT 16.2 RESERVOIR AND BOOSTER PUMPING STATION PROJECT

CITY OF YUCAIPA

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

Krierger and Stewart, Inc.
3602 University Avenue
Riverside, California 92501

Prepared by:

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

LSA Project No. KRS2003

LSA

November 2020

EXECUTIVE SUMMARY

LSA was retained by Krieger and Stewart, Inc. to conduct a Biological Resources Assessment (Assessment) for the Yucaipa Valley Water District (YVWD) 16.2 Reservoir and Booster Pumping Station Project (project) located in the City of Yucaipa (City), San Bernardino County, California. The project involves the development of approximately 3.3 acres of partially developed land consisting of Assessor's Parcel Numbers (APNs) 032-110-122, 032-124-105, 032-110-126, 032-110-102, and 032-124-120. The YVWD is the lead agency for the project and this study is part of the environmental review process to comply with the California Environmental Quality Act (CEQA). The assessment included a literature review, field survey, and this report.

The Biological Study Area (BSA) is located outside of designated critical habitat for threatened or endangered species listed under the Federal Endangered Species Act. The BSA does not contain suitable habitat for federally/State listed as threatened/endangered/candidate species.

The study area contains low quality suitable habitat for one non-listed special-status species, crotch bumble bee (*Bombus crotchii*). Due to the relatively small project footprint, existing development, historic grading and maintenance of the study area and recent fire damage, impacts from the project are anticipated to have a less than significant effect on this non-listed special-interest species, if present.

The BSA contains suitable habitat for nesting birds protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. However, the U.S. Fish and Wildlife Service (USFWS) has recently determined that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. It is recommended that vegetation removal be conducted outside the general bird nesting season (February 1 through August 31) to avoid impacts to nesting birds. If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal.

The BSA does not contain any drainage features, ponded areas, or riparian habitat potentially subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) under Section 1600 of the California Fish and Game Code, the U.S. Army Corps of Engineers (USACE) under Section 404 of the Federal Clean Water Act (CWA), or Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA.

TABLE OF CONTENTS

Table

Appendices

INTRODUCTION

LSA Associates, Inc. (LSA) was retained by Krieger and Stewart, Inc. to conduct a Biological Resources Assessment (Assessment) in support of the Yucaipa Valley Water District 16.2 Reservoir and Booster Pumping Station Project (project) for compliance with CEQA. The approximately 3.3-acre subject property is located in the City of Yucaipa, San Bernardino County, California within the United States Geological Survey (USGS) *Yucaipa, California* 7.5-minute topographic quadrangle. Specifically, the property is located approximately 0.2 mile east of the intersection of Oak Glen Drive and Casa Blanca Avenue (Appendix A, Figure 1).

PROJECT DESCRIPTION

The 16.2 Potable Water Reservoir and Booster Pumping Station Project consists of the installation of two 0.6 million-gallon (MG) potable water reservoirs, one 0.3 MG recycled water reservoir, one potable water booster pumping station configured and equipped to pump to the 17 Pressure Zone, and one recycled water booster station configured and equipped to pump to the 17 Pressure Zone (Appendix A, Figure 2). The project will be phased with the potable water booster station and one of the potable reservoirs being constructed initially and the recycled reservoir and booster station being constructed secondarily. The existing reservoir located on the project site will be removed to accommodate project activities.

The proposed pump station will convey potable water to the 17 Zone through 12-inch and 16-inch transmission pipelines. Pumping rates for the station have been preliminarily set at approximately 1,000 gallons per minute (gpm). The pumping units will be installed in a building.

BIOLOGICAL STUDY AREA

The BSA was created to encompass the proposed project footprint and typical habitats in the immediate project vicinity that may be directly or indirectly affected by the proposed project. The BSA includes the development site for the proposed reservoir and booster pumping station (development site) consisting of APNs 032-110-122, 032-124-105, 032-110-126, 032-110-102, and 032-124-120, (Appendix A, Figures 1 through 5). The BSA is not located within any adopted Habitat Conservation Plan or federally designated Critical Habitat for federally listed species.

METHODS

Literature Review

A literature review was conducted to assist in determining the existence or potential occurrence of special-status plant and animal species on or in the vicinity of the project. A records search of the CDFW Natural Diversity Database application *Rarefind 5* online edition (CDFW CNDDB, v 5.2.14) and California Native Plant Society's *Online Inventory of Rare and Endangered Plants* (CNPS v8-03 0.39) for the *Yucaipa, California* USGS 7.5-minute quadrangle was searched on October 9, 2020 (CDFW 2020; CNPS 2020a; USGS 2018). Current and historic aerial photographs (Google Earth 2020; NETRonline Historic Aerials 2020) were reviewed, and USFWS listed species and designated critical habitat information was used to determine the locations of any listed species sightings and critical habitat boundaries on and in the vicinity of the project (USFWS 2020). Soil types were determined using the WebSoil Survey (NRCS 2020). Geographic Information System (GIS) software (ESRI 2020)

was used to map the project location. ESRI's *Collector for ArcGIS* was used to collect data in the field including map habitat types, land uses, etc. and subsequently transferred to LSA's GIS software. Local policies and municipal codes were also consulted to review conservation measures that will apply to the proposed project.

Field Surveys

A general reconnaissance-level field survey was conducted on October 14, 2020, by LSA Biologist Ryan Villanueva between the hours of 7:00 and 9:00 a.m. Weather conditions consisted of sunny skies, with temperatures ranging from 65 to 85 degrees Fahrenheit. Notes were taken on general site conditions, vegetation, and suitability of habitat for various special-status elements. *A Manual of California Vegetation, Online Edition* (CNPS 2020b) was used to name vegetation communities, where applicable. All plant and animal species observed or otherwise detected during this field survey were noted and are listed in Appendix B.

RESULTS

Existing Site Conditions

The BSA consists of partially developed land generally located along James Birch Road in an area with mixed-use development, including single-family residences, YVWD facilities, and undeveloped vacant land. More specifically, the development site portion of the BSA is highly disturbed as a result of current and historic grading/grubbing activity as well as damage caused by the recent El Dorado Fire which began on September 5, 2020. A large YVWD water tank, pad site, and connecting James Birch Road (dirt) occur within the BSA. The northern portion of the BSA is bordered by undeveloped land that has been historically mowed and/or disked, according to historic aerial imagery. A single-family residence occurs directly to the south of the BSA. Additional residences and the ephemeral Oak Glen Creek occur farther south along and south of Oak Glen Road. Undeveloped lands occur to the east and west of the BSA in the area north of Oak Glen Road. Residences occur in the area east and west of the BSA and south of Oak Glen Road.

Interstate 10 (I-10) is approximately 4.3 miles to the southwest and State Route 38 (SR-38) is approximately 3 miles to the northeast of the project site. Appendix A, Figure 3, provides an overview of the site.

Topography and Soils

The site elevation is between 3,170 and 3,245 feet above mean sea level. The project site is relatively flat and gradually slopes east to west. Steep slopes occur around the existing water tank site and southern portion of the BSA. Soils on the site are mapped by the Natural Resource Conservation Service (NRCS) as:

- Greenfield sandy loam, 2 to 9 percent slopes (GtC); and
- Saugus sandy loam, 30 to 50 percent slopes (ShF).

Despite the site being significantly disturbed, soils observed on the site appeared relatively consistent with these designations. The soils map is attached as Appendix A, Figure 4.

Vegetation/Land Cover

The predominant vegetation within the BSA is best described as disturbed/ruderal, exhibiting a sparse cover of weedy species such as Russian thistle (*Salsola tragus*) and shortpod mustard (*Hirschfeldia incana*) as well as annual bursage (*Ambrosia acanthicarpa*). This vegetation predominantly occurred along James Birch Road and the slopes surrounding the existing water tank.

Species observed in areas mapped as California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance) (Sawyer et al. 2009) included shrubs such as California buckwheat (*Eriogonum fasciculatum*) and California sagebrush (*Artemisia californica*) as well as shortpod mustard, jimsonweed (*Datura wrightii*), and rod wirelettuce (*Stephanomeria virgata*). This vegetation occurred in several small patches within the BSA.

Species observed within areas mapped as disturbed wild oats grassland (*Avena* spp.-*Bromus* spp. Herbaceous Semi-Natural Alliance) include low-growing annuals such as wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and rod wirelettuce. Much of this vegetation was extrapolated from surrounding areas that contained vegetation and interpretation of aerial imagery as the El Dorado Fire burned most occurring vegetation down to bare soil. This vegetation occurred north of James Birch Road.

Species observed in areas mapped as planted woodland included trees such as Aleppo pine (*Pinus halepensis*) and olive (*Olea europaea*) as well as poison oak (*Toxicodendron diversilobum*). This vegetation occurred in the area immediately surrounding the water tank to the north, south, and west. The olive trees were part of a planted grove that dates back to at least 1938 based on historic aerial imagery. The Aleppo pine trees were planted along with the development of the existing water tank sometime between 1969 and 1982 based on historic aerial imagery.

Areas mapped as developed generally lacked vegetation and consisted of dirt roads, areas kept free of vegetation associated with the existing water tank, and areas containing other built structures.

As a result of land use practices, ruderal vegetation was observed intermixed within the disturbed wild oat grassland and California buckwheat scrub within the BSA. Dominant ruderal species identified include shortpod mustard, Russian thistle, tocalote (*Centaurea melitensis*), and tree tobacco (*Nicotiana glauca*).

A total of 30 vascular plant species were identified within the BSA during the October 2020 field survey (refer to Appendix B). A total of 12 (approximately 40 percent) of these plant species represent non-native taxa.

Wildlife

Common wildlife observed within or in close proximity to the BSA included western fence lizard (*Sceloporus occidentalis*), white-crowned sparrow (*Zonotrichia leucophrys*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), bushtit (*Psaltriparus minimus*), savannah sparrow (*Passerculus sandwichensis*), oak titmouse (*Baeolophus inornatus*), and mountain chickadee (*Poecile gambeli*). A complete list of animal species observed during the field survey is included in Appendix B.

Special-Status Species

This section discusses special-status species observed or potentially occurring within the limits of the BSA. Legal protection for special-status species varies widely, from the comprehensive protection extended to listed threatened/endangered species, to no legal status at present. The CDFW, USFWS, local agencies, and special-status groups such as the CNPS, publish watch lists of declining species. Species on watch lists can be included as part of the special-status species assessment. Species that are candidates for State and/or federal listing and species on watch lists are included in the special-status species list. Inclusion of species described in the special-status species analysis is based on the following criteria:

- Direct observation of the species or its sign in the study area or immediate vicinity during previous biological studies;
- Sighting by other qualified observers;
- Record reported by the CNDDB, published by the CDFW;
- Presence or location information for specific species provided by private groups (e.g., CNPS); and/or
- Study area lies within known distribution of a given species and contains appropriate habitat.

Threatened and Endangered Species

Under provisions of Section 7(a)(2) of the Federal Endangered Species Act (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 California Endangered Species Act (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 the 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.

Listed below are the federal and/or State listed species and critical habitats reported within a 3-mile radius of the project vicinity:

- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*; federally and State listed as endangered); and
- Southwestern willow flycatcher (*Empidonax traillii extimus;* federally listed as endangered).

These species are discussed in further detail below.

Santa Ana River Woollystar. Santa Ana River woollystar (SARWS) is found in Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 300 to 2,100 feet elevation in San Bernardino and Riverside Counties. The BSA is considered unsuitable for SARWS due to the lack of suitable habitat, soils, known elevation range, and the highly disturbed nature of the site.

Southwestern Willow Flycatcher. The critical habitat designation (USFWS 2005, 2013) for southwestern willow flycatcher (SWWF) identifies riparian forest as the main primary constituent element to sustain the life history of the species. More specifically, suitable SWWF habitat includes extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water. The BSA is considered unsuitable for SARWS due to the lack of suitable habitat and the highly disturbed nature of the site.

Non-Listed Special-Status Species

The CDFW, USFWS, local agencies, and special-status groups, such as the CNPS, maintain lists of species that they consider to be in need of monitoring. Legal protection for these special-status species varies widely. Table A summarizes special-status species known to occur in the region, along with their status, habitat and distribution, activity/bloom period, and probability of occurrence.

Table A: Special-Status Species Occurrence Probability

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Plants				
Allium marvinii **Yucaipa onion**	US: – CA: 1B	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.** Suitable habitat (chaparral) and clay soils not present within the study area.
Chorizanthe parryi var. *parryi* **Parry's spineflower**	US: – CA: 1B	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.** Suitable habitat (grassland) is present within the study area. However, suitable sandy or rocky soils are absent within the study area.
Gilia leptantha ssp. *leptantha* **San Bernardino gilia**	US: – CA: 1B	Sandy or gravelly soils in lower montane coniferous forest; sandy or gravelly soils of the San Bernardino Mountains; 1,500 to 2,350 meters (4,900 to 7,700 feet) elevation.	Blooms June through August (annual herb)	**Absent.** Suitable habitat (lower montane coniferous forest) and sandy or gravelly soils are not present within the study area.
Monardella macrantha ssp. *hallii* **Hall's monardella**	US: – CA: 1B	Dry slopes and ridges in openings in chaparral, woodland, and forest at 695 to 2,195 meters (2,280 to 7,200 feet) elevation. Known only from Los Angeles, San Diego, Orange, Riverside, and San Bernardino Counties,	Blooms June through August (sometimes to October)	**Absent.** Suitable habitat (chaparral, woodland and forest) is not present within the study area. Woodland that exists within the study area

Table A: Special-Status Species Occurrence Probability

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		California. In the western Riverside County area, known only from higher elevations in the Santa Ana and Agua Tibia Mountains (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	(perennial herb)	consists of non-native species and was planted.
Sidalcea hickmanii ssp. *parishii* **Parish's checkerbloom**	US: – CA: SR/1B	Burned or cleared areas on rocky slopes, and along roads in chaparral, cismontane woodland, and lower montane coniferous forest at 1,000 to 2,135 meters (3,300 to 7,000 feet) elevation. Known only from Santa Barbara, San Bernardino, and San Luis Obispo Counties, California.	Blooms May through June (perennial herb)	**Absent.** Suitable habitat (chaparral, cismontane woodland and lower montane coniferous forest) is not present within the study area. The study area occurs outside the listed elevation range for the species.
Sidalcea neomexicana **Salt Spring checkerbloom**	US: – CA: 2B	Alkaline springs and brackish marshes below 1,530 meters (5,000 feet) elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico.	Blooms March through June (perennial herb)	**Absent.** Suitable habitat (alkaline springs and brackish marshes) is not present within the study area.
Invertebrates				
Bombus crotchii **Crotch bumble bee**	US: – CA: SCE	Inhabits open scrub 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	**Low.** Marginally suitable habitat (open scrub and grassland) is present within the study area. The study area is highly disturbed due to historic and current land practices as well as recent fire damage.
Reptiles				
Anniella stebbins **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.	**Absent.** Suitable habitat (areas with high moisture content under sparse vegetation) is not present within the study area.
Phrynosoma blainvillii (coronatum) **Coast horned lizard**	US: – CA: SSC	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	April through July with reduced activity August through October	**Absent.** Suitable habitat (sandy soils in open areas) is not present within the study area.

Table A: Special-Status Species Occurrence Probability

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
		other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.		
Birds				
Elanus leucurus (nesting) **White-tailed kite**	US: – CA: CFP	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.** Suitable potential nesting sites (riparian trees such as oaks, willows and cottonwoods) were not observed within the study area.

CA: State Classifications

SSC Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
SCE Candidate for State-listing as endangered.
SR State-listed as rare.
CFP California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
1B California Rare Plant Rank 1B – rare, threatened or endangered in California and elsewhere.
2B California Rare Plant Rank 2B – rare, threatened or endangered in California, but more common elsewhere

The site contains suitable habitat for nesting birds. Nesting bird species with potential to occur within the project are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the MBTA (16 USC 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. However, the USFWS has recently determined that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities.

The species identified in Table A have limited population distributions in southern California and development is further reducing their ranges and numbers. These species have no official State or federal protection status but require consideration under CEQA. One species—Crotch bumble bee—was found to have potentially suitable habitat present within the BSA and, although Crotch bumble bee has not been reported within the study area or observed during the site visit, it has been observed within two miles of the BSA.

Crotch bumble bee has no official status, but requires consideration under CEQA. The development associated with the reservoir and booster pumper station will have minimal effects to the disturbed non-native grassland and scant California buckwheat scrub habitat in the form of conversion. These impacts are not considered substantial as the impacts are small and the habitat that exists is highly disturbed and low in quality.

No other special-status species are expected to occur within the study area due to lack of suitable habitat.

Critical Habitat

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

Jurisdictional Waters

The 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 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). In order 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 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 U.S., including any wetlands). The RWQCB may also assert authority over “waters of the State” under waste discharge requirements pursuant to the Porter-Cologne Act.

The BSA does not contain any drainage features, ponded areas, or riparian habitat potentially subject to the jurisdiction of the CDFW under Section 1600 of the California Fish and Game Code, the USACE under Section 404 of the CWA, or RWQCB under Section 401 of the CWA.

Wildlife Movement, Corridors, and Nursery Sites

The BSA is located near the northeastern limits of the developed portions of the City of Yucaipa. Wildlife movement in the local area surrounding the BSA is likely to occur in a north-south orientation as developed areas to the west of the BSA interfere with and prevent wildlife movement from occurring. Glen Oak Creek, located south of the BSA and Glen Oak Road, may provide some east-west movement in the region as it connects the San Bernardino Mountains with large, undeveloped lands south of I-10. The BSA is bordered to the south by developed areas associated with existing transportation uses as well as residential buildings. The area located to the north of the BSA provides habitat for wildlife movement through the BSA and locally. However, much of this area has been disked/graded for agricultural purposes since 1938 as observed on historic aerial imagery, which has severely affected wildlife habitat connectivity it may have once provided. Regionally, the area north of the BSA may provide limited wildlife movement to wildlife habitats between Wildwood Canyon State Park to the south and the San Bernardino National Forest to the north. The project would not limit wildlife movement locally and in the region as there are expansive areas of

undeveloped land northeast of the BSA that offer the same or better quality opportunities for wildlife movement.

Natural Communities of Concern

None of the vegetation communities within the BSA is recognized as a CDFW California Sensitive Natural Community.

Local Policies and Ordinances

Several Aleppo pine trees were planted to the south and north of the existing water tank during the development of the site. If anticipated to be removed, these trees may require a removal permit from the City prior to removal. If required, the removal permit must be issued with the City's land use application, building permit, or other development permit or issued by the City's Community Development Direct, Planning Commission, or local Fire Authority. The project will not conflict with any other local policies or ordinances applicable to biological resources.

Adopted Habitat Conservation Plans

The BSA is not within an area associated with an adopted habitat conservation plan.

IMPACTS AND RECOMMENDATIONS

Threatened and Endangered Species

The proposed development site does not contain suitable habitat or critical habitat for federally/ State listed as threatened/endangered species. The proposed project is not anticipated to affect any threatened or endangered species, or their critical habitat.

Non-listed Special-Status Species

Suitable habitat for the Crotch bumble bee is present on the proposed study area. However, the disturbed non-native grassland and California buckwheat scrub habitat anticipated to be affected are small, highly disturbed, and of low quality. Therefore, the project is anticipated to have a minimal effect on Crotch bumble bee. No additional mitigation or avoidance measures are required.

The BSA has suitable habitat for nesting birds. Large trees on and adjacent to the study area may be used by hawks, ravens, or other large birds for nesting. Trees, shrubs, and other vegetation may provide nest sites for smaller birds, and ground-nesting birds such as killdeer (*Charadrius vociferus*) may nest in open areas within the study area. Nesting bird species with potential to occur within the project are protected by the MBTA and the California Fish and Game Code. However, the USFWS has recently determined that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities.

To ensure compliance with the California Fish and Game Code and to avoid potential impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed

outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal.

Local Policies and Ordinances

If the YVWD is determined to be exempt from the City's tree removal ordinance, no further actions are required regarding tree removal. If not, YVWD will coordinate with the City on all tree removals prior to their removal. If it is determined that a tree removal permit will be required, it will be obtained prior to the removal of trees within the BSA.

Cumulative Effects

According to Section 15130 of the *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 is not expected to result in substantial cumulative effects due to the following factors:

- Existing residential and YVWD development within the general vicinity of the project;
- The project's proximity to Oak Glen Road;
- The study area does not function as a corridor for wildlife movement; and
- The study area's existing highly disturbed state, as evidenced by disking/grading activities and fire damage occurring on site.

REFERENCES CITED

CDFW (California Department of Fish and Wildlife). 2020. Natural Diversity Database. RareFind, Online Edition, Version 5.2.14. https://www.wildlife.ca.gov/Data/CNDDB/ (accessed October 9, 2020).

CNPS (California Native Plant Society). 2020a. Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). http://www.rareplants.cnps.org (accessed October 9, 2020).

CNPS. 2020b. *A Manual of California Vegetation, Online Edition*. http://www.cnps.org/cnps/vegetation/ (searched on October 15, 2020). California Native Plant Society, Sacramento, CA. Environmental Systems Research Institute (ESRI). ArcGIS Release 10.6.1. Redlands, California.

ESRI (Environmental Systems Research Institute). 2020. ArcGIS Release 10.6.1. Redlands, California.

Google Earth. 2020.

NETRonline Historic Aerials. 2020. https://www.historicaerials.com (accessed October 9, 2020).

NRCS (Soil Survey Staff, Natural Resources Conservation Service), United States Department of Agriculture. 2020. Web Soil Survey ver. 3.3.2. https://websoilsurvey.sc.egov.usda.gov/ (accessed October 9, 2020).

Sawyer, John, Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation, Second Edition*.

USFWS (United States Fish and Wildlife Service). 2005. Designation of Critical Habitat for the Southwestern Willow Flycatcher: Final Rule. Federal Register 70 (201):60886.

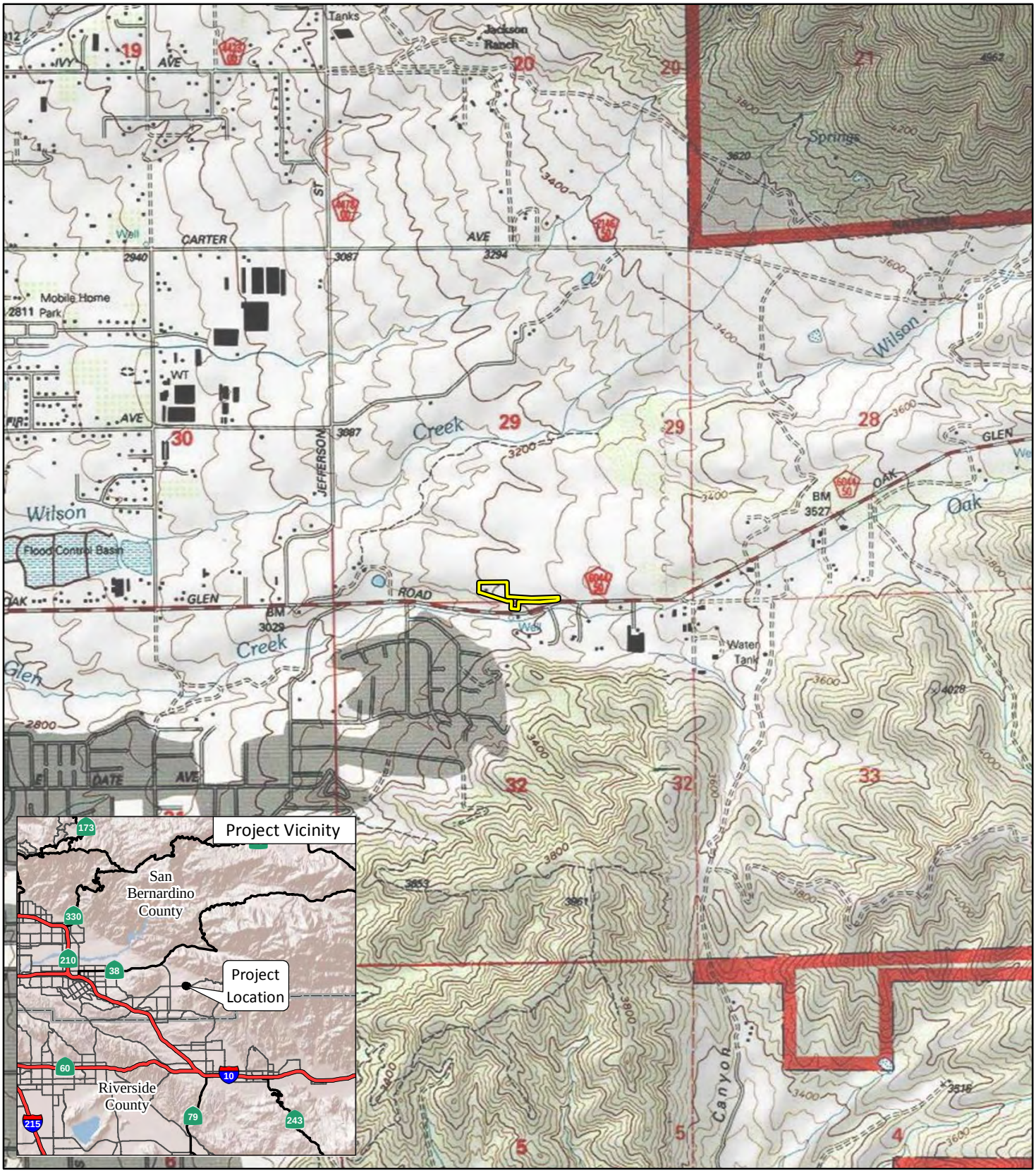
USFWS. 2013. Southwestern Willow Flycatcher Critical Habitat Revision: Final Rule. Federal Register 78 (2):344.

USFWS. 2020. Critical Habitat Mapper. http://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77 (accessed October 9, 2020).

U.S. Geological Survey (USGS). 2018. *Yucaipa, California* 7.5-minute topographic quadrangle map. USGS - National Geospatial Technical Operations Center (NGTOC).

APPENDIX A

FIGURES



LSA

LEGEND

Study Area

FIGURE 1

N

0 1000 2000

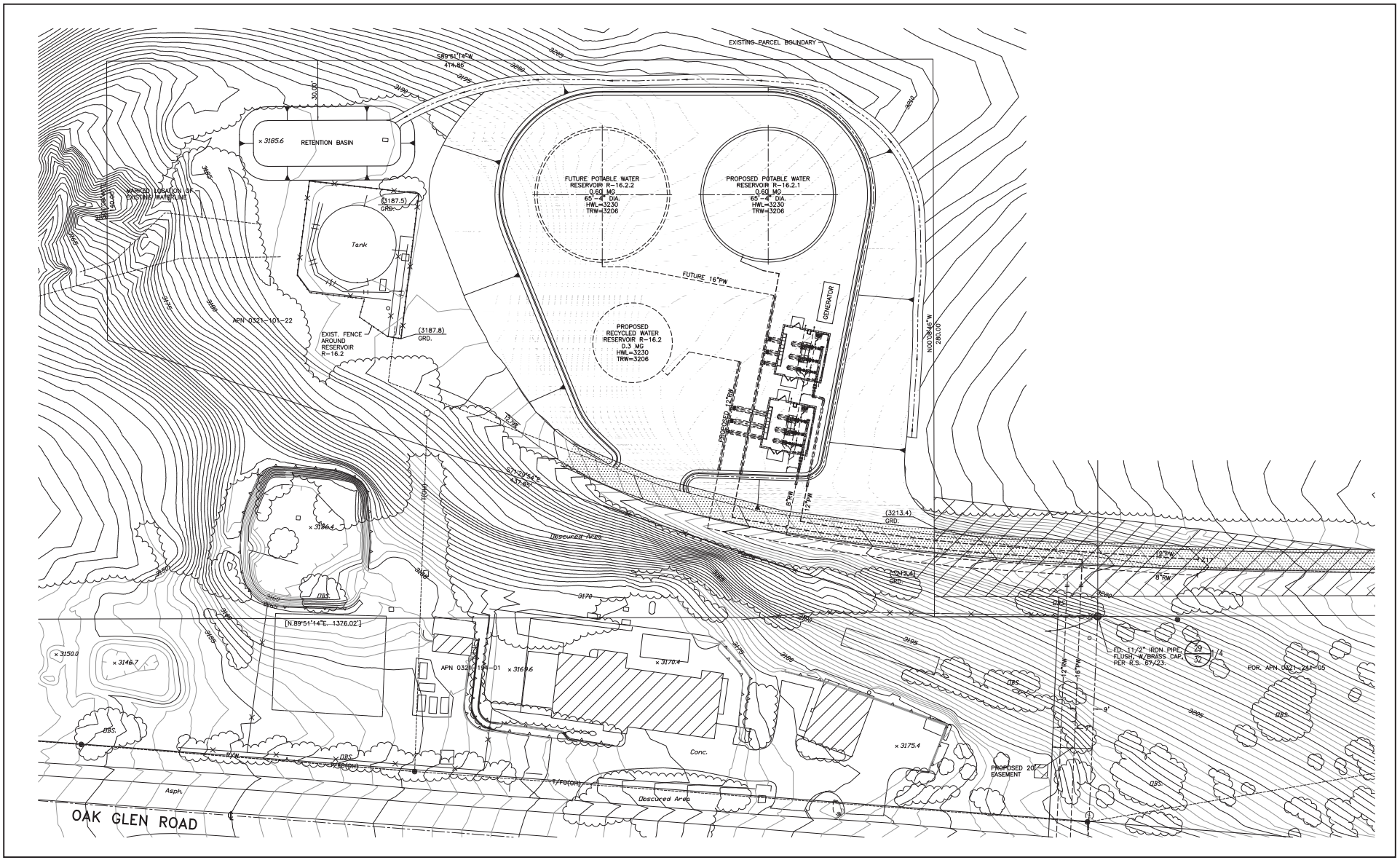
FEET

16.2 Reservoir and Booster Pumping Station Project

Regional and Project Location

SOURCE: USGS 7.5' Quad - Yucaipa (1988), CA

I:\KRS2003\GIS\MXD\ProjectLocation.mxd (10/20/2020)



LSA

FIGURE 2

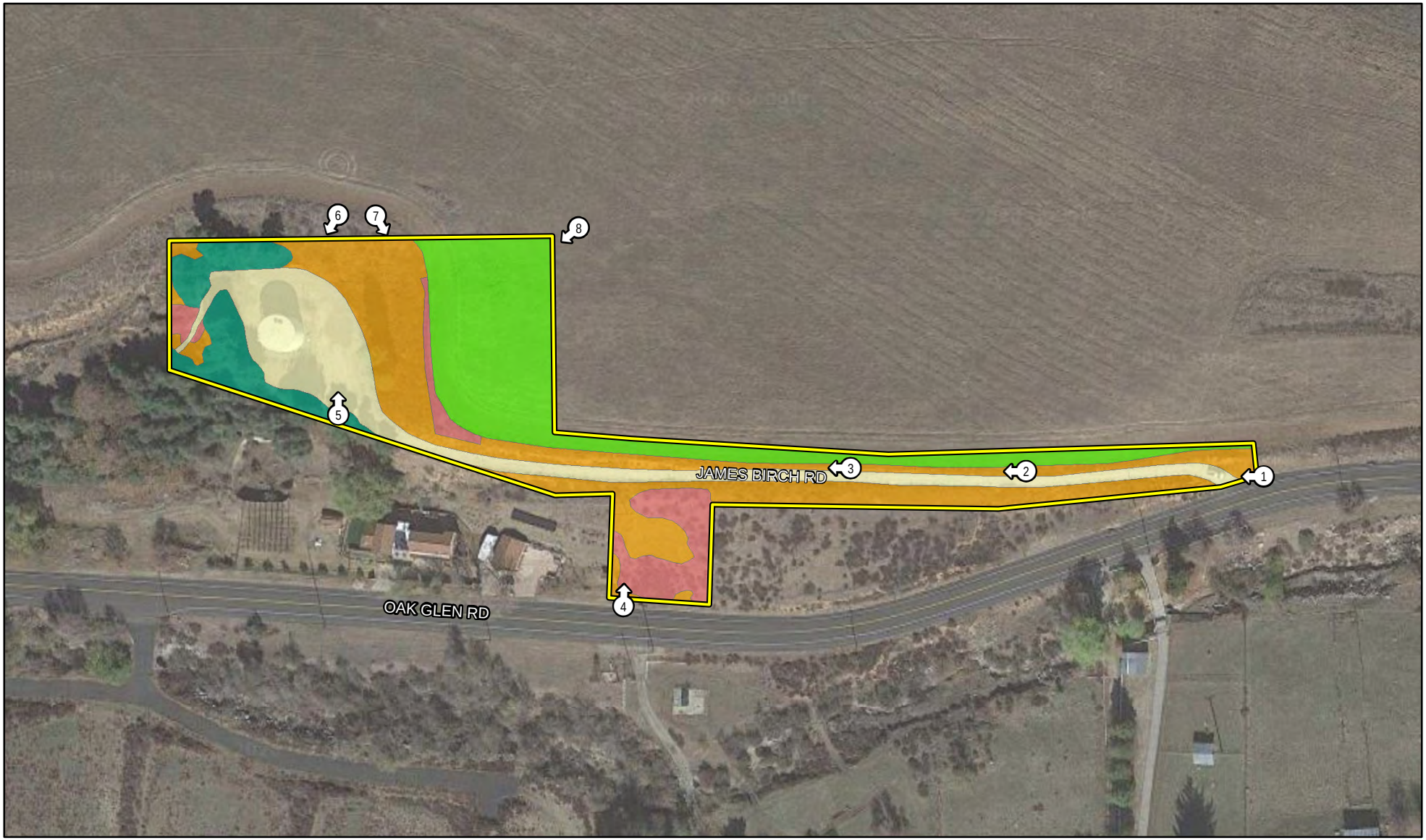
0 35 70
FEET

SOURCE: Krieger & Stewart Engineering Consultants

16.2 Reservoir and Booster Pumping Station Project

Site Plan

I:\KRS2003\G\Site Plan.cdr (10/21/2020)



LSA

LEGEND

Study Area

Photo Locations

Vegetation

California Buckwheat Scrub

Developed

Disturbed/Non-Native Grassland

Disturbed/Ruderal

Planted Woodland

0 75 150

FEET

SOURCE: Google Maps (2019)

I:\KRS2003\GIS\MXD\Vegetation_LandCover.mxd (10/20/2020)

FIGURE 3

16.2 Reservoir and Booster Pumping Station Project

Vegetation and Land Use

LSA

LEGEND

Study Area

Soils

(GtC) Greenfield sandy loam, 2 to 9 percent slopes

(ShF) Saugus sandy loam, 30 to 50 percent slopes

(SoC) Soboba gravelly loamy sand, 0 to 9 percent slopes

0 75 150

FEET

FIGURE 4

16.2 Reservoir and Booster Pumping Station Project

Soils

SOURCE: Google Maps (2019); Esri SSURGO (2018)

I:\KRS2003\GIS\MXD\Soils.mxd (10/20/2020)

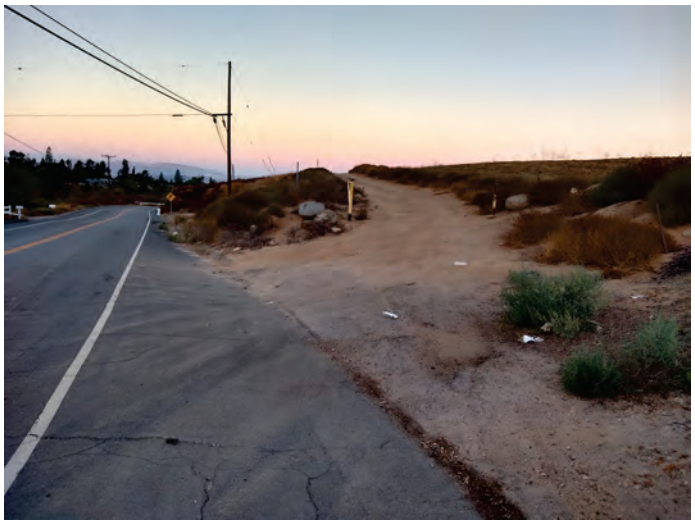


Photo 1: View from eastern corner of the site facing east.

Photo 2: View from James Birch Road facing west.

Photo 3: View from James Birch Road facing west.

Photo 4: View from Oak Glen Road facing north.

LSA

FIGURE 5

16.2 Reservoir and Booster Pumping Station Project
Site Photographs

I:\KRS2003\G\Site Photos.cdr (10/21/2020)

Photo 5: View from the existing tank facing north.

Photo 6: View of the existing tank facing south.

Photo 7: View from the northern study area limit facing southeast.

Photo 8: View from the northeastern study area limit facing southwest.

LSA

FIGURE 5

16.2 Reservoir and Booster Pumping Station Project
Site Photographs

I:\KRS2003\G\Site Photos.cdr (10/21/2020)

APPENDIX B

PLANT AND ANIMAL SPECIES OBSERVED

Plant Species Observed

Scientific Name	Common Name
EUDICOTS	
Adoxaceae	**Muskroot family**
Sambucus nigra ssp. *caerulea*	blue elderberry
Agavaceae	**Agave family**
Hesperoyucca whipplei	chaparral yucca
Anacardiaceae	**Sumac family**
Toxicodendron diversilobum	poison oak
Asteraceae	**Sunflower family**
Ambrosia acanthicarpa	annual bursage
Artemisia californica	California sagebrush
Centaurea melitensis (non-native species)	tocalote
Ericameria palmeri	Palmer's goldenbush
Erigeron canadensis	Canadian horseweed
Heterotheca grandiflora	telegraph weed
Lactuca serriola (non-native species)	prickly lettuce
Stephanomeria virgata	rod wirelettuce
Boraginaceae	**Borage family**
Phacelia cicutaria	caterpillar phacelia
Brassicaceae	**Mustard family**
Hirschfeldia incana (non-native species)	shortpod mustard
Chenopodiaceae	**Buckwheat family**
Salsola tragus (non-native species)	Russian thistle
Euphorbiaceae	**Spurge family**
Croton setigerus	turkey mullein
Euphorbia albomarginata	rattlesnake sandmat
Lamiaceae	**Mint family**
Salvia apiana	white sage
Trichostema lanceolatum	vinegar weed
Oleaceae	**Olive family**
Olea europaea (non-native species)	olive
Polygonaceae	**Buckwheat family**
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	slender buckwheat
Rhamnaceae	**Buckthorn family**
Rhamnus ilicifolia	hollyleaf redberry
Simaroubaceae	**Quassia family**
Ailanthus altissima (non-native species)	tree-of-heaven
Solanaceae	**Nightshade family**
Datura wrightii	Jimsonweed
Nicotiana glauca (non-native species)	tree tobacco

Plant Species Observed

Scientific Name	Common Name
MONOCOTS FLOWERING PLANTS	
Pinaceae	**Pine family**
Pinus halepensis (non-native species)	Aleppo pine
Poaceae	**Grass family**
Avena fatua (non-native species)	wild oat
Bromus diandrus (non-native species)	ripgut brome
Bromus madritensis ssp. *rubens* (non-native species)	red brome
Secale cereale (non-native species)	cereal rye

Animal Species Observed

Scientific Name	Common Name
REPTILES	
Phrynosomatidae	**Phrynosomatid Lizards**
Sceloporus occidentalis	western fence lizard
BIRDS	
Columbidae	**Pigeons and Doves**
Columba livia	rock pigeon
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Corvidae	**Crows, Jays and Magpies**
Corvus brachyrhynchos	American crow
Paridae	**Tits, Chickadees and Titmice**
Baeolophus inornatus	oak titmouse
Poecile gambeli	mountain chickadee
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Passerellidae	**New World Sparrows**
Passerculus sandwichensis	Savannah sparrow
Zonotrichia leucophrys	white-crowned sparrow
MAMMALS	
Cricetidae	**New World Rats and Mice, Voles, Hamsters and Relatives**
Neotoma lepida	desert woodrat

APPENDIX C

CULTURAL RESOURCES ASSESSMENT

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

POTABLE WATER RESERVOIR R-16.2 AND BOOSTER PUMPING STATION PROJECT

City of Yucaipa
San Bernardino County, California

For Submittal to:

Yucaipa Valley Water District
P.O. Box 730
12770 Second Street
Yucaipa, CA 92399

Prepared for:

Krieger and Stewart
3602 University Avenue
Riverside, CA 92501

Prepared by:

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

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

December 1, 2020
CRM TECH Contract No. 3670

Title: Historical/Archaeological Resources Survey Report: Potable Water Reservoir R-16.2 and Booster Pumping Station Project, City of Yucaipa, San Bernardino County, California

Authors: Bai "Tom" Tang, Principal Investigator/Historian
Deirdre Encarnación, Archaeologist/Report Writer
Daniel Ballester, Archaeologist/Field Director

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: December 1, 2020

For Submittal to: Yucaipa Valley Water District
P.O. Box 730
12770 2nd Street
Yucaipa, CA 92399
(909) 797-5118

Prepared for: Victoria Morrell
Krieger and Stewart
3602 University Avenue
Riverside, CA 92501
(951) 684-6900

USGS Quadrangle: Yucaipa, Calif., 7.5' quadrangle; Section 29, T1S R1W, San Bernardino Baseline and Meridian

Project Size: Approximately two acres

Keywords: Eastern San Bernardino Valley; Phase I cultural resources survey; Assessor's Parcel Number 0321-101-22; Site 36-026762 (CA-SBR-16910H): Casa Blanca Ranch, circa 1882; steel water tank and dirt access road, circa 1969-1973; no "historical resources" affected under CEQA

EXECUTIVE SUMMARY

Between September and November 2020, at the request of Krieger and Stewart, CRM TECH performed a cultural resources study on approximately two acres of rural land on the outskirts of the City of Yucaipa, San Bernardino County, California. The subject property of the study, Assessor's Parcel Number 0321-101-22, is located on the north side of Glen Oaks Road and at the western terminus of James Birch Road, in the southwest quarter of Section 29, T1S R1W, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed Potable Water Reservoir R-16.2 and Booster Pumping Station Project, which entails the eventual construction of two 0.6-million-gallon potable water reservoirs, one 0.3-million-gallon recycled water reservoir, a booster pumping station, and a retention basin next to an existing water tank. The Yucaipa Valley Water District (YVWD), as the project proponent and the lead agency, required the study in compliance with the California Environmental Quality Act (CEQA).

The purpose of the study is to provide the YVWD with the necessary information and analysis to determine whether the project would cause a substantial adverse change 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 reviewed the results of previously completed historical/archaeological resources records searches in the project vicinity, initiated a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey.

The research results indicate that the existing water tank and the segment of James Birch Road in the project area both date to the 1969-1973 era and are thus at least close to the age threshold to be considered historical in origin (i.e., more than 50 years of age). As nondescript infrastructure features of standard design and construction and completely utilitarian character, however, neither of them demonstrates any remarkable architectural, engineering, artistic, or aesthetic qualities, nor are they known to be associated with any persons or events of recognized historic significance. As such, they have no potential to qualify as "historical resources" and requires no further consideration under CEQA provisions on cultural resources.

Existing cultural resources records indicate that the project area is situated on the southern edge of a previously recorded historic-period site, 36-026762 (CA-SBR-16910H), which encompasses a total of 235 acres in the locally significant Casa Blanca Ranch. However, the portion of the site recorded in or near the project area was previously found not to meet the criteria for listing in the California Register of Historical Resources, and the present study has discovered no information that would call for the evaluation to be revisited. The only feature of the site determined to be eligible for listing, the 1882-vintage main house of the Casa Blanca Ranch, is located approximately 0.4 mile to the west, and the proposed project has no potential to affect its significance or integrity.

Based on these findings, CRM TECH recommends to the YVWD a finding of *No Impact* regarding "historical resources." No further cultural resources investigation is recommended for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Between September and November 2020, at the request of Krieger and Stewart, CRM TECH performed a cultural resources study on approximately two acres of rural land in the City of Yucaipa, San Bernardino County, California (Fig. 1). The subject property of the study, Assessor's Parcel Number 0321-101-22, is located on the north side of Glen Oaks Road and at the western terminus of James Birch Road, in the southwest quarter of Section 29, T1S R1W, San Bernardino Baseline and Meridian (Figs. 2, 3).

The study is part of the environmental review process for the proposed Potable Water Reservoir R-16.2 and Booster Pumping Station Project, which entails the eventual construction of two 0.6-million-gallon potable water reservoirs, one 0.3-million-gallon recycled water reservoir, a booster pumping station, and a retention basin next to an existing water tank. The Yucaipa Valley Water District (YVWD), as the project proponent and 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 YVWD with the necessary information and analysis to determine whether the project would cause a substantial adverse change 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 reviewed the results of previously completed historical/archaeological resources records searches in the project vicinity, initiated a Native American Sacred Lands File search, pursued historical background research, 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.

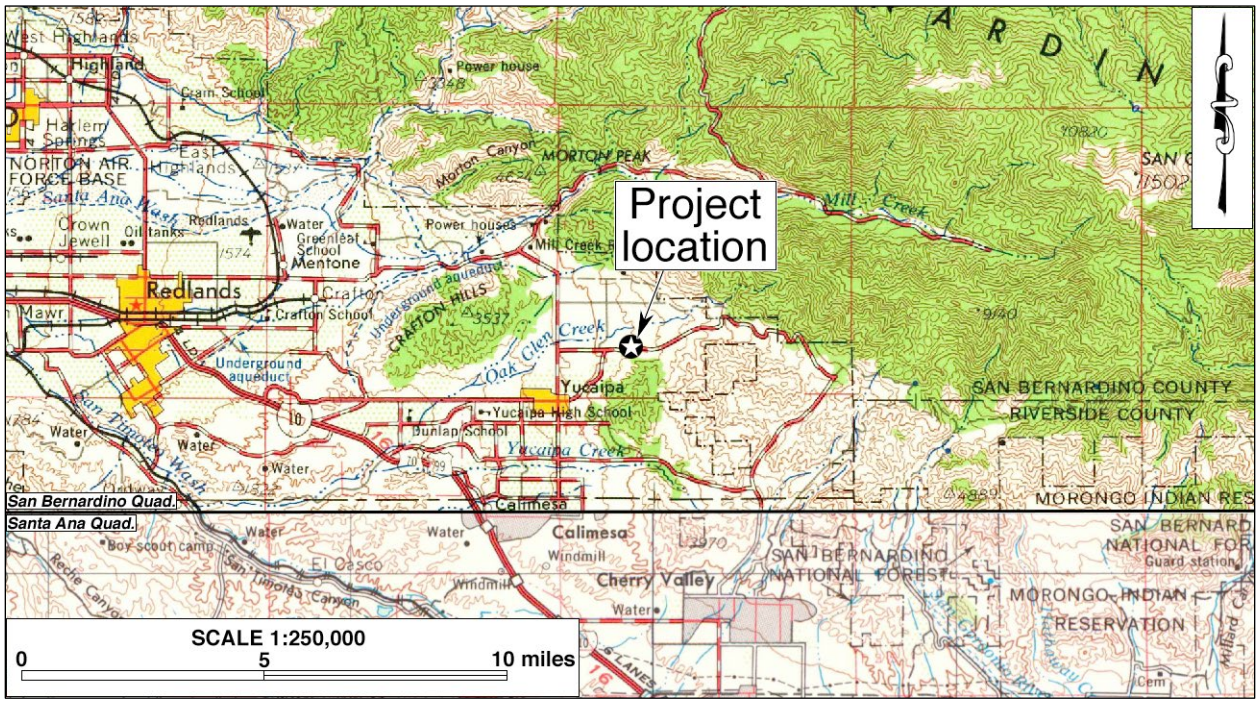


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

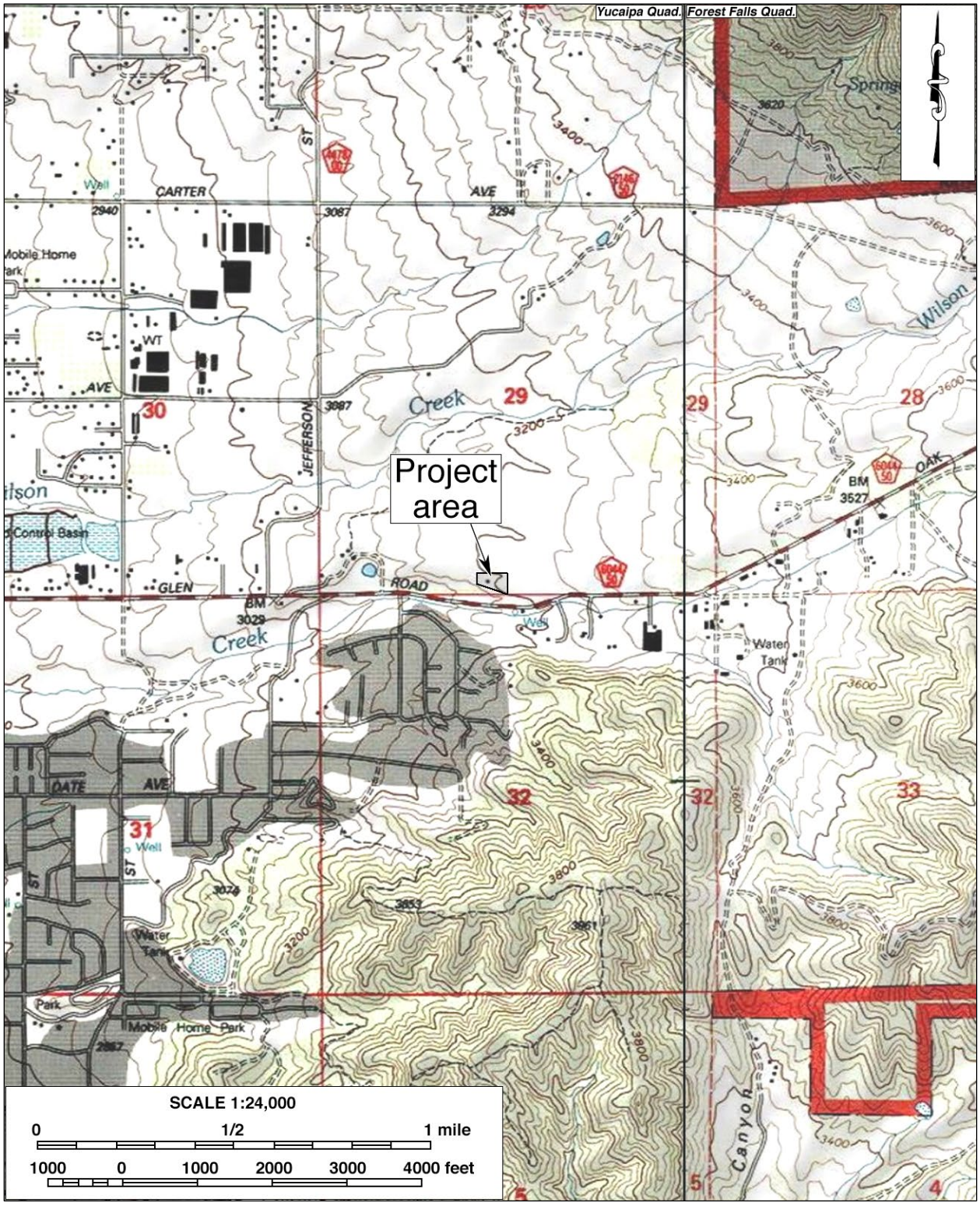


Figure 2. Project area. (Based on USGS Forest Falls and Yucaipa, Calif., 7.5' quadrangle [USGS 1996a; 1996b])

Figure 3. Aerial image of the project area.

SETTING

CURRENT NATURAL SETTING

The City of Yucaipa is situated at the eastern end of the San Bernardino Valley, a broad inland valley extending from the southern base of the San Bernardino and San Gabriel Mountains on the north to the Santa Ana and Jurupa Mountains on the south. The climate and environment of the region are typical of southern California's inland valleys, with the average maximum temperature in July reaching the high 90s (Fahrenheit) and the average minimum temperature in January hovering around 30º. Rainfall is typically less than 20 inches annually, most of which occurs between November and March.

The project area lies on the northeastern outskirts of the City of Yucaipa, between an expansive tract of former agricultural field to the north and a newly developed residential property to the south (Fig. 3). Elevations in the project area range approximately from 3,190 feet to 3,230 feet above mean sea level, with a gradual incline to the east. Oak Glen Creek, an intermittent stream, runs generally east-west on the south side of Oak Glen Road, a few hundred feet from the project location.

The existing water tank is located in the western portion of the parcel, connected to Oak Glen Road by James Birch Road, an unpaved access road. Most of the ground surface in the rest of the project area has also been disturbed by past agricultural activities (Figs. 3, 4). Vegetation observed within the project boundaries includes some pine trees, buckwheat, fiddleneck, datura, wild mustard, foxtail, and other small shrubs and grasses (Fig. 4).

Figure 4. Overview of the current natural setting in the project area. (View to the southwest; photograph taken on October 15, 2020)

CULTURAL SETTING

Prehistoric Context

The earliest evidence of human occupation in inland southern California 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 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 the inland region 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 can be broken into three primary periods:

- Paleoindian Period (ca. 18,000-9,000 B.P.): Native peoples of this period created fluted 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 groundstone 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

The City of Yucaipa is generally considered a part of the traditional homeland of the Serrano people, which is centered in the San Bernardino Mountains. According to Strong (1929:8, 11), the present-day Yucaipa Valley was the site of one of the more important Serrano villages, that of the *Yucaipaiem* clan—hence the name of the valley and the city. Together with that of the Vanyume people, linguistically a subgroup, the traditional territory of the Serrano also includes part of the San Gabriel Mountains, much of the San Bernardino Valley, and the Mojave River valley in the southern

portion of the Mojave Desert, reaching as far east as the Cady, Bullion, Sheep Hole, and Coxcomb Mountains. The name "Serrano" was derived from a Spanish term meaning "mountaineer" or "highlander," while traditional names include *Taaqtam*, *Maara'yam*, and *Yuhaviatam*. The basic written sources on Serrano culture are Kroeber (1925), Strong (1929), and Bean and Smith (1978), and the following ethnographic discussion is based primarily on these sources.

Prior to European contact, native subsistence practices were defined by the surrounding landscape and were based primarily on the cultivating and gathering of wild foods and hunting, exploiting nearly all of the resources available. The Serrano settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains. They were loosely organized into exogamous clans, which were led by hereditary heads, and the clans in turn were affiliated with one of two exogamous moieties. The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit, the core of which was the patrilineage.

The Serrano had a variety of technological skills that they used to acquire subsistence, shelter, and medicine or to create ornaments and decorations. Common tools included manos and metates, mortars and pestles, hammerstones, fire drills, awls, arrow straighteners, and stone knives and scrapers. These lithic tools were made from locally sourced material as well as those procured through trade or travel. The Serrano also used wood, horn, and bone spoons and stirrers; baskets for winnowing, leaching, grinding, transporting, parching, storing, and cooking; and pottery vessels for carrying water, storage, cooking, and serving food and drink. Much of this material cultural, elaborately decorated, does not survive in the archaeological record. As usual, the main items found archaeologically relate to subsistence activities.

Although contact with Europeans may have occurred as early as 1771 or 1772, direct European influence on Serrano lifeways began in the 1810s, when the mission system expanded to the edge of their territory. Between then and the end of the mission era in 1834, most of the Serrano in the western portion of their traditional territory were removed to the nearby missions. In the eastern portion, a series of punitive expeditions in 1866-1870 resulted in the death or displacement of almost all remaining Serrano population in the San Bernardino Mountains. Today, most Serrano descendants are affiliated with the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, or the Serrano Nation of Indians.

Historic Context

The San Bernardino Valley, of which the Yucaipa Valley is an extension, received its first European visitors in 1772, when a small force of Spanish soldiers traveled through the area under the command of Pedro Fages, the military *comandante* of Alta California (Beck and Haase 1974:15; Schuiling 1984:23). The name "San Bernardino" was bestowed on the valley in the 1810s, when the *asistencia* and an associated mission rancho were established under that name (Lerch and Haenszel 1981). In 1842, after secularization of the mission system, the Mexican authorities in Alta California granted Rancho San Bernardino, along with several adjacent former mission ranchos, to members of a prominent Los Angeles family, the Lugos. An adobe house built the following year by one of the grantees, Diego Sepulveda, became the earliest non-Indian settlement in the Yucaipa area (Schuiling 1984:38).

As elsewhere in Alta California during the Spanish and Mexican periods, cattle raising was the primary economic activity on Rancho San Bernardino and other nearby land grants, often with the local Native American population providing the labor force (Lerch and Haenszel 1981). After the U.S. annexation of Alta California in 1848, with the influxes of American settlers and the gradual growth of Los Angeles, San Bernardino, and other towns, a booming lumber industry taking advantage of the dense forest in the San Bernardino Mountains became a major driving force in the development of what would become southwestern San Bernardino County in 1853 (Robinson 1989:25). Ultimately, agriculture established itself as the leading "industry" in the San Bernardino Valley, especially after the successful introduction of citrus crops during the 1870s. For much of the historic period, the Yucaipa area followed the same developmental pattern.

In 1851, the Lugo family sold the entire rancho to Amasa M. Lyman and Charles C. Rich, leaders of the Mormon colony that was to become today's City of San Bernardino (Schuiling 1984:45). During the 1850s, the Yucaipa wing of the rancho and the former Sepulveda adobe were occupied by John Brown, Sr., an early non-Mormon pioneer in the San Bernardino Valley, although he never acquired the property from the Mormon leaders (Archer 1976). In 1857, the Yucaipa property was purchased by James W. Waters, who developed it into one of southern California's most prosperous stock ranches and grain farms (*ibid.*; Schuiling 1984:106). Twelve years later, Waters sold the property to John C. Dunlap, and the Dunlap family continued the successful ranching and farming operations on the Yucaipa Ranch for the rest of the 19th century (*ibid.*).

In the early 20th century, following the death of Dunlap and his wife, their sons and daughters incorporated the Yucaipa Land and Water Company to subdivide the ranch into small farms (Archer 1976). Other development companies soon joined the venture, including one organized by George Atwood to create the town of "Yucaipa City." Until the most recent decades, however, Yucaipa Valley remained primarily an agricultural area where the local economy focused on a number of cash staples, from cattle and apples in the early years to peaches, plums, and cherries in the 1930s, followed by poultry after World War II (*ibid.*; Schuiling 1984:107). Although growing rapidly into a suburban residential community today, the City of Yucaipa, incorporated in 1989, still offers a degree of country living in comparison to other cities in the area.

RESEARCH METHODS

REVIEW OF EXISTING RECORDS

Due to facility closure during the COVID-19 pandemic and the resulting delays, a records search for this study could not be obtained in time from the South Central Coastal Information Center (SCCIC), California State University, Fullerton, which is the State of California's official cultural resource records repository for the County of San Bernardino. Instead, the results of records searches conducted in 2010 and 2016 for two nearby projects, both of which included the current project location within the search scope, were reviewed for pertinent information.

The focus of the record search procedures is the identification of previously recorded cultural resources and existing cultural resources studies in or near the current project area. Previously recorded cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or San Bernardino County Historical 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.

SACRED LANDS FILE SEARCH

In order to identify any known Native American cultural resources in or near the project area, on September 30, 2020, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. The NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code §21074, and is tasked with identifying and cataloging properties of Native American cultural value, including places of special religious, spiritual, or social significance and known graves and cemeteries throughout the state. The response from the NAHC is summarized below and attached to this report in Appendix 2.

HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/ historian Bai "Tom" Tang. Sources consulted during the research included published literature in local and regional history, U.S. General Land Office (GLO) land survey plat map dated 1884-1896, U.S. Geological Survey (USGS) topographic maps dated 1901-1996, and aerial photographs taken in 1938-2020. The historic maps are available at the websites of the USGS and the U.S. Bureau of Land Management, and the aerial photographs are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On October 15, 2020, CRM TECH archaeologist Daniel Ballester carried out the field survey of the project area. The survey was completed at an intensive level by walking a series of parallel 10-meter (approximately 33-foot) transects over the entire property except where the transects were obstructed by the existing water tank. 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). Ground visibility ranged from fair (60%) to excellent (100%) as the vegetation was generally sparse or completely cleared.

RESULTS AND FINDINGS

REVIEW OF EXISTING RECORDS

Records obtained during the previous studies indicate that as of 2016 the current project area had not been surveyed systematically for cultural resources (Tang 2010:8; Hogan and Jacquemain 2016:4). However, as a result of a 2012 study nearby, the entire project area has been included in the boundaries of a historic-period site that encompasses approximately 235 acres in total. Designated 36-026762 (CA-SBR-16910H) in the California Historical Resources Inventory, the site represents the Casa Blanca Ranch, also known as the Dunlap Ranch or the Atwood Ranch, which was originally established in the 1880s by Franklin P. Dunlap, one of the sons of Yucaipa pioneer John C. Dunlap (Yucaipa Valley Historical Society 2007:21; Cunningham et al. 2012; see App. 3).

As recorded in 2012, Site 36-026762 consisted of a total of 37 features ranging from buildings to agricultural fields and fence lines, including the circa 1882 main ranch house, located roughly 0.4 mile west of the project location (Cunningham et al. 2012). During the 2012 study, the house was found to possess sufficient historic and architectural significance as well as the necessary integrity to be considered eligible for listing in the California Register of Historical Resources, but the other features and the rest of the site were found not to be eligible (*ibid.*:1, 16-17). The eastern portion of the current project area was evidently included in Feature 31, representing 42 acres of agricultural land along the southern edge of the site, while the southern portion of the project area lies adjacent to Feature 37, an olive grove planted in 1915 (*ibid.*:12; 63; see App. 3).

SACRED LANDS FILE SEARCH

In response to CRM TECH's inquiry, the NAHC reports in a letter dated October 5, 2020, that the Sacred Lands File identified no Native American cultural resources in the project vicinity. Noting that the absence of specific information would not necessarily indicate the absence of cultural resources, however, the NAHC recommended that local Native American groups be consulted for further information and provided a referral list of potential contacts. The commission's reply is attached to this report in Appendix 2 for reference by the YVWD in future government-to-government consultations with the pertinent tribal groups.

HISTORICAL RESEARCH

Historical sources consulted for this study confirm that the project area remained vacant and undeveloped, except as agricultural land, at least towards the very end of the historic period despite the plethora of early development nearby (Figs. 5-7; NETR Online 1938-1969). In the late 19th century, several farmsteads were noted in the surrounding area, including the Dunlap residence, and the forerunner of Oak Glen Road extended across the southern tip of the project area (Figs. 5, 6).

By 1938, the eastern portion of the project area had become a part of the expansive farmlands of the Casa Blanca Ranch, and orderly rows of olive trees were evident on the low hill to the south (NETR Online 1938; Cunningham et al. 2012:15). By that time, Oak Glen Road had been realigned to its current course further to the south, leaving a portion of its former alignment to be incorporated into a dirt road on the ranch, which ran northwest-southeast across the project location, roughly along the same course as present-day James Birch Road (NETR Online 1938).

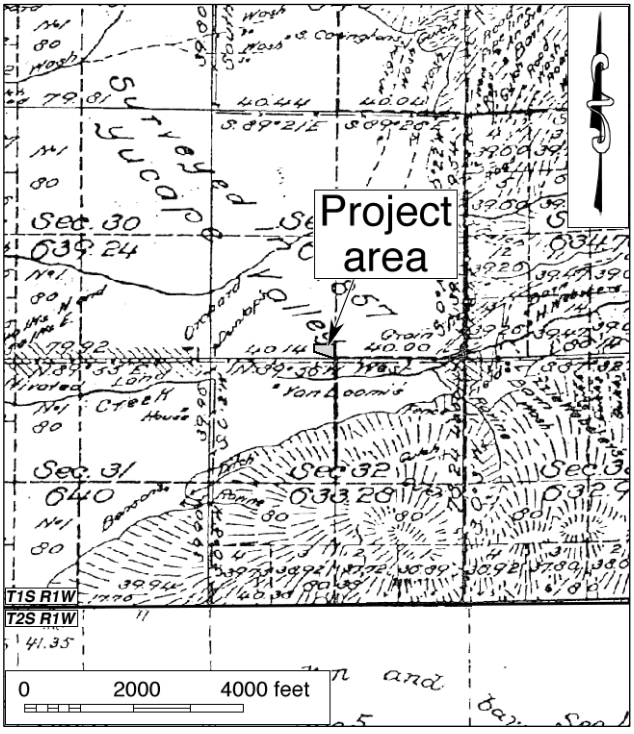


Figure 5. The project area and vicinity in 1884-1895. (Source: GLO 1884; 1896)

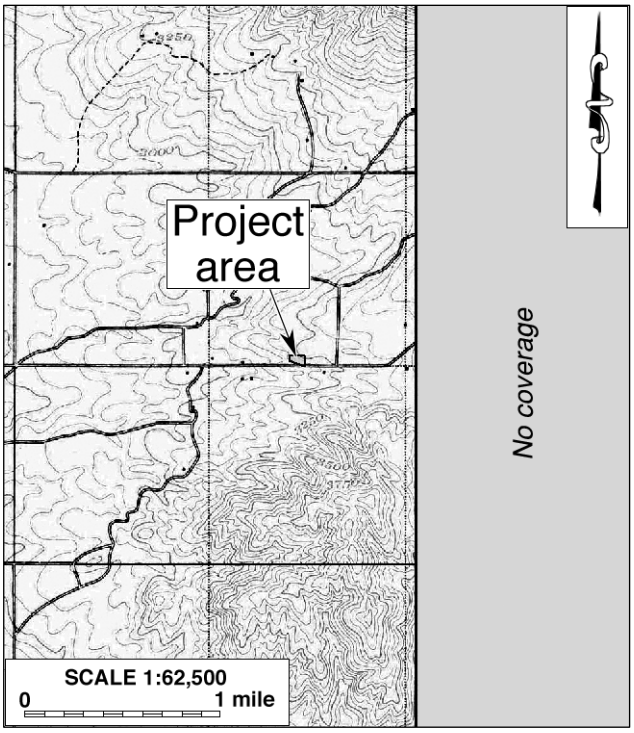


Figure 6. The project area and vicinity in 1898-1899. (Source: USGS 1901)

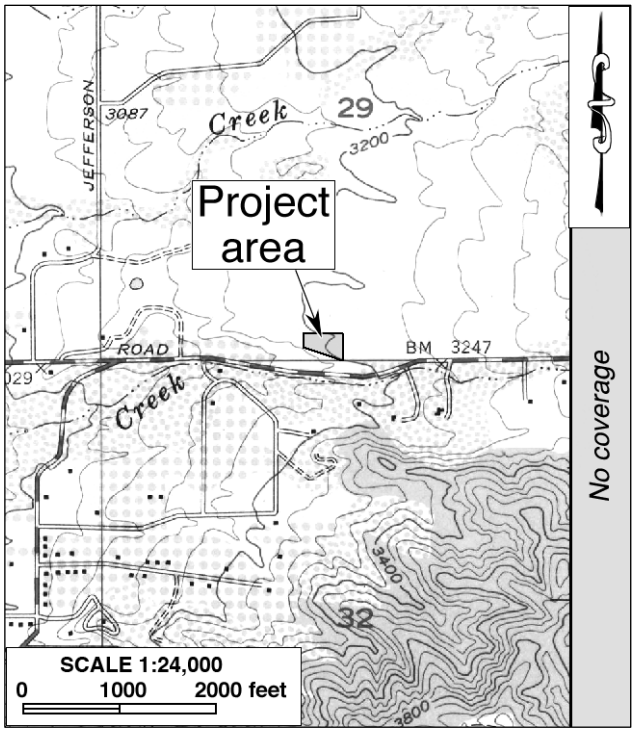


Figure 7. The project area and vicinity in 1952-1954. (Source: USGS 1954)

Since then, the most notable development in the project area has been the construction of the existing water tank, which took place sometime between 1969 and 1973 (NETR Online 1966-1969; USGS 1967; 1975). Meanwhile, the dirt road across the project area, which had previously fallen into disuse, was revived as present-day James Birch Road to provide access to the water tank, and the rows of pine trees around the tank site were also present at least by the 1980s (NETR Online 1959-1983). Other than the removal of some of the pine trees over the years, no major changes have occurred in the project area since the 1970s-1980s (NETR Online 1983-2016; Google Earth 1995-2020).

FIELD SURVEY

During the field survey, four features of historical origin or potentially historical origin were noted within or adjacent to the project boundaries:

- The existing water tank, a cylindrical, riveted steel tank constructed between 1969 and 1973 (Fig. 8);
- The westernmost segment of James Birch Road, a nondescript dirt road that traces its roots further into the historic period but, in its current configuration, is evidently contemporary with the water tank (Fig. 8);
- The fallow agricultural field in the eastern portion of the project area, a part of Feature 31 of Site 36-026762, known to be under cultivation at least by 1938 (Fig. 4);
- The abandoned olive grove adjacent to the southern project boundary, a part of Feature 37 of Site 36-026762, planted in 1915.

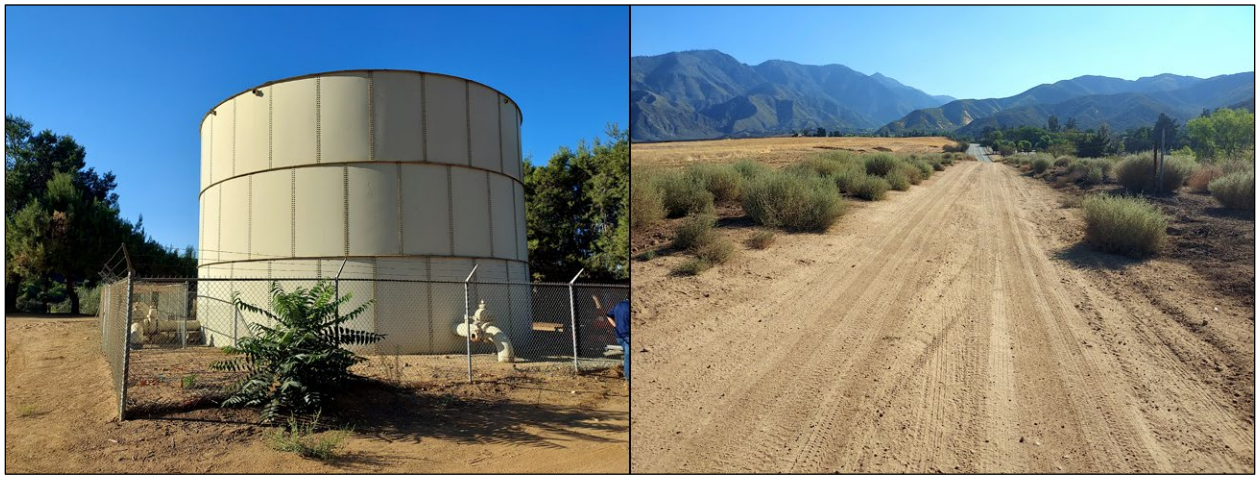


Figure 8. Existing water tank (*left*, view to the southwest) and James Birch Road (*right*, view to the east) in the project area. (Photographs taken on October 15, 2020)

None of the four features, however, exhibits any distinctively historical character (Figs. 4, 8). These features are discussed further below, but none of them appears to warrant specific recordation into the California Historical Resources Inventory due to the lack of potential for historic significance. No other features or artifacts of historical or prehistoric origin were observed throughout the course of the survey.

DISCUSSION

The purpose of this study is to identify any cultural resources within or adjacent to the project area, and to assist the YVWD in determining whether such resources meet the official definition of "historical resources" 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, the present study encountered no potentially significant features or artifacts of prehistoric or historical origin within or adjacent the project area. The existing water tank and the segment of James Birch Road in the project area both date to the 1969-1973 era, with James Birch Road tracing its roots even further into the historic period. However, as nondescript infrastructure features of late historical or early modern origin, standard design and construction, and completely utilitarian character, neither of them demonstrates any remarkable architectural, engineering, artistic, or aesthetic qualities, nor are they known to be associated with any persons or events of recognized historic significance.

The fallow agricultural field in the eastern portion of the project area was previously recorded as a part of Feature 31 of Site 36-026762, while the abandoned olive grove adjacent to the southern project boundary was recorded as a part of Feature 37, both features encompassing many more acres than in the project vicinity. Despite their confirmed historical origin, Feature 31 and Feature 37 were both found not to meet the criteria for listing in the California Register when the site was first recorded in 2012, and the present study has discovered no information that would call for the evaluation to be revisited. The only feature of the site determined to be eligible for listing, the 1882-vintage main house of the Casa Blanca Ranch, is located approximately 0.4 mile to the west, and the proposed project has no potential to affect its significance or integrity.

Based on these considerations, the present study concludes that none of the features present within or adjacent to the project area constitutes a "historical resources," as defined above. Therefore, a determination of *No Impact* on "historical resources" appears to be appropriate for this project.

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" have been identified within or adjacent to the project area. Therefore, CRM TECH presents the following recommendations to the YVWD:

- The proposed project will not cause a substantial adverse change to any known "historical resources."
- No other cultural resources investigation will be necessary for the project unless construction plans undergo such changes as to include areas not covered by this study.
- If any buried cultural materials are encountered during earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

REFERENCES

Archer, Morse G. (ed.)
1976 *Yucaipa Valley, California: A Saga of Ordinary People with Extra-Ordinary Dreams*. M.G. Archer, Yucaipa.

Basgall, Mark E., and D.L. True
1985 Archaeological Investigations in Crowder Canyon, 1973-1984: Excavations at Sites SBR-421B, SBR-421C, SBR-421D, and SBR-713, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Bean, Lowell John, and Charles R. Smith
1978 Serrano. In Robert F. Heizer (ed.): *Handbook of North American Indians*, Vol. 8: *California*; pp. 570-574. Smithsonian Institution, Washington, D.C.

Beck, Warren A., and Ynez D. Haase
1974 *Historical Atlas of California*. University of Oklahoma Press, Norman.

Chartkoff, Joseph L., and Kerry Kona Chartkoff
1984 *The Archaeology of California*. Stanford University Press, Stanford, California.

Cunningham, R., C. Cotterman, B. Rockhold, and C. Hollingsworth
2012 California Historical Resources Inventory record forms, Site 36-026762 (CA-SBR-16910H). On file, South Central Coastal Information Center, California State University, Fullerton.

GLO (General Land Office, U.S. Department of the Interior)
1884 Plat Map: Township No. 2 South Range No. 1 West, San Bernardino Meridian; surveyed in 1884.
1896 Plat Map: Township No. 1 South Range No. 1 West, San Bernardino Meridian; surveyed in 1895.

Goldberg, Susan K. (ed.)
2001 Metropolitan Water District of Southern California Eastside Reservoir Project: Final Report of Archaeological Investigations. On file, Eastern information Center, University of California, Riverside.

Goodman, John D., II
2002 Archaeological Survey of the Charter Communications Cable Project, Mountaintop Ranger District, San Bernardino National Forest, California. San Bernardino National Forest Technical Report 05-12-BB-102. San Bernardino, California.

Goodman, John D., II, and M. McDonald
2001 Archaeological Survey of the Southern California Trials Association Event Area, Little Pine Flats, Mountaintop Ranger District, San Bernardino National Forest, California. San Bernardino National Forest Technical Report 05-12-BB-106. San Bernardino.

Google Earth
1995-2019 Aerial photographs of the project vicinity; taken in 1995, 2002, 2003, 2005-2007, 2009, 2011-2018, and 2020. Available through the Google Earth software.

Grenda, Donn
1993 Archaeological Treatment Plan for CA-RIV-2798/H, Lake Elsinore, Riverside County, California. On file, Eastern Information Center, University of California, Riverside.
1997 Continuity and Change: 8,500 Years of Lacustrine Adaptation on the Shores of Lake Elsinore. Statistical Research Technical Series 59. Statistical Research, Inc., Tucson, Arizona.

Hogan, Michael, and Terri Jacquemain
2016 Archaeological Survey Report: Low Water Crossing Replacement Project, Pendleton Avenue at Oak Glen Creek, City of Yucaipa, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.
Horne, Melinda C., and Dennis P. McDougall
2008 CA-RIV-6069: Early Archaic Settlement and Subsistence in the San Jacinto Valley, Western Riverside County, California. On file, Eastern Information Center, University of California, Riverside.
Keller, Jean S., and Daniel F. McCarthy
1989 Data Recovery at the Cole Canyon Site (CA-RIV-1139), Riverside County, California. *Pacific Coast Archeological Society Quarterly* 25.
Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Government Printing Office, Washington, D.C.
Lerch, Michael K., and Arda M. Haenszel
1981 Life on Cottonwood Row. *Heritage Tales* 1981:33-71. Fourth Annual Publication of the City of San Bernardino Historical Society, San Bernardino.
McDonald, Meg, Philip J. Wilke, and Andrea Kauss
1987 McCue: An Elko Site in Riverside County. *Journal of California and Great Basin Anthropology* 9(1):46-73.
Milburn, Doug, U.K. Doan, and John D. Goodman, II
2008 Archaeological Investigation at Baldy Mesa-Cajon Divide for the Baldy Mesa Off-Highway-Vehicle Recreation Trails Project San Bernardino National Forest, San Bernardino County, California. San Bernardino National Forest Technical Report 05-12-53-091. San Bernardino, California.
NETR Online
1938-2016 Aerial photographs of the project vicinity; taken in 1938, 1959, 1966, 1968, 1969, 1982, 1983, 1995, 2002, 2005, 2009, 2010, 2012, 2014, and 2016. http://www.historicaerials.com.
Robinson, John W.
1989 *The San Bernardinos: The Mountain Country from Cajon Pass to Oak Glen: Two Centuries on Changing Use*. Big Santa Ana Historical Society, Arcadia, California.
Schuiling, Walter C.
1984 *San Bernardino County: Land of Contrast*. Windsor Publications, Woodland Hills, California.
Strong, William Duncan
1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology, Vol. 26.
Tang, Bai "Tom"
2010 Due-Diligence Historical, Archaeological, and Paleontological Sensitivity Assessment, Yucaipa Master Plan of Drainage, City of Yucaipa, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.
USGS (United States Geological Survey, U.S. Department of the Interior)
1901 Map: Redlands, Calif. (15', 1:62,500); surveyed in 1898-1899.
1954 Map: Yucaipa, Calif. (7.5', 1:24,000); aerial photographs taken in 1952, field-checked in 1954.

1967 Map: Yucaipa, Calif. (7.5', 1:24,000); aerial photographs taken in 1966, field-checked in 1967.
1975 Map: Yucaipa, Calif. (7.5', 1:24,000); 1967 edition photorevised in 1973.
1996a Map: Forest Falls, Calif. (7.5', 1:24,000); 1988 edition photorevised in 1994.
1996b Map: Yucaipa, Calif. (7.5', 1:24,000); 1988 edition photorevised in 1994.

Warren, Claude N.
1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.

Yucaipa Valley Historical Society
2007 *Images of America: Yucaipa*. Arcadia Publishing, Charleston, South Carolina.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, UC Riverside.
1987	M.A., American History, Yale University, New Haven, Connecticut.
1982	B.A., History, Northwestern University, Xi'an, China.
2000	"Introduction to Section 106 Review," presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
1994	"Assessing the Significance of Historic Archaeological Sites," presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1993-2002	Project Historian/Architectural Historian, CRM TECH, Riverside, California.
1993-1997	Project Historian, Greenwood and Associates, Pacific Palisades, California.
1991-1993	Project Historian, Archaeological Research Unit, UC Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, UC Riverside.
1988-1993	Research Assistant, American Social History, UC Riverside.
1985-1988	Research Assistant, Modern Chinese History, Yale University.
1985-1986	Teaching Assistant, Modern Chinese History, Yale University.
1982-1985	Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., Registered Professional Archaeologist #28576644

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
1980-1981	Education Abroad Program, Lima, Peru.
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.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998	Assistant Research Anthropologist, University of California, Riverside.
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994	Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
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

Author and co-author of, contributor to, and principal investigator for 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.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

2003	M.A., Anthropology, San Diego State University, California.
2000	B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
1993	A.A., Communications, Nassau Community College, Garden City, N.Y.

Professional Experience

2004-	Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003	Part-time Lecturer, San Diego State University, California.
2001	Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001	Archaeological Collection Catalog, SDSU Foundation.

Memberships

Society for California Archaeology; Society for Hawaiian Archaeology; California Native Plant Society; Journal of California and Great Basin Anthropology.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, M.S., RPA*

Education

2013	M.S., Geographic Information System (GIS), University of Redlands, California.
1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.

Professional Experience

2002-	Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist, CRM TECH, Riverside, California.
1998-1999	Field Crew, K.E.A. Environmental, San Diego, California.
1998	Field Crew, A.S.M. Affiliates, Encinitas, California.
1998	Field Crew, Archaeological Research Unit, University of California, Riverside.

Memberships

*Register of Professional Archaeologists # 18037.

APPENDIX 2

SACRED LANDS FILE SEARCH RESULTS

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

October 5, 2020

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed 6.2 Potable Water Reservoir and Booster Pumping Station Project, San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded 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. I suggest you contact all of those indicated; if they cannot supply information, they might 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 me. 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
San Bernardino County
10/5/2020

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

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 6.2 Potable Water Reservoir and Booster Pumping Station Project, San Bernardino County.

Native American Heritage Commission
Native American Contact List
San Bernardino County
10/5/2020

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla
John Gomez, Environmental Coordinator
P. O. Box 391670 Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramona-nsn.gov

San Manuel Band of Mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
jmauck@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosacahuilla-nsn.gov

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

Soboba Band of Luiseno Indians
Scott Cozart, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92583 Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Resource Coordinator
P.O. Box 1160 Cahuilla
Thermal, CA, 92274
Phone: (760) 399 - 0022
Fax: (760) 397-8146
mmirelez@tmdci.org

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 6.2 Potable Water Reservoir and Booster Pumping Station Project, San Bernardino County.

APPENDIX 3

CALIFORNIA HISTORICAL RESOURCES INVENTORY SITE RECORD FORMS

36-026762 (CA-SBR-16910H)

10/13

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #: 36-026762
HRI # :
Trinomial: CA-SBE-10910 N
NRHP Status Code:
Other Listings:
Review Code: Reviewer: Date:

☐ Update or Supplement

*Resource Name or Number (Assigned by Recorder): CB-001 (Casa Blanca Ranch)
P1. Other Identifier: Dunlap Ranch, Atwood Ranch

*P2. Location: ☒ Not for Publication ☐ Unrestricted
*a. County: San Bernardino
*b. USGS 7.5' Quad: Yucaipa Date: 1967 (photorevised 1988) T 1S, R 1W, SW ¼ and SE¼ of Sec. 29, SE¼ of Sec. 30, San Bernardino B.M.
c. Address: 36104 Oak Glen Road City: Yucaipa
d. UTM: (Give more than one for large and/or linear resources) Zone: 11; 498295 mE 3767540 mN (SW corner); 498445 mE 3768330 mN (NW corner); 499650 mE 3768330 mN (SE corner); and 499650 mE 3767540 mN (NE corner) (NAD 83)
e. Other Locational Data (e.g., parcel #, directions to resource, elevation, etc., when appropriate: The entry driveway is located on the north side of Oak Glen Road, 0.9 mile east of Bryant Street, in Yucaipa.

*P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries):
The site consists of a ranch complex covering approximately 235 acres, containing 37 recorded features. Site boundaries are approximately Oak Glen Road on the south, Jefferson Street on the west, Fir Avenue on the north, and a north-south fence line at the center of the southeast 1/4 of Section 29 on the east. Features include the 1882 Dunlap/Atwood/Casa Blanca Ranch house (Feature 1), a garage built in 1937 (Feature 2), a blacksmith shop/service garage built in the early 1950s (Feature 4), and a small house built in 1947 (Feature 5). Irrigation pipes, reservoirs, weirs, flumes, a dam, a stone trough, a culvert, stone retaining walls, fence lines, a rock circle, agricultural fields, an olive grove, and two modern buildings were also documented. An evaluation of the site for eligibility to the California Register of Historical Resources (CRHR) was conducted, and the main ranch house (Feature 1) was found to possess the historic and architectural significance, as well as the integrity, to be eligible for listing on the CRHR under Criteria 1, 2, and 3. The remaining buildings and other features were found not to have the significance or integrity necessary for CRHR eligibility. (See Continuation Sheets)

*P3b. Resource Attributes (List Attributes and Codes): HP33 (Farm/ranch)

*P4. Resources Present: ☒ Buildings ☒ Structures ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of ☒ Photo ☐ Drawing (View, date, accession#): North and west (front) elevations of Dunlap/Atwood/Casa Blanca house (Feature 1). View to southeast, 8/17/2012.

*P6. Date Constructed/Age and Sources ☐ Prehistoric ☒ Historic ☐ Both : 1882-ca. 1990s

*P7. Owner and Address: Private

P8. Recorded by (Name, affiliation, address):
R. Cunningham, C. Cotterman, B. Rockhold, C. Hollingsworth
ECORP Consulting, Inc.
215 N. 5th Street
Redlands, CA 92374

*P9. Date ☒ Recorded ☐ Updated:
August 15-17, 2012

*P10. Type of Study (Describe):
Intensive pedestrian archaeological survey and historic building recordation; CRHR evaluation.

*P11. Report Citation (Cite survey report and other sources, or enter "none."):
Cotterman, Cary D., and Evelyn N. Chandler
2012 *Cultural Resources Inventory and Evaluation for the Casa Blanca Specific Plan, Yucaipa, San Bernardino County, California.* Prepared by ECORP Consulting, Inc., Redlands, California.

*Attachments: ☐ NONE ☒ Location Map ☒ Sketch Maps ☒ Continuation Sheets ☒ Building, Structure, and Object Record ☐ Linear Feature Record ☒ Archaeological Site Record ☐ District Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

ARCHAEOLOGICAL SITE RECORD

Primary # :
Trinomial :

 Resource Name or Number (Assigned by recorder): CB-001 (Casa Blanca Ranch)

*A1. **Dimensions:** a. **Length:** Approx. 4,450 feet (E-W) × b. **Width:** Approx. 2,625 feet (N-S) (Approx. 235 acres)
Method of Measurement: ☐ **Paced** ☐ **Taped** ☐ **Visual estimate** ☒ **Other:** Map, Global Positioning System (GPS)
Method of Determination (Check any that apply.): ☐ **Artifacts** ☒ **Features** ☐ **Soil** ☐ **Vegetation** ☐ **Topography** ☐ **Cut bank** ☐ **Animal burrow** ☐ **Excavation** ☒ **Property boundary** ☐ **Other (Explain):**
Reliability of Determination: ☒ **High** ☐ **Medium** ☐ **Low** **Explain:**
Limitations (Check any that apply): ☐ **Restricted access** ☐ **Paved/built over** ☐ **Disturbances** ☐ **Site limits incompletely defined** ☐ **Vegetation** ☐ **Other (Explain):**

A2. **Depth:** ☐ **None** ☒ **Unknown** **Method of Determination:** No excavation was conducted.

*A3. **Human Remains:** ☐ **Present** ☐ **Absent** ☒ **Unlikely** ☐ **Possible** ☐ **Unknown (Explain):** No prehistoric human remains have been found within 0.5 mile (800 meters); no historic-period human burials are known to have taken place.

*A4. **Features (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):** The site consists of a ranch complex covering approximately 235 acres, containing 37 recorded features. Features 1 through 6, consisting of standing buildings, are described in the Building, Structure, and Object Record and Continuation Sheets included in this set of DPR records. The remainder of the features of the site consist of irrigation pipes, reservoirs, weirs, flumes, a dam, a stone trough, a culvert, stone retaining walls, fence lines, a rock circle, agricultural fields, and an olive grove (Features 7 through 37) (See Continuation Sheets for detailed descriptions).

*A5. **Cultural Constituents (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):**
Other than artifacts found in association with features, one isolated, partially crushed "matchstick filler" (MSF) vent-hole condensed milk can was the only temporally diagnostic, possibly historic-period artifact found within the site. The can was found in the Wilson Creek wash, approximately 250 feet south of the northern boundary of the site. It measures 2 5/16 inches high by 2 4/16 inches in diameter, with church-key openings. The measurements are not within the range of temporally diagnostic MSF can sizes published by Simonis (n.d.). Cans of this type were manufactured from 1915 to the late 1980s (Rock 1987). Church-key can openers were introduced in 1935 (Wright 1976), and are still in use.

A6. **Were Specimens Collected?** ☒ **No** ☐ **Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)** .

*A7. **Site Condition:** ☐ **Good** ☐ **Fair** ☒ **Poor (Describe disturbances.):** Disturbances consist of the construction of post-historic buildings, grading for unpaved driveways and access roads, plowing and other agricultural activities, disking for weed abatement, trenching for irrigation pipelines, erosion, and bioturbation. Many of the features have been subject to decades of neglect, deterioration, and damage, and retain poor integrity.

*A8. **Nearest Water (Type, distance, and direction.):** Wilson Creek, a seasonal drainage, passes from northeast to southwest across the northern half of the site. Oak Glen Creek is located nearby to the south, across Oak Glen Road.

*A9. **Elevation:** 3,035 to 3,295 feet above mean sea level.

A10. **Environmental Setting (Describe culturally relevant variables such as: vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.):** The project area is situated in the Yucaipa Valley, an alluvial plain bordered by the San Bernardino Mountains on the north, east, and south, and the Crafton Hills on the west. The land descends gently from northeast to southwest, and consists of several wide, flat benches separated by deep, steep-sided ravines. Soil consists of alluvial silt, sand, and gravel, with numerous rounded granitic cobbles and boulders, and sparsely scattered bedrock outcroppings. Vegetation consists of dense chaparral in the ravines, with wide expanses of grain and hay crops on the flat benches.

A11. **Historical Information:** (See Building, Structure, and Object Record, and Continuation Sheets)

*A12. **Age:** ☐ **Prehistoric** ☐ **Protohistoric** ☐ **1542-1769** ☐ **1769-1848** ☐ **1848-1880** ☒ **1880-1914** ☒ **1914-1945** ☐ **Post 1945** ☐ **Undetermined (Describe position in regional prehistoric chronology or factual historical dates if known):** The ranch was established by the Dunlap family in 1882, when the main ranch house (Feature 1) was constructed. The Dunlaps continued to occupy and operate the ranch until 1906, when they sold it to the Atwood family. Around 1910-1912, the Atwoods carried out extensive modifications to the house. In 1917, the Atwoods moved to San Bernardino, and the house and ranch were occupied by employees until 1936, when Mrs. Atwood, by then a widow, returned to Casa Blanca to live out her retirement. Ranch operations were overseen during this later period by her oldest son, Leon Atwood Jr., who lived on the neighboring Five Winds Ranch with his wife. During the 1930s, Leon built the small garage behind the house (Feature 2), and planted the deodar cedar trees along the driveway and front yard. In the 1940s, he constructed the stone wall behind the house (Feature 8) and the small residence located a few hundred feet northeast of the main house (Feature 5). The blacksmith shop/service garage (Feature 4) was probably built in the early 1950s. (See Building, Structure, and Object Record, and Continuation Sheets for complete history)

A13. **Interpretations (Discuss data potential function[s], ethnic affiliation, and other interpretations):** The site is associated with late 19th and early 20th century ranching and farming activities. It was established by the pioneer Dunlap family in 1882, and was owned by the Atwood family, founders of Yucaipa, in the early 1900s. (See Building, Structure, and Object Record, and Continuation Sheets)

A14. **Remarks:** The main Casa Blanca residence (Feature 1), which retains a high level of integrity, is recommended eligible for listing in the CRHR for its strong association with historic events and persons, and for its design and construction. While most of the remaining buildings and features within the site are historical in age, they post-date the period of significance (1882-1917), are utilitarian in design and function, or retain poor integrity. None of the features, therefore, except for the main residence (Feature 1), are recommended for listing in the CRHR. (See Building, Structure, and Object Record, and Continuation Sheets)

A15. **References (Documents, informants, maps, and other references):** (See Continuation Sheets)

A16. **Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.):** (See Primary Record and Continuation Sheets)
Original Media/Negatives Kept at: ECORP Consulting, Inc., 215 N. 5th Street, Redlands, CA 92374

*A17. **Form Prepared by:** Cary D. Cotterman **Date:** 8/17/2012

***Affiliation and Address:** ECORP Consulting, Inc., 215 N. 5th Street, Redlands, CA 92374

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code:

*Resource Name or Number (Assigned by Recorder): Casa Blanca Ranch house and outbuildings (Features 1 through 6 of Site CB-001)

B1. Historic Name: Dunlap Ranch, Atwood Ranch
B2. Common Name: Casa Blanca

B3. Original Use: Agriculture, Residence B4. Present Use: Not being used; unoccupied

*B5. Architectural Style: Main ranch house (Feature 1) has Folk Victorian elements on vernacular brick-masonry and wood-frame construction. The Garage (Feature 2), modern modular house (Feature 3), blacksmith shop/service garage (Feature 4), Rodriguez house (Feature 5), and modern prefabricated metal building (Feature 6) are utilitarian buildings with no architectural style.

*B6. Construction History (Construction date, alterations, and date of alterations):
Main ranch house (Feature 1): Built 1882; extensive modifications ca. 1910-1912; minor modifications 1930s, 1970s.
Garage (Feature 2): Built 1937.
Modern modular house (Feature 3): Moved onto site 1980s or later.
Blacksmith shop/service garage (Feature 4): Probably built ca. 1953.
Rodriguez house (Feature 5): Built 1947; extensive modifications 1960s.
Modern prefabricated metal building (Feature 6): Probably built 1986.

*B7. Moved? ☒ No (Features 1, 2, 4, 5, 6) ☒ Yes (Feature 3) ☐ Unknown Date: 1980s or later (Feature 3) Original Location: Unknown (Feature 3)

*B8. Related Features: (See Continuation Sheet)

B9a. Architects: Franklin Pierce Dunlap, Leon A. Atwood Sr. (Feature 1); Leon A. Atwood Jr. (Features 2 and 5) B9b. Builders: Same

*B10. Significance: Theme: Pioneer agriculture and early Yucaipa Valley settlement Area: Yucaipa Valley, San Bernardino County, California
Period of Significance: 1882-1917 Property Type: Ranch/farm Applicable Criteria: CRHR 1, 2, and 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)
During the Spanish Period (1769-1821) and the Mexican Period (1821-1848), the San Bernardino area, including the Yucaipa Valley, was under the influence of Mission San Gabriel Archangel. In 1842, several years after the secularization of the missions by the Mexican government, Governor Juan Bautista Alvarado made a large land grant to Don Antonio Maria Lugo and his three sons. The Lugo family's Rancho San Bernardino encompassed land in both the San Bernardino and Yucaipa valleys, extending from present-day Colton to Calimesa. Around 1841, a nephew of Lugo, Don Diego Sepulveda, moved a large herd of cattle onto Rancho San Bernardino land in the Yucaipa Valley, which had been conveyed to him by Lugo, and attempted to establish a ranch and home there. Ygnacio Palomares, a rival rancher, filed a dispute with local authorities over grazing rights, and litigation took place between the two men. Governor Alvarado, however, was required by law to uphold the Spanish grant to Lugo, as well as Lugo's subsequent conveyance of land to Sepulveda. With Alvarado's influence, the legal contest was decided in favor of Sepulveda, and his Rancho Yucaipa was established. Sepulveda built a two-story adobe ranch house in 1841 and 1842 that still stands (Richards 1966; San Bernardino County Museum 2005; Yucaipa Valley Historical Society Museum n.d.a).

In the spring of 1851, Mormon settlers from Salt Lake City settled in the San Bernardino Valley. Two apostles, Amasa Lyman and Charles C. Rich, acting as representatives of the Latter Day Saints, bought a large portion of Rancho San Bernardino from the Lugos. The purchase also included Rancho Yucaipa and the Sepulveda adobe. During the Mormon period, reputed "mountain man" John Brown occupied the adobe without authorization. The Mormons tried to evict him on several occasions, but were unsuccessful. By the time the Mormons were recalled to Salt Lake City in 1857, Brown had become a county supervisor and owned the land. That year, he sold Rancho Yucaipa and the Sepulveda adobe to a trader named James Waters (Atchley 1979; Bowler-Muggeridge 1999; Yucaipa Valley Historical Society Museum n.d.a). (See Continuation Sheet)

B11. Additional Resource Attributes (List attributes and codes): HP33 (Farm)

*B12. References: (See Continuation Sheet)

B13. Remarks: (See Continuation Sheet)

*B14. Evaluator: Cary D. Cotterman
ECORP Consulting, Inc.
215 N. 5th St.
Redlands, CA 92374

*Date of Evaluation: August 17, 2012

(This space reserved official comments.)

(See Sketch Maps)

*Required Information

P3a. Description (continued from Primary Record). During the cultural resources field survey and the historic building recordation that were conducted in August 2012, one historic-period site, the Casa Blanca Ranch (CB-001), consisting of 37 newly-identified features, was documented.

Feature 1 (Casa Blanca main house). The main Casa Blanca residence was built by Franklin Pierce Dunlap in 1882 and modified by Leon Atwood Sr. between 1910 and 1912. Minor modifications were carried out by Leon Atwood Jr. in the 1930s. The two-story Folk Victorian house is of vernacular brick-masonry and wood-framed design, decorated with flat, jigsaw-cut brackets at the top of the second-story porch columns, and Chinese-pattern porch railings. The primary mass of the building is L-shaped, with the long side forming the west-facing façade and the shorter wing extending to the east from the south half of the rear elevation. This L-shaped core of the building is constructed of red bricks, laid in a running-bond pattern, that were formed from local soil and fired in a kiln on the property. The prominent feature of the house is its deep, two-story porch, which runs along the entire façade. The medium-pitched, side-gabled, gable-on-hip roof is covered with modern composition shingles. A narrow brick chimney, painted white, vents the dining room fireplace. Three additional, larger chimneys, made of unpainted bricks, appear to be modern.

The structural footing of the approximately 2,200-square-foot house is made of split granite boulders, mortared together, and is visible from inside the small rear basement and underneath the front porch. The rear basement is reached through a trap door in the porch floor on the north side of the building. The stone footing forms the lower half of the rear-basement walls, with the red brick walls standing on top. The long, narrow front basement occupies the space under the entire front of the house, behind the porch, and is accessible from a stairway leading down from the service porch on the south side. The brick walls in the front basement continue all the way to the concrete floor.

From 1882 to its occupation by the Atwoods in 1908, the house was predominantly unpainted red brick, with its wood-framed areas, covered with beaded wood siding, and other wood trim painted a light color. The deep, wrap-around porch was only on the lower story, and was sheltered by a skirt roof separating the two stories of the house. By 1910, the Atwoods had painted the entire house white and named it Casa Blanca. Between 1910 and 1912, they increased the porch along the front of the house to two stories by replacing the former porch roof with a second-story porch floor, and extending the second-story main roof to shelter it. The flat, jigsaw-cut brackets that had decorated the tops of each of the original porch roof support columns were removed and reinstalled on the new second-story roof supports. Plain, square-section cross pieces replaced the original brackets on the downstairs porch columns. The former central window opening in the front of the second story was cut all the way down to the new upper-porch floor, and the window was replaced with French doors. This remodeled appearance, now a century old, has undergone very little change.

The ground floor of the west-facing façade of the house has the main entry in the center, reached by the original nine steep concrete stairs that lead to the porch, which is approximately 5 feet above ground level. The stairs are contained between two low rake walls with wide concrete caps. The entry consists of the original wood-framed door, with a single panel in the bottom half and a fixed window in the upper half. A small window is above the transom, with two panes separated by a vertical muntin. The door opening in the brick wall has a segmental arched lintel of two header courses of bricks. A historic-period screen door with jigsaw-cut, scrolled brackets in the corners covers the main door. The entry is flanked by two tall pairs of one-over-one wood-framed windows, each pair separated by a wide mullion, that illuminate the living room. The original wood-framed screens are still in place. The window openings in the brick wall have arched lintels matching the one over the entry. On the left (north) side, the porch wraps around the north elevation of the house. On the right, it stops at the southwest corner, and a wood-framed bedroom with beaded wood siding extends southward from the main brick mass of the house. A pair of one-over-one wood-framed windows, separated by a wide mullion, is in the front-facing wall of this room. The room was part of the original construction of the house, but ended at the porch roof line on the south side. Today, it extends approximately 5 feet beyond the south end of the porch, with a shed roof covering the exposed portion. This small addition was built during the late 1930s, when Leon Atwood Jr. made improvements for his mother, Frances, who had just returned to Casa Blanca after living in San Bernardino for nearly 20 years. The porch is 9 feet 4 inches deep, with a concrete floor that slopes away from the house. The lower story has square 6-by-6-inch columns supporting the second-story porch. At the top, each column butts into a 6-by-6-inch cross piece with diagonally cut ends, forming a T. The two columns flanking the entry stairs have additional cross pieces at right angles. Chinese-pattern railings fill the gaps between the columns.

The second story of the façade originally had three evenly spaced pairs of windows, overlooking the single-story porch roof below, that were identical to the windows in the first story. The windows are now inside the second-story porch that was constructed by the Atwoods between 1910 and 1912. When the upper porch was built, the central window opening was enlarged and French doors were installed to allow access to the porch. The second-story columns supporting the main roof, which was extended to cover the porch, are square 4-by-4-inch posts, in contrast with the 6-by-6-inch columns of the lower story. This slight diminishing of size makes the upper seem lighter, and

suggests a sensitivity to architectural scale on the part of the designer. The jigsaw-cut decorative brackets that adorned the tops of the original porch columns were moved to the second story columns when the remodeling was carried out, and are still in place. The main roof has overhanging eaves that extend 18 inches, supported by exposed 1-by-3-inch rafters. Where the open upstairs porch would have wrapped around the north and south sides of the house, the space is filled on either side with sleeping porches. The lower halves of the sleeping porch walls are covered with vertical wood siding, and the upper halves are continuous strips of wood-framed sliding-sash windows, covered by screens. Each enclosure has a screen door in the front, opening onto the porch. Historical photographs indicate that the sleeping porches are an original part of the 1910-1912 remodeling.

The north elevation of the house reveals that the brick wing forming the long side of the L, facing west, combined with the downstairs and upstairs front porches, comprises approximately half of the overall depth of the building, from front to back. The shorter bottom angle of the L, extending eastward, is cross-gabled with a gable-on-hip roof that is lower than the roof of the front wing. A small hip-roofed dormer with a one-over-one wood-framed window to an upstairs bedroom projects from the north slope of the rear wing's roof. On the first story, the porch extends along the entire north side of the house, and is stepped back twice to accommodate the L plan. A small hatch at ground level in the north end of the front porch leads to a storage space underneath. Under the porch, the split-stone footing and unpainted brick walls of the house are exposed, and 8-by-8-inch redwood piers support the 3.75-inch-thick concrete porch floor. Diagonal (northeast-southwest and northwest-southeast-oriented) impressions are visible on the bottom of the porch floor where 5.5-inch-wide boards supported the concrete while it was curing. Since the second-story porch is only along the façade, the porch along the north side is still the original single story as it was designed in 1882, with its jigsaw-cut brackets still in place at the tops of the roof support columns. A pair of one-over-one, wood-framed windows, identical to those in the façade, is in the center of the north-facing brick wall of the living room. Behind (east of) the living room, built into the nook formed by the L, is an 8-by-10-foot wood-framed space with drop siding that was used as a school room by the Dunlaps in the late 19th century. This room, which was used in later years for tack storage, has a single one-over-two wood-framed window facing north, and an entry door facing east. Inside, a wooden ladder attached to the west wall leads through a small opening to a loft. Just outside the door to this room, in the concrete porch floor, a wooden hatch covers an opening with a steep concrete stairway leading to the small rear basement. A repair in the concrete rim around the trap door has "Tommy – Taggy – Leon – III" inscribed. (Taggy and Leon refer to Leon and Frances Atwood's sons, Stanford "Tagg" and Leon Jr., while Tommy may have been their neighbor and friend, Tom Webster, who later married the Atwood boys' sister, Frances Mary.) The basement has a concrete floor, and currently contains a modern furnace. The split-granite footing and unpainted brick walls of the house are exposed in the walls. Just west of the former school room, a doorway through the brick wall of the house has been converted to a window. The one-over-one wood-framed sash, and the wood-framed screen suggest that the alteration is historical. The doorway threshold is still in place, and the lower part of the doorway, below the window, is covered with beaded wood siding. This window, and a door farther to the left (east), both lead to the dining room. A paneled wood door even farther to the east leads into the pantry and kitchen. The house is built into a hill slope, and the porch is only about 12 inches above ground level in the rear. An opening in the porch railing, aligned with the dining room door, is reached by two shallow concrete steps. The north end of the sleeping porch dominates the front of the second story on the north elevation.

The east (rear) elevation of Casa Blanca is half sheltered by the porch, wrapping around the northeast corner of the first story. Under the porch roof, in the east-facing wall of the shorter brick wing forming the bottom of the L, is a two-over-one wood-framed window to the dining room. To the left (south), the concrete porch ends at an entry opening in the railing, and is replaced with a wood-framed, wood-floored room covered with beaded board siding, extending to the roof line. A two-over-one wood-framed window to the parlor and kitchen is in the center, facing east. To the left of this room, occupying the southeast corner of the house, is a large wood-framed, wood-floored service porch, reached via a small wooden stoop with three steps and a low railing, leading to a screen door. The lower third of the service porch walls are covered with vertical board siding, and the upper two thirds are screened with no glazing. The tongue-in-groove interior flooring projects an inch from under the exterior walls of both the parlor/kitchen and the porch. Inside the service porch, two enameled iron laundry sinks stand side-by-side, and a stairway leads down to a door to the front basement. The basement extends under the entire front of the house, and has a concrete floor. The walls are brick, and are terraced on the west side to form a 34-inch-wide bench 42 inches high. Several large iron hooks are attached to the floor joists above. A massive footing, made of mortared bricks and boulders, is exposed inside the front basement, near the entry stairway.

The first story of the south elevation of the house has the service porch occupying the right (east) half, and the end of the front porch and the wood-framed southwest-corner bedroom extension on the left (west). A pair of one-over-one wood-framed windows, separated by a wide mullion, is in the center of the bedroom, and a smaller one-over-one wood-framed window is to its right. Upstairs, the end of the front porch and the sleeping porch dominate the left (west) half of the second story. A hip-roofed dormer with a one-over-one wood-framed window, identical to the dormer on the opposite (north) side, is in the slope of the cross-gabled roof of the eastward wing on the right. Inside the service porch, the south elevation includes a wide, horizontal, wood-framed window with three large panes, and a

windowed door, both into the kitchen and pantry. To the left of the kitchen/pantry door, a two-over-two wood-framed window opens into the library, a small room with built-in bookshelves on one wall. This room was used as the local post office from 1893 to 1896 when Franklin Pierce Dunlap was the postmaster.

The house is in need of maintenance and repairs, but retains excellent integrity. Major modifications, consisting primarily of the addition of the second-story front porch and sleeping porches, and the alteration of the roof line to cover them, date to the first few years of the Atwoods' occupation and are a century old. Other, smaller alterations were carried out in the late 1930s. Remodeling in the late 1970s was primarily to the interior, but might have included the three modern brick chimneys. Overall, the house retains all of the elements of its historical appearance.

Feature 2 (Garage). The garage, which was built in 1937, stands approximately 33 feet southeast of the back of the main house (Feature 1). It has a concrete slab foundation, and its rectangular plan is oriented north-south. A concrete slab adjacent to the north side of the building, with a curb and 4-by-4-inch post holes, appears to represent a former car port. The wood-framed walls of the garage are covered with vertical wood plank siding, painted white, and the medium-pitched, side-gabled roof is covered with modern composition shingles. The front (west) elevation is entirely taken up by the original barn-type doors that slide on overhead tracks. A concrete apron, which is an extension of the foundation slab, extends 6 feet to the west, in front of the doors. The rear (east) elevation has an open lean-to shed attached, which occupies 80 percent of the width of the building. The shed is 6 feet deep, has a dirt floor, and a corrugated steel shed roof supported by three 4-by-4-inch posts with 2-by-4-inch diagonal braces. A small galvanized steel enclosure of undetermined function is attached to the south elevation of the garage. The interior of the garage has a built-in wooden workbench and a storage loft. The sub-roof has been augmented by modern plywood. The northwest corner of the concrete slab, just inside the door, has the initials "SVO", "LAA", "BRO", and TRB" inscribed, along with "Oct. 10 '37". The initials "LAA" are most likely those of Leon A. Atwood Jr.

Feature 3 (Modular house). This modern, single story mobile home is located 35 feet south of the main Casa Blanca house (Feature 1), across the driveway. It is a modular house set on a concrete slab. The building is rectangular in plan, oriented east-west, and has a flat roof. It does not appear in aerial photography from 1982; therefore, it was brought onto the property after that date (Historic Aerials 1982).

Feature 4 (Blacksmith shop/service garage). The single-story blacksmith shop and service garage is one of three ancillary buildings located approximately 480 feet northeast of the main Casa Blanca house (Feature 1) at the end of a dirt access road. It is visible in aerial photography dating to 1959, but was not there when the previous aerial photograph was taken, in 1938 (Historic Aerials 1938, 1959). A dedicated electric power line that only services this building has 1953 date nails in its poles, which could be an indication of when the blacksmith shop/garage was constructed. The building is rectangular in plan, and is oriented east-northeast to west-southwest. It stands on a mortared stone foundation of granitic cobbles and small boulders that is built into the edge of a hill slope. On the front (north) and east sides, it is flush with ground level, but on the south and west side, the foundation rises above ground level as much as 30 inches. The floor is concrete, and the wood-framed walls are covered with corrugated steel, painted barn red. The medium-pitched, side-gabled roof is also covered with corrugated steel. The eaves on the north and south sides extend approximately 1 foot beyond the walls, and have exposed 2-by-4-inch rafters. On the east and west ends of the building, the eaves extend approximately 2 feet and have exposed 1-by-6-inch purlins. The west half of the building is occupied by a service garage with a built-in wooden workbench and a servicing pit in the floor. The east half consists of a blacksmith shop with a forge and a built-in wooden workbench. Silhouettes painted on the wall above the workbench indicate where tools were hung when not in use. Access to the garage half of the building is through a large door, covered with corrugated steel and hinged on the side. A concrete apron extends 15 feet north of the garage door. The blacksmith shop is entered through a plywood door with long steel strap hinges. A rectangular wood-framed slider window is to the right of the door. Two more identical windows, one for the garage and one for the blacksmith shop, are in the rear (south) elevation. Two vertical wood-framed windows in the west elevation, into the garage, are covered with mesh and corrugated fiberglass siding, but are not glazed. A small lean-to addition against the right (north) half of the east elevation, adjoining the blacksmith shop, has a wood frame, corrugated aluminum siding, and a wood-plank floor. Most of its gabled roof is missing.

Feature 5 (Rodriguez house). This small, single-story residence is located approximately 30 feet west of the blacksmith shop/service garage (Feature 4), across the dirt access road. When it was originally built, in 1947, the house consisted only of what, today, is the north half. The south half, with its covered patio on the south end, was added post-historically. The addition appears in aerial photography from 1968, but not in the previous aerial photograph, which was taken in 1959 (Historic Aerials 1959, 1968). The building, which is rectangular in plan, is oriented north-south. It stands on a concrete slab foundation, and has wood-framed walls covered with corrugated steel siding, painted barn red. The corrugations of the siding on the southern half have slightly different dimensions than those of the original northern half. The medium-pitched, side-gabled roof is also covered with corrugated steel. The primary entry to the original

dwelling is at the right (north) side of the east elevation. The door, near the corner of the house, has a one-over-one wood-framed window to its left, and both overlook a small concrete porch sheltered under a corrugated steel awning supported by two four-by-four-inch posts. The initials "LAA" (Leon A. Atwood) and the date "47" are inscribed near the north end of the concrete porch slab. An aluminum-framed slider window is farther to the left, near the corner of the southern half of the building. The rear entry to the original house is in the west elevation, and has a concrete stoop shaded by a small awning. The initials "IR" are inscribed in the concrete. A small, originally wood-framed window to the left (north) of the door has been replaced by a modern aluminum-framed slider window. Another aluminum-framed slider window is farther to the right (south), in the southern half of the house. The north elevation of the building has a window near its left (east) side, but it is covered with a sheet of plywood. Entry into the southern addition to the building is through a large covered concrete patio on the south end. The shed roof of the patio is covered with corrugated steel, is supported by two round wooden columns at the southeast and southwest corners, and has a railing of 2-by-4-inch lumber. The name "Irine D Rodriguez" (with the "z" printed backwards) is inscribed in the patio concrete, alongside an adult's left handprint and a child's left and right handprints. A modern, paneled wooden entry door is near the southeast corner, and a wood-framed, fixed-paned window is to its left, near the center of the south elevation. Through this window, an interior doorway connecting the original (north) and added (south) halves of the building can be seen. The interior door and window framing, ceiling texture, and wall texture of the two halves are different.

Feature 6 (Modern prefabricated building and concrete slab). This single-story prefabricated steel building stands on a concrete slab immediately north of the Rodriguez house (Feature 5). Aerial photography indicates that some type of building, now long gone, stood at this location as far back as 1938. The present building does not yet appear in the most recent aerial photograph, taken in 1982 (Historic Aerials 1938, 1982). The concrete slab covers approximately twice the footprint of the current building, extending to the east. The present upper surface of the concrete is an over-pour, with two previous slab levels visible beneath, along the edge. The words "ATWOOD", "WITH ROBINSON & SUTT", and the date "2-28-86" are inscribed. The building has a low-pitched roof, which is covered, along with the walls, with ribbed steel siding. A narrow concrete loading dock on the west side is overlooked by large sliding doors and sheltered by an extension of the roof.

Feature 7 (Entry pillar ruins). A photograph taken in 1914 shows an entry gateway across the driveway to Casa Blanca, located near the driveway's intersection with Oak Glen Road (Yucaipa Valley Historical Society Museum 1914). In the photograph, two tall, square pillars made of mortared, cut stone, with flat concrete pedestals on top, stand on the north and south sides of the driveway. They are connected by a squared arch made of round metal pipe approximately 3 inches in diameter that spans the driveway. A rustic wooden sign reading "CASA BLANCA" hangs from the center of the arch. Low stone walls extend a short distance from each of the pillars.

All that remains of the gateway is a concentration of four mortared granitic boulders where the southernmost pillar once stood, approximately 15 feet north of Oak Glen Road. Four additional boulders, possibly associated with the feature, are scattered for 5 feet toward the southwest. The group of mortared boulders is 30 inches by 18 inches across, and approximately 12 inches high. Each of the boulders measures approximately 12 inches across. A modern water meter is located 2 feet to the west, and a large eucalyptus tree is 5 feet to the east-southeast.

Feature 8 (Stone retaining wall behind main house). Twenty-five feet directly behind the main Casa Blanca residence (Feature 1), a low, mortared-stone retaining wall, built in 1940, stretches north-south for 60 feet along a row of sycamore trees. The wall, which extends to the north from the vicinity of the garage (Feature 2), is made of granitic cobbles and small boulders up to approximately 12 inches across, capped with concrete. It ranges in height from 24 to 30 inches above ground level, and is 12 inches thick. The north end of the wall curves to the east for 3 feet. The north half of the wall has four eye bolts imbedded in the concrete top, spaced 6 feet apart, each holding a 3-inch-diameter steel ring, probably for tethering horses. Near the northern end of the wall, a small square is inscribed in the top. The four corners are marked by .22-calibre cartridge cases, pressed into the concrete with only the bases left showing. Inside the square, inscribed letters spell "LAA TO FHA". The date "2-14-40" is inscribed below the square. It appears that the wall was a gift from Leon A. Atwood Jr. to his mother, Frances Hooper Atwood, on Valentine's Day, 1940. Eleven additional .22-caliber cartridge cases are pressed into the concrete at the tip of the wall, forming a dotted line.

Feature 9 (Stone trough). A stone-masonry water trough is located approximately 40 feet north-northeast of the east end of the blacksmith shop/service garage building (Feature 4). The trough is rectangular, and is made of split granitic cobbles and small boulders with their flat sides facing outward, held together with wide, flat bands of mortar. The interior is lined with smooth concrete. A thick footing, of rougher stone construction, extends approximately 4 inches out from the bottom of the finished sides, and may have originally been below the ground surface. The trough measures 7 feet, 7 inches long (north-south) by 2 feet, 5 inches (east-west), and has walls 5 inches thick. The bottom of the interior is covered with dirt, and has a depth of 21 inches. A 1-inch-diameter piece of steel pipe projects through the bottom of the north end of the trough, and another 1-inch pipe projects through the south end, near the top. The pipe on the south end has a smaller piece of copper pipe inside. Steel studs, measuring 3/16 of an inch in diameter and mostly rusted away, are imbedded in the top of the southwest and southeast corners of the trough.

Feature 10 (Concrete weir box). A small concrete irrigation weir box is located approximately 55 feet south-southwest of the Rodriguez house (Feature 5), and is partially obscured by a shrub-like olive tree. The weir measures 51 inches (north-south) by 47 inches (east-west), stands approximately 24 inches above ground level, and has walls 5 to 7 1/2 inches thick. The interior is partially filled with dirt, leaving a depth of 25 inches. Vertical impressions are visible on the outside of the weir from corrugated steel that was used as a form for the wet concrete, then removed after it had cured. A small, low extension projects 20 inches east from the east side, and is 5 inches high with walls 3 inches thick. A 6-inch-diameter steel pipe projects horizontally 12 inches west from the bottom of the west side of the weir. At its end, it is capped, with a 2-inch opening in the center. A 3-inch-diameter steel pipe extends a few feet to the northeast of the weir.

Feature 11 (Rock circle). A 5-foot-diameter circle of rocks is located 15 feet west of the south patio of the Rodriguez house (Feature 5). The ring is composed of 11 cobbles and boulders, measuring from approximately 6 to 20 inches across. All of the rocks are slightly embedded in the ground. No artifacts were observed in association with the feature, and its function and age are not known.

Feature 12a (Concrete-lined earth dam). This feature consists of an earth and concrete dam, located approximately 500 feet east-southeast of the blacksmith shop/service garage (Feature 4). The dam is approximately 70 feet long, and is oriented northwest-southeast. It is approximately 15 feet wide, and its upstream side is lined with concrete. The concrete lining slopes at a steep angle, and has a smooth surface.

Feature 12b (Retention basin). The retention basin, on the northeast side of the dam (Feature 12a), measures approximately 90 feet (east-west) by 50 feet (north-south), and is approximately 4 to 5 feet deep. The concrete lining on the upstream side of the dam continues for 18 feet along the south side of the basin, and is 2 to 4 feet high. It may continue around the entire basin, but soil deposition and dense brush obscure it from view. Weathered wooden posts, most of which have fallen, surround the basin, and have two-strand, two-point, double-wrapped barbed wire attached.

One temporally diagnostic artifact was observed in association with Feature 12b. An all-steel, 12-ounce, flat-top beverage can with church key openings, dating to between 1935 and the early 1970s (Wright 1976), was found inside the retention basin, near the southwest end of the dam (Feature 12a).

Feature 12c (Concrete weir box). A low concrete weir box, measuring 32 by 28 inches, with walls 4 5/8 inches thick, is located at the southeast end of the dam (Feature 12a), on the downstream side. Threaded steel 1/4-inch-diameter studs with square nuts are imbedded in the top of the weir to hold 2-by-4-inch boards, which are missing.

Feature 12d (Concrete flume). A narrow, concrete-lined flume runs around the south side of the dam and ends next to the concrete weir box (Feature 12c). The flume is 20 inches wide by 9 inches deep, and has walls 4 1/2 inches thick.

Feature 12e (Concrete and rock flume). Approximately 45 feet down-slope, southwest of the top of the dam (Feature 12a), a concrete and rock flume runs for approximately 150 feet, from northeast to southwest, ending near the edge of a large holding pond (Feature 12c). The flume is 25 inches wide, with granitic cobbles and small boulders mortared to the outside for reinforcement. The interior is 17 1/2 inches wide, 10 inches deep, and is lined with concrete 3 1/2 inches thick. The flume is damaged for approximately 15 feet where a dirt road crosses its southwest end. A small, approximately 30-gallon steel oil-type drum was observed lying next to the northwest side of the flume.

Feature 12f (Holding pond). This large holding pond appears in an aerial photograph from 1959, but did not exist yet when a 1938 aerial photograph was taken (Historic Aerials 1938, 1959). A lateral line of electric power poles with 1953 date nails in them curves closely around the east and north sides of the pond, indicating that the pond was already there when the line was installed. The pond is located approximately 165 feet west of the dam (Feature 12a) and its retention basin (Feature 12b), at the southwest end of the concrete and rock flume (Feature 12e). It is approximately 90 feet southeast of the blacksmith shop/service garage (Feature 4), which is the terminus of the electric power line. The holding pond is roughly oval-shaped, and measures approximately 350 feet (east-west) by 260 feet (north-south). Its maximum depth is approximately 10 feet. The pond is formed within an enhanced natural basin, and does not appear to have any type of lining. A dirt road curves around the north, east, and south sides of the pond, which is also bordered along its south, west, and part of its north side by an olive grove (Feature 37). At the west end of the pond, a 4 1/2-inch-diameter galvanized steel pipe projects west, and has a steel valve attached. A 9-inch-diameter, five-spoked wheel to open and close the valve has "MALL IRON", "PRATT & CADY", "READING", and "OPEN" (with an arrow) embossed. Pratt & Cady, the manufacturer of the valve, was a division of the Reading Steel Casting Company, which was incorporated in 1906 (Montgomery 1909). Historical advertisements indicate that Pratt & Cady valves were manufactured at least until the 1950s.

Artifacts observed in association with Feature 12f consist of a leather boot upper with eyes and hooks, found at the bottom of the west end of the pond, and 5 fragments of sun-altered amethyst-colored glass. Two of the glass fragments were found on the dirt road intersection at the southeast end of the pond, and three were found on the dirt road along the north edge of the pond. Glass containing manganese, which causes it to turn an amethyst color when exposed to sunlight, was manufactured starting around 1880 and was available in the United States until about 1914 (Kendrick 1971).

Feature 12g (Terra cotta pipe). Approximately 10 feet north of the dirt road that borders the north side of the holding pond (Feature 12f), a dark brown ceramic pipeline, oriented northwest-southeast, is eroding out of the hill slope. The pipe is 10 inches in diameter, and has segments 25 3/4 inches long, mortared at the joints.

Feature 13 (Stone retaining wall along Oak Glen Road). A mortared stone retaining wall, built in 1933, runs for approximately 490 feet east-west, parallel to the north side of Oak Glen Road at the south edge of the Casa Blanca property. The wall, which is located at the bottom of the hill slope south of the main Casa Blanca house (Feature 1), is approximately 4 feet from the edge of the pavement along its eastern half, then curves away from the road to a maximum distance of approximately 20 feet along its western half, before curving back to the road at its west end. It is made of granitic cobbles and small boulders, measuring up to approximately 12 inches across, with wide bands of mortar in between. The wall is approximately 12 inches thick, and is capped with a concrete curb 7 inches wide. On the downhill side, facing Oak Glen Road, the wall ranges in height from approximately 2 feet 6 inches to 3 feet 6 inches above the ground surface. On the uphill (north) side, it is flush with the hill slope. Approximately 25 feet west of the east end, "March 13 1933" is inscribed in the concrete cap on top of the wall.

Feature 14 (Fence line). This 340-foot-long segment of an east-west fence line near the western boundary of the site consists of 20 weathered 6-by-6-inch posts, approximately 4 feet 6 inches high. The posts support two lines of two-wire, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 15 (Fence line). This 140-foot-long segment of a north-south fence line along the western boundary of the Casa Blanca property consists of weathered 6-by-6-inch posts, approximately 3 to 5 feet high. The posts support two lines of two-strand, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 16 (Concrete culvert). This 20-foot-long culvert channels Wilson Creek along its course from east to west under Jefferson Street. The 10-foot-wide bottom consists of cobbles set in concrete, and the vertical walls are 6 feet 10 inches high. The barrel-vaulted ceiling is 8 feet 6 inches high in the center. The coarse-textured concrete has horizontal impressions from the boards that were used to hold it in place while it cured, and fragments of black tar paper are still imbedded in the ceiling. Concrete retaining walls 12 inches thick flare out at approximately 45-degree angles from both ends of the culvert, extending 9 feet along the banks of Wilson Creek. Parapets 12 inches high and 7 inches thick define the ends of the culvert at the east and west sides of the road. A stream gauge consisting of a steel box mounted on top of a vertical 36-inch-diameter corrugated steel pipe stands within the stream bed on the upstream (east) side of the culvert, near its north end.

Feature 17 (Fence line). This 750-foot-long segment of a north-south fence line along the western boundary of the Casa Blanca property consists of weathered 4-by-4-inch and 6-by-6-inch posts, approximately 3 to 5 feet high. The posts support two lines of two-strand, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 18 (Fence line). This approximately 3,830-foot-long segment of an east-west fence line along the northern boundary of the Casa Blanca property consists of weathered 4-by-4-inch and 6-by-6-inch posts, approximately 3 to 5 feet high. Many of the posts have fallen. The posts support two lines of two-strand, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 19 (Concrete and brick footing; scattered pipes). This feature consists of a footing located on a north-facing slope of an east-west-trending ravine a few hundred feet from the western boundary of the site. The footing measures 35 inches (north-south) by 33 inches (east-west). It has concrete in the center, with mortared bricks around the sides. The top appears to be broken away, suggesting that the structure, which is flush with the ground surface, was originally taller. Several crushed pieces of 10-inch-diameter riveted steel pipe are scattered nearby to the northeast. A piece of 3/4-inch-diameter steel rod lies next to the north side of the footing.

Feature 20 (Three steel-pipe posts). This feature is composed of three pieces of 4.5-inch-diameter riveted steel pipe, set vertically into the ground to form a small triangle on a south-facing slope in the southeastern quarter of the site. The sides of the triangle measure 10 feet 3 inches, 7 feet 6 inches, and 7 feet. Two-wire, two-point, double-wrapped barbed wire connects the two westernmost posts.

*Feature 21 (Fence line).*This approximately 1,400-foot-long segment of a northeast-southwest fence line within the west half of the Casa Blanca property consists of weathered 4-by-4-inch posts, approximately 3 to 5 feet high. Many of the posts have fallen. The posts support two lines of two-strand, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 22a (Small holding pond). This feature consists of a small depression, located approximately 25 feet north of the edge of Oak Glen Road. The unlined pond, which is oval-shaped, measures 65 feet (east-west) by 40 feet (north-south), and is about 4 feet 6 inches deep in the center.

Feature 22b (Rock concentration). This feature is a concentration of cobbles and small boulders that have been deposited on the slope of the west end of the small holding pond (Feature 22a). The concentration, which measures approximately 8 feet (east-west) by 6 feet (north-south), may have been placed inside the pond for erosion control.

Feature 22c (Rock spillway). This feature is located at the east end of the small holding pond (Feature 22a). Unlike Feature 22b, a rock concentration that appears to have been dumped into the pond, the cobbles and small boulders of Feature 22c have been carefully laid out to form a neat rectangle measuring 17 feet (east-west) by 5 feet (north-south). The feature appears to have functioned as a spillway into the pond.

Feature 22d (Concrete reservoir). This feature is a deep, concrete-lined, subterranean reservoir, located 50 feet northeast of the small holding pond (Feature 22a), 85 feet north of the edge of Oak Glen Road, and 100 feet south of a modern above-ground steel water tank. The reservoir can be seen in an aerial photograph taken in 1938 (Historic Aerials 1938). It is approximately 9 feet deep, and the smooth concrete sides are steeply sloped and partially collapsed. Dense trees and brush block access to some of the perimeter of the feature. The reservoir is slightly oval-shaped, measuring approximately 70 feet (north-south) by 60 feet (east-west). Most of the bottom is covered with sediment, but the concrete floor is exposed in a small area near the east side. The concrete sides are 8 inches thick, and have steel studs imbedded in the top. These, and several sheets of corrugated steel roofing lying inside the feature, suggest that the reservoir was originally covered. A small concrete weir box integrated into the southwest edge of the reservoir measures 60 inches (east-west) by 38 inches (north-south), and is 8 inches deep. Its walls are 4 inches thick, and have steel studs imbedded in the top. A spillway gate is between the weir and the reservoir, and a 6-inch-diameter steel pipe exits the west side and drains down the hill slope.

Feature 22e (Concrete weir box). A large semi-subterranean concrete weir box is located approximately 14 feet east of the concrete reservoir (Feature 22d). This feature is overgrown with vegetation and nearly inaccessible. It is approximately 13 feet square, and 5 feet deep. A collapsed lumber, steel mesh, and corrugated steel roof is inside.

Feature 23 (Fence line). This feature consists of an approximately 750-foot-long segment of a fence line with weathered 4-by-4-inch wooden posts that are 3 to 4 feet high, located in the northwestern quarter of the site. Three lines of two-strand, two-point, double-wrapped barbed wire are attached with baling wire. The southern 450 feet of the remaining fence line are oriented roughly north-south. The northern 300 feet are angled toward the northeast. A crushed, oval-shaped gray graniteware basin lies at the south end.

Feature 24 (Stone retaining wall). This feature is the remaining part of a stone retaining wall, located along the east edge of a north-south-trending ravine in the northwest quarter of the project area. The wall is oriented northeast-southwest, and is approximately 27 feet long. The northeast end is 5 feet high above ground level, and blends into the side of the ravine. The southwest end has been eroded free of the side of the ravine, and stands 4 feet high. The rounded granitic rocks, which measure up to approximately 12 inches across, are mortared together. A 10-inch-diameter dark brown ceramic pipe exits toward the southwest from the southwest end, and is broken open.

Feature 25 (Concrete pipe). Segments of a 10-inch-diameter concrete pipe have been exposed by erosion along approximately 133 feet of the southeast bank of a northeast-southwest-trending ravine approximately 300 feet south of the northern boundary of the site. One piece of pipe projects horizontally approximately 12 inches from the southeast bank of the ravine on a northeast-southwest course. Approximately 33 feet farther southwest, an identical pipe, apparently along the same pipeline, emerges from a cut in the side of a dirt four-wheel-drive trail. A detached 3-foot segment of the pipe lies on the surface of the trail. Approximately 100 feet farther to the southwest, another piece of the pipeline is visible, projecting from beneath another dirt road.

Feature 26 (Terra cotta pipe). This feature consists of an approximately 450-foot-long segment of a dark brown ceramic pipeline, exposed by erosion along the southeast bank of a northeast-southwest-trending ravine. The pipe, which is located about 500 feet south of the northern boundary of the site, is 14 inches in diameter, and has 28-inch-long sections that are mortared at the joints. The pipeline is broken open in several places. The southwestern approximately 120 feet of the pipeline are oriented east-west. The remainder of the pipeline angles toward the northeast.

Feature 27 (Fence line). This approximately 500-foot-long segment of an east-west fence line in the northeast quarter of the site consists of weathered 6-by-6-inch posts, approximately 4 feet high. The posts support four lines of two-strand, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 28 (Fence line). This approximately 260-foot-long segment of an west-northwest to east-southeast fence line, located in the northeast corner of the site, is made of weathered 6-by-6-inch posts, approximately 4 feet high. The posts support four lines of two-strand, two-point, double-wrapped barbed wire, attached with baling wire.

Feature 29a (Terra cotta pipe). This dark brown ceramic pipe measures 14 inches in diameter. It projects horizontally approximately 12 inches toward the west from the eastern head of an east-west-trending ravine in the northeast quarter of the site. The end of the pipe, where it was joined with the next section (now missing), is mortared. Feature 29b, a concrete pipe, is nearby to the southwest of Feature 29a.

Feature 29b (Concrete pipe). This feature, a concrete pipe partially exposed by erosion, heads southwest from the vicinity of Feature 29a, a ceramic pipe. Not enough of this pipe is exposed to measure accurately; however, it appears to be approximately 14 inches in diameter.

Feature 30 (Concrete pipeline). This feature consists of a large concrete pipeline that appears to have been buried approximately 18 inches below the ground surface, but is now partially exposed by erosion in the bank of the eastern head of an east-west-trending ravine. The pipeline, which is in the northeast quarter of the site, is oriented northwest-southeast. It measures 21 inches in diameter, and has 24-inch segments that are sealed at the joints with mortar. In the 1920s, the Yucaipa firm of Montigal and Sons made concrete pipe segments, using Wilson Creek gravel, for a water conveyance project that crossed the eastern half of Casa Blanca Ranch (Fox 1954). It is possible that Feature 30 is associated with that project.

Feature 31 (Agricultural field). This feature consists of an agricultural field of approximately 42 acres, situated on a flat bench that stretches from east to west across most of the southern half of the site. Aerial photography indicates that the field has been used for growing grain and hay crops since at least 1938 (Historic Aerials 1938).

Feature 32 (Agricultural field). This feature consists of an agricultural field of approximately 37 acres, situated on a flat bench that stretches eastward from the eastern boundary of the site, to approximately the center. Aerial photography indicates that the field has been used for growing grain and hay crops since at least 1938 (Historic Aerials 1938).

Feature 33 (Agricultural field). This feature consists of an agricultural field of approximately 17 acres, situated on a flat bench in the northeast quarter of the site. Aerial photography indicates that the field has been used for growing grain and hay crops since at least 1938 (Historic Aerials 1938).

Feature 34 (Agricultural field). This feature consists of an agricultural field of approximately 13 acres, situated on a flat bench in the northwest quarter of the site, north of Wilson Creek. Aerial photography indicates that the field has been used for growing grain and hay crops since at least 1938 (Historic Aerials 1938).

Feature 35 (Agricultural field). This feature consists of an agricultural field of approximately 7 acres, situated on a flat bench in the northwest corner of the site. Aerial photography indicates that the field has been used for growing grain and hay crops since at least 1938 (Historic Aerials 1938).

Feature 36 (Agricultural field). This feature consists of an agricultural field of approximately 3.6 acres, lying north of the main residence (Feature 1) in the southwest corner of the site. Aerial photography indicates that the field has been used for growing fruit trees, as well as grain and hay crops, since at least 1938 (Historic Aerials 1938).

Feature 37 (Olive grove). The olive grove, covering approximately 7.85 acres, was planted around 1915 (Humphreys 1978; Yucaipa Valley Historical Society Museum 1983). The grove occupies a narrow area of hill slope stretching along the north side of Oak Glen Road for approximately 1/2 mile, beginning south of the main Casa Blanca house (Feature 1). A shorter arm of the grove reaches northeast toward the holding pond (Feature 12f).

B8. Related Features (continued from Building, Structure, and Object Record). The main Casa Blanca house (Feature 1) has narrow, concrete-curbed planters flanking the entry stairs along the front, running along the north side, and wrapping around the northeast corner to the back. A dirt and gravel driveway, lined with tall deodar cedar trees that were planted in the 1930s, leads from Oak Glen Road, past the south side of the house, and around to the back (east) side and a garage (Feature 2) that was built in 1937. A modern rail fence borders the driveway. A large front yard with a modern PVC-pipe sprinkler system extends west from the front of the house, and is surrounded by a modern picket fence. Olive trees, planted circa 1915, border the north edge of the lawn. Mature palm and cypress trees also grow in the yard. Across the driveway, south of the house, a modern modular house (Feature 3) stands on a concrete slab foundation. A line of sycamore trees is behind the main house, along a low north-south-oriented stone retaining wall (Feature 8), built in 1940, that has steel rings for tethering horses set in the top. The Rodriguez house (Feature 5) is bordered on its north, west, and south sides by Chinaberry and olive trees.

B10. Significance (continued from Building, Structure, and Object Record). In 1869, a 58-year-old cattleman from Texas named John W. Dunlap, and his partner, William R. Standefer, purchased Rancho Yucaipa, which occupied 3,840 acres of land, from Waters, who had decided to move to San Bernardino. Dunlap, born in Illinois in 1811, had been a stockman in Texas and fought for the independence of that territory form Mexico. In 1854, he came to California by ox team, and was one of the first settlers of El Monte. After buying Rancho Yucaipa with Standefer, Dunlap and his wife, Mary Ann, along with their nine children, lived in the old Sepulveda adobe. Dunlap and Standefer planted 1,500 acres in grain, 100 acres in alfalfa, and raised cattle and sheep (Archer 1976; Atchley 1979; Bowler-Muggeridge 1999; San Bernardino County Museum 2005). Dunlap also kept horses, oxen, and hogs (Yucaipa Valley Historical Society Museum n.d.b). Around the same time (1869), John Dunlap may have been the first farmer to plant apple orchards in the Yucaipa area (Teeters n.d.). By the 1890s, the Dunlap family were among the leading apple growers in the region (*Citrograph* 1896a). The western portion of Yucaipa Valley came to be known as "Dunlap," or "Dunlap Acres."

On July 7, 1875, John Dunlap was killed when he walked onto a horse racing track in San Bernardino and was hit by a harness rig. After John's death, the Dunlaps' partnership with William Standefer was legally settled and came to an end (Probate Court of the County of San Bernardino 1875). Dunlap's widow, Mary Ann, rented the ranch to three of their sons, Franklin Pierce, Louis, and Jack, and operations continued. In 1879, they leased land in Dunlap Acres to Chinese laborers who grew vegetables in an area near today's 5th and E streets in Yucaipa that became known as China Gardens (Atchley 1979; Yucaipa Valley Historical Society Museum n.d.b). In 1883, the Dunlaps started a dairy on their property, dug wells, and alfalfa became an important crop as feed for the dairy cows (Atchley 1979). The Dunlaps prospered with diary and farm produce, supplying local towns and mining districts, including a minor gold rush that flourished in the nearby Crafton Hills between 1884 and 1891 (Atchley 1979).

By the early 1890s, Yucaipa Valley had a population of around 150. The Yucaipa-Redlands Land and Water Ranchero, established in the late 1800s, was the first water organization to serve the developing area. While providing drinking water for the small population, this company, as well as others that followed, primarily delivered water from mountain runoff to irrigate fruit tree orchards and other crops. As the population increased during the early 20th century, the small water companies drilled wells to augment the mountain streams (Yucaipa Valley Water District n.d.). In 1903, after the death of their mother, the Dunlap brothers, Franklin Pierce, Louis, and Jack, incorporated to establish the Yucaipa Land and Water Company. The venture failed because of a lack of financial backing, but a second attempt in 1907 succeeded (Atchley 1979). Other local development companies also formed during that period. George A. Atwood, a local farmer and businessman, and his two partners, M. N. Newmark and James N. Neeland, grain and railroad executives, respectively, formed the Yucaipa Colonization Company for the planning of a formal community. In 1906, "Yucaipa City" was platted by the company on land they had purchased north of today's Yucaipa Boulevard, but there was little interest among buyers because of the inadequate water supply (Montgomery 1984). Little growth took place until around 1910, when the Redlands and Yucaipa Land Company was formed by Atwood and three new partners, and various water organizations began to supply adequate water for further development (Garrett 1992).

The Atwood family came to the San Bernardino area from Iowa by wagon train in 1860. Danford and Jane Atwood bought a small ranch in San Bernardino, where George, one of their nine children, was raised and went to school (W. W. Elliot & Co. n.d.; Yucaipa Valley Historical Society Museum n.d.c). George, who was born in 1853, first saw Yucaipa Valley at the age of 14 when he and a young friend rode their horses across San Bernardino Valley, through Reservoir Canyon, and stayed overnight at a friend's cabin in Hog Canyon (known today as Wildwood Canyon). He made frequent trips to the valley after that, recognizing its rich agricultural potential, which he believed had not been fully exploited (Fox 1954). In 1882, Atwood leased 1,000 acres in Yucaipa Valley from San Francisco businessmen J. F. Houghton and the McNee brothers, and began plowing it with six 12-mule teams, to plant wheat. Over the next several years, he increased his leased acres to 11,000, including land owned by the Dunlaps, and was appointed director of California's Eighth Agricultural District in 1888 (Humphreys 1978; W.W. Elliott & Co. n.d.; Yucaipa Valley Historical Society Museum n.d.c, d). In 1886, Atwood married Alice Rebecca Fredericks, a native of Ohio who had moved to San Bernardino two years earlier (W.W. Elliot & Co. n.d.; Yucaipa Valley Historical Society Museum n.d.d). George and Alice Atwood had one child, Leon Arnold, born in Yucaipa in 1887.

The provision of a reliable drinking and irrigation water supply made the development of Yucaipa possible. George Atwood, sometimes called the "father of Yucaipa" (Montgomery 1984), "... to whose vision and business acumen the development of the Yucaipa Valley is due..." (Yucaipa Valley Historical Society Museum 1935), established the Redlands and Yucaipa Land Company in 1910 with A. N. Dike and J. H. Logie. With Atwood as Director and General Manager, the company began purchasing land in the valley and selling parcels for $75.00 to $250.00 as small farms and home sites. Two years later, the partners formed the Redlands and Yucaipa Water Company, with Atwood as President, Dike as Vice-president, and Logie as Secretary (Pollard 1985; Yucaipa Valley Historical Society Museum n.d.a). In 1910, a 30-room, 2-story hotel, a grocery store, and a hardware store were built in the small community, and plans for a school were under way. Farmers, attracted to the soil and water, which was piped in from the nearby mountains or pumped up from wells, began planting apple, peach, cherry, and plum trees. In 1924, the Redlands and Yucaipa Water Company reported 80 Yucaipa Valley customers in its First Annual Report to the State of California. George Atwood remained president of the company until his death, in 1935. By 1946, the number of water customers had grown to 275, and several additional local water companies were operating (Yucaipa Valley Historical Society Museum n.d.a, d).

Casa Blanca Ranch. In January of 1871, W. W. Standefer, a relative of John Dunlap's partner William R. Standefer, purchased land in the southwest and southeast quarters of Section 29, Township 1 South, Range 1 West of the San Bernardino Base and Meridian from Ridgway G. Rowley for $400.00 (County of San Francisco 1871). A few years later, in August of 1874, W. W. Standefer conveyed the parcel to John Dunlap and William R. Standefer for $1,000.00. This land, adjoining their Rancho Yucaipa holdings, increased the size of their property and was to be the site of the ranch known in later years as Casa Blanca (County of Los Angeles 1874).

John and Mary Ann Dunlap's oldest son, Franklin Pierce Dunlap, was born in Texas in 1853, the year before the family moved to California. Franklin Pierce, known to family and friends as "Pierce," married 21-year-old Isabelle "Belle" Heap on February 3, 1879 (Bowler-Muggeridge 1999). In 1882, Pierce and Belle Dunlap began construction of a large, two-story farmhouse on a hill overlooking the road to Oak Glen, made of bricks formed and fired on the property. Their home, long known as "Yucaipa Valley's showplace," also served as the local schoolhouse, church, post office, and stage stop during its early years (Archer 1976; Humphreys 1978; Palmer 1984; *San Bernardino County Sun* n.d.; Yucaipa Valley Historical Society Museum n.d.e). After Pierce moved with Belle to the new ranch house, his brother Louis Dunlap and succeeding generations of Dunlaps continued to live in the old Sepulveda adobe until the 1950s.

The Dunlap Ranch, as Casa Blanca Ranch was called in the late 19th and early 20th centuries, was the largest in Yucaipa Valley, and was headquarters for Pierce's ranching activities, which consisted mainly of raising cattle, goats, grain crops, and fruit trees (Yucaipa Valley Historical Society Museum n.d.f). A small grape vineyard occupied the yard west of the house. The residence was also the center of social activities for neighbors for miles around, and receptions and parties were held there regularly (*Citrograph* 1896b; Teeters n.d.). There was even an unsuccessful attempt to incorporate the ranch site as the town of Dunlap (Yucaipa Valley Historical Society 2007). In 1893, Pierce was appointed the area's first postmaster, and the local post office was set up in a room next to the kitchen on the south side of the house, known today as the library. Mail service at the Dunlap Ranch continued until 1896, with stage coaches travelling along Oak Glen Road stopping for pickups and deliveries (*Yucaipa-Calimesa News-Mirror* 1978). That year, postal service was moved across the road to larger quarters at "Hayseed Hall," where it remained until 1910 (Yucaipa Valley Historical Society Museum n.d.f).

Early in the house's history, the Dunlaps built an 8-by-10-foot room within the shelter of the north-side porch, equipped it with a blackboard, and began using it to conduct the first grammar school classes in the area (Humphreys 1978). The school room was also occasionally used for church services when circuit preachers happened to be passing through. The room was used as a school until around 1911, when the Pass School was opened on Cherrycroft Road, about half a mile north (Yucaipa Valley Historical Society Museum n.d.g).

A drought during the late 1890s and early 1900s, along with increasing taxation, brought about the end of the large cattle herds and the vast Dunlap Ranch. The Dunlaps, who had owned and farmed most of Yucaipa Valley, were forced to subdivide and sell much their property as smaller farms (Archer 1976; Yucaipa Valley Historical Society Museum n.d.b). In November of 1906, Franklin Pierce and Isabelle Dunlap sold the ranch property, including their two-story brick house, to George A. Atwood, one of the founders of the Yucaipa Colonization Company (Consolidated Abstract and Title Guarantee Company 1906). The Dunlaps moved to Redlands, and later lived in Rialto, where Pierce died in 1928 and Isabelle passed away in 1936 (*San Bernardino County Sun* 1928; Teeters n.d.).

In 1908, less than two years after George Atwood had acquired the Dunlap Ranch and house through a land deal made by his Yucaipa Colonization Company, he and his wife, Alice, made a wedding gift of the two-story brick residence and 257 surrounding acres of former Dunlap land to their only son, 21-year-old Leon A. Atwood, and his 20-year-old bride, Frances Hooper Atwood of Colton. Between about 1910 and 1912, the younger Atwoods completed extensive modifications to the exterior of the building. They increased the deep, wrap-around porch, which had only been one story, to two stories by replacing the former porch roof with a second-story porch floor, and

extending the second-story roof to shelter it. Along the front and north sides, the flat, jigsaw-cut brackets that had decorated the tops of each of the original porch roof support columns were removed and reinstalled on the new second-story roof supports. Plain, square-section cross pieces replaced the original brackets on the downstairs porch columns. The former central window opening in the front of the second story was cut all the way down to the new upper-porch floor, and the window was replaced with French doors. The building's plain red brick walls and all of the wood trim were painted white, and the Atwoods named their house "Casa Blanca" (Farren 1996; Humphreys 1978; Palmer 1984; Yucaipa Valley Historical Society Museum n.d.d, f, h).

On October 9, 1909, the year after they moved into Casa Blanca, Leon and Frances Atwood had their first child, Leon Arnold Jr. A girl, Frances Mary, was also born while they lived on the ranch. They continued farming the land, and most of its 257 acres were planted in alfalfa, wheat, and barley. Beginning in 1912, they also maintained 30 acres of fruit orchards, of which 15 acres were apple trees, including Rome Beauty, Winesap, White Winter Pearmain, Bellflower, and Rhode Island Greening varieties (*Yucaipa Record* 1915). Two thousand boxes of apples were shipped in 1913 (*Yucaipa News*-Mirror 1913). Although there were successful crops some years, apple trees could not thrive consistently in the climate of the relatively low 3,000-foot elevation of the ranch. The Atwoods replaced them with peach trees in 1935, and continued to grow peaches until 1950. Other crops included chestnuts, apricots, and grapes. There were also cattle, sheep, hogs, and chickens (Farren 1996; Palmer 1984; Yucaipa Valley Historical Society Museum n.d.f, i).

World War I (1914-1918) brought a new crop to Casa Blanca. During the early 20th century, the United States consumed 80 to 90 percent of the worldwide production of olive oil. In addition to its use as a food, olive oil had industrial and technical applications, such as oiling textiles, making soap, and fuel for lighting. The Great War resulted in embargoes on the export of the oil from European countries, where most of it was produced (Humphreys 1978; Ramon-Muñoz 2012). There was a sudden demand for domestically grown olive oil, and the Atwoods planted an olive grove on the hill slope along Oak Glen Road. They also planted a row of olive trees along the north side of the front yard, west of the house (Yucaipa Valley Historical Society Museum n.d.i). When worldwide trade returned to normal after the war, the demand for American-grown olive oil was greatly diminished, but Frances Atwood continued to have the trees maintained, and allowed Casa Blanca's neighbors to pick all of the olives they wanted for home curing (Yucaipa Valley Historical Society Museum 1983). The olive grove and the trees edging the front yard still exist.

The Atwoods' son, Leon Jr., attended first grade at the Pass School, a one-room schoolhouse about a half mile north on Cherrycroft Road that had replaced the tiny school room at Casa Blanca. In 1917, Leon Sr. and Frances, wanting their children to attend better schools in the city, moved the family to San Bernardino, where they lived near Leon Sr.'s. parents, George and Alice Atwood. A third child, Stanford William "Tagg" Atwood was born in San Bernardino (Farren 1996; Humphreys 1978; Lively 1975; Montgomery 1984; Yucaipa Valley Historical Society Museum n.d.d). While the Atwoods were absent, the ranch lands were worked by a neighboring farmer and friend, Ray Webster, while Vet Overly, the ranch foreman, lived in the big white house (Yucaipa Valley Historical Society Museum n.d.h). Frances Atwood would return to Casa Blanca as a widow nearly 20 years later to live out her retirement, but the original occupation of the ranch by Yucaipa pioneers and founders, the Dunlaps and Atwoods, had come to an end.

Leon Atwood Sr. was a member of the Board of Directors of the Pacific Electric Company, the interurban railroad that served the Los Angeles, Orange County, and San Bernardino areas from the late 19th century until the early 1960s. In 1926, while riding one the P.E.'s Red Cars between San Bernardino and Los Angeles, he was killed in an accident at the age of thirty-nine (Humphreys 1978; Liveley 1975; State Mutual Savings and Loan n.d.; Yucaipa Valley Historical Society Museum n.d.d, h). His widow, Frances, continued to live in San Bernardino with their three children, and they and her in-laws, George and Alice Atwood, frequently visited Casa Blanca. Webster, Overly, and the ranch hands continued to work the fields. In the 1920s, additional work was completed to bring water to the valley to irrigate the fruit orchards. George Atwood's Redlands and Yucaipa Land Company owned all of the water rights in Potato Canyon, a few miles east in Oak Glen. Excavation contractors Sharpe and Nolte, and Shannon and Beiber, dug water tunnels to collect groundwater in the nearby mountain slopes. A 20-inch-diameter concrete pipeline, made with Wilson Creek gravel by the Yucaipa firm of Montigal and Sons, carried water to a reservoir near the Yucaipa townsite, crossing the eastern part of Casa Blanca Ranch along its way (Fox 1954; *Yucaipa Record* 1923).

Frances Atwood returned to live at Casa Blanca in the late 1930s. George Atwood had continued to spend time at the ranch and work on the fruit trees until his death, at the age of eighty-two, on Christmas Eve of 1935. In 1936, Frances, then forty-eight years old, moved back to the Casa Blanca ranch house, where she lived until her death at the age of 89, in 1977 (Lively 1977). After graduating from the University of California College of Agriculture, her oldest son, Leon Jr., spent the next few years serving in the Merchant Marine and designing and flying racing aircraft, in which he toured the country doing flying exhibitions. By 1936, at the age of 26, he was ready to settle down, and moved back to Casa Blanca with his mother to work on the ranch (Lively 1975; Yucaipa Valley Historical Society Museum n.d.d). Soon after Frances returned to the house, Leon Jr. did some restoration, as well as remodeling parts of the interior, including enlarging the bedroom at the southwest corner and partitioning it to make a new bathroom (Yucaipa Valley Historical Society

Museum n.d.f, j). In the fields, he put the modern agricultural methods he had learned at college to work, starting a peach orchard north of the house, continuing to farm grain and hay, and raising cattle (Montgomery 1984; Palmer 1984). In the 1930s, Leon Jr. also planted the deodar cedar trees that now tower over the driveway and front yard (Montgomery 1984). He built the garage behind the house in 1937. Leon Jr. was the president of the Yucaipa Rodeo Association, and annual rodeos were held at Casa Blanca four times, from 1936 through 1939 (Yucaipa Rodeo Association 1938; Yucaipa Valley Historical Society Museum n.d.h).

Eventually, Leon Jr. and his wife, Lois, purchased the neighboring Five Winds Ranch from Henry Webster, and lived there while Leon continued to work the Casa Blanca Ranch (Montgomery 1984; State Mutual Savings and Loan n.d.; Yucaipa Valley Historical Society Museum n.d.h). He built the mortared stone retaining wall with horse tethering rings, located behind the house, in 1940 as a Valentine's Day gift for his mother. During World War II (1939-1945), Leon Jr. put his experimental racing aircraft experience to good use, training new Army Air Corps pilots at Cal-Aero Flight Academy (today's Chino Airport), while continuing his ranching duties at Casa Blanca (Lively 1975). Leon Jr.'s sister, Frances, moved back to Casa Blanca for six months during the early 1940s while her husband, Thomas Webster, served in the military (Farren 1996). Leon Jr. built a small employee house up the driveway, northeast of the house, in 1947. A building combining a blacksmith shop and service garage was also constructed in the same area, probably in the early 1950s.

While remaining a farmer and continuing to oversee work at Casa Blanca for the rest of his life, Leon Jr. seemingly had boundless energy and time for business and civic activities. Like his grandfather, George Atwood, he carried on the family tradition of service to and involvement with the community, and was one of Yucaipa's leading citizens. He served the city of San Bernardino as both Police Commissioner and Councilman, was a member of the Yucaipa Valley Chamber of Commerce, and President of the Section 30 Water Company. In 1949-1950, he was one of the co-founders of the Yucaipa Valley National Bank. Leon Jr. was a San Bernardino County Deputy Sherriff, did rescue work in the local mountains, was the Vice President of Arrowhead Savings and Loan (later Home Savings and Loan), and Chairman of the County of San Bernardino Agricultural Stabilization and Conservation Committee. In 1951, he served as Mayor *pro tempore* of the city of San Bernardino while Mayor Clarence T. Johnson ran for Congress (Lively 1975).

Following the death of his mother, Frances, in 1977, Leon Jr. carried on operating the ranch while he, his sister Frances Webster, and her husband Thomas worked to restore the house at Casa Blanca. To recreate the feeling the residence had when Leon Jr. and Frances were growing up there, they refurnished it with the original antique pieces and decor that they had retained over the years (Montgomery 1984; Yucaipa Valley Historical Society Museum n.d.d, f). In 1992, structural repairs costing $100,000 were necessary after the Landers earthquake (Marriott 2004). When Leon Jr. died in 1995 at the age of 85, he deeded the house and 10 acres of land to his sister, and the remainder of Casa Blanca to the San Bernardino County Museum Association, hoping that eventually the house would also pass into county ownership and be used as a museum (Marriott 2004; Yucaipa Valley Historical Society Museum n.d.h).

California Register of Historical Resources (CRHR) Evaluation. The main Casa Blanca residence (Feature 1), which retains a high level of integrity, is recommended eligible for listing in the CRHR under Criterion 1 for its association with historic events, and Criterion 2 for its association with historic persons, during a period of significance lasting from 1882 to 1917. It is also believed to be eligible for CRHR listing under Criterion 3 for its design and construction. While some of the remaining buildings and features within the site are historical in age, they post-date the period of significance, are utilitarian in design, or retain poor integrity, and are not, therefore recommended for listing in the CRHR. Evaluation of the site with regard to each of the four CRHR criteria is provided below.

Criterion 1. From the time it was established by the pioneer Dunlap family in 1882, until the end of the initial occupation by the Atwoods in 1917, the site, and the main Casa Blanca residence (Feature 1) in particular, were the headquarters of the preeminent ranch in Yucaipa Valley. Built by Franklin Pierce Dunlap, who had spent his youth living in the nearby Sepulveda adobe of Rancho Yucaipa, the original ranch house is linked to the Mexican land grant period through its time, place, and ownership. The house itself is historically significant to the broad patterns of local and regional history, not only in its private function as the residence of a member of the leading pioneer family in the area, but in its public function as the social center of the earliest Yucaipa community. From the 1880s to the first years of the 20th century, the house served as the region's first school. Its school room, which still exists, was also used for church services. From 1893 through 1896, the house contained the first post office in the area. The post office, housed in another room that can still be seen, was a stop along the stage coach route to and from Oak Glen. After the Atwoods bought the ranch in 1906 and named it "Casa Blanca", the house continued to be the unofficial community and social center of the Yucaipa Valley until the family relocated to San Bernardino in 1917, and was known as "Yucaipa Valley's showplace". The main Casa Blanca residence (Feature 1) is a significant example in the region of a building that served important private and public functions during the pioneering and founding period of the Yucaipa community in the late 19th and early 20th centuries, and is, therefore, recommended eligible for listing on the CRHR under Criterion 1.

When the Atwood family moved from Casa Blanca to San Bernardino in 1917, they were gone for nearly two decades. While they still directed agricultural activities at the ranch and visited frequently, an employee resided in the house. The original period of occupation by Yucaipa pioneers and founders—the period of greatest historic significance—had come to an end. Leon Atwood Sr. died in 1926, and his widow, Frances moved back to live in retirement at Casa Blanca in 1936. By that time, Yucaipa was well established as a town, and the Yucaipa Valley pioneering and founding period was long over.

Because of their lack of association with the period of significance, or their lack of integrity, none of the other buildings and structures are recommended eligible for CRHR listing under Criterion 1. The garage (Feature 2), the blacksmith shop/service garage (Feature 4), and the north half of the Rodriguez house (Feature 5) are historical in age, but date to 1937, the early 1950s, and 1947, respectively, long after the period of historic significance, 1882 to 1917. The modular house (Feature 3), the prefabricated steel building and concrete slab (Feature 6), and the south half of the Rodriguez house (Feature 5) are all modern, having been constructed less than 50 years ago. The remaining features, consisting mainly of water conveyance and storage structures and pipes, retain very poor integrity. Stone retaining walls behind the main house (Feature 8) and along Oak Glen Road (Feature 13) were constructed in 1940 and 1933, respectively, post-dating the period of significance of Casa Blanca Ranch.

Criterion 2. The main Casa Blanca residence was constructed by and was the home of Franklin Pierce Dunlap, a member of the pioneering Dunlap family that purchased Rancho Yucaipa in 1869 and had a significant effect on the agricultural development of the area. The Dunlaps planted tens of thousands of acres in grain and hay, established the first dairy, and may have been the first farmers in the area to grow apples. In addition to being one of the area's leading ranchers and farmers, Franklin Pierce established the first school and post office in the region at the Casa Blanca residence, and served there as the first postmaster. Dunlap and his wife, Isabelle, were the social leaders of the early Yucaipa Valley and presided over community affairs from their home. In 1906, the Dunlaps sold the ranch to George Atwood, known as the "father of Yucaipa". In 1908, George, who continued to have a hand in running the ranch, gave the house and land to his son, Leon, and his wife, Frances as a wedding present. Until they moved to San Bernardino in 1917, the younger Atwoods maintained the social tradition that had been established by the Dunlaps, and Casa Blanca remained the unofficial community center of the Yucaipa area. Because of its strong association with the Dunlap family, prominent pioneers of the Yucaipa Valley and owners of Rancho Yucaipa, and with the Atwood family, founders of the community of Yucaipa, the main residence at Casa Blanca Ranch (Feature 1) is recommended eligible for listing on the CRHR under Criterion 2.

The remaining buildings and features at Casa Blanca Ranch, other than the main residence (Feature 1), were constructed after the period of significance. They lack any association with the Dunlap family, and do not have a strong association with the original occupation of the Atwoods, which ended in 1917. None of the buildings and structures, other than the main house (Feature 1), are recommended eligible for CRHR listing under Criterion 2.

Criterion 3. The main Casa Blanca residence (Feature 1) is a fine example of a late 19th century southern California Folk Victorian ranch house. The house has undergone very little modification since it was remodeled circa 1910-1912 by Leon Atwood Sr. and his wife, Frances, and retains a high level of integrity to its period of significance. Both the original construction of 1882, and the modifications that were carried out by the Atwoods, are excellent examples of late 19th and early 20th century design and methods of construction. The massive stone foundation and brick walls of the house are rare regional examples, on such a large scale, of masonry construction using materials readily available on the property. The bricks were formed from local soil and fired on the premises in a kiln built especially for the purpose. The main Casa Blanca house embodies the distinctive characteristics of its type, period, region, and method of construction. Furthermore, it is one of only two early historic-period brick masonry residences of substantial size in the San Bernardino Valley/Yucaipa Valley area (the Barton house in Redlands being the other example). Therefore, it is recommended eligible for listing in the CRHR under Criterion 3.

The remaining buildings within the site, other than the main Casa Blanca residence (Feature 1), are of utilitarian design, lacking architectural distinction, and do not strongly embody the distinctive characteristics of any period, type, or method of construction. The other features, consisting mainly of water conveyance and storage structures and pipes, do not possess any distinctive engineering characteristics, and have poor integrity. These buildings and features are not, therefore, recommended eligible for listing on the CRHR under Criterion 3.

Criterion 4. No historic-period refuse deposits or abandoned building foundations were observed within the site during the archaeological field survey. It is not know whether any subsurface deposits exist representing privies or the kiln used to fire the bricks for the house. Archaeological testing would have the potential to reveal the locations of such features; however, if found they would have little potential to yield significant data that would be important to the history of Casa Blanca Ranch. The site is not, therefore, recommended eligible for CRHR listing under Criterion 4.

B12. References (continued from Building, Structure, and Object Record).

Archer, Morse G.
1976 *Yucaipa Valley California, a Saga of Ordinary People with Extra-Ordinary Dreams*. M.G. Archer, publisher, Yucaipa, California.

Atchley (no first name or initials provided)
1979 Manuscript page attributed to "Mr. Atchley" and the Yucaipa Branch Library, July 25. On file at the Yucaipa Valley Historical Society Museum.

Bowler-Muggeridge, Bettie
1999 *John W. Dunlap (b: 1811-d: 1875), His Family and Descendants, from Texas to California*. Keepsake Publishing, Garden Grove, California.

Citrograph, Redlands, California
1896a Untitled newspaper clipping, October 3. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

1896b "A Reception at Yucaipe [sic]" April 25. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Consolidated Abstract and Title Guarantee Company
1906 Deed conveying the Dunlap Ranch from Franklin Pierce Dunlap and Isabelle Dunlap (grantors) to George A. Atwood (grantee), November 8. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

County of Los Angeles
1874 Deed conveying south ½ of southwest ¼ and west ½ of southeast ¼ of Section 29, Township 1 South, Range 1 West of the San Bernardino Base and Meridian from W. W. Standefer (grantor) to Wm. R. Standefer and John Dunlap (grantees). On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

County of San Francisco
1871 Deed conveying south ½ of southwest ¼ and west ½ of southeast ¼ of Section 29, Township 1 South, Range 1 West of the San Bernardino Base and Meridian from Ridgway G. Rowley (grantor) to William W. Standefer (grantee). On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Farren, Julie
1996 "Local History: Casa Blanca in Yucaipa. Ranch, Home Recall an Earlier Time." February 8. *San Bernardino County Sun*, California. Newspaper clipping on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Fox, Maude A.
1954 *Both Sides of the Mountain*. Desert Magazine Press, Palm Desert, California.

Garrett, Lewis
1992 "Postal History of San Bernardino County." *San Bernardino County Museum Association Quarterly*, 39(4), p72.

Historic Aerials
1938-82 Aerial photographs of the Yucaipa area. www.historicaerials.com.

Humphreys, Marlene
1978 "Showplace Goes on Display." *Yucaipa-Calimesa News-Mirror*, California. Newspaper clipping on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Kendrick, Grace
1971 *The Antique Bottle Collector*. Pyramid Books, New York.

Lively, Etta
1975 "Let's Look at: A Yucaipa Valley Pioneer Rancher, Leon Atwood Proud of Family Heritage." August 6. *Yucaipa-Calimesa News-Mirror*, California. Newspaper clipping, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

1977 "Casa Blanca Pioneer Dead at 89." February 9. Unattributed newspaper clipping, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Marriott, Karin
2004 "Historical Landmark Hidden Away." *The Press-Enterprise*, Riverside, California, March 24. Newspaper clipping, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Montgomery, Kathy
1984 "Casa Blanca, Yucaipa Valley's Own 'White House'". *Yucaipa-Calimesa News-Mirror*, California, April 11.

Montgomery, Morton
1909 *History of Berks County, Pennsylvania.* Excerpt reproduced at www.berks.pa-roots.com/library/business/iron.html.

Palmer, Chuck
1984 "You Don't Need to Visit Morocco to See Casa Blanca." *San Bernardino County Sun*, California, June 10. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Pollard, Maxwell
1985 "'Wild, Lush Territory' Was Beautiful from Beginning to Settlers." *Yucaipa-Calimesa News-Mirror*, California, February 6. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Probate Court of the County of San Bernardino
1875 "In the Matter of the Estate of John Dunlap, Deceased." Case No. 262. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Ramon-Muñoz, Ramon
2012 "International Marketing for Olive Oil prior to World War II." Paper prepared to be presented at the 16th Annual Conference of the European Business History Association (EBHA) and 1st Joint Conference with the Business History Society of Japan (BHSJ). University of Barcelona Research Centre in Economics and Economic History.

Richards, Elizabeth W.
1966 *Guideposts to History: Concerning Origins of Place and Street Names in San Bernardino County.* Santa Fe Federal Savings and Loan Association, San Bernardino, California.

Rock, Jim
1987 *A Brief Commentary on Cans.* Klamath National Forest, Region 5, Department of Agriculture, U.S. Forest Service, Washington, D.C.

San Bernardino County Museum
2005 "The Yucaipa Adobe." www.co.san-bernardino.ca.us/museum/branches/yucadob.

San Bernardino County Sun, California
1928 "Early Valley Resident, 74, Dies at Home." January 24. Newspaper clipping on file at the Yucaipa Historical Society Museum, Yucaipa, California.

n.d. "Pioneer Descendants Gather in Yucaipa." Newspaper clipping on file at the Yucaipa Historical Society Museum, Yucaipa, California.

Simonis, Don
n.d. *Condensed/Evaporated Milk Cans: Chronology for Dating Historical Sites.* U.S. Department of the Interior, Bureau of Land Management, Washington, D.C.

State Mutual Savings and Loan
n.d. "Casa Blanca." Brochure, on file at the Yucaipa Historical Society Museum, Yucaipa, California.

Teeters, Claire Marie
n.d. "Casa Blanca Timeline." On file at the Yucaipa Historical Society Museum, Yucaipa, California.

W. W. Elliot & Company
n.d. *History of San Bernardino County*. Published by W.W. Elliott & Company, San Francisco. Undated photocopy of book page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Wright, Larry (ed.)
1976 The Beer Can: A Complete Guide to Beer Can Collecting. Greatlakes Living Press, Matteson, Illinois.

Yucaipa-Calimesa News-Mirror, California
1978 "Claire Sample Tells of Early Yucaipa Mail Delivery." June 21. Newspaper clipping on file at the Yucaipa Historical Society Museum, Yucaipa, California.

Yucaipa News-Mirror, California
1913 "Casa Blanca, 2,000 Boxes of Apples." Newspaper clipping on file at the Yucaipa Historical Society Museum, Yucaipa, California.

Yucaipa Record, California
1915 "The Orchard at Casa Blanca." December 17. Newspaper clipping, on file at the Yucaipa Historical Society Museum, Yucaipa, California.

1923 "Casa Blanca Tunnel to Go 400 Feet Further." January 20. Newspaper clipping, on file at the Yucaipa Historical Society Museum, Yucaipa, California.

Yucaipa Rodeo Association
1938 "Third Annual Yucaipa Non-Professional Rodeo, Casa Blanca Rancho, September 4-5, 1938." Program, on file at the Yucaipa Historical Society Museum, Yucaipa, California.

Yucaipa Valley Historical Society
2007 *Images of America: Yucaipa*. Published by the Yucaipa Valley Historical Society, Yucaipa, California.

Yucaipa Valley Historical Society Museum
The archives of the Yucaipa Valley Historical Society Museum contain numerous documents pertaining to the Casa Blanca Ranch and its historical owners, the Dunlap and Atwood families. Many of these documents consist of photocopies of newspaper clippings, book pages, and single pages removed from typed or hand-written manuscripts that do not include any annotation of their date, authorship, or publication.

1914 Photograph of Casa Blanca Ranch entry gateway. On file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

1935 "G.A. Atwood Passed Away December 24th." Unattributed newspaper clipping, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

1983 Unattributed typewritten manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.a Unattributed book page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.b Unattributed manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Yucaipa Valley Historical Society Museum (continued)

n.d.c "Leon Atwood Tells Audience Local History of His Family." Unattributed newspaper clipping, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.d "Casa Blanca." Unattributed typed manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.e "Casa Blanca History-Dunlap Era-Including Construction." Unattributed manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.f "Casa Blanca." Unattributed manuscript pages, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.g Unattributed hand-written manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.h "Casa Blanca History—Atwood Era." Unattributed manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.i Unattributed manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

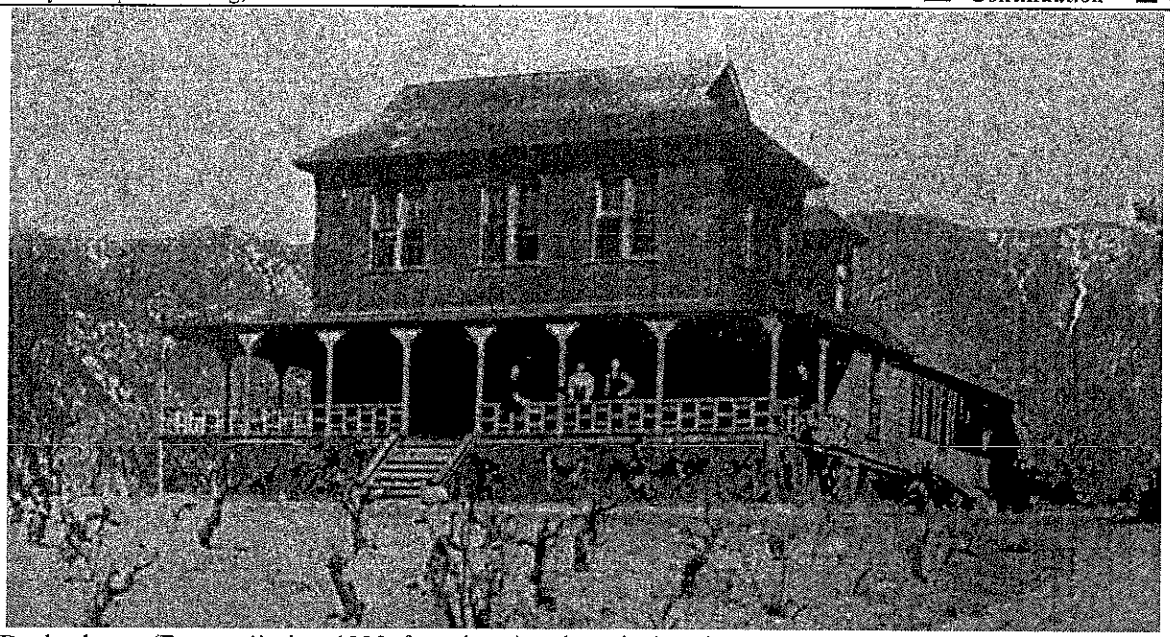
n.d.j Unattributed typed manuscript page, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

n.d.k "Leon Atwood Speaks to Historical Society." Unattributed newspaper clipping, on file at the Yucaipa Valley Historical Society Museum, Yucaipa, California.

Yucaipa Valley Water District

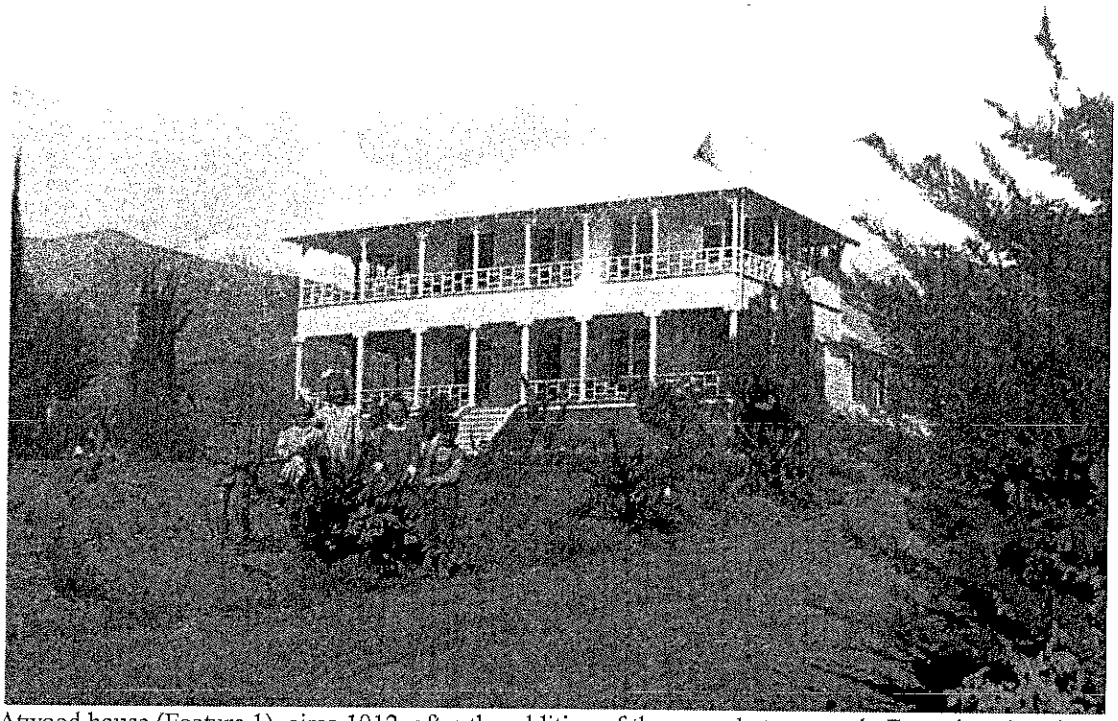
n.d. "Formation of the Yucaipa Valley Water District." www.yvwd.dst.ca.us/history.

B13. Remarks (continued from Building, Structure, and Object Record). Because of its eligibility for listing in the CRHR, any impacts to the main Casa Blanca residence (Feature 1) would be considered significant under CEQA. CEQA Guidelines Section 15126.4(b) state that mitigation measures should be taken to prevent or minimize any adverse effects to a historical resource that could result from a project. Above all, demolition of the house as part of the redevelopment of the project area is an impact that cannot be mitigated below a level of significance by any type of recordation. Demolition, and any other potential impacts, such as damage caused by collisions from construction vehicles and equipment, must be avoided. In addition, minimal security measures should be implemented to prevent arson and further vandalism, including the installation of an alarm system, and a locked gate at the lower end of the driveway by Oak Glen Road. To preserve some measure of the Casa Blanca residence's integrity of setting, preservation of the landscaping and plantings in the area immediately surrounding the house is also recommended. This includes the front yard and its border of deodar cedar and olive trees, the deodar cedar trees that line the driveway, the stone retaining wall with rings for tethering horses (Feature 8) in the back yard of the house, and the olive trees on the steep hill slope south of the house. Keeping the olive trees on the hill slope would have the added effect of maintaining the historical visual barrier between Oak Glen Road and the house. Retaining the Casa Blanca house and its immediate surroundings would provide an aesthetic focal point for any new residential development, as well as an important link to the history of the region and its pioneers.

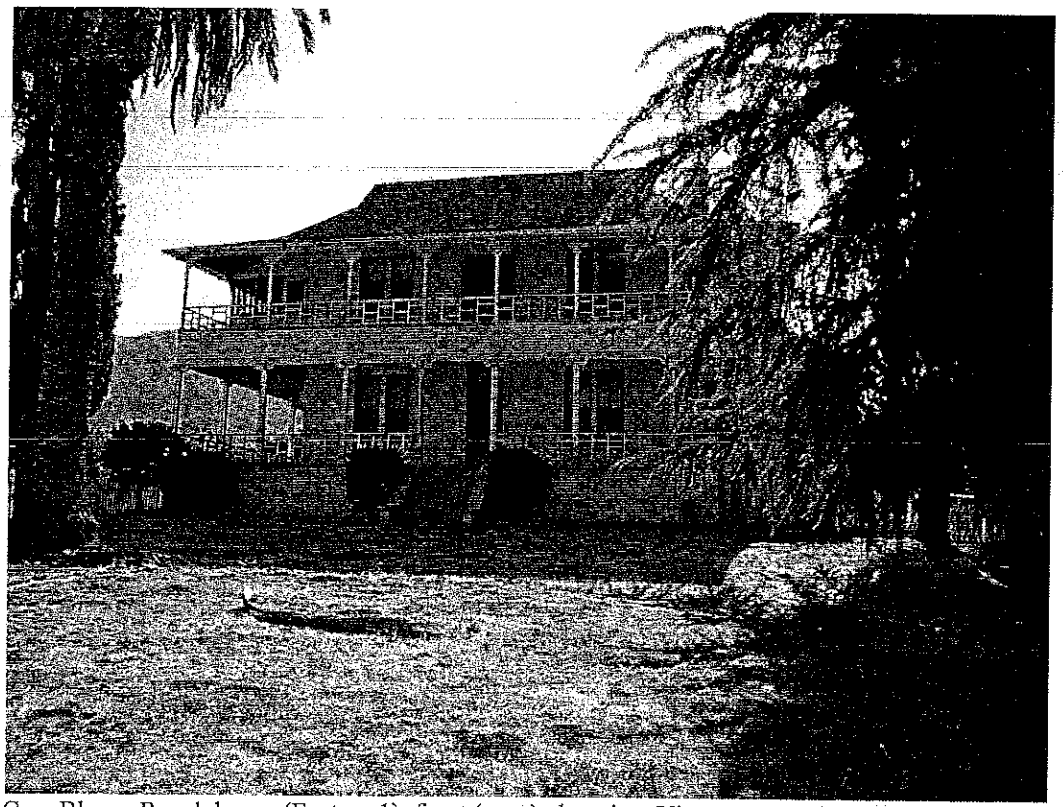


Dunlap house (Feature 1) circa 1900, front (west) and south elevations. View to northeast. (Photo courtesy of Yucaipa Valley Historical Society Museum)

Atwood house (Feature 1), painted white circa 1910, before second-story porch was added. Front (west) and south elevations. View to northeast. (Photo courtesy of Yucaipa Valley Historical Society Museum)

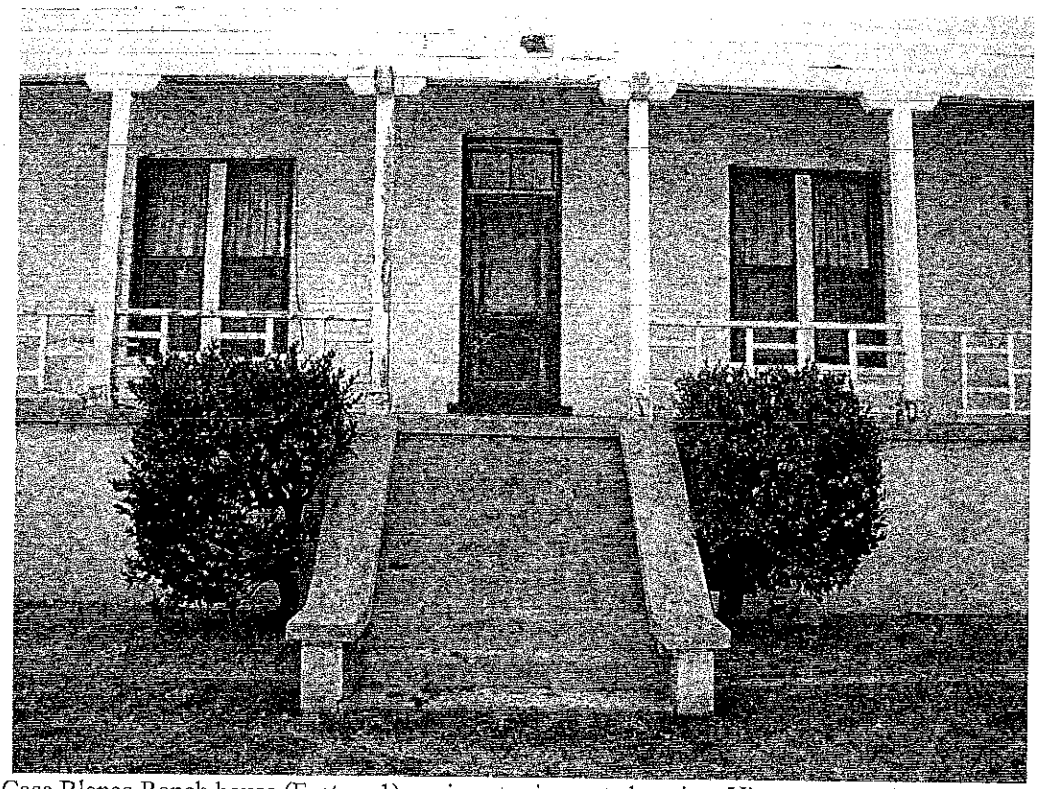


Atwood house (Feature 1), circa 1912, after the addition of the second-story porch. Front (west) and south elevations. View to northeast. (Photo courtesy of Yucaipa Valley Historical Society Museum)

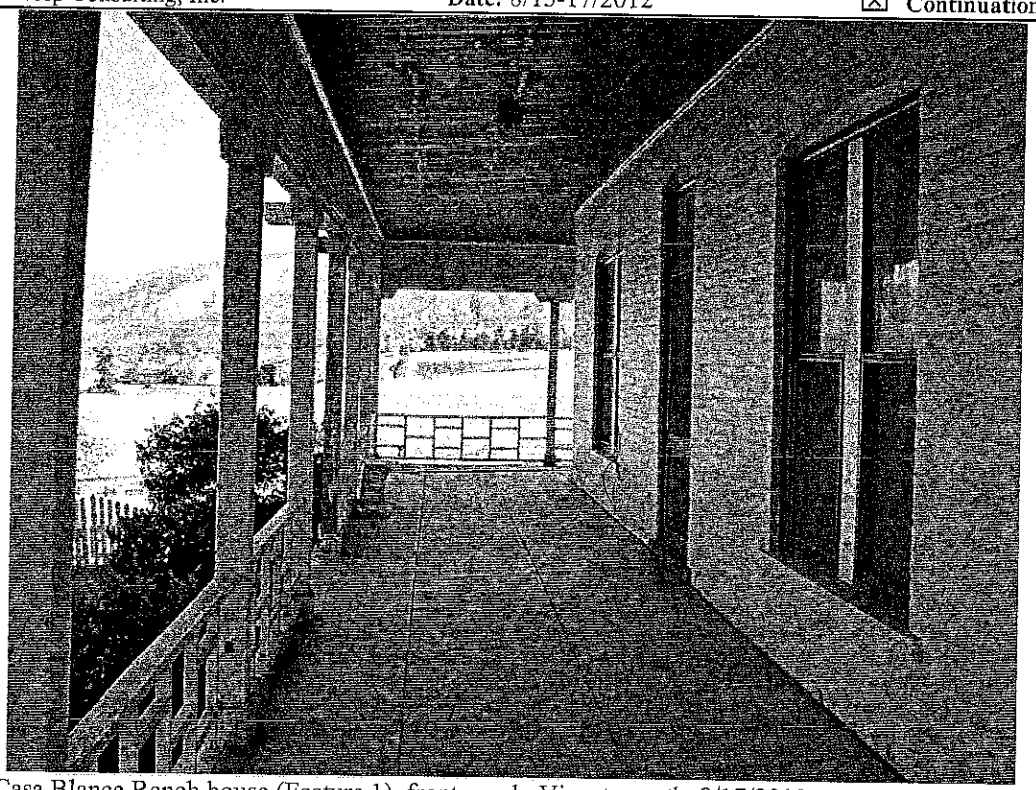


Casa Blanca Ranch house (Feature 1), front (west) elevation. View to east, 8/17/2012.

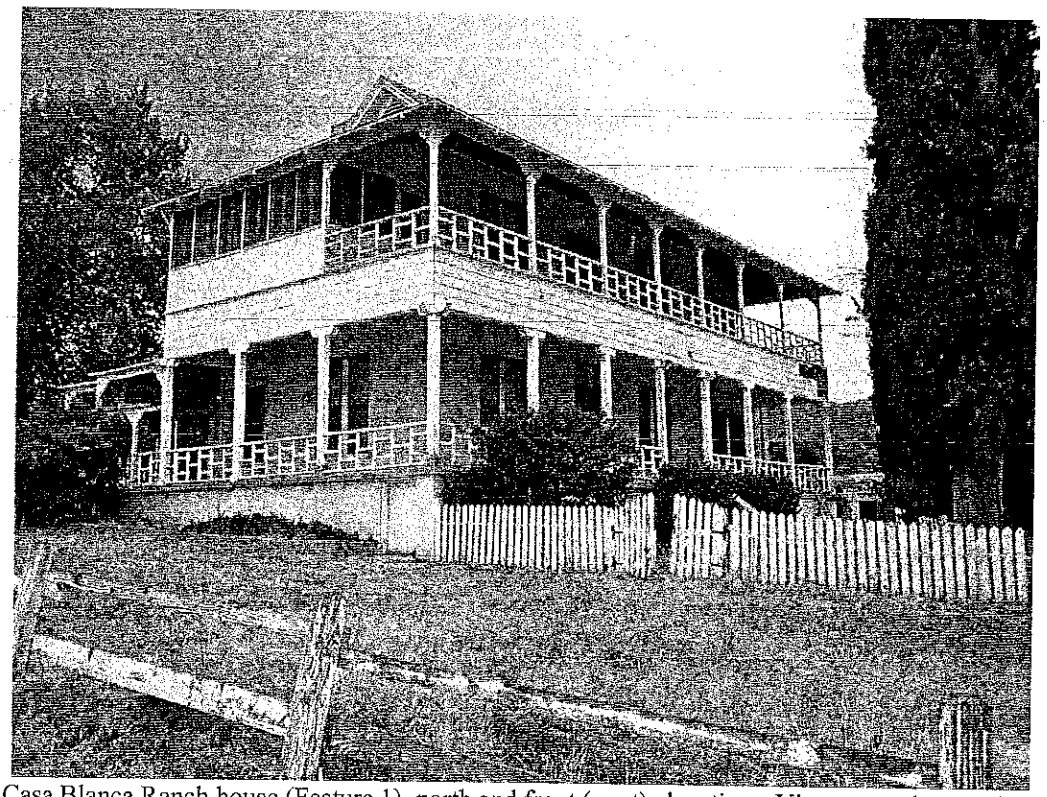
Casa Blanca Ranch house (Feature 1), front (west) elevation. View to east, 8/17/2012.



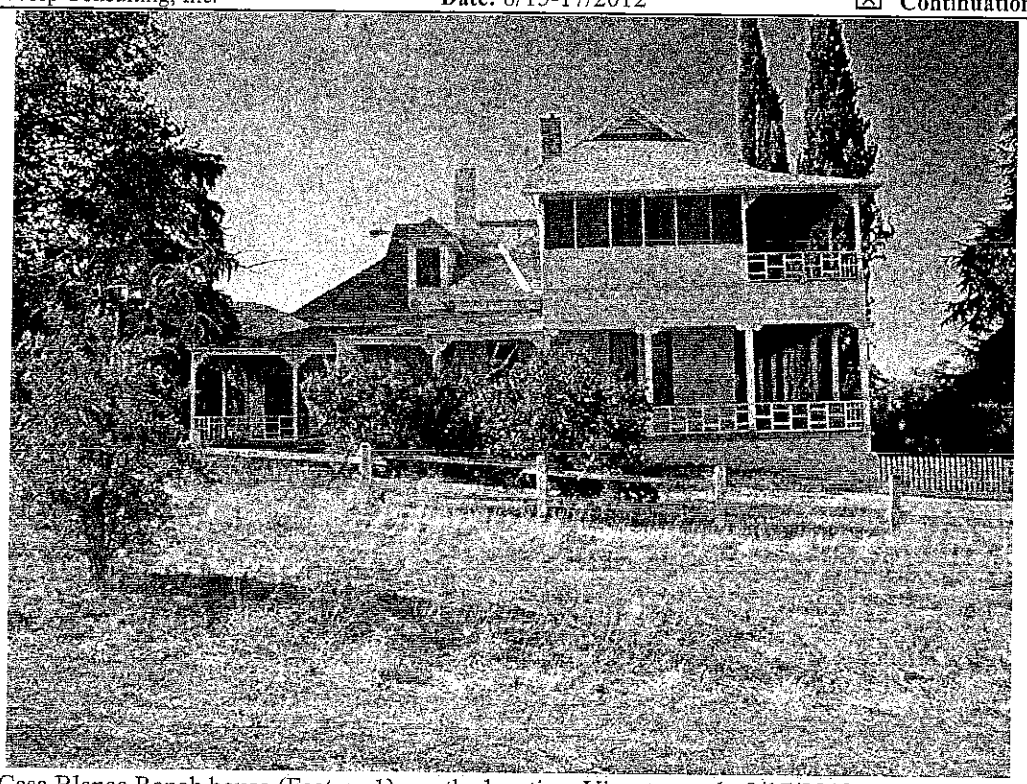
Casa Blanca Ranch house (Feature 1), main entry in west elevation. View to east, 8/17/2012.



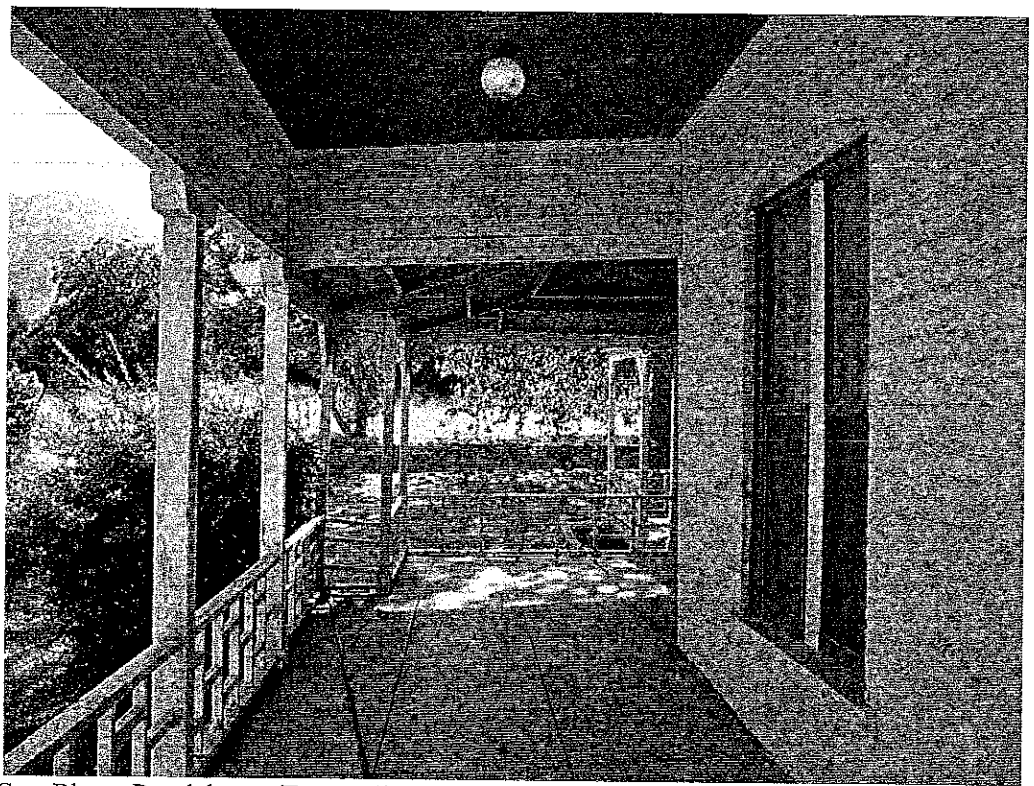
Casa Blanca Ranch house (Feature 1), front porch. View to north, 8/17/2012.



Casa Blanca Ranch house (Feature 1), north and front (west) elevations. View to southeast, 8/17/2012.

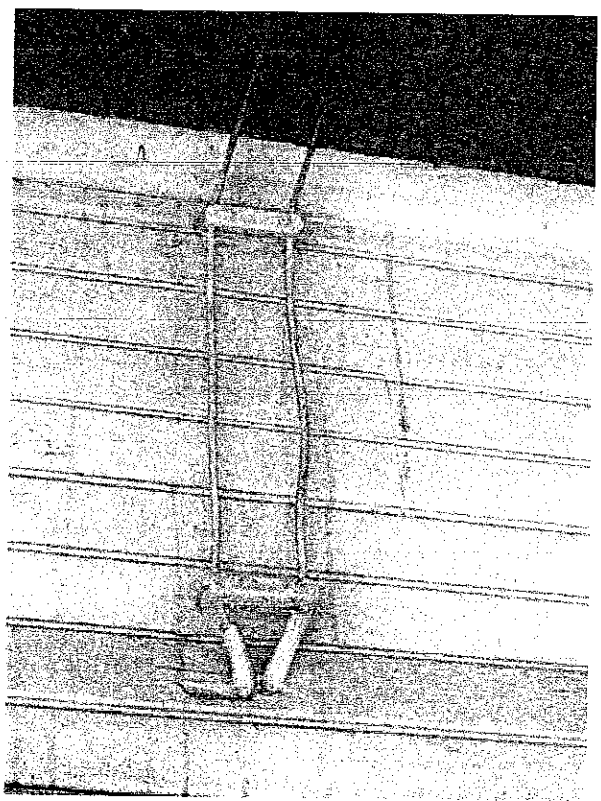


Casa Blanca Ranch house (Feature 1), north elevation. View to south, 8/17/2012.

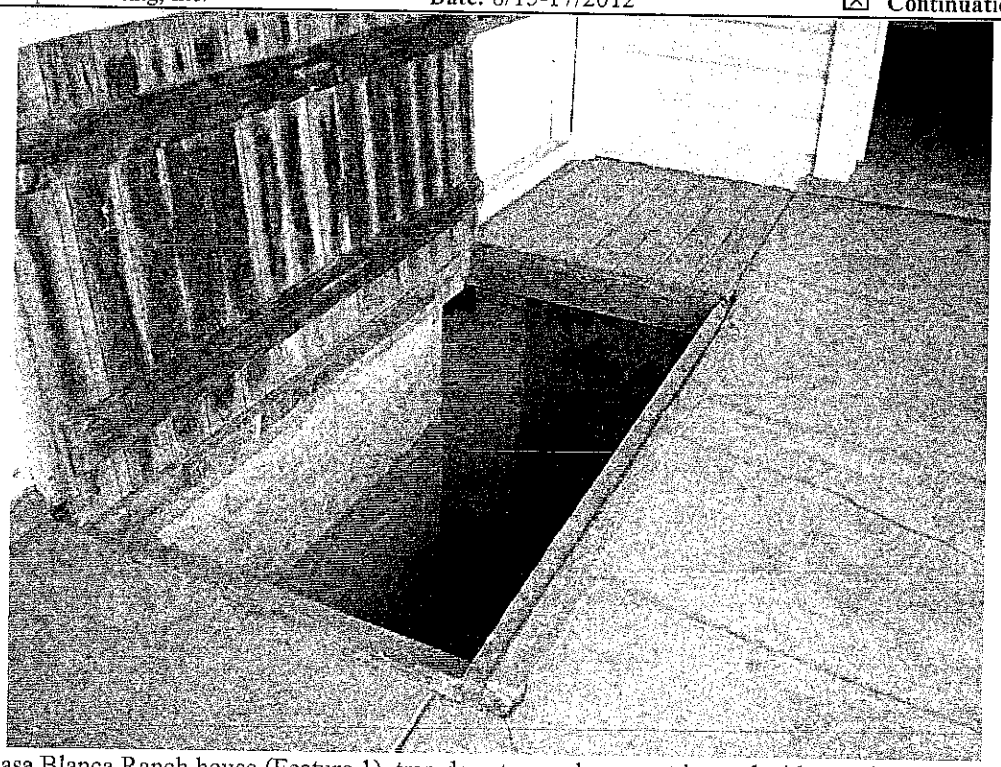


Casa Blanca Ranch house (Feature 1), porch along north side. View to east, 8/17/2012.

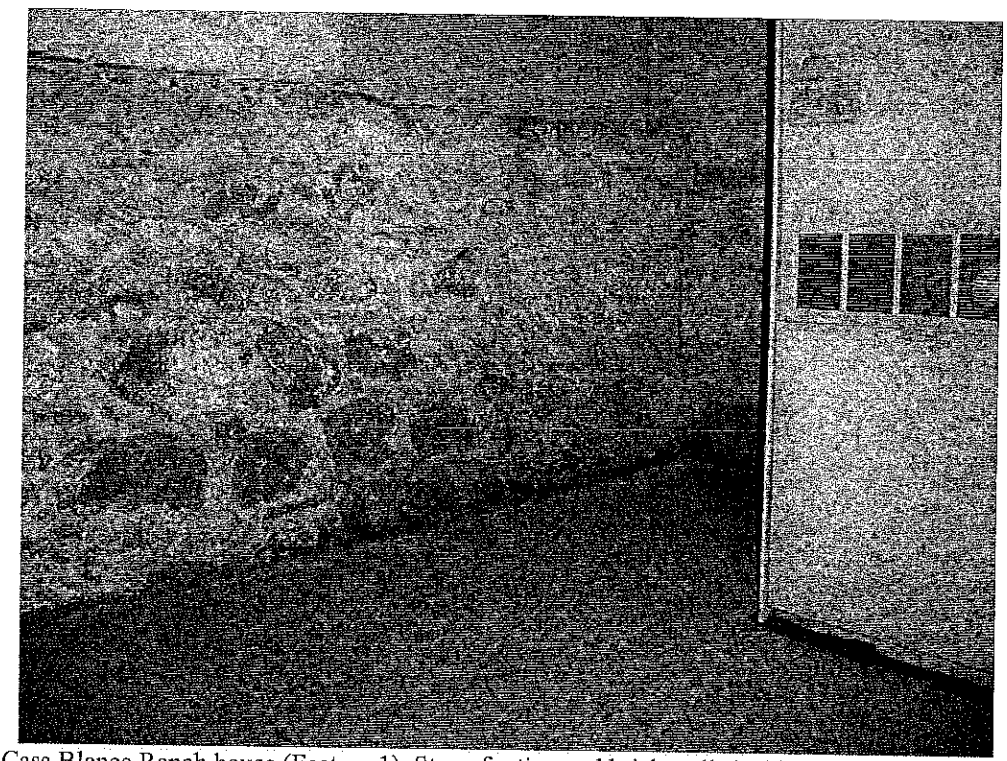
Casa Blanca Ranch house (Feature 1), porch brackets on north side View to south, 8/17/2012.



Casa Blanca Ranch house (Feature 1), original electrical wiring in north side porch. View to east, 8/17/2012.



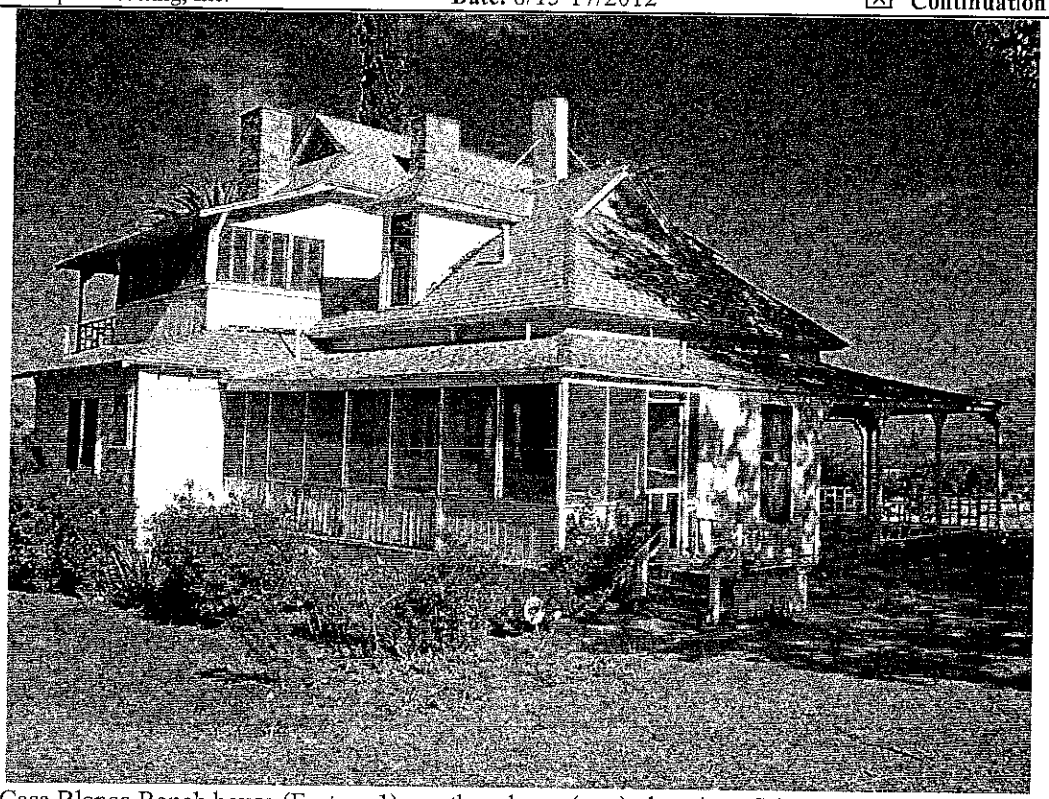
Casa Blanca Ranch house (Feature 1), trap door to rear basement in north side porch
View to southwest, 8/17/2012.



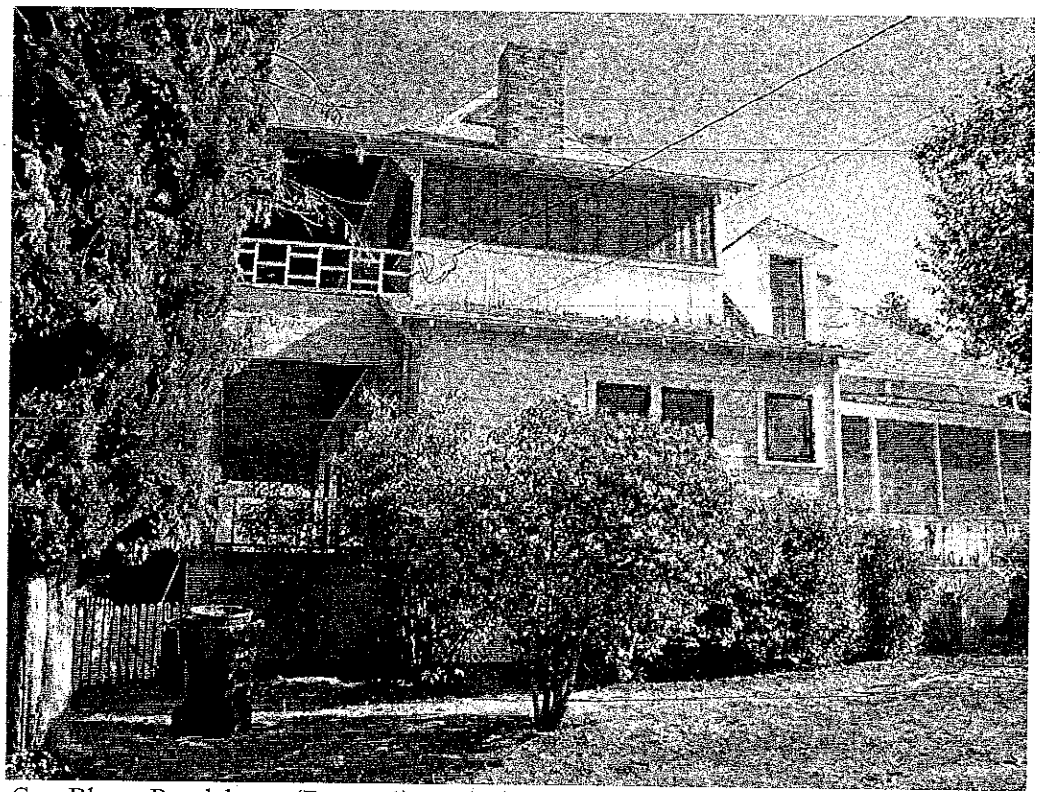
Casa Blanca Ranch house (Feature 1), Stone footing and brick walls inside rear basement.
View to southwest, 8/17/2012.

Casa Blanca Ranch house (Feature 1), "Tommy – Taggy – Leon – III" inscribed in concrete patch by trap door to rear basement in north side porch. View to south, 8/17/2012.

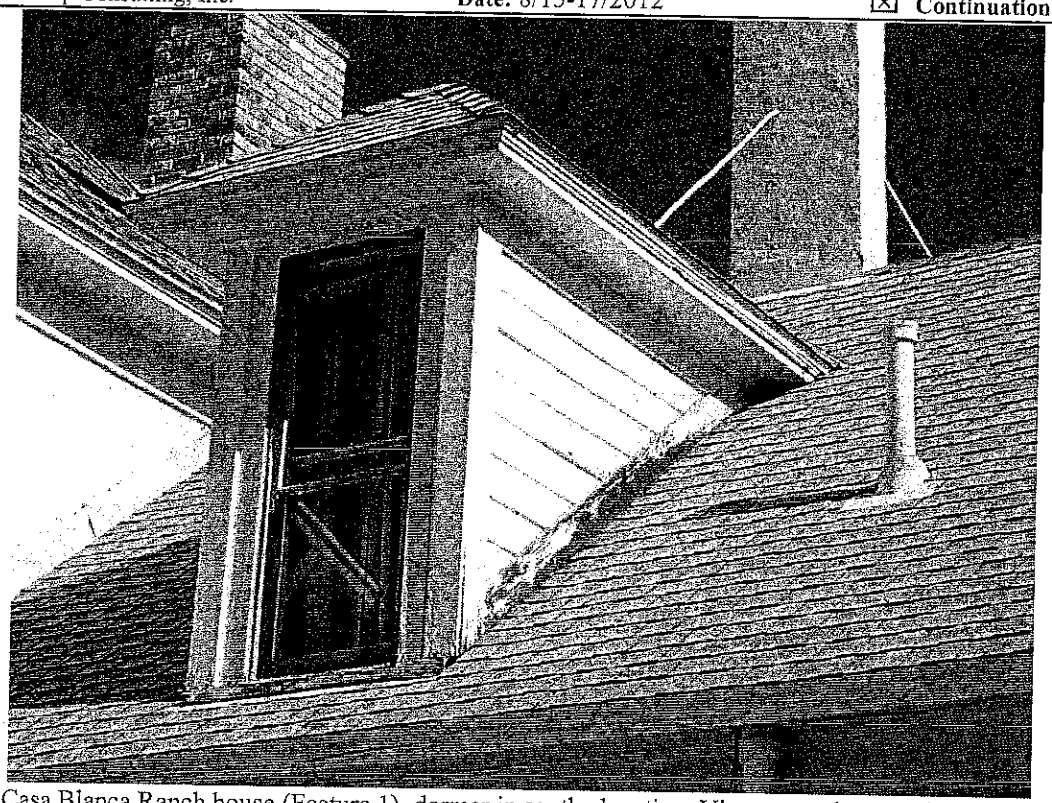
Casa Blanca Ranch house (Feature 1), Rear (east) and north elevations. View to southwest, 8/17/2012.



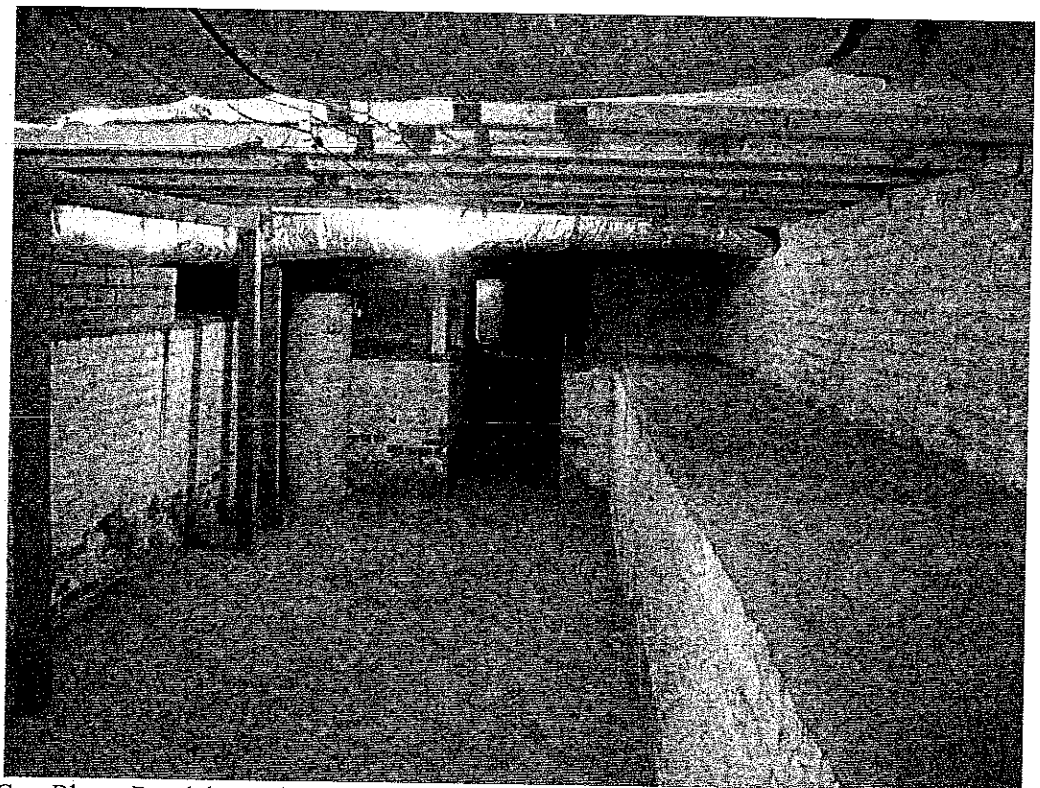
Casa Blanca Ranch house (Feature 1), south and rear (east) elevations. View to northwest, 8/17/2012.



Casa Blanca Ranch house (Feature 1), south elevation. View to north, 8/17/2012.

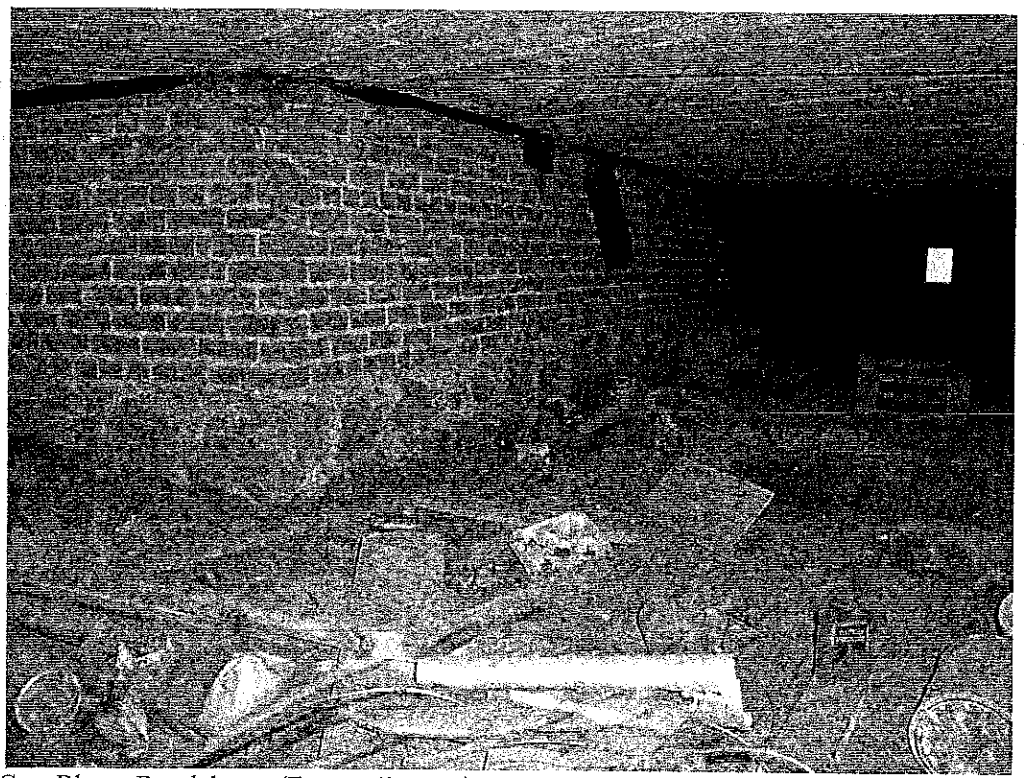


Casa Blanca Ranch house (Feature 1), dormer in south elevation. View to northwest, 8/17/2012.

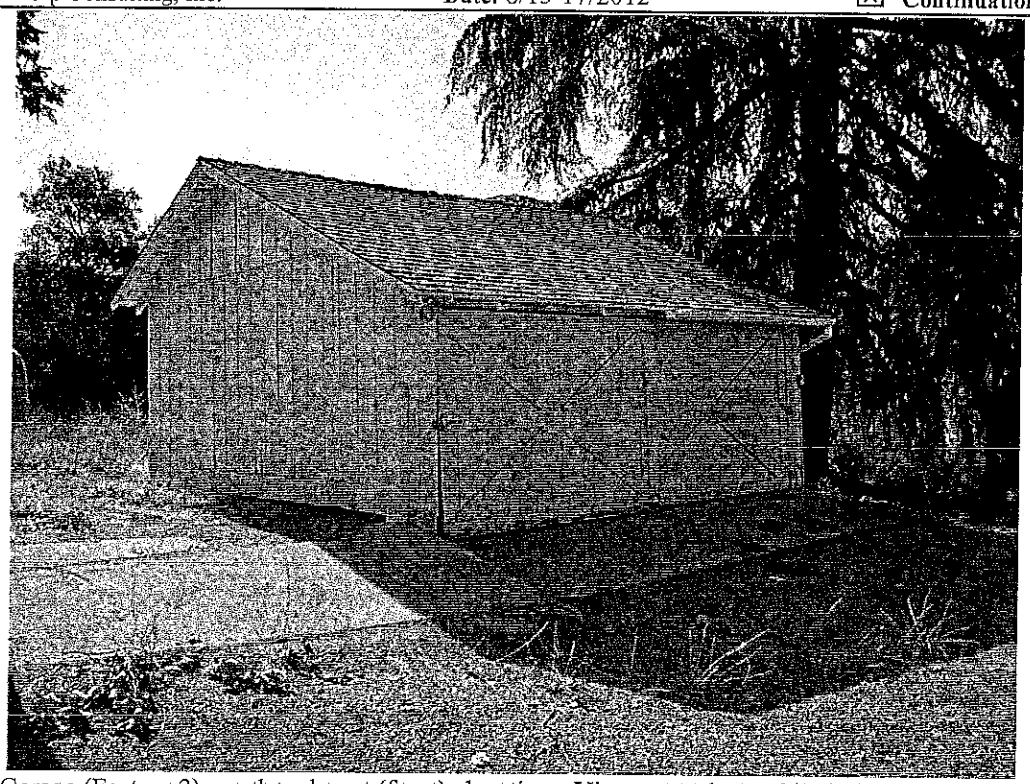


Casa Blanca Ranch house (Feature 1), interior of front basement. View to south, 8/17/2012.

Casa Blanca Ranch house (Feature 1), stone and brick footing inside front basement. View to northwest, 8/17/2012.



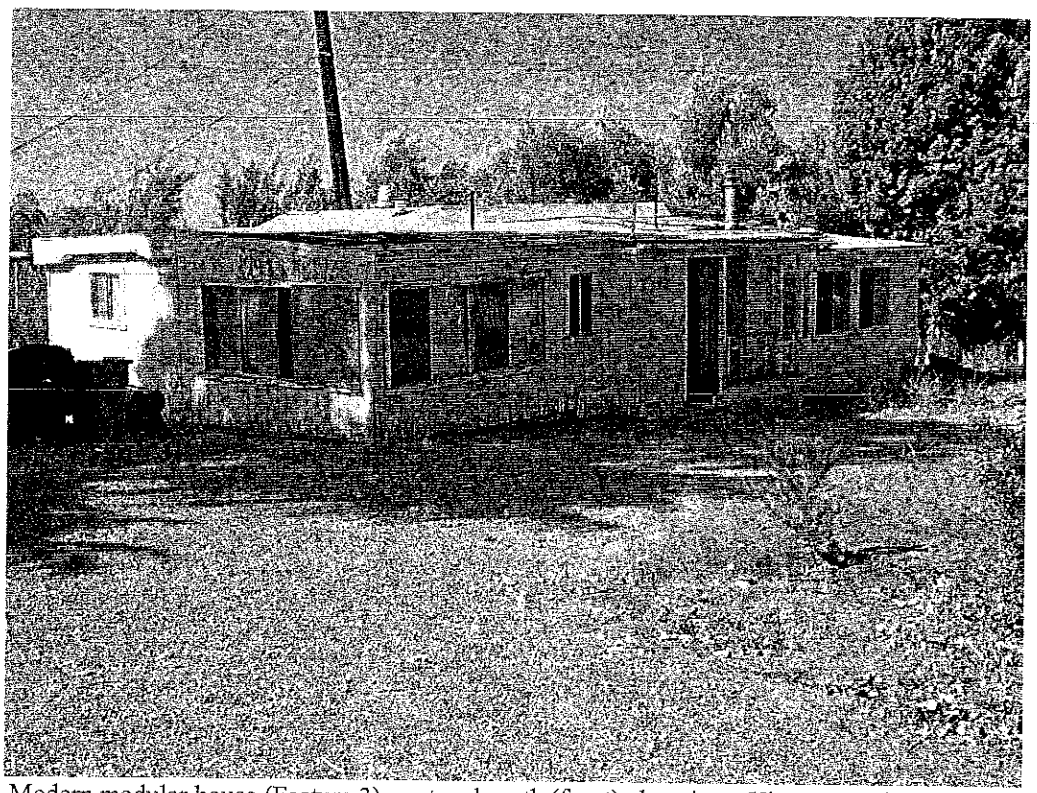
Casa Blanca Ranch house (Feature 1), crawl space under porch. View to southeast, 8/17/2012.



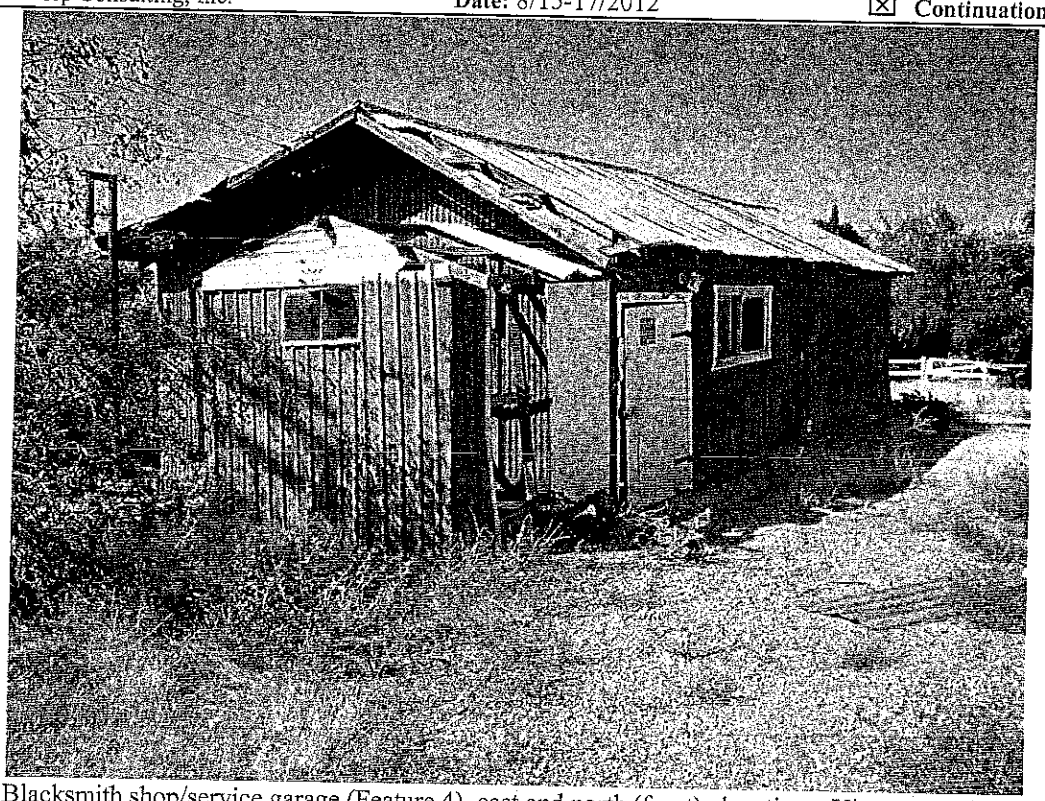
Garage (Feature 2), north and west (front) elevations. View to southeast, 8/17/2012.

Garage (Feature 2), rear (east) and north elevations. View to southwest, 8/17/2012.

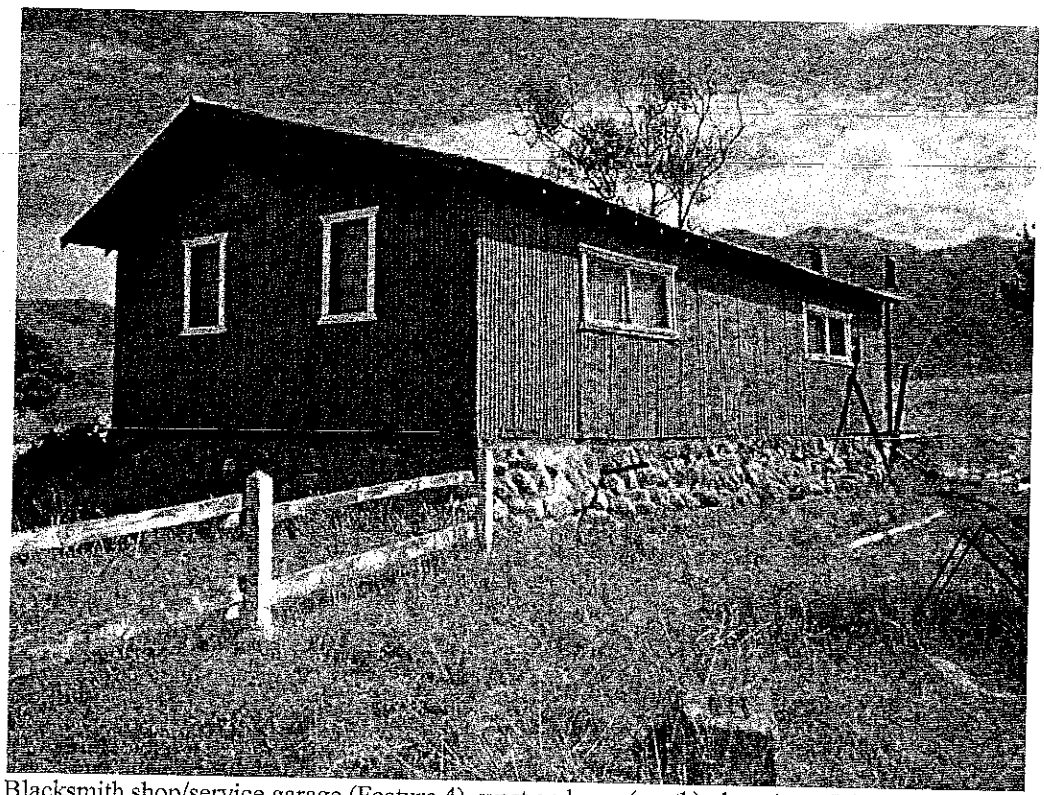
"Oct 10, '37", "SVO", "LAA", "BRO", "TRB" inscribed in floor of garage (Feature 2). View to north, 8/17/2012.



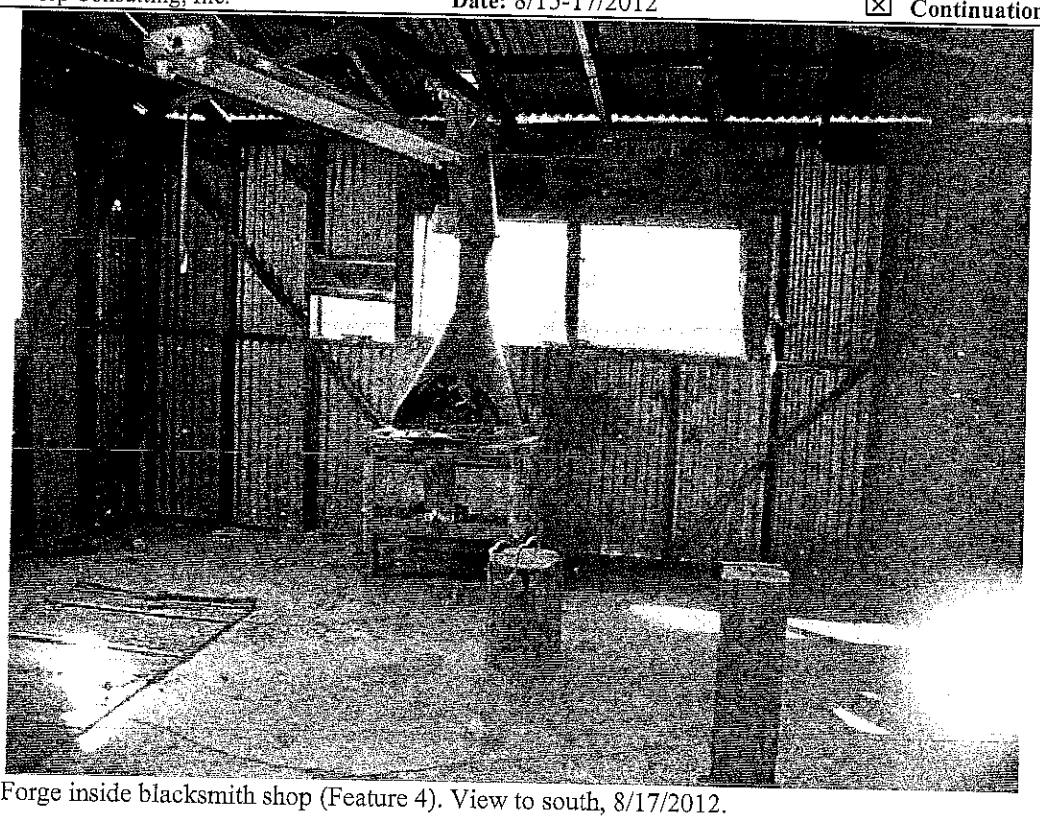
Modern modular house (Feature 3), east and north (front) elevations. View to southwest, 8/17/2012.



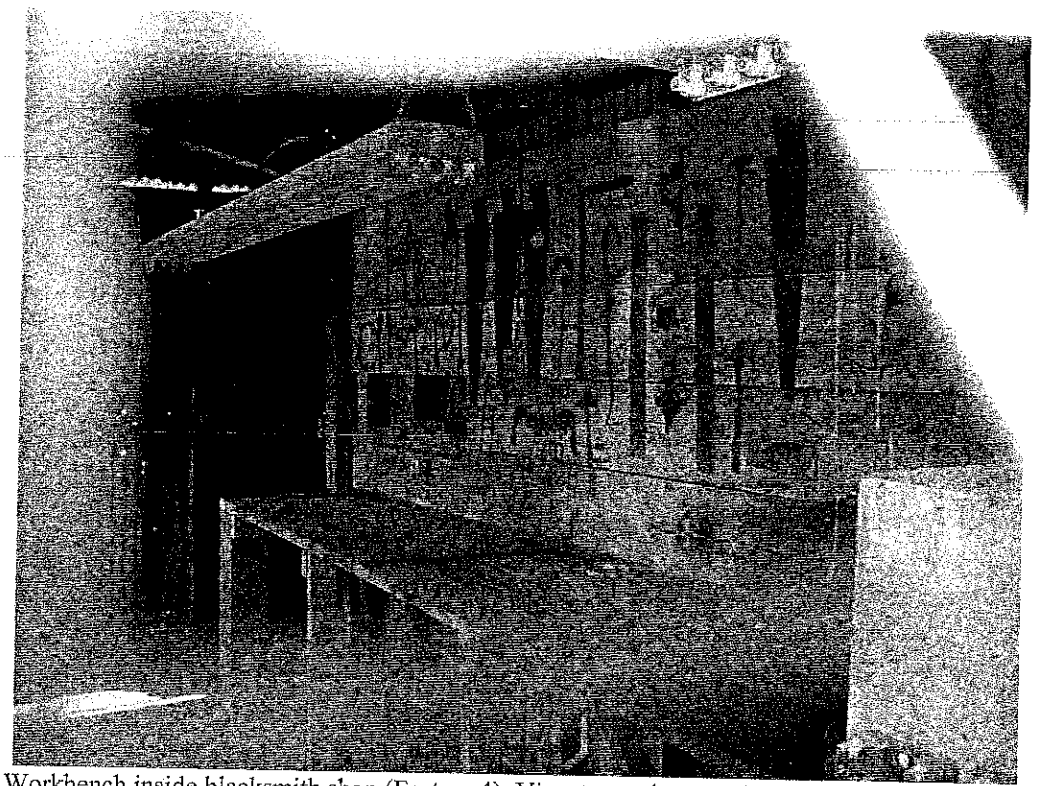
Blacksmith shop/service garage (Feature 4), east and north (front) elevations. View to southwest, 8/17/2012.



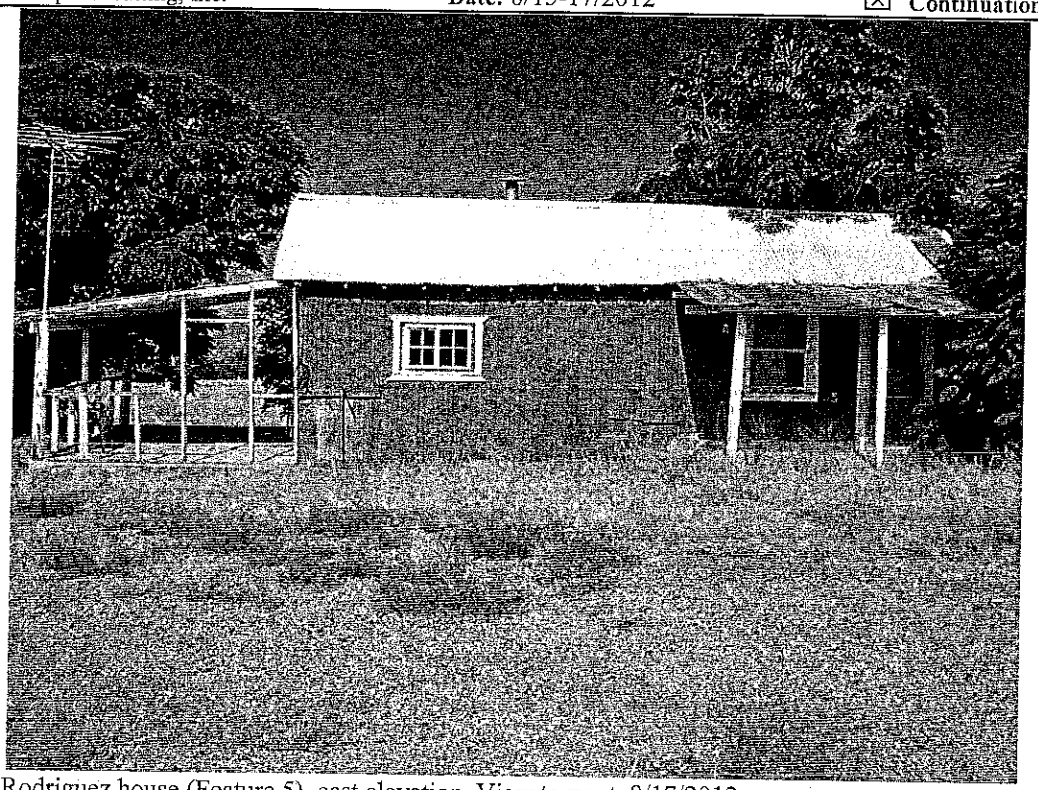
Blacksmith shop/service garage (Feature 4), west and rear (south) elevations. View to northeast, 8/17/2012.



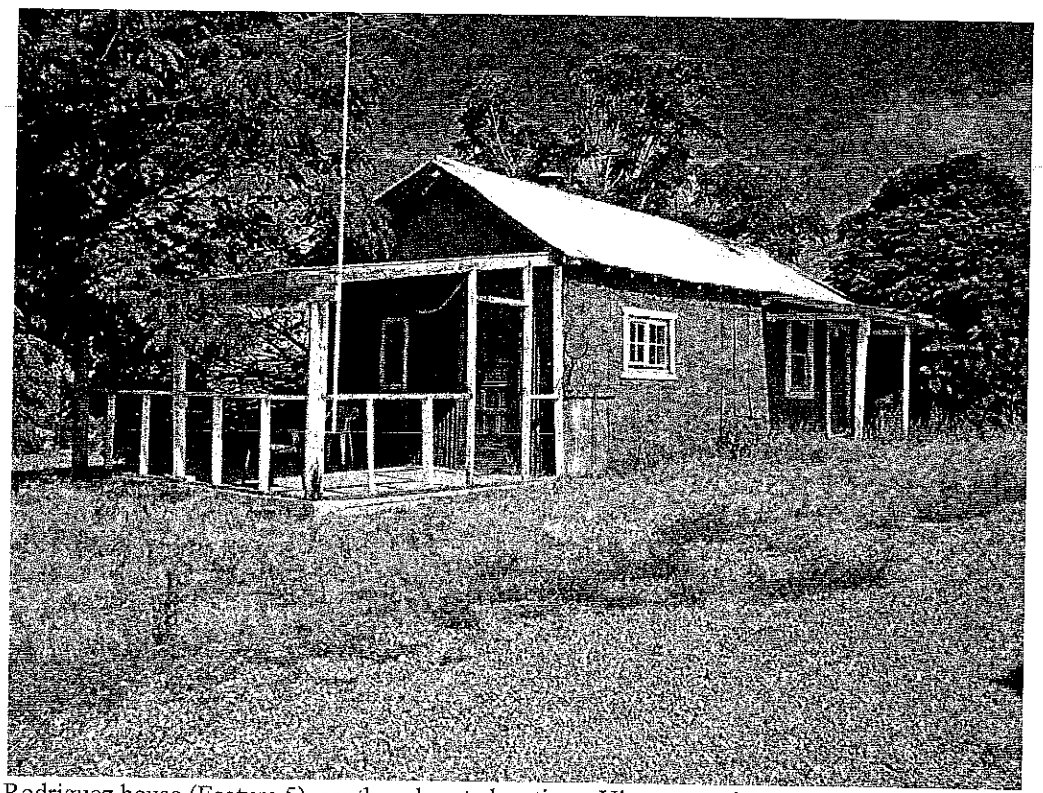
Forge inside blacksmith shop (Feature 4). View to south, 8/17/2012.



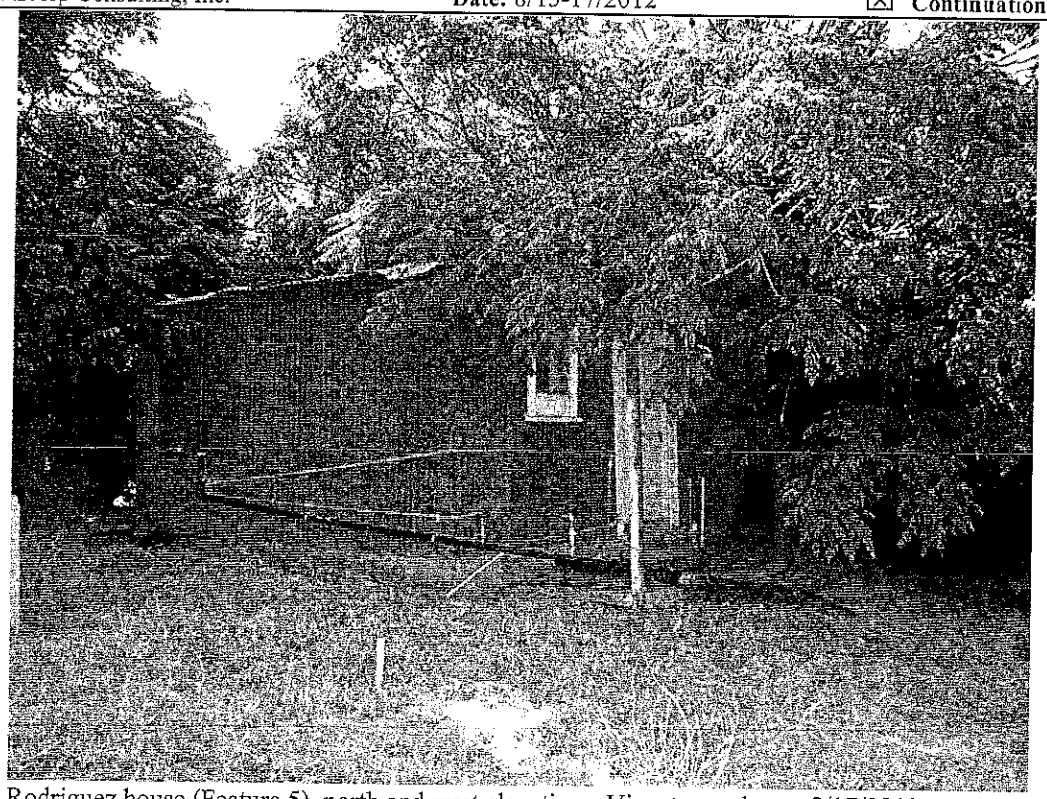
Workbench inside blacksmith shop (Feature 4). View to southwest, 8/17/2012.



Rodriguez house (Feature 5), east elevation. View to west, 8/17/2012.



Rodriguez house (Feature 5), south and east elevations. View to northwest, 8/17/2012.

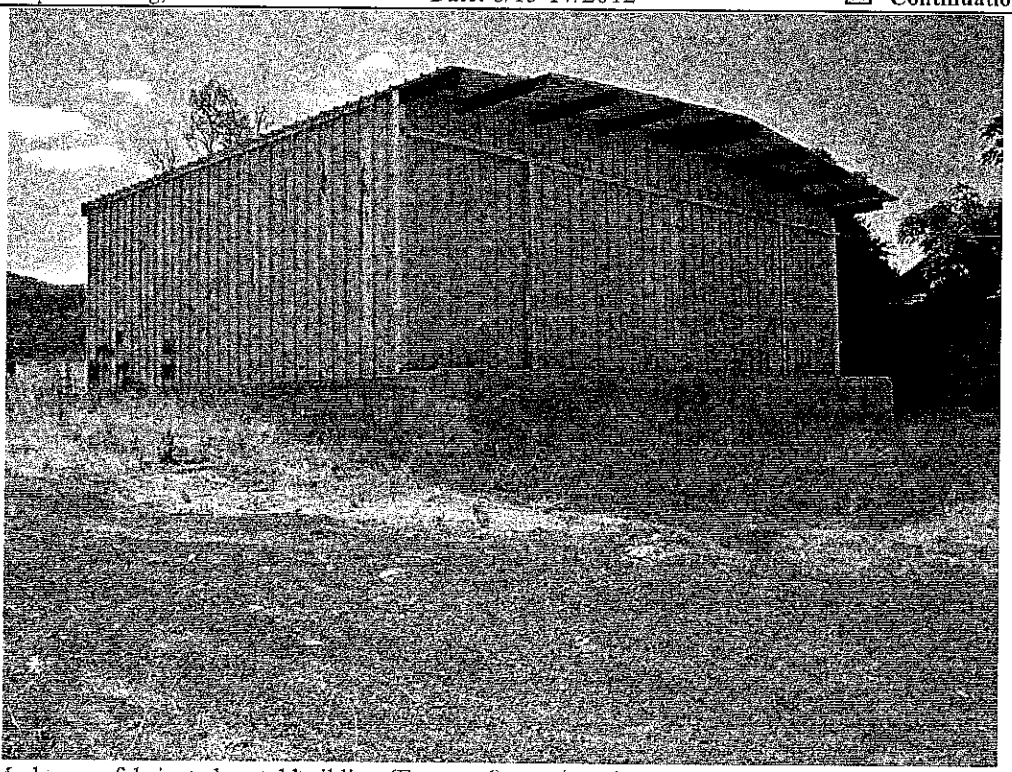


Rodriguez house (Feature 5), north and west elevations. View to southeast, 8/17/2012.

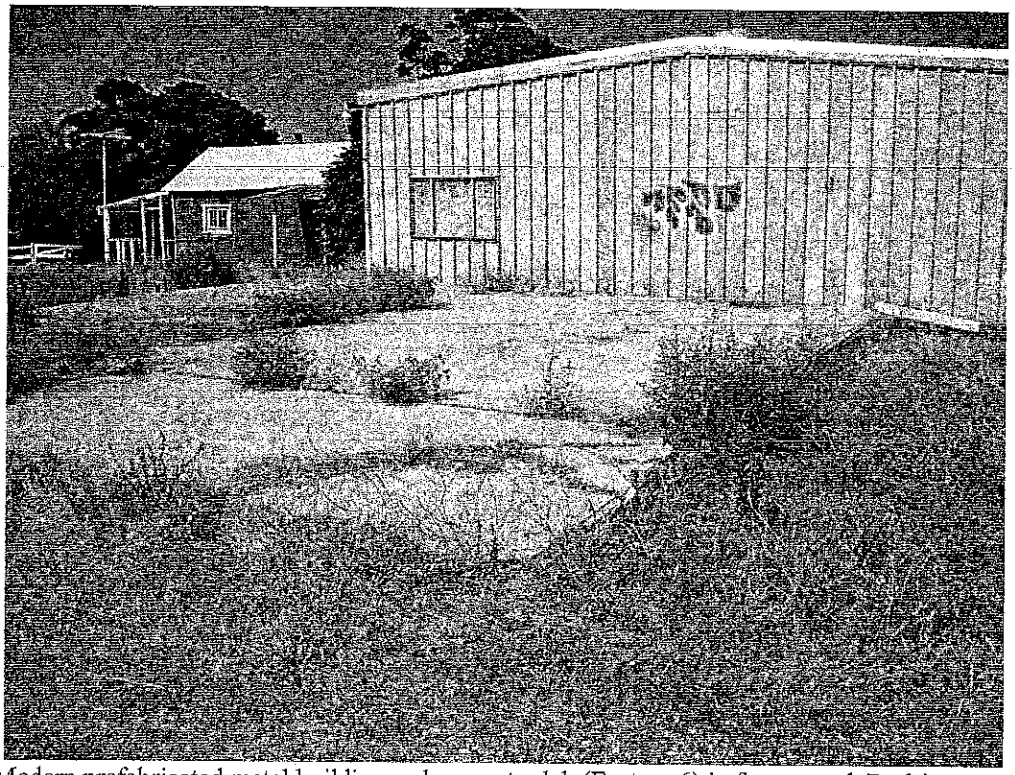
"LAA" and "47" inscribed in original porch of Rodriguez house (Feature 5). View to south, 8/17/2012.

"Irine D Rodriguez" and handprints in added 1960s patio of Rodriguez house (Feature 5). View to west, 8/17/2012.

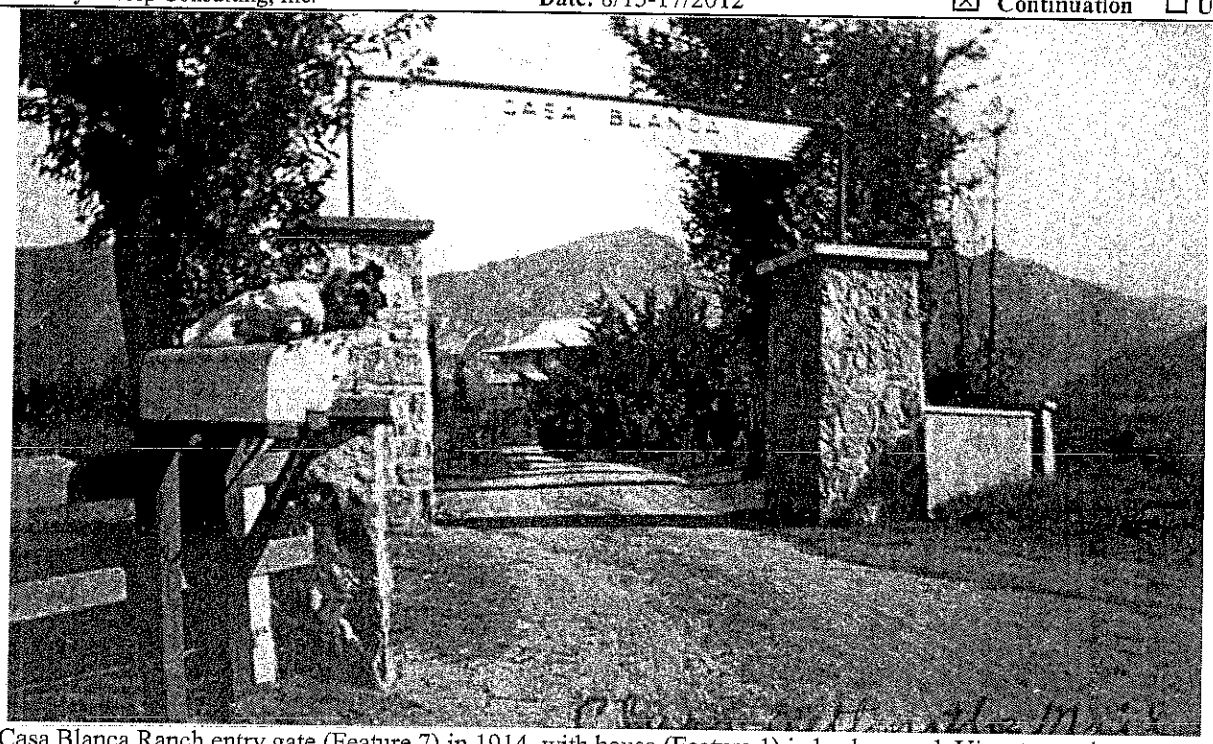
"IR" inscribed in original back porch of Rodriguez house (Feature 5). View to east, 8/17/2012.



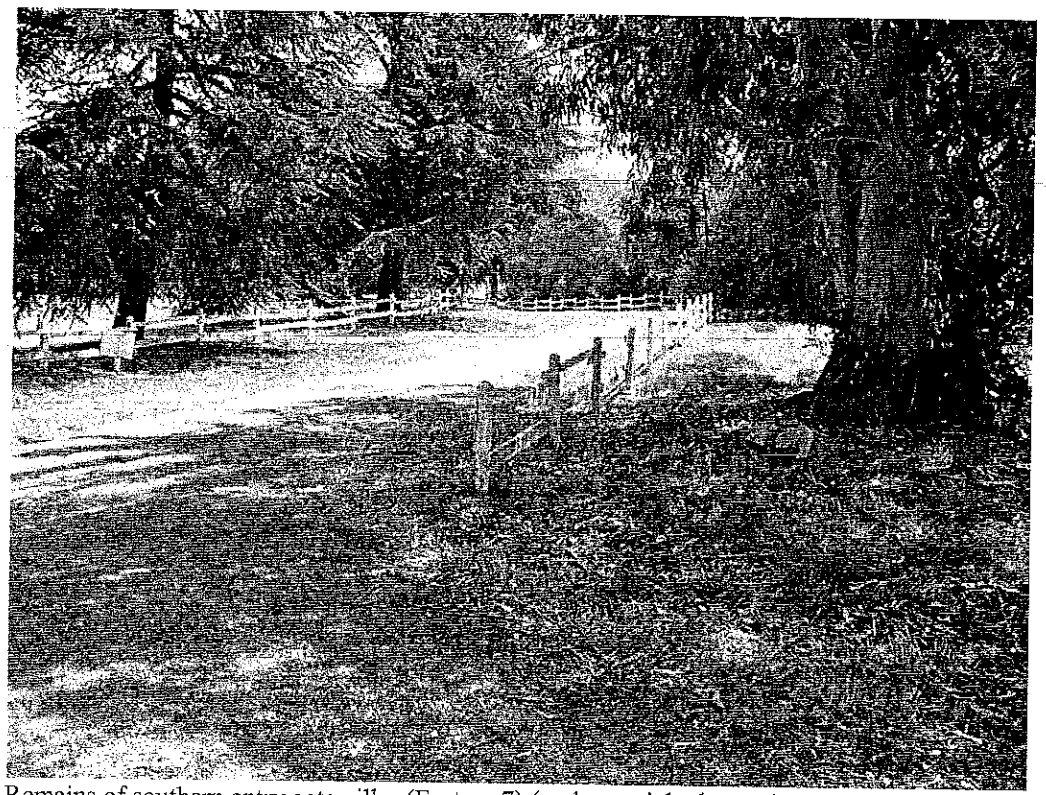
Modern prefabricated metal building (Feature 6), north and west elevations. View to southeast, 8/17/2012.



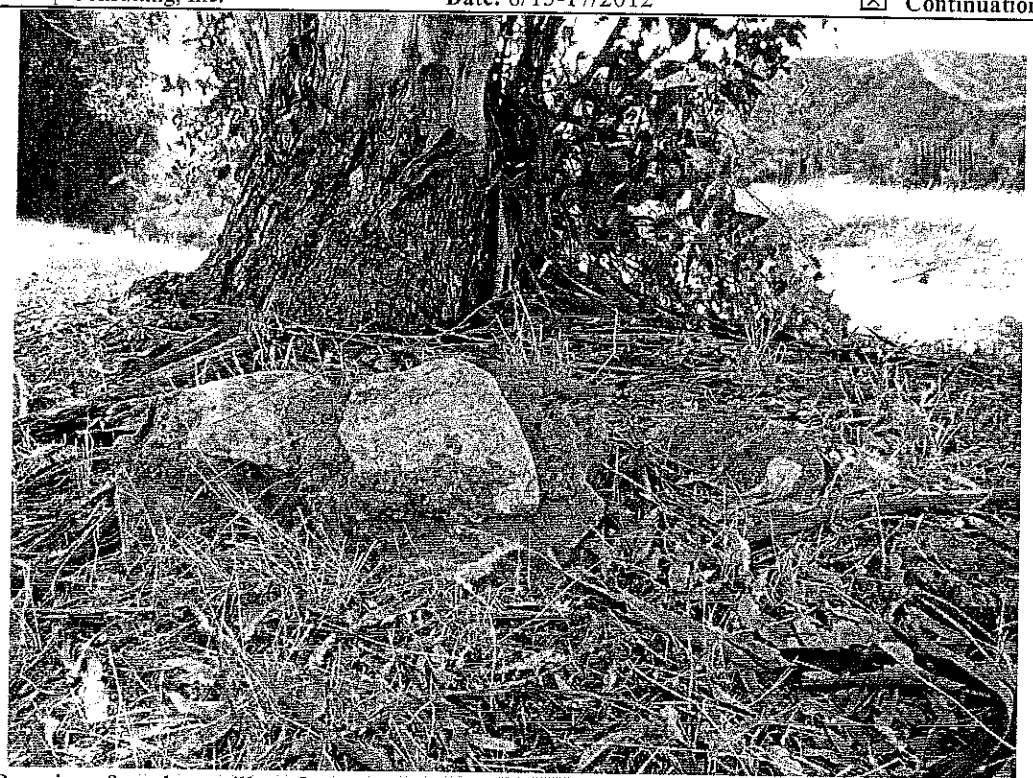
Modern prefabricated metal building and concrete slab (Feature 6) in foreground, Rodriguez house (Feature 5) in background, east elevations. View to southwest, 8/17/2012.



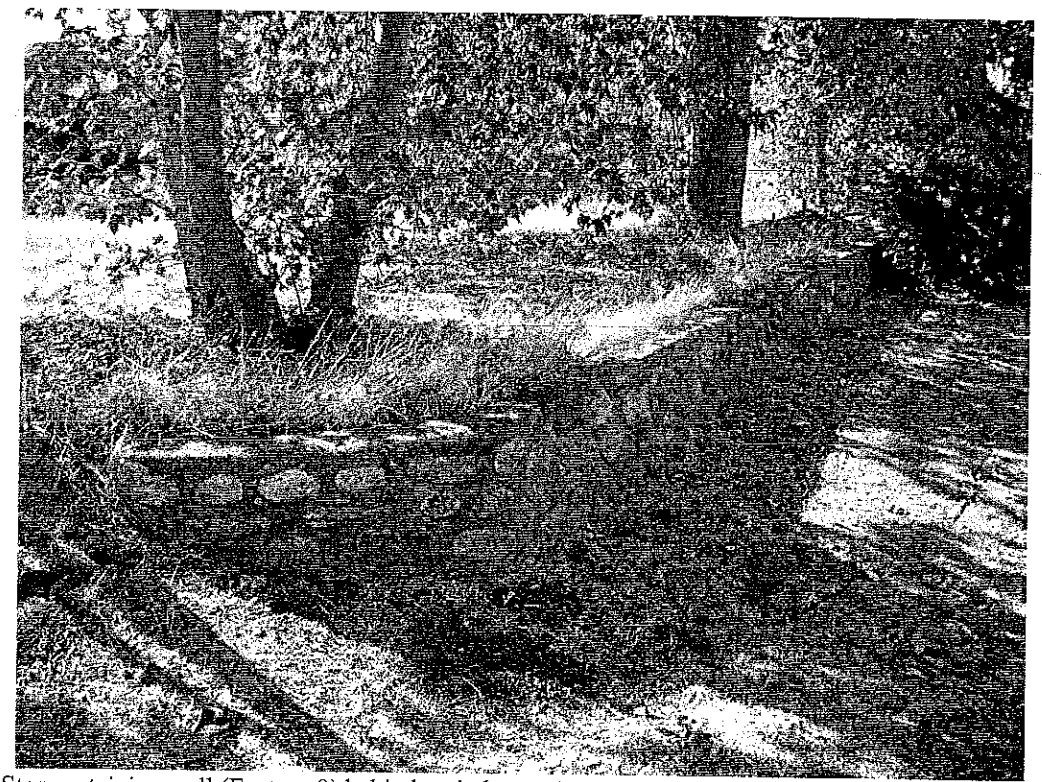
Casa Blanca Ranch entry gate (Feature 7) in 1914, with house (Feature 1) in background. View to northeast. (Photo courtesy of Yucaipa Valley Historical Society Museum)



Remains of southern entry gate pillar (Feature 7) (rocks on right, by tree). View to northeast, 8/17/2012.

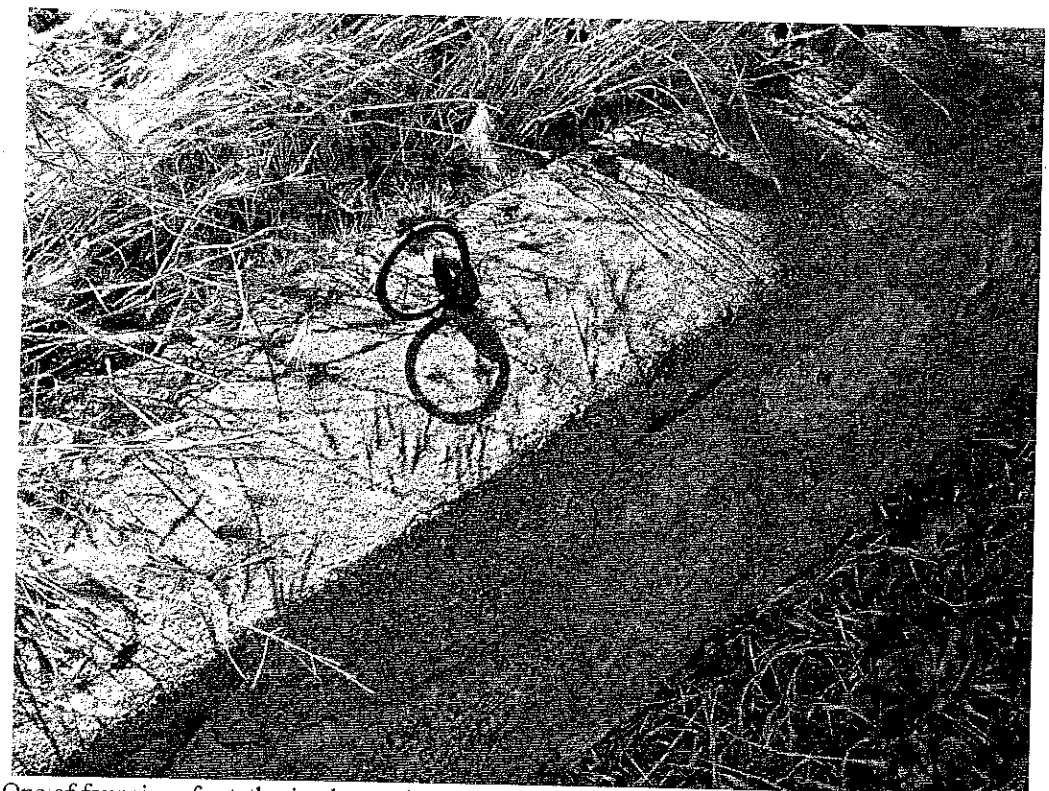


Remains of southern pillar of Casa Blanca Ranch entry gate (Feature 7). View to southeast, 8/17/2012.



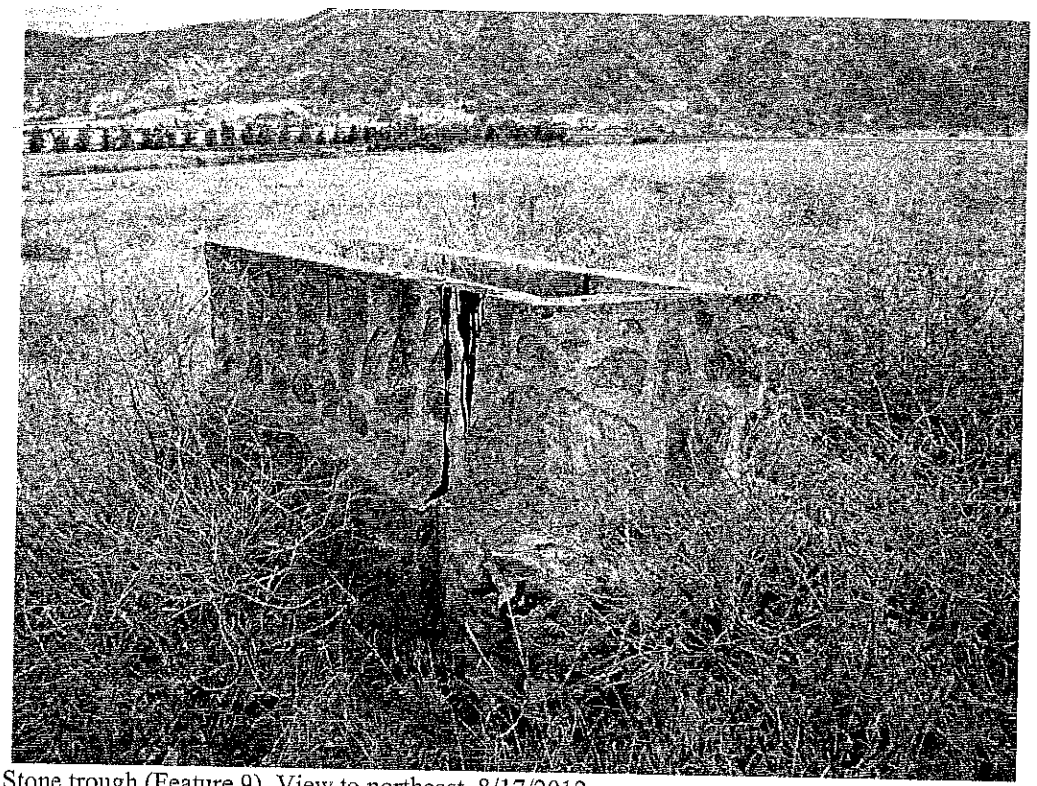
Stone retaining wall (Feature 8) behind main house (Feature 1). View to southeast, 8/17/2012.

"L.A.A. to F.H.A", "2-14-40" inscribed in stone retaining wall (Feature 8). View to south, 8/17/2012.

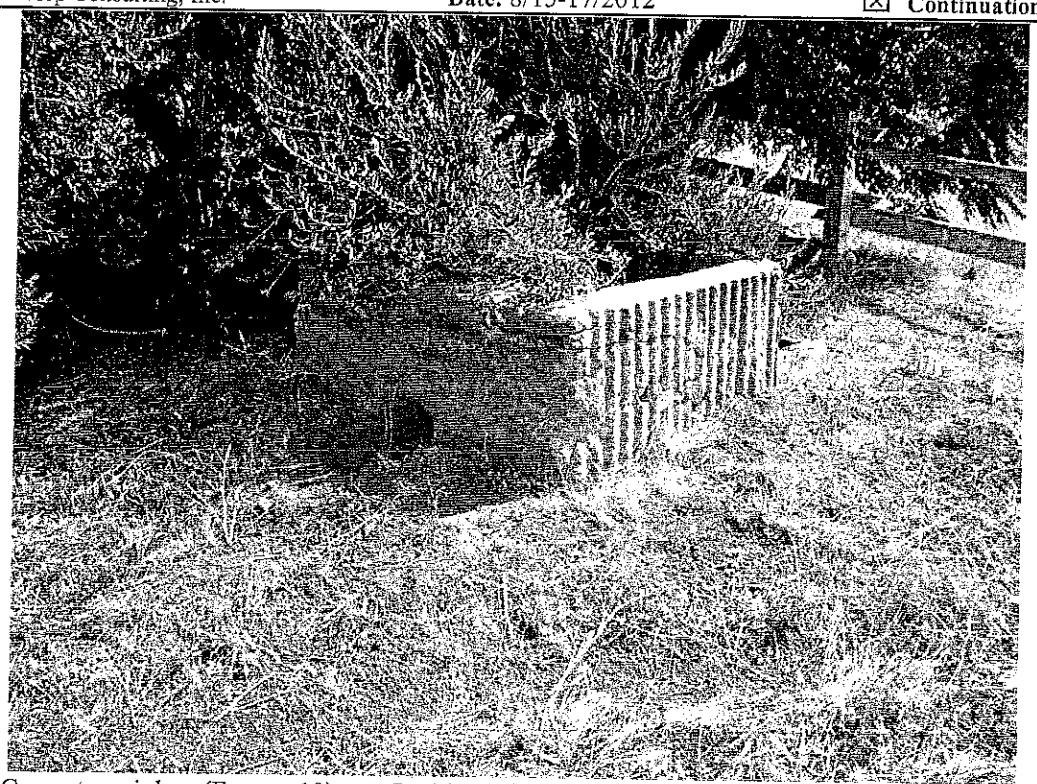


One of four rings for tethering horses in stone retaining wall (Feature 8). View to southeast, 8/17/2012.

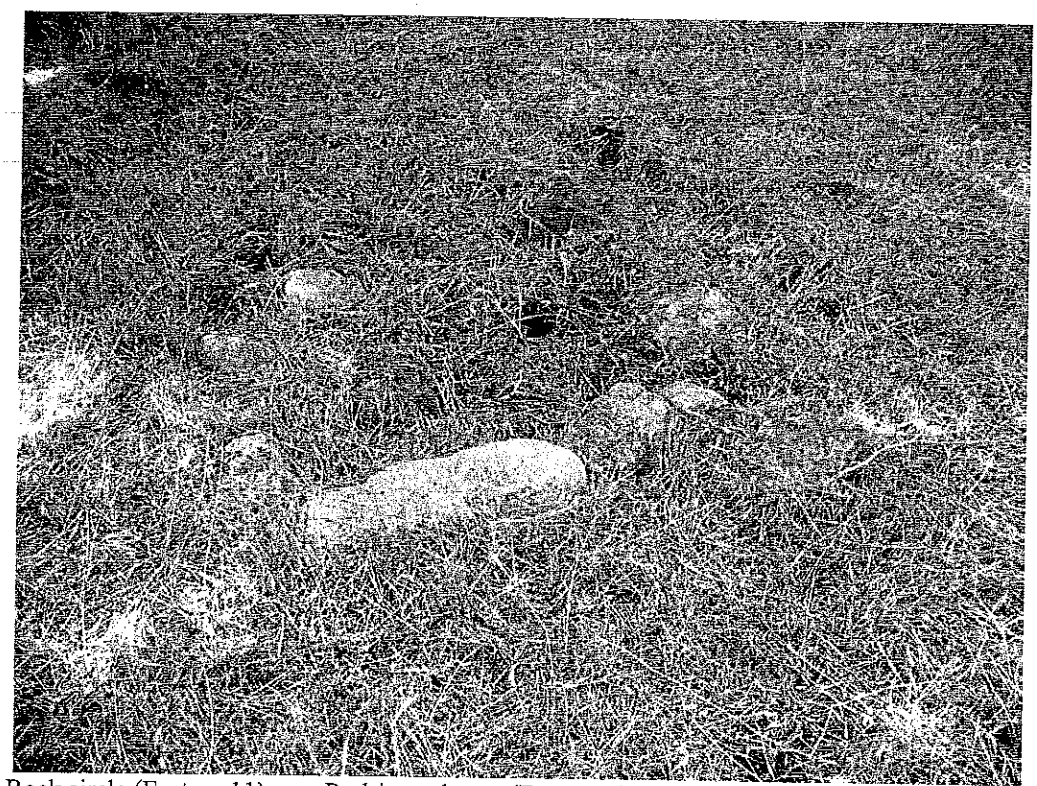
Stone trough (Feature 9). Blacksmith shop/service garage (Feature 4) (L), and Rodriguez house (Feature 5) (R) in background. View to southwest, 8/17/2012.



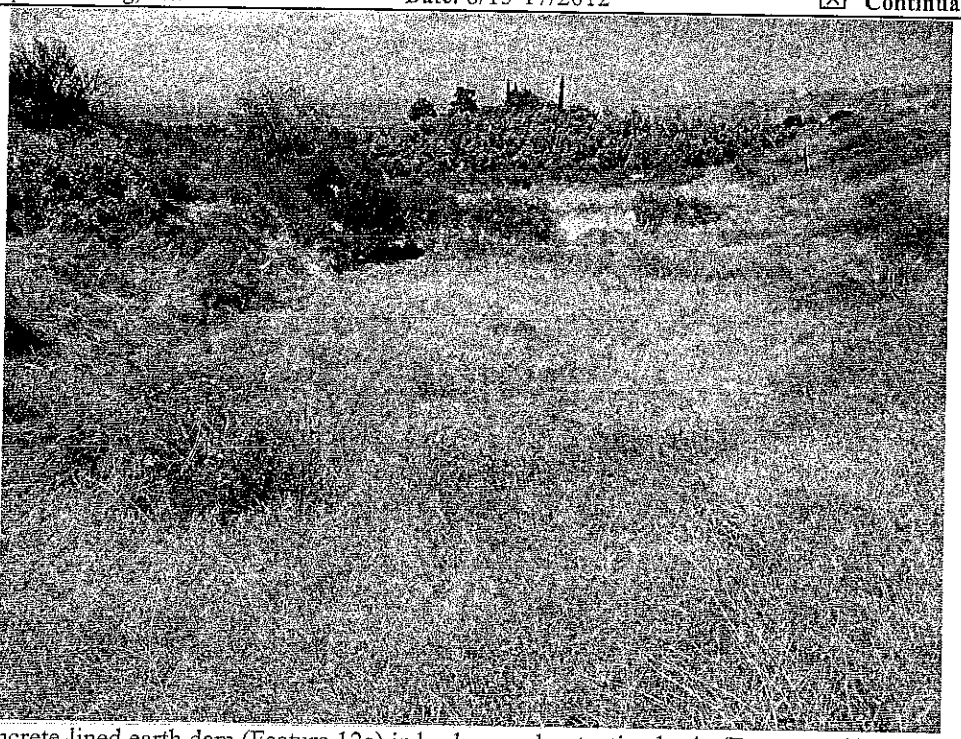
Stone trough (Feature 9). View to northeast, 8/17/2012.



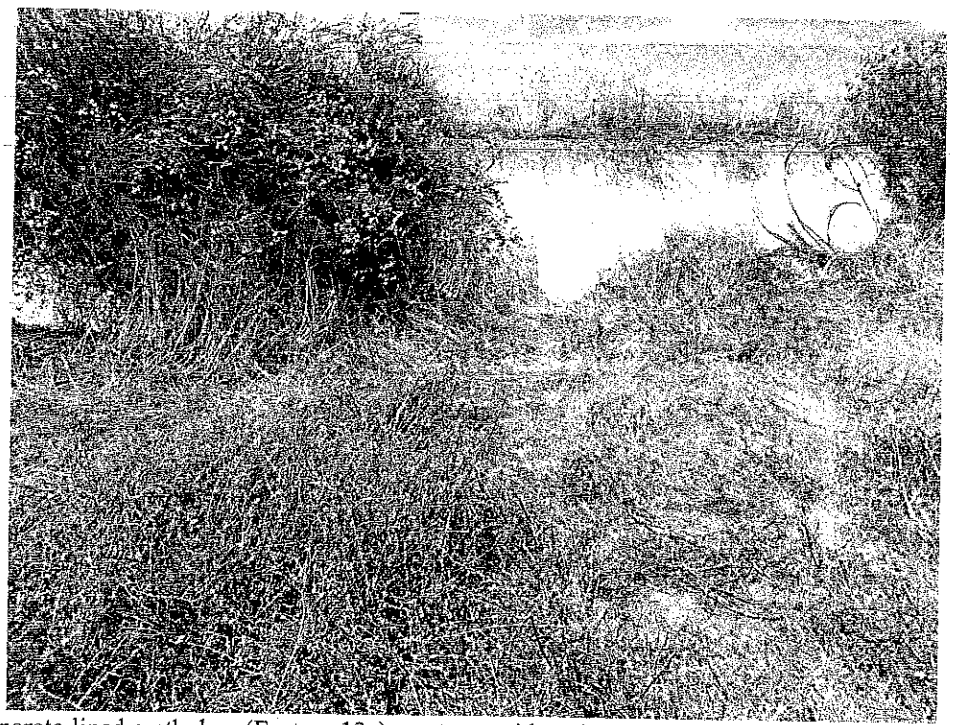
Concrete weir box (Feature 10) near Rodriguez house (Feature 5). View to northeast, 8/17/2012.



Rock circle (Feature 11) near Rodriguez house (Feature 5). View to southeast, 8/17/2012.

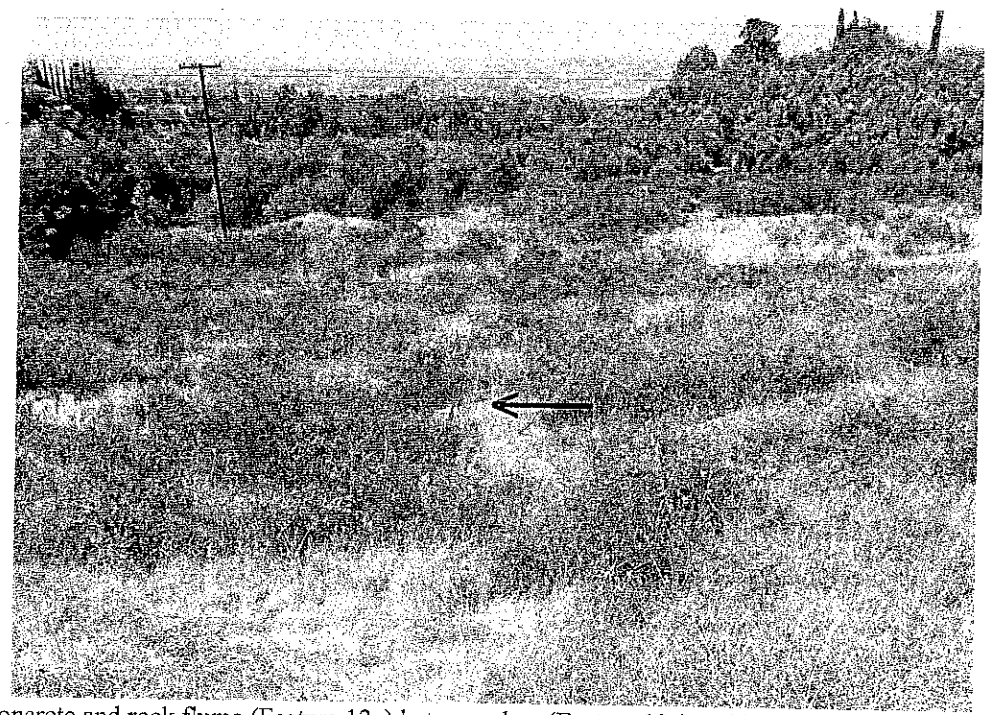


Concrete-lined earth dam (Feature 12a) in background, retention basin (Feature 12b) in foreground. View to southwest, 8/15/2012.

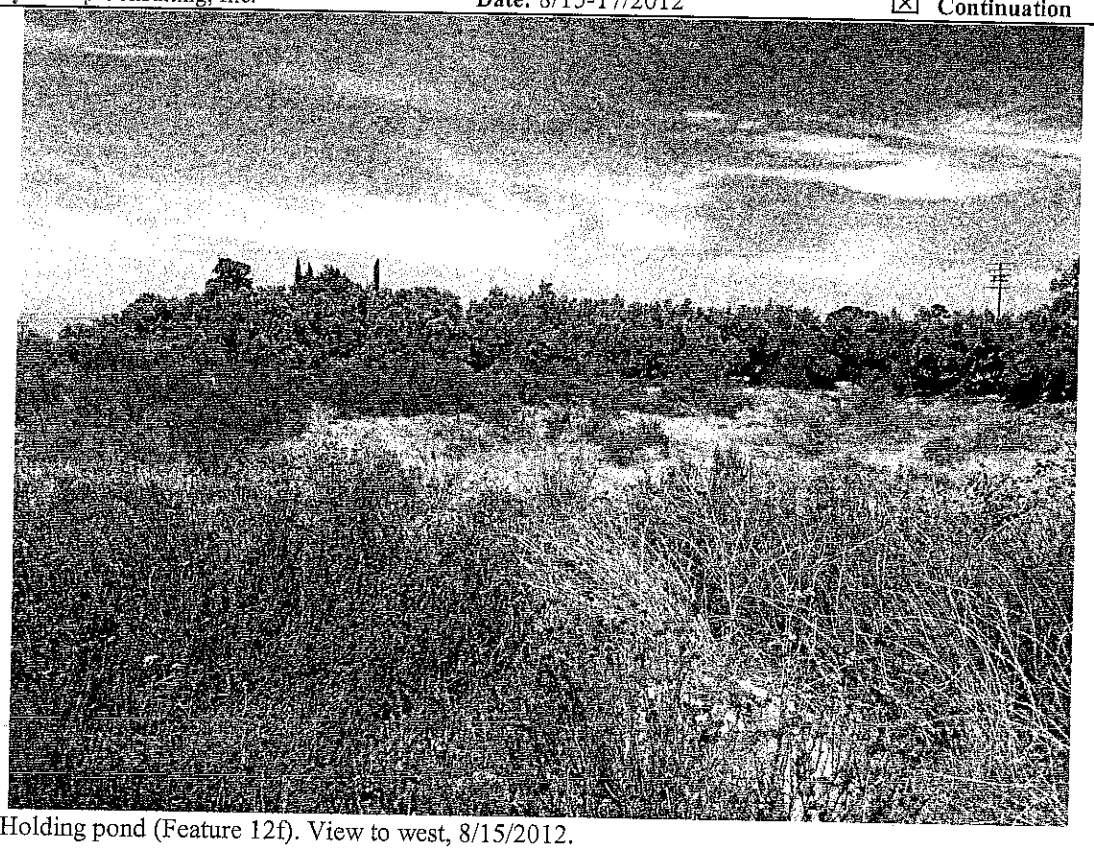


Concrete-lined earth dam (Feature 12a), upstream side. View to west, 8/15/2012.

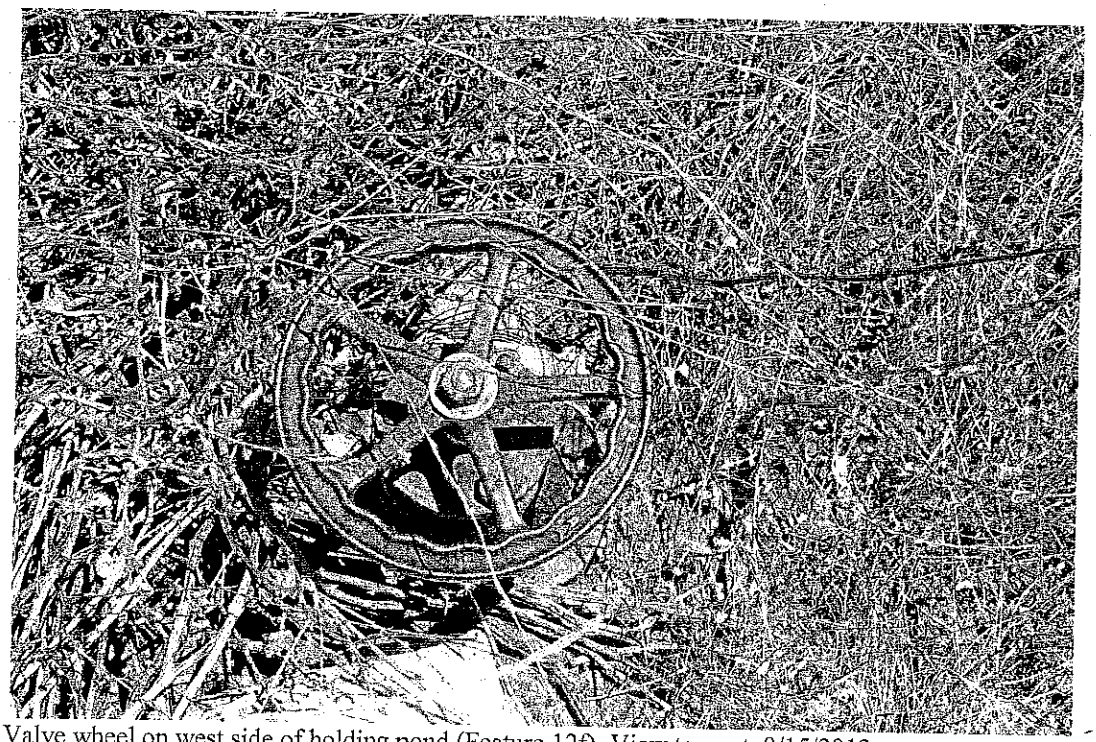
Concrete weir box (Feature 12c) next to concrete-lined dam (Feature 12a). View to east, 8/15/2012.



Concrete and rock flume (Feature 12e) between dam (Feature 12a) and holding pond (Feature 12f). View to southwest, 8/15/2012.

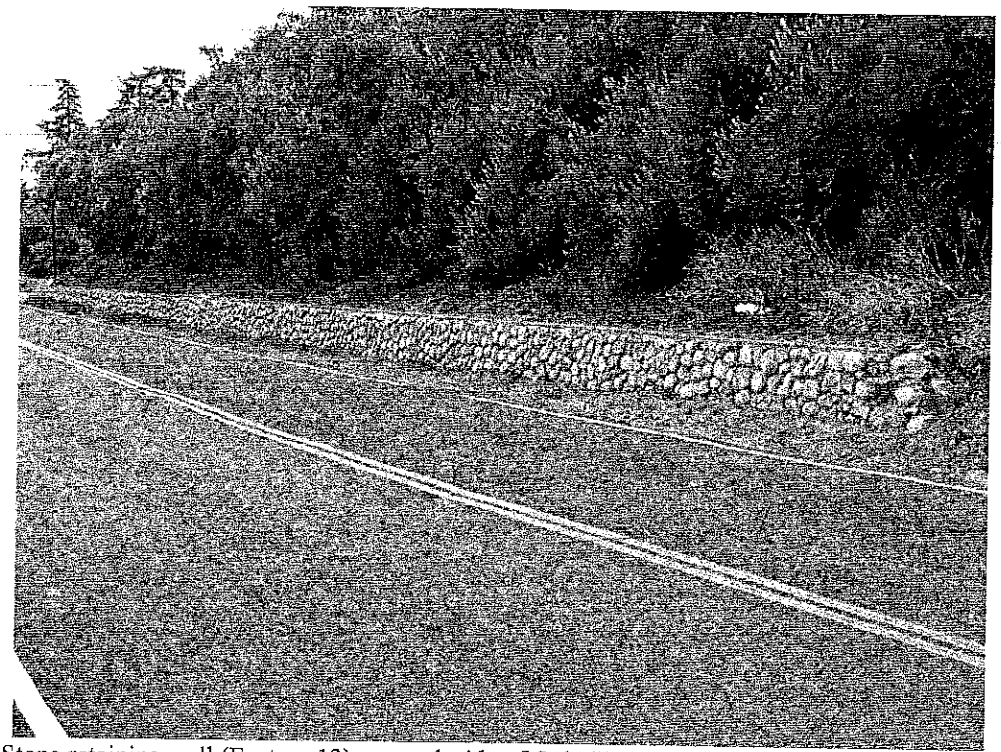


Holding pond (Feature 12f). View to west, 8/15/2012.

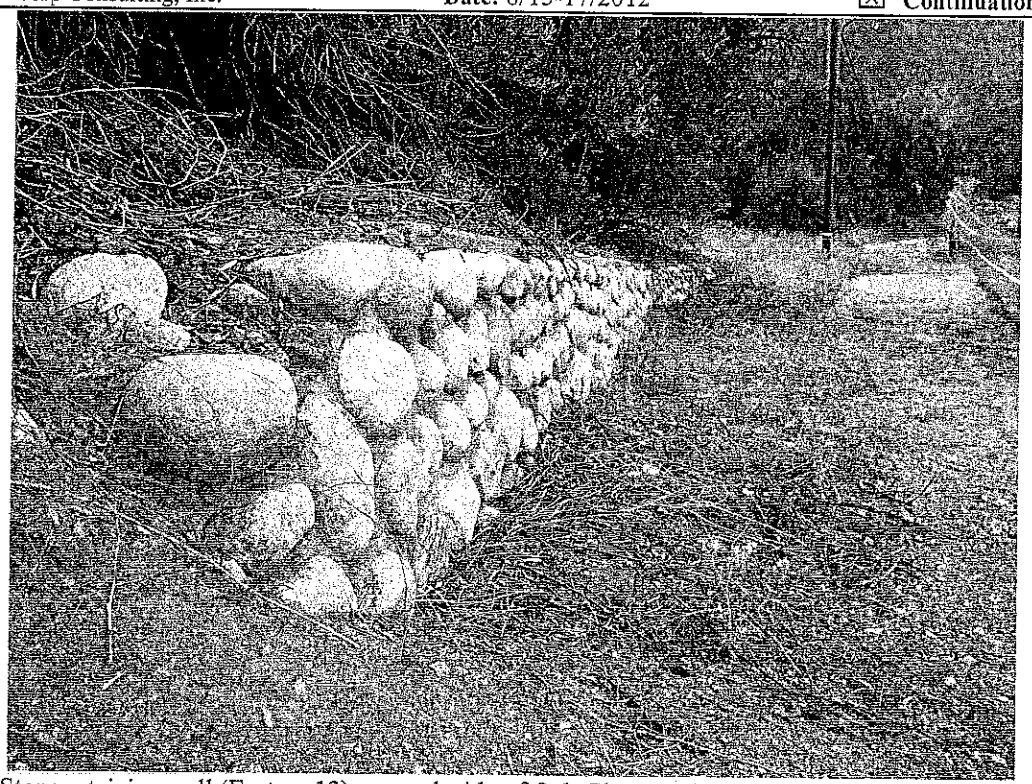


Valve wheel on west side of holding pond (Feature 12f). View to west, 8/15/2012.

Terra cotta pipe (Feature 12g) north of holding pond (Feature 12f). View to southeast, 8/15/2012.

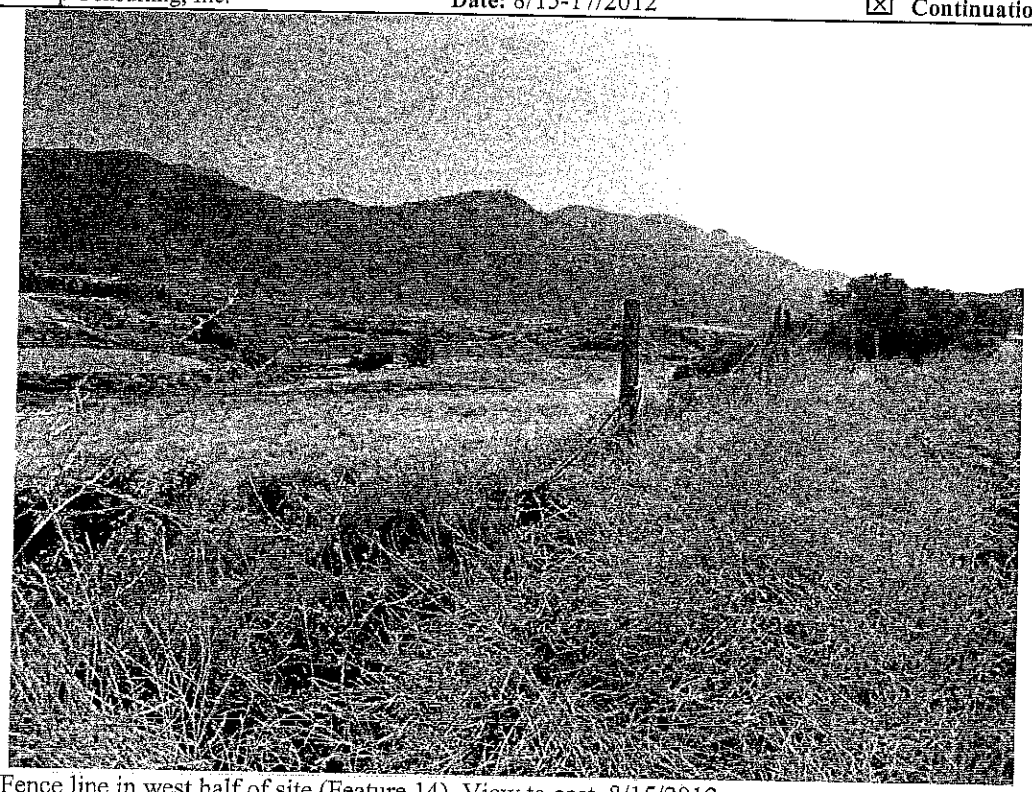


Stone retaining wall (Feature 13) on north side of Oak Glen Road. Olive grove (Feature 37) in background. View to northwest, 8/17/2012.

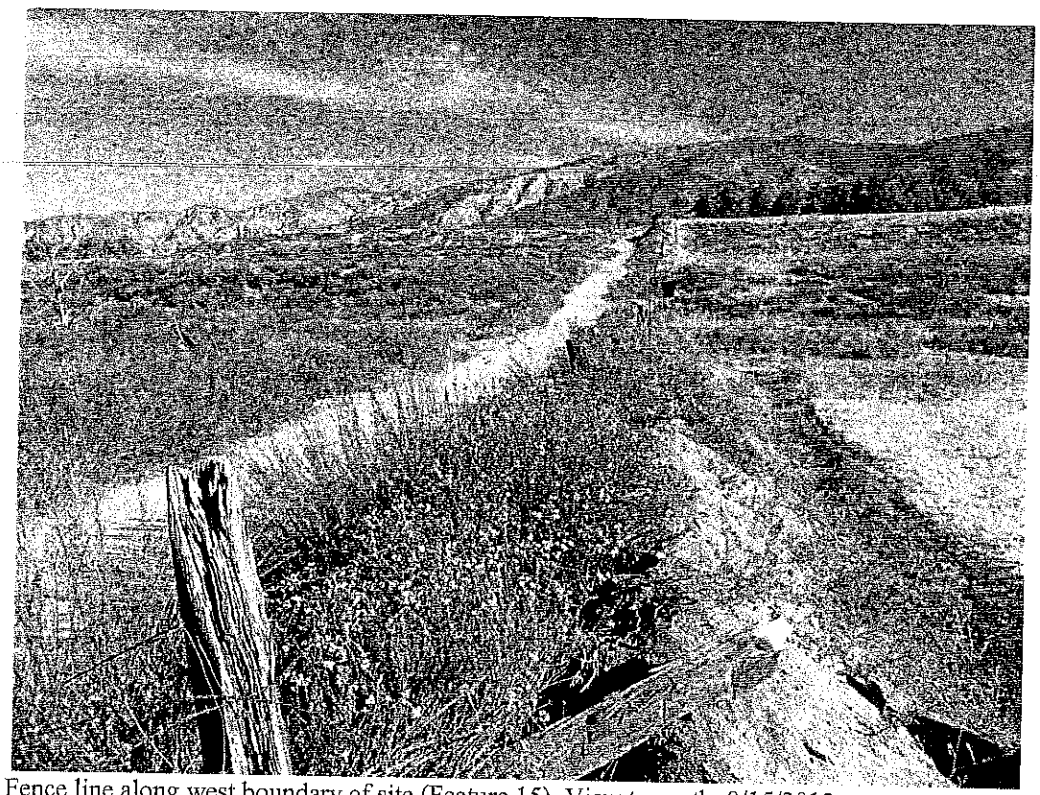


Stone retaining wall (Feature 13) on north side of Oak Glen Road. View to east, 8/17/2012.

"March 13 1933" inscribed in top of stone retaining wall (Feature 13). View to north, 8/17/2012.

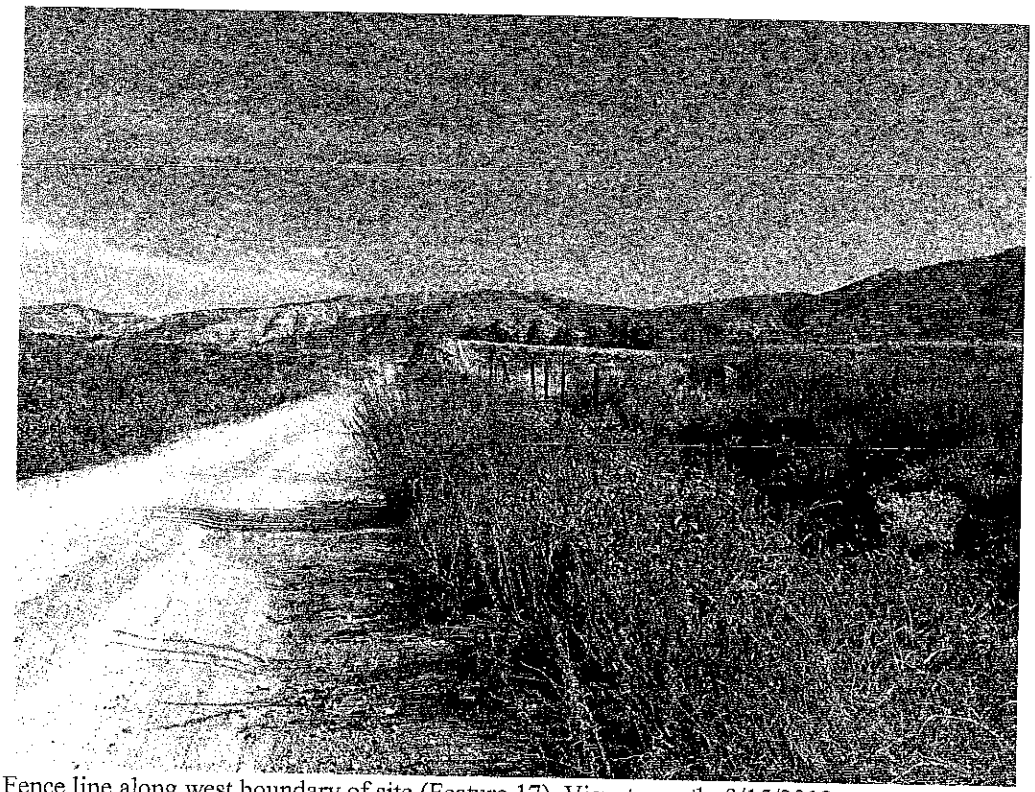


Fence line in west half of site (Feature 14). View to east, 8/15/2012.

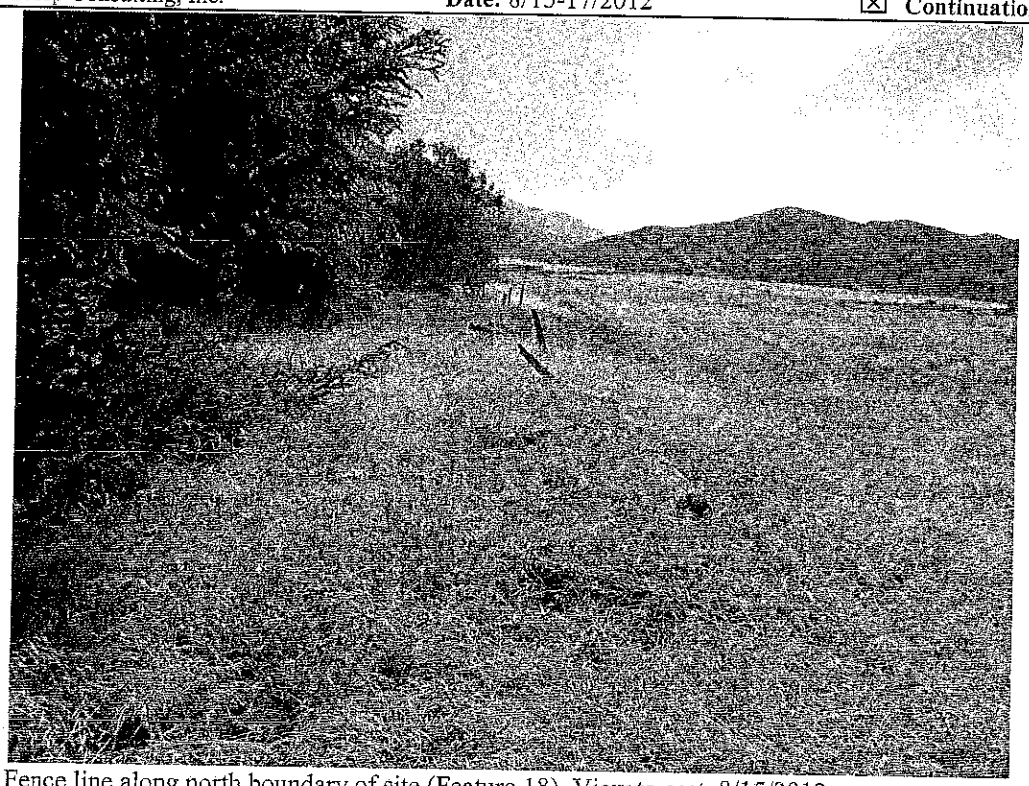


Fence line along west boundary of site (Feature 15). View to north, 8/15/2012.

Wilson Creek concrete culvert (Feature 16) under Jefferson Street. View to west, 8/15/2012.

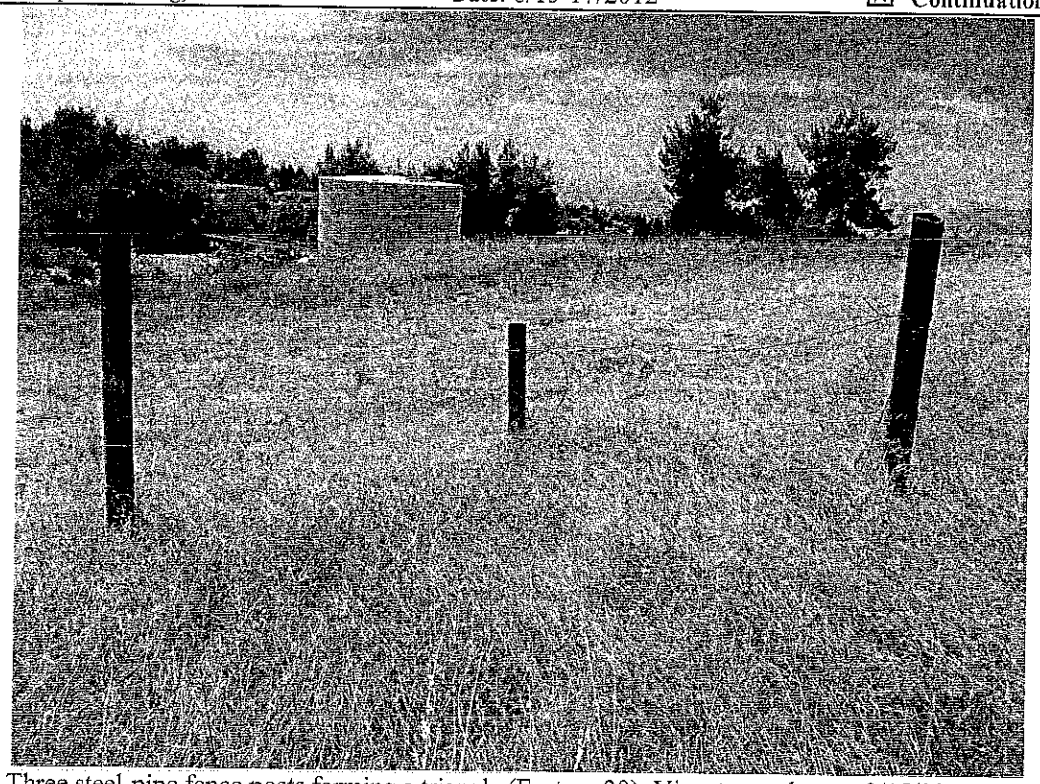


Fence line along west boundary of site (Feature 17). View to north, 8/15/2012.

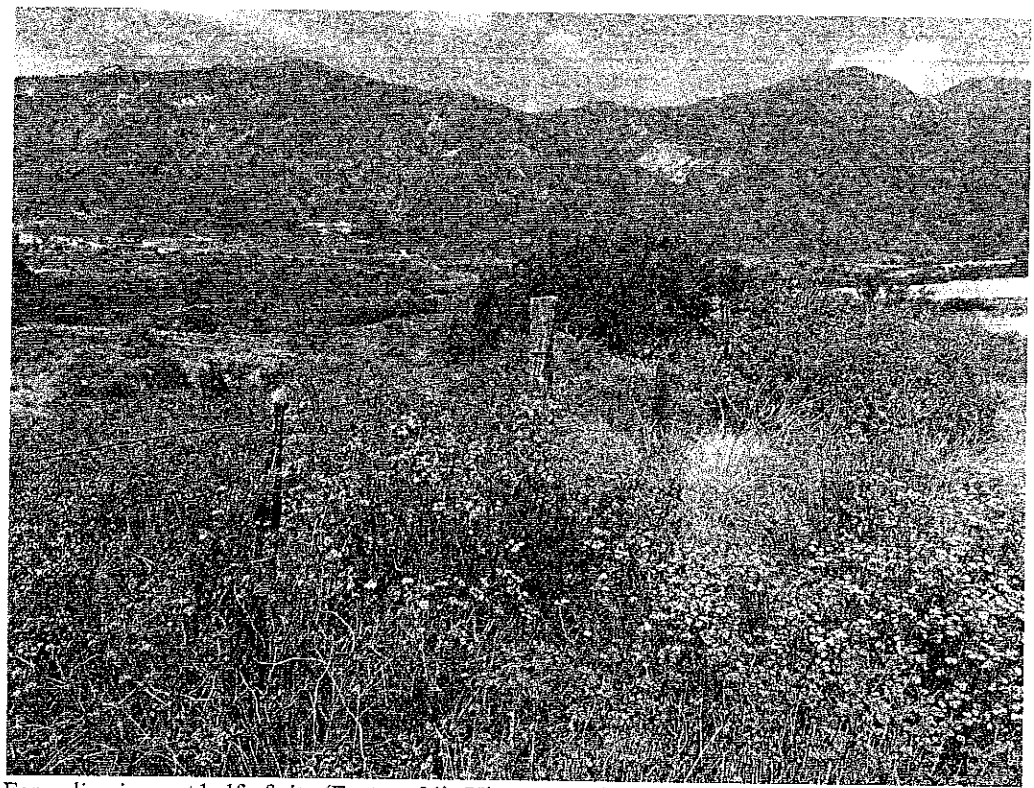


Fence line along north boundary of site (Feature 18). View to east, 8/15/2012.

Concrete and brick footing (Feature 19). View to east, 8/15/2012.

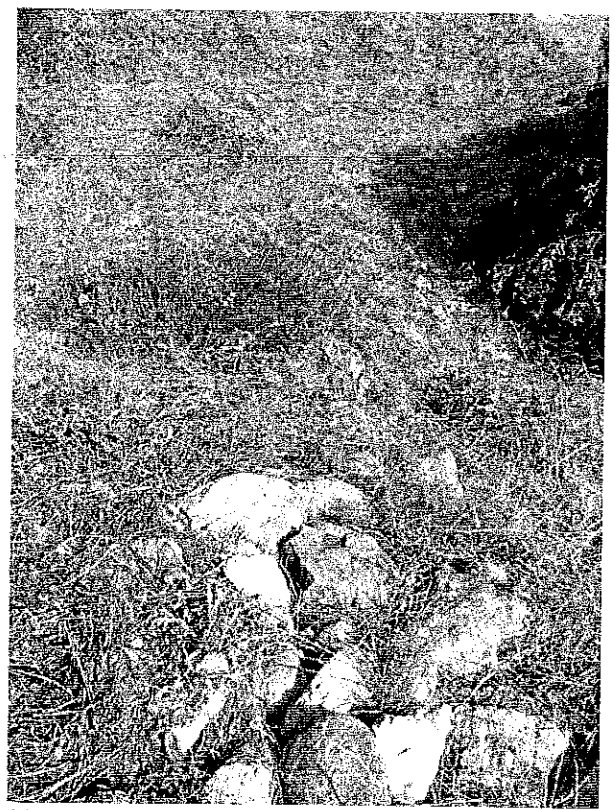


Three steel-pipe fence posts forming a triangle (Feature 20). View to southwest, 8/15/2012.

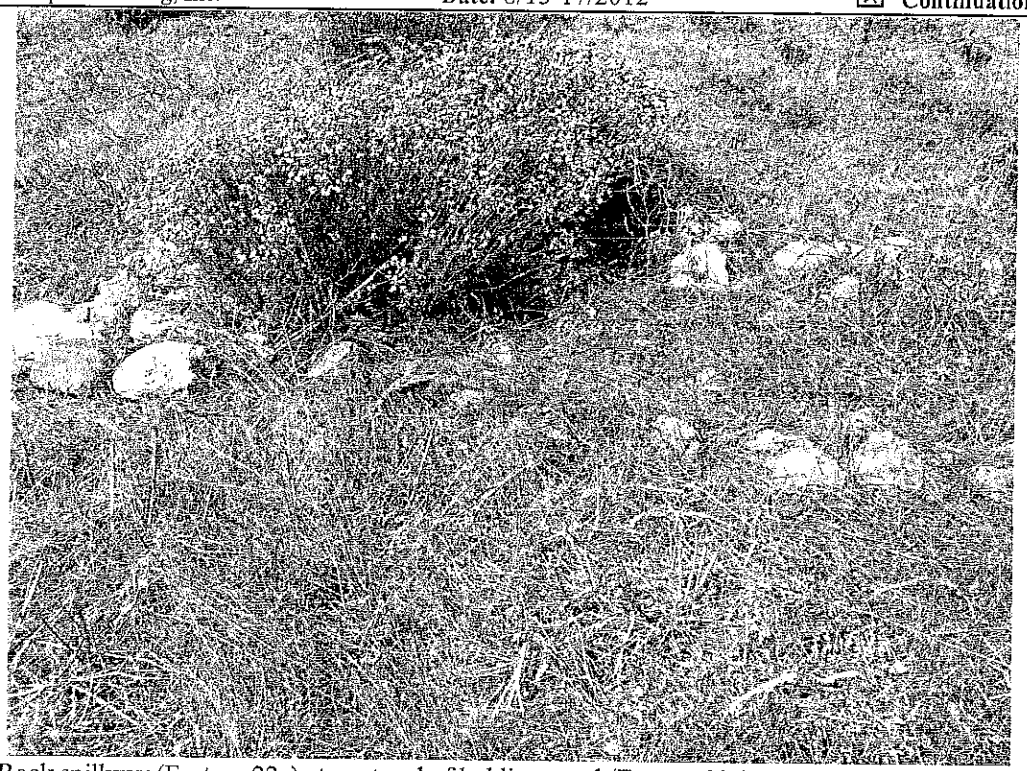


Fence line in west half of site (Feature 21). View to northeast, 8/15/2012.

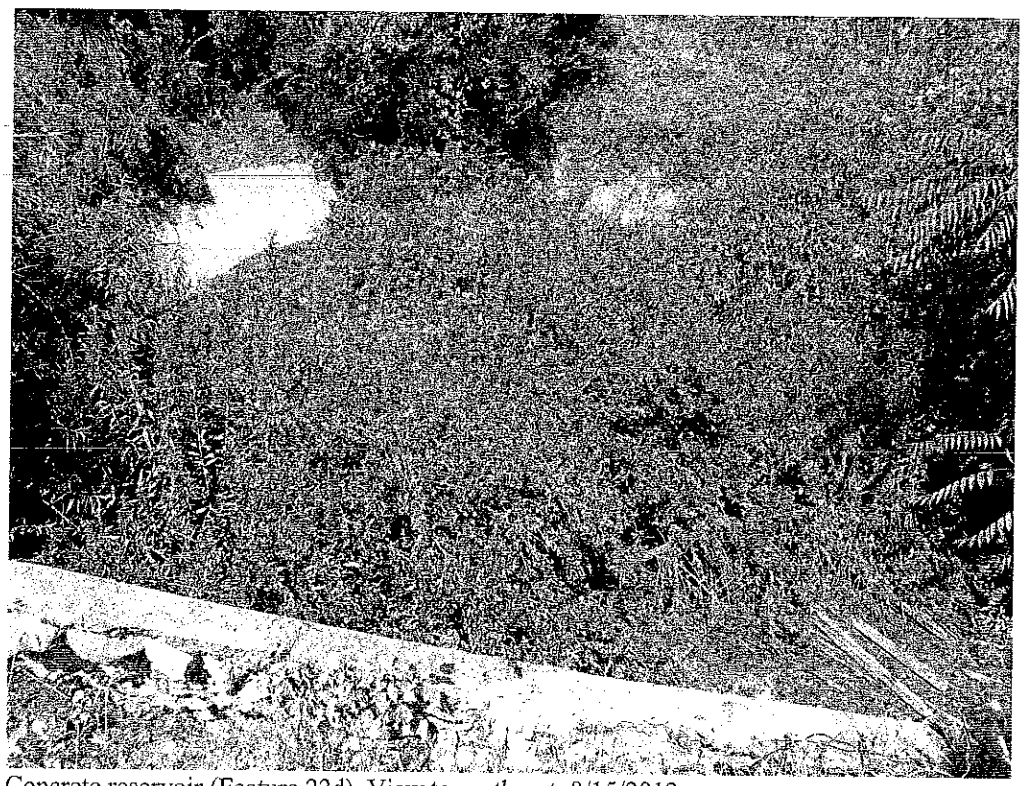
Small holding pond near Oak Glen Road (Feature 22a). View to west, 8/15/2012.



Rock concentration (Feature 22b) on west side of holding pond (Feature 22a). View to east, 8/15/2012.

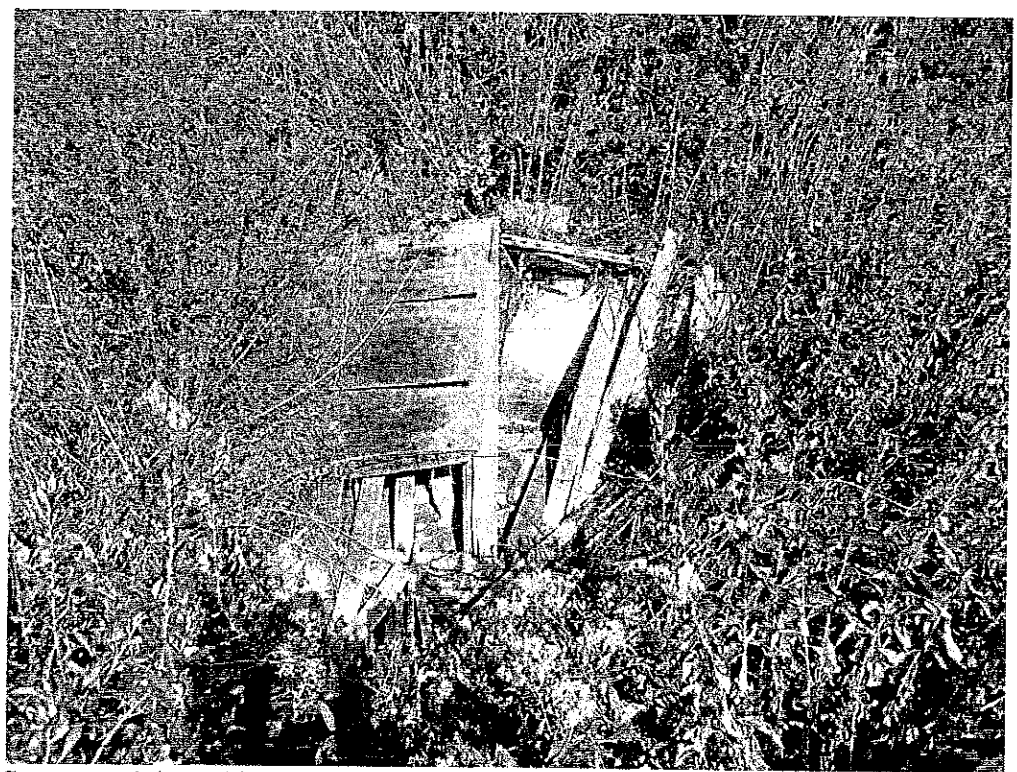


Rock spillway (Feature 22c) at west end of holding pond (Feature 22a). View to north, 8/15/2012.

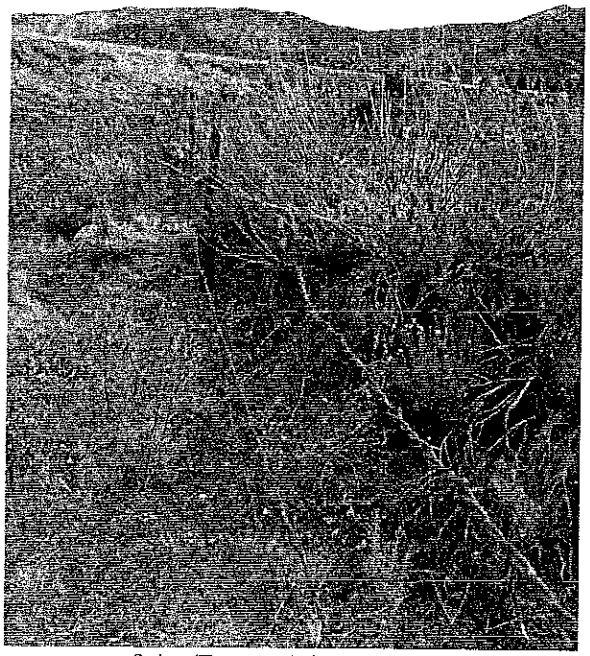


Concrete reservoir (Feature 22d). View to northeast, 8/15/2012.

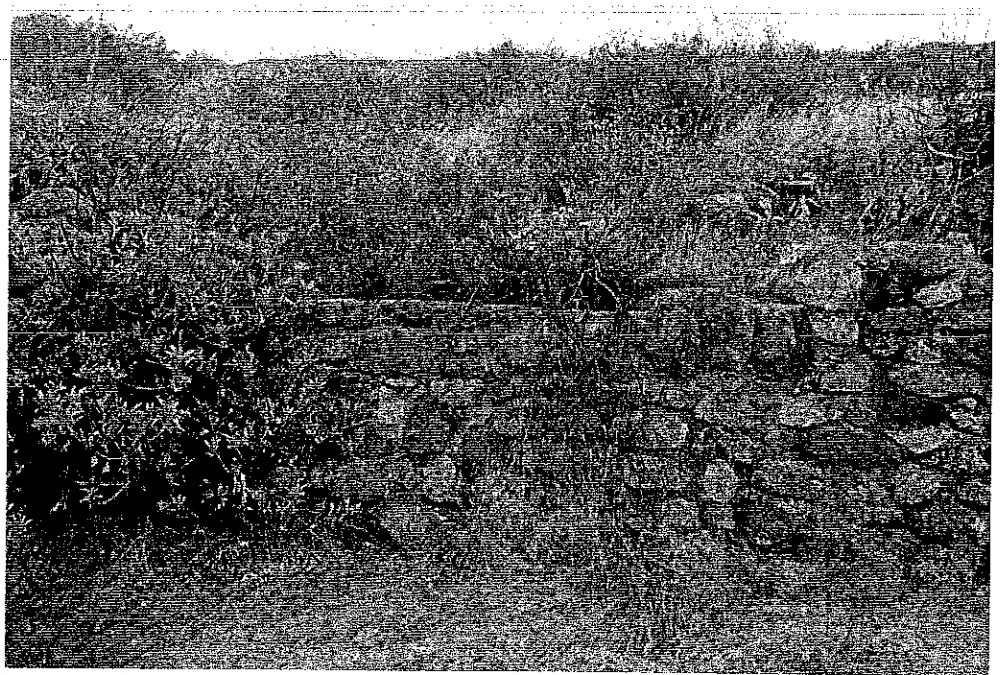
Concrete weir box attached to concrete reservoir (Feature 22d). View to south, 8/15/2012.



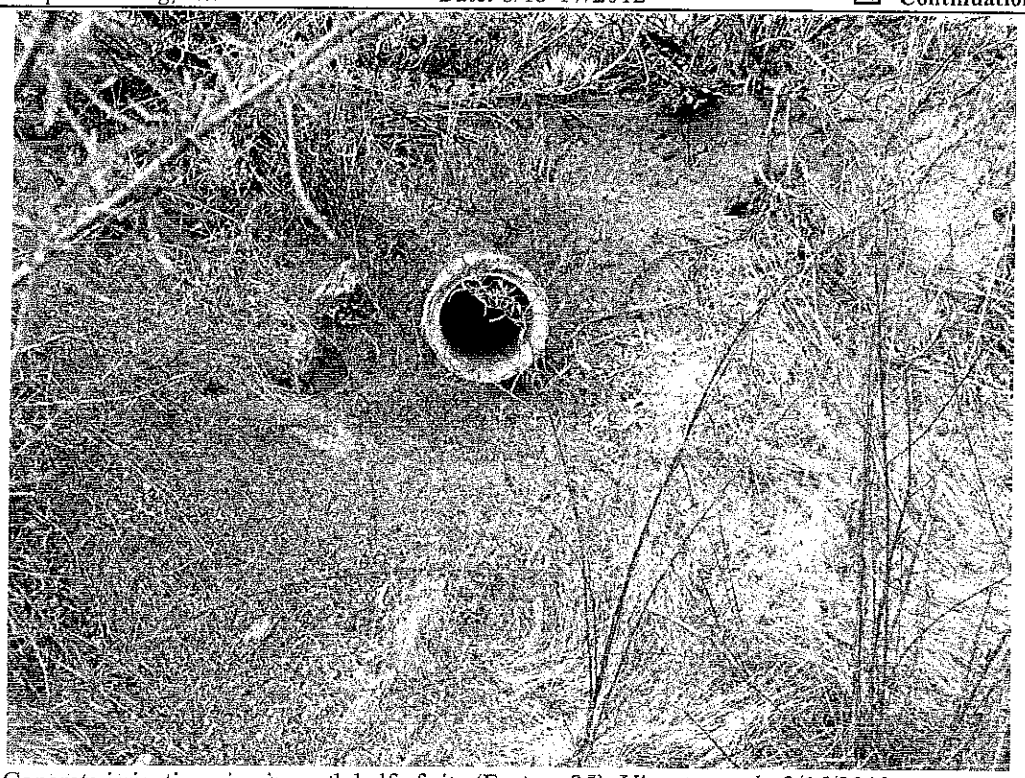
Concrete weir box with collapsed roof (Feature 22e), east of concrete reservoir (Feature 22d). View to northeast, 8/15/2012.



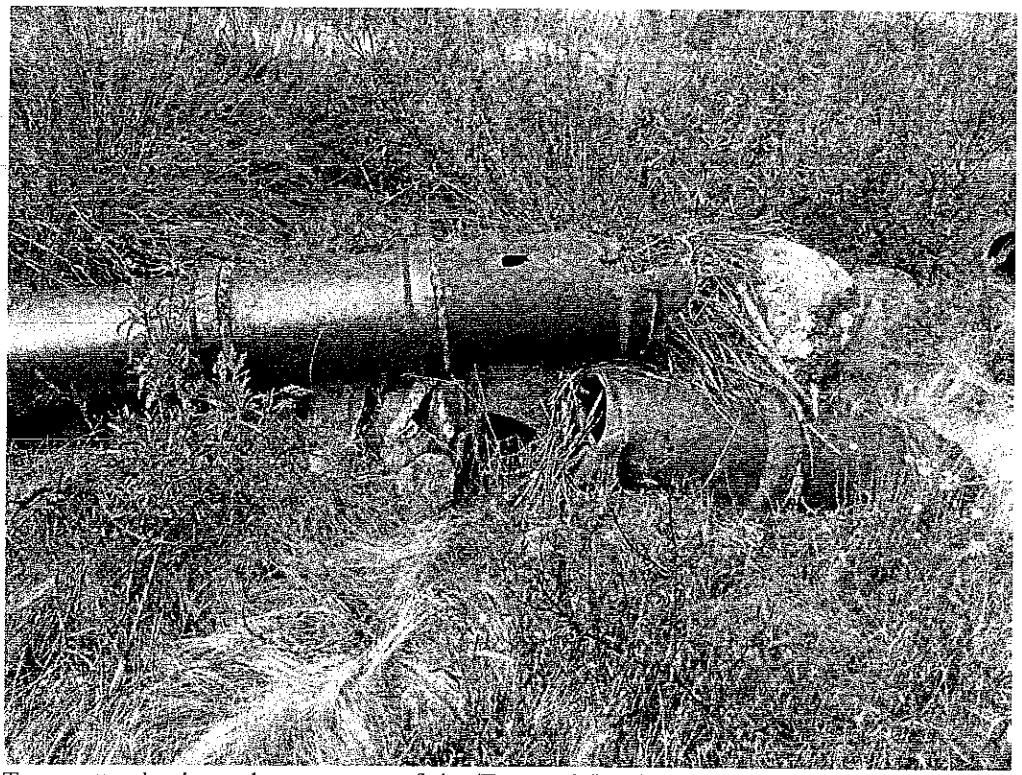
Fence line in northwest quarter of site (Feature 23). View to north, 8/16/2012.



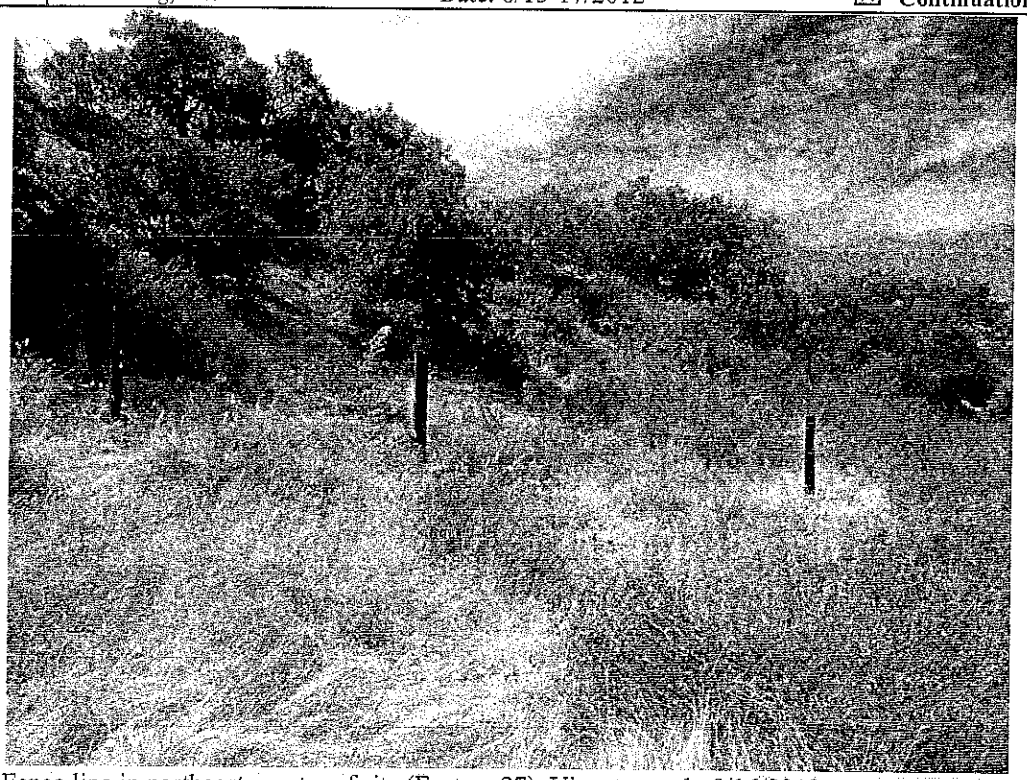
Stone retaining wall in ravine in northwest quarter of site (Feature 24). View to southeast, 8/16/2012.



Concrete irrigation pipe in north half of site (Feature 25). View to south, 8/16/2012.



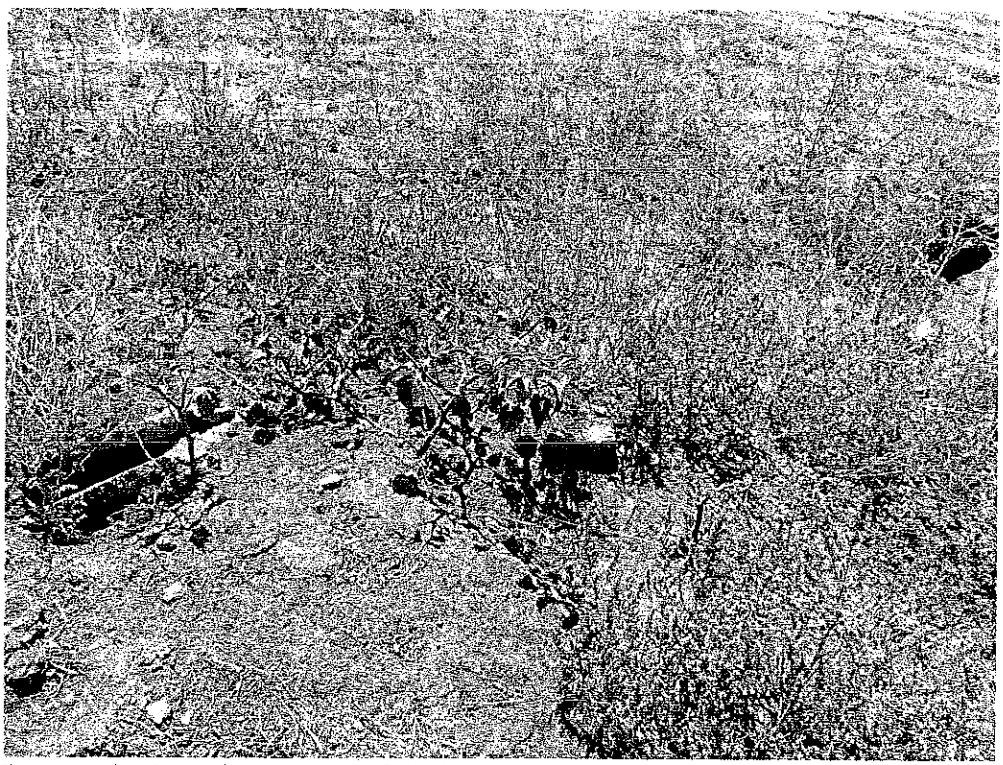
Terra cotta pipe in northwest quarter of site (Feature 26). View to west, 8/16/2012.



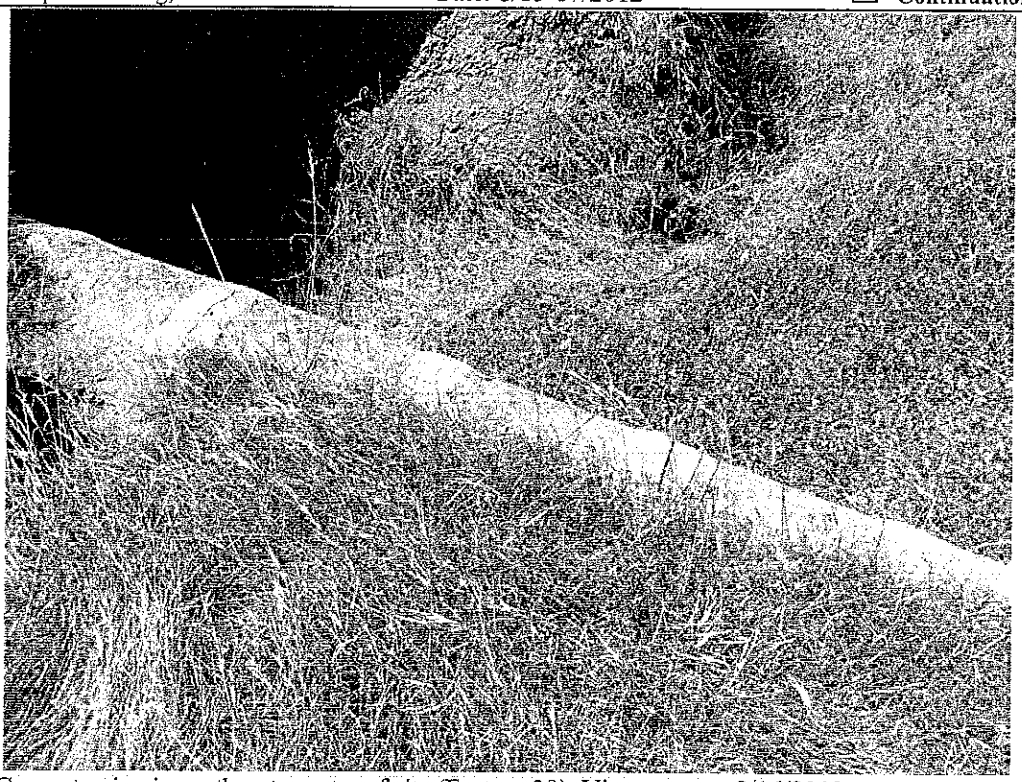
Fence line in northeast quarter of site (Feature 27). View to south, 8/16/2012.

Fence line near northeast corner of site (Feature 28). View to south, 8/16/2012.

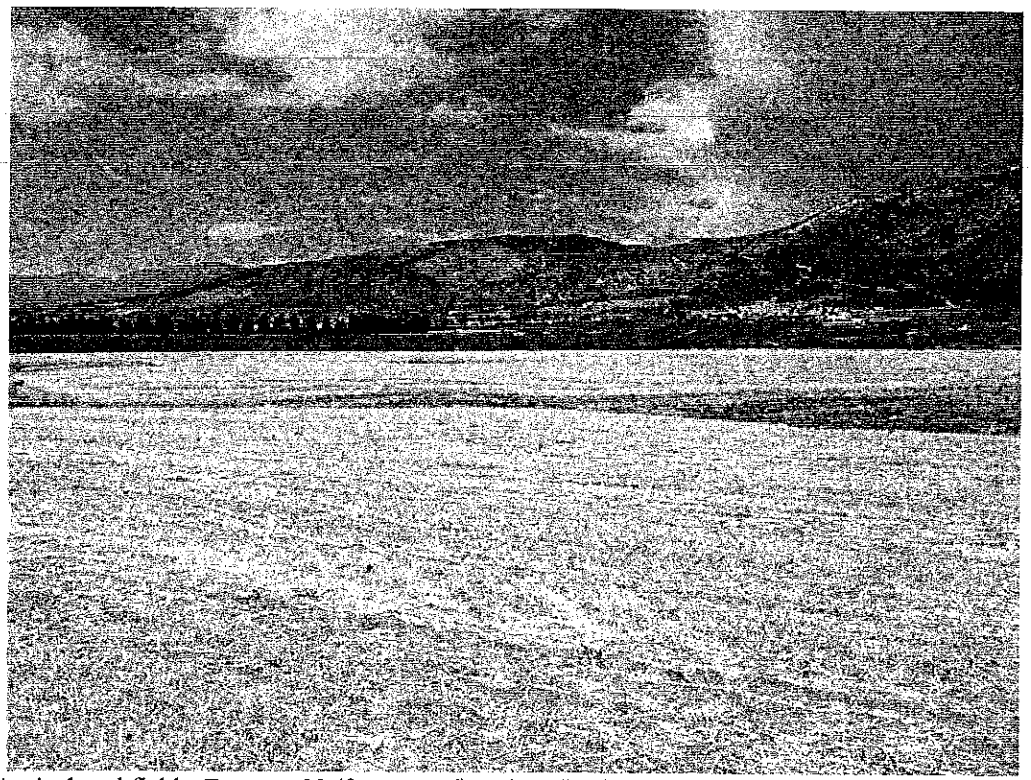
Terra cotta pipe in northeast quarter of site (Feature 29a). View to northeast, 8/16/2012.



Concrete pipe in northeast quarter of site (Feature 29b). View to southwest, 8/16/2012.



Concrete pipe in northeast quarter of site (Feature 30). View to west, 8/16/2012.



Agricultural fields: Features 32 (foreground) and 33 (background, across ravine). View to north, 8/16/2012.

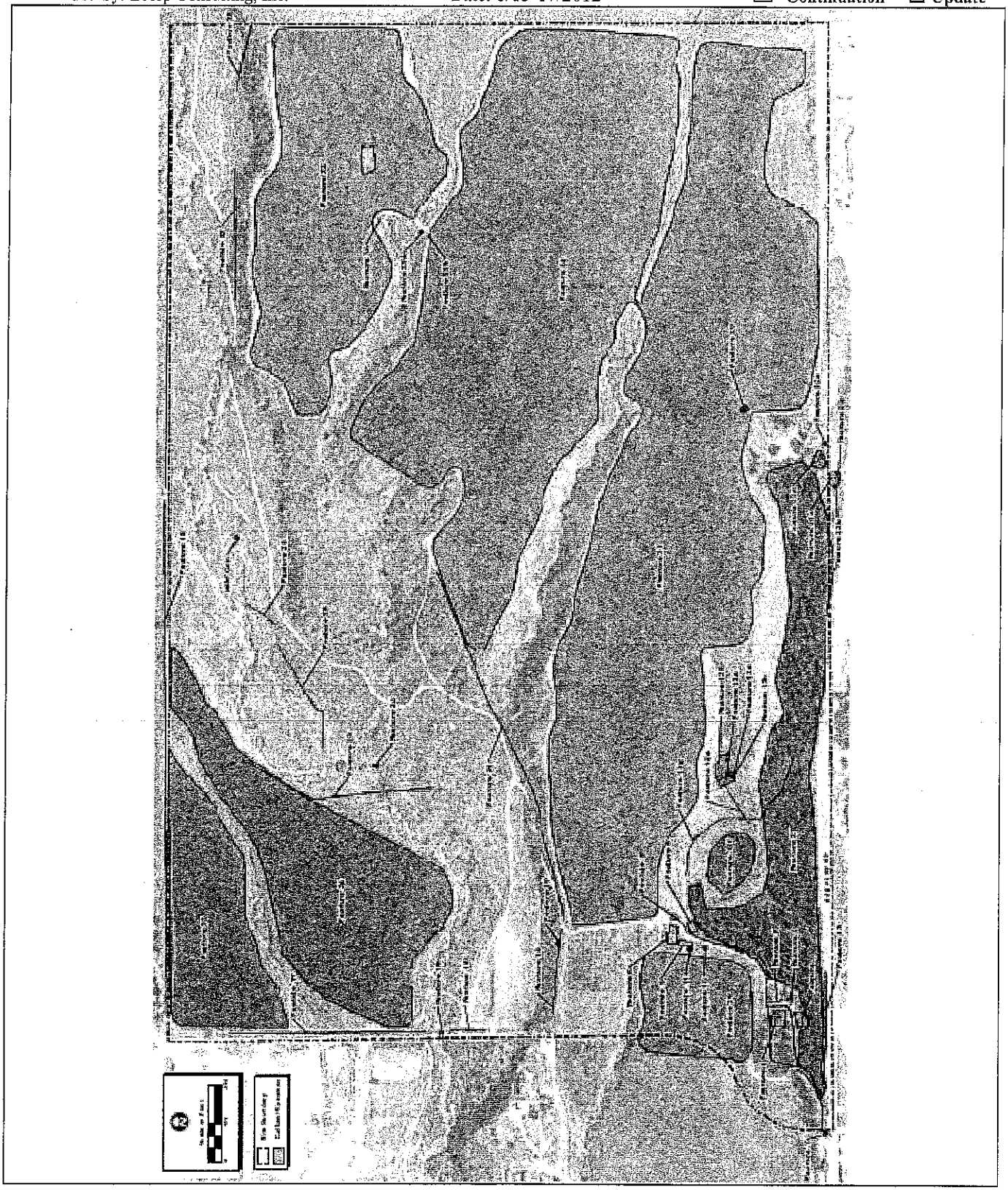
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

SKETCH MAP 1 – Site Overview

Primary #:
HRI#/Trinomial:

*Resource Name or Number (Assigned by recorder): CB-001 (Casa Blanca Ranch)

*Recorded by: Ecorp Consulting, Inc. *Date: 8/15-17/2012 ☒ Continuation ☐ Update



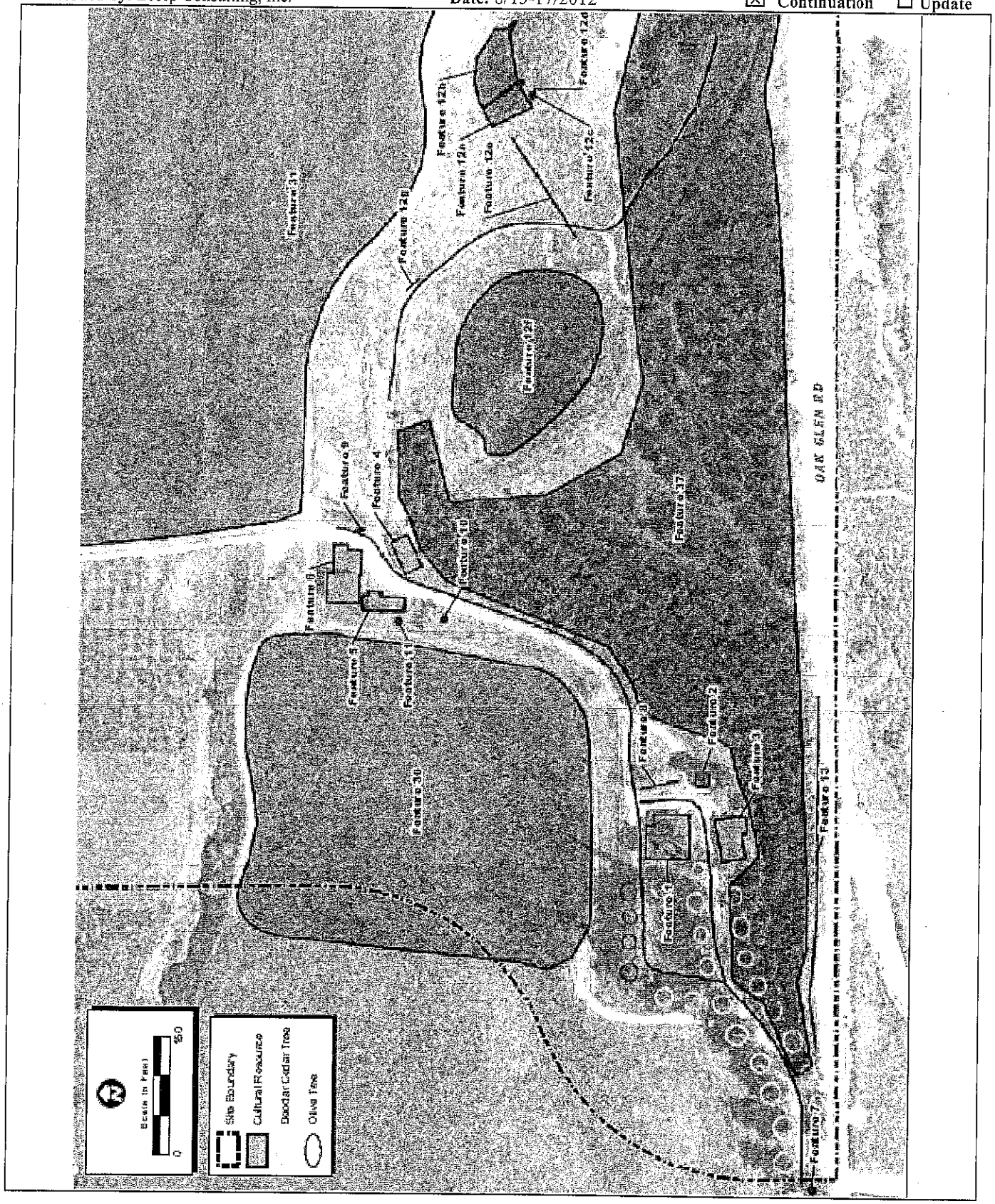
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

SKETCH MAP 2 – Ranch Building Complex

Primary #:
HRI#/Trinomial:

*Resource Name or Number (Assigned by recorder): CB-001 (Casa Blanca Ranch)

*Recorded by: Ecorp Consulting, Inc. *Date: 8/15-17/2012 ☒ Continuation ☐ Update



* Required information

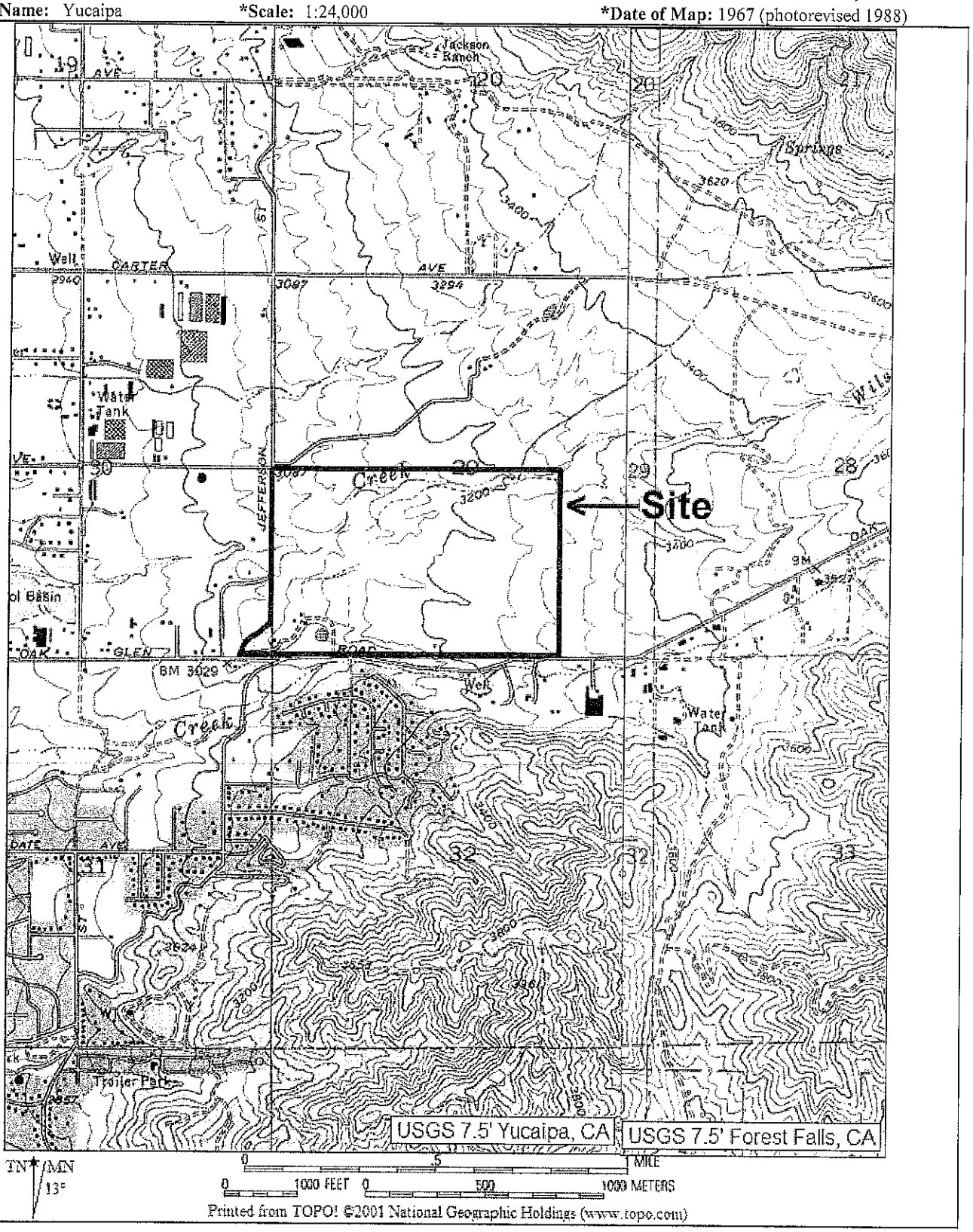
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #:
HRI#
Trinomial:

*Resource Name or Number (Assigned by recorder): CB-001 (Casa Blanca Ranch)

*Map Name: Yucaipa *Scale: 1:24,000 *Date of Map: 1967 (photorevised 1988)



* Required information

APPENDIX D

CALIFORNIA EMISSIONS ESTIMATOR MODEL
PRINTOUTS OF MODEL OUTPUTS FOR PROJECT
(CALEEMOD Version 2016.3.2)

YVWD 0.6 MG Res, Potable Booster Pumping Station, 12" and 16" Pipelines

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
	0.00		3.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimated disturbed area of approximately 3.3 acres.

Construction Phase - Construction is estimated to begin in February 2021 and to take approximately 300 construction days.

Off-road Equipment - Estimated construction equipment for construction of the Initial Contract, consisting of one 0.6 MG potable water storage reservoir, a potable water booster pumping station, a 12-inch diameter recycled water pipeline, a 16-inch diameter potable water pipeline, a storm water retention basin, site paving, and other site improvements.

Trips and VMT - Estimted number of workers' vehicles commuting to the site per day is 10, while hauling trips will average less than one per day, so one is used as a conservative number.

Stationary Sources - User Defined -

YVWD 0.6 MG Res, Potable Booster Pumping Station, 12" and 16" Pipelines - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	PhaseEndDate	2/16/2022	4/15/2022
tblConstructionPhase	PhaseStartDate	4/1/2021	2/15/2021
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	7.1087	64.2941	47.0972	0.1120	0.1119	2.9198	3.0317	0.0297	2.7186	2.7483	0.0000	10,694.1019	10,694.1019	3.1247	0.0000	10,772.2204
2022	6.2368	53.7911	45.2873	0.1120	0.1120	2.3806	2.4925	0.0297	2.2184	2.2480	0.0000	10,691.5567	10,691.5567	3.1162	0.0000	10,769.4605
Maximum	**7.1087**	**64.2941**	**47.0972**	**0.1120**	**0.1120**	**2.9198**	**3.0317**	**0.0297**	**2.7186**	**2.7483**	**0.0000**	**10,694.1019**	**10,694.1019**	**3.1247**	**0.0000**	**10,772.2204**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	7.1087	64.2941	47.0972	0.1120	0.1119	2.9198	3.0317	0.0297	2.7186	2.7483	0.0000	10,694.1019	10,694.1019	3.1247	0.0000	10,772.2204
2022	6.2368	53.7911	45.2873	0.1120	0.1120	2.3806	2.4925	0.0297	2.2184	2.2480	0.0000	10,691.5566	10,691.5566	3.1162	0.0000	10,769.4605
Maximum	**7.1087**	**64.2941**	**47.0972**	**0.1120**	**0.1120**	**2.9198**	**3.0317**	**0.0297**	**2.7186**	**2.7483**	**0.0000**	**10,694.1019**	**10,694.1019**	**3.1247**	**0.0000**	**10,772.2204**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	2/15/2021	4/15/2022	5	305	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Off-Highway Trucks	1	8.00	402	0.38
Building Construction	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Off-Highway Trucks	2	8.00	402	0.38
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Graders	1	8.00	187	0.41
Building Construction	Off-Highway Trucks	2	4.00	402	0.38
Building Construction	Sweepers/Scrubbers	1	8.00	64	0.46
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	21	10.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.0669	64.2659	46.7216	0.1109		2.9190	2.9190		2.7178	2.7178		10,583.1388	10,583.1388	3.1217		10,661.1823
Total	**7.0669**	**64.2659**	**46.7216**	**0.1109**		**2.9190**	**2.9190**		**2.7178**	**2.7178**		**10,583.1388**	**10,583.1388**	**3.1217**		**10,661.1823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.0000e-005	8.5000e-004	1.9000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005		0.2732	0.2732	2.0000e-005		0.2737
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0419	0.0273	0.3755	1.1100e-003	0.1118	8.3000e-004	0.1126	0.0296	7.6000e-004	0.0304		110.6898	110.6898	2.9800e-003		110.7644
Total	**0.0419**	**0.0282**	**0.3757**	**1.1100e-003**	**0.1119**	**8.3000e-004**	**0.1127**	**0.0297**	**7.6000e-004**	**0.0304**		**110.9630**	**110.9630**	**3.0000e-003**		**111.0381**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.0669	64.2659	46.7216	0.1109		2.9190	2.9190		2.7178	2.7178	0.0000	10,583.1388	10,583.1388	3.1217		10,661.1823
Total	**7.0669**	**64.2659**	**46.7216**	**0.1109**		**2.9190**	**2.9190**		**2.7178**	**2.7178**	**0.0000**	**10,583.1388**	**10,583.1388**	**3.1217**		**10,661.1823**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.0000e-005	8.5000e-004	1.9000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005		0.2732	0.2732	2.0000e-005		0.2737
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0419	0.0273	0.3755	1.1100e-003	0.1118	8.3000e-004	0.1126	0.0296	7.6000e-004	0.0304		110.6898	110.6898	2.9800e-003		110.7644
Total	**0.0419**	**0.0282**	**0.3757**	**1.1100e-003**	**0.1119**	**8.3000e-004**	**0.1127**	**0.0297**	**7.6000e-004**	**0.0304**		**110.9630**	**110.9630**	**3.0000e-003**		**111.0381**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1975	53.7657	44.9399	0.1109		2.3798	2.3798		2.2176	2.2176		10,584.5604	10,584.5604	3.1134		10,662.3963
Total	**6.1975**	**53.7657**	**44.9399**	**0.1109**		**2.3798**	**2.3798**		**2.2176**	**2.2176**		**10,584.5604**	**10,584.5604**	**3.1134**		**10,662.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.0000e-005	7.9000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005		0.2700	0.2700	2.0000e-005		0.2704
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0393	0.0247	0.3472	1.0700e-003	0.1118	8.0000e-004	0.1126	0.0296	7.4000e-004	0.0304		106.7263	106.7263	2.7000e-003		106.7937
Total	**0.0393**	**0.0255**	**0.3474**	**1.0700e-003**	**0.1120**	**8.0000e-004**	**0.1128**	**0.0297**	**7.4000e-004**	**0.0304**		**106.9963**	**106.9963**	**2.7200e-003**		**107.0642**

3.2 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1975	53.7657	44.9399	0.1109		2.3798	2.3798		2.2176	2.2176	0.0000	10,584.5604	10,584.5604	3.1134		10,662.3963
Total	**6.1975**	**53.7657**	**44.9399**	**0.1109**		**2.3798**	**2.3798**		**2.2176**	**2.2176**	**0.0000**	**10,584.5604**	**10,584.5604**	**3.1134**		**10,662.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.0000e-005	7.9000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005		0.2700	0.2700	2.0000e-005		0.2704
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0393	0.0247	0.3472	1.0700e-003	0.1118	8.0000e-004	0.1126	0.0296	7.4000e-004	0.0304		106.7263	106.7263	2.7000e-003		106.7937
Total	**0.0393**	**0.0255**	**0.3474**	**1.0700e-003**	**0.1120**	**8.0000e-004**	**0.1128**	**0.0297**	**7.4000e-004**	**0.0304**		**106.9963**	**106.9963**	**2.7200e-003**		**107.0642**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

YVWD 0.6 MG Res, Potable Booster Pumping Station, 12" and 16" Pipelines

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
	0.00		3.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimated disturbed area of approximately 3.3 acres.

Construction Phase - Construction is estimated to begin in February 2021 and to take approximately 300 construction days.

Off-road Equipment - Estimated construction equipment for construction of the Initial Contract, consisting of one 0.6 MG potable water storage reservoir, a potable water booster pumping station, a 12-inch diameter recycled water pipeline, a 16-inch diameter potable water pipeline, a storm water retention basin, site paving, and other site improvements.

Trips and VMT - Estimted number of workers' vehicles commuting to the site per day is 10, while hauling trips will average less than one per day, so one is used as a conservative number.

Stationary Sources - User Defined -

YVWD 0.6 MG Res, Potable Booster Pumping Station, 12" and 16" Pipelines - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	305.00
tblConstructionPhase	PhaseEndDate	2/16/2022	4/15/2022
tblConstructionPhase	PhaseStartDate	4/1/2021	2/15/2021
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.8175	7.3942	5.4131	0.0129	0.0126	0.3358	0.3484	3.3500e-003	0.3126	0.3160	0.0000	1,115.1289	1,115.1289	0.3260	0.0000	1,123.2784
2022	0.2339	2.0173	1.6973	4.2000e-003	4.1200e-003	0.0893	0.0934	1.0900e-003	0.0832	0.0843	0.0000	363.5488	363.5488	0.1060	0.0000	366.1989
Maximum	**0.8175**	**7.3942**	**5.4131**	**0.0129**	**0.0126**	**0.3358**	**0.3484**	**3.3500e-003**	**0.3126**	**0.3160**	**0.0000**	**1,115.1289**	**1,115.1289**	**0.3260**	**0.0000**	**1,123.2784**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.8175	7.3942	5.4131	0.0129	0.0126	0.3358	0.3484	3.3500e-003	0.3126	0.3160	0.0000	1,115.1276	1,115.1276	0.3260	0.0000	1,123.2771
2022	0.2339	2.0173	1.6973	4.2000e-003	4.1200e-003	0.0893	0.0934	1.0900e-003	0.0832	0.0843	0.0000	363.5483	363.5483	0.1060	0.0000	366.1985
Maximum	**0.8175**	**7.3942**	**5.4131**	**0.0129**	**0.0126**	**0.3358**	**0.3484**	**3.3500e-003**	**0.3126**	**0.3160**	**0.0000**	**1,115.1276**	**1,115.1276**	**0.3260**	**0.0000**	**1,123.2771**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

YVWD 0.6 MG Res, Potable Booster Pumping Station, 12" and 16" Pipelines - South Coast Air Basin, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-15-2021	5-14-2021	2.2697	2.2697
2	5-15-2021	8-14-2021	2.3461	2.3461
3	8-15-2021	11-14-2021	2.3462	2.3462
4	11-15-2021	2-14-2022	2.1635	2.1635
5	2-15-2022	5-14-2022	1.2864	1.2864
		Highest	2.3462	2.3462

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	2/15/2021	4/15/2022	5	305	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Off-Highway Trucks	1	8.00	402	0.38
Building Construction	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Off-Highway Trucks	2	8.00	402	0.38
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Graders	1	8.00	187	0.41
Building Construction	Off-Highway Trucks	2	4.00	402	0.38
Building Construction	Sweepers/Scrubbers	1	8.00	64	0.46
Building Construction	Rollers	1	8.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	21	10.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.8127	7.3906	5.3730	0.0128		0.3357	0.3357		0.3126	0.3126	0.0000	1,104.0991	1,104.0991	0.3257	0.0000	1,112.2411
Total	**0.8127**	**7.3906**	**5.3730**	**0.0128**		**0.3357**	**0.3357**		**0.3126**	**0.3126**	**0.0000**	**1,104.0991**	**1,104.0991**	**0.3257**	**0.0000**	**1,112.2411**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0283	0.0283	0.0000	0.0000	0.0284
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7800e-003	3.5500e-003	0.0401	1.2000e-004	0.0126	1.0000e-004	0.0127	3.3500e-003	9.0000e-005	3.4400e-003	0.0000	11.0015	11.0015	3.0000e-004	0.0000	11.0089
Total	**4.7800e-003**	**3.6500e-003**	**0.0402**	**1.2000e-004**	**0.0126**	**1.0000e-004**	**0.0127**	**3.3500e-003**	**9.0000e-005**	**3.4400e-003**	**0.0000**	**11.0298**	**11.0298**	**3.0000e-004**	**0.0000**	**11.0373**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.8127	7.3906	5.3730	0.0128		0.3357	0.3357		0.3126	0.3126	0.0000	1,104.0978	1,104.0978	0.3257	0.0000	1,112.2398
Total	**0.8127**	**7.3906**	**5.3730**	**0.0128**		**0.3357**	**0.3357**		**0.3126**	**0.3126**	**0.0000**	**1,104.0978**	**1,104.0978**	**0.3257**	**0.0000**	**1,112.2398**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0283	0.0283	0.0000	0.0000	0.0284
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7800e-003	3.5500e-003	0.0401	1.2000e-004	0.0126	1.0000e-004	0.0127	3.3500e-003	9.0000e-005	3.4400e-003	0.0000	11.0015	11.0015	3.0000e-004	0.0000	11.0089
Total	**4.7800e-003**	**3.6500e-003**	**0.0402**	**1.2000e-004**	**0.0126**	**1.0000e-004**	**0.0127**	**3.3500e-003**	**9.0000e-005**	**3.4400e-003**	**0.0000**	**11.0298**	**11.0298**	**3.0000e-004**	**0.0000**	**11.0373**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2324	2.0162	1.6853	4.1600e-003		0.0892	0.0892		0.0832	0.0832	0.0000	360.0807	360.0807	0.1059	0.0000	362.7286
Total	**0.2324**	**2.0162**	**1.6853**	**4.1600e-003**		**0.0892**	**0.0892**		**0.0832**	**0.0832**	**0.0000**	**360.0807**	**360.0807**	**0.1059**	**0.0000**	**362.7286**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	9.1200e-003	9.1200e-003	0.0000	0.0000	9.1300e-003
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4600e-003	1.0400e-003	0.0121	4.0000e-005	4.1100e-003	3.0000e-005	4.1400e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.4590	3.4590	9.0000e-005	0.0000	3.4611
Total	**1.4600e-003**	**1.0700e-003**	**0.0121**	**4.0000e-005**	**4.1200e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.4681**	**3.4681**	**9.0000e-005**	**0.0000**	**3.4703**

3.2 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2324	2.0162	1.6852	4.1600e-003		0.0892	0.0892		0.0832	0.0832	0.0000	360.0803	360.0803	0.1059	0.0000	362.7282
Total	**0.2324**	**2.0162**	**1.6852**	**4.1600e-003**		**0.0892**	**0.0892**		**0.0832**	**0.0832**	**0.0000**	**360.0803**	**360.0803**	**0.1059**	**0.0000**	**362.7282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	9.1200e-003	9.1200e-003	0.0000	0.0000	9.1300e-003
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4600e-003	1.0400e-003	0.0121	4.0000e-005	4.1100e-003	3.0000e-005	4.1400e-003	1.0900e-003	3.0000e-005	1.1200e-003	0.0000	3.4590	3.4590	9.0000e-005	0.0000	3.4611
Total	**1.4600e-003**	**1.0700e-003**	**0.0121**	**4.0000e-005**	**4.1200e-003**	**3.0000e-005**	**4.1500e-003**	**1.0900e-003**	**3.0000e-005**	**1.1200e-003**	**0.0000**	**3.4681**	**3.4681**	**9.0000e-005**	**0.0000**	**3.4703**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation