SAN BERNARDINO COUNTY
INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA Guidelines.

PROJECT LABEL

APNs: 3066-221-33, 3066-181-26, & 3066-321-26
Applicant: Sheep Creek Water Company
Location: Well #16 Location — 4200 Sunnyslope Rd, Phelan, CA 92371

Wells #12 & #14 are located at the same overall site location: the northwest corner of Sheep Creek Road and Nielson Road, Phelan, CA 92371

Well #13 is located between Cambria Road to the north and Elsinore Road to the south along Mescalero Road, within the Phelan, CA

Staff: Magda Gonzalez
Rep Kaitlyn Dodson – Hamilton
Proposal: Environmental Review Unrelated to Planning Project for six (6) proposed groundwater production wells to increase Sheep Creek Water Company's (SCWC) potable water supply in compliance with the State Water Resources Control Board's Compliance Order No. 05-13-18R-002. The wells are to be located on three different parcels; four (4) wells will run concurrently while the other two (2) will serve as backup wells. The wells will each be equipped with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. At each new well, the new pumps will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences (about 200 feet from each well site). To minimize onsite water consumption no new landscaping will be installed at any of the three well sites. At each of the well locations, the closest connection to SCWC's system is within the adjacent roadways. Each well will be drilled to approximately 1,500 feet deep using a reverse rotary drill unit.

USGS Quad: Phelan
Lat/Long: **34.420208346, -117.574096787**
34.421338277, -117.586966595
34.412468638, -117.570062522
T, R, Section: 04N, 07W, 23
04N, 07W, 23
04N, 07W, 24

Overlays: All Parcels: Desert Tortoise – Sparse Population

Well #12 and #14 are located within a special flood hazard area inundated by a 100-year flood; they are located within Zone A

Well #13 and #16) are not located within a special flood hazard area

PROJECT CONTACT INFORMATION

Lead Agency: County of San Bernardino
Land Use Services Department
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PROJECT DESCRIPTION

Introduction

The Sheep Creek Water Company (SCWC), is a Mutual Water Company that provides water service to customers located within its service area, which includes a portion of the unincorporated community of Phelan. Figure 3 depicts SCWC's distribution system map, with the location of each well detonated as a star. SCWC provides this water service pursuant to the regulatory jurisdiction of the State Water Resources Control Board, Division of Drinking Water (DDW). SCWC has approximately 8,000 shares in the Company, about 1,170 active water service connections and a total of just below 1,400 potential connections. As a non-governmental entity SCWC is not subject to California Environmental Quality Act (CEQA) unless its actions involve governmental participation, financing, discretionary permitting or approval (Section 15002(c) of the State CEQA Guidelines). In this instance San Bernardino County will serve as the CEQA Lead Agency for the development of the four proposed new wells by SCWC. SCWC is required to obtain well drilling permits and encroachment permits from the County of San Bernardino.

SCWC operates its mutual water system under the terms and conditions of a Water Supply Permit issued by the DDW. The proposed new water supply wells will be pumped to supplement the Company's existing sources. Before the new wells can be connected to the SCWC water supply system, it must obtain an amended permit from the DDW to add new facilities to its system. As the lead agency, San Bernardino County must comply with CEQA and make a determination on the potential effects of permitting a new water supply and modified distribution facilities on the existing environment.

SCWC is proposing to drill new wells which will serve as a new source of water to supplement the existing water production system that consists of the following facilities: Water Tunnel; Well #2A; Well #3A; Well #4A; Well #5; Well #8; Well #11; and a backup connection to the Phelan Piñon Hills Community Services District. Over the past 10 years annual water production has averaged approximately 750 acre-feet per year. Assuming 1,400 water service connections, the average consumption is about 0.5 acre-foot per year per connection. The purpose of this project is, per the SWRCB Compliance Order NO 05-13-18R-002, Sheep Creek needs to acquire additional source capacity to meet the Maximum Day Demand (MDD). Based on the capacity of the newly constructed Well #11 pumping at 250 gallons per minute, Sheep Creek may need to drill several additional wells to meet the required MDD; and as such, SCWC is proposing to develop 4 wells at three different sites to meet the MDD.

Project Description

The proposed groundwater production wells will be drilled to provide a supplemental water sources for the Company's potable water supply. The following summary of information is provided regarding the drilling, construction, development and testing of the new well. The total area of disturbance will be less than one acre per well.

Each well will be drilled to approximately 1,500 feet deep using a reverse rotary drill unit. The objective is to have each of the proposed new wells pump at a rate of approximately 500 gallons per minute (gpm) from either the Alto Subbasin (at Sheep Creek Road and Nielson Road) or the Oeste Subbasin (at the SCWC Office and the Mescalero Road site) of the Mojave River Basin. However, given the production rate of SCWC's recently installed well, it is possible that each well will generate only about 250 gpm. If it is determined whether the wells at the SCWC Office and the Mescalero Road site (Wells #13 and #16) will be productive, a back-up well may be installed at each of these sites. These two potential back up wells will be installed in the same manner as the other four wells, but will not be used concurrently with the main well at each of the SCWC Office and the Mescalero Road sites. In total, there is a potential for SCWC to install 6 wells in total, 4 of which may potentially operate concurrently. However, the intent of the proposed wells is to provide expanded reliable back-up sources of water to supplement SCWC's water supply when the demand requires additional supply. This is due to the fact that SCWC does not have pumping rights in the Mojave River Basin, and as such, pays fees per acre-foot of water extracted from this Basin.

Ultimately, the new wells will serve to provide the community with a supplemental, reliable source of drinking water, which will be a vital source of water to the community. The wells will each be equipped with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. At each new well, the new pumps will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences (about 200 feet from each well site). To minimize onsite water consumption no new landscaping will be installed at any of the three well sites, which is consistent with the current conditions of the existing of the project site.

Once the wells are completed to the desired depth, they will be pumped to test the production rate and quality of the water. The groundwater extracted from the new wells will be passed through the Baker tanks to settle out any sediment and then delivered to the local drainage system for disposal, assuming the water quality meets Regional Board discharge requirement standards. Assuming the wells produce a sufficient quantity of groundwater of adequate quality, the wells will each be equipped for production and converted to a production well.

Below outlines a more detailed sequence of events that will be implemented in support of the proposed project.

- The bucket auger drill rig will come onsite and drill and install conductor casing and cement sanitary seal.
- The reverse rotary drill rig will mobilize to the site and set up, including sound walls.
- Drill the pilot borehole and collect associated data, such as lithology, geophysical logs, and isolated aquifer zone testing.
- Deliver the well construction materials.
- Drill enlarged borehole to target depth.
- Construct the well.
- Conduct initial well development by airlift/swab.
- Demobilize the drill rig and mobilize the test pump.
- Conduct final development by pumping.
- Conduct pumping tests.
- Temporarily cap the well and demobilize remaining equipment.
- Return the site to original condition.
- Connect well to SCWC's potable Distribution System.

Construction Scenario

It is anticipated that about five persons will be on a given well site at any one time to support drilling the well: three drillers, the hydrologist inspector, and a foreman. Daily trips to complete the well will average about 10 roundtrips per day, including: two roundtrips for drill rigs; between 6 and 12 roundtrips for cement trucks; a few trips to deliver pipe; and about 20 trips per day for employees. It is estimated that it will require about 8 weeks to drill each well, with 24-hour drilling activities for 7 days a week (surrounding housing to be notified in advance). The objective for each well is to generate a minimum 500 gpm; however, it is possible that each well will generate only about 250 gpm. Assuming the groundwater quality is potable (see the discussion under Hydrology and Water Quality), the new wells will each be connected to SCWC's distribution system. At each of the well locations, the closest connection to SCWC's system is within the adjacent roadways. At Well #16 (Sunnyslope), the new well would connect to an existing water storage reservoir at the SCWC Office Site, as such a short pipeline within the SCWC Office Site property to reach the connection point will be required. At Well #12 and #14 (Sheep Creek & Nielson), the new wells would connect to existing pipeline connections located within Nielson Road. At Well #13 (Mescalero Road), the new well would connect to existing pipeline connections located within Cambria Road to the north of the project site. At each well location a connection pipeline that will be installed will be no greater in length than 500 lineal feet (LF). Each new well pump will be located aboveground and placed in an enclosed structure as previously described.

Operational Scenario

Operation of each new well would be on an as needed basis in the future and would not require any shifts or employees as it will be monitored and controlled remotely. Each of the possible six new production wells

would require up to 1.5 million KWH to operate per year (if full time); however, only four wells would operate at a time. A back-up generator will be installed on a concrete pad in support of each production well to ensure that each well has continuous electricity. Chemicals used in the water production process will be chlorine (sodium hypochlorite) for disinfection.

The San Bernardino County General Plan Land Uses are Commercial and Residential and the Zoning classifications are General Commercial (PH/CG), Single Residential 1-acre minimum (PH/RS-1). The Land uses bordering the project site are outlined in Table 1 below:

Table 1
EXISTING LAND USE AND LAND USE ZONING DISTRICTS: WELL #16
(APN: 3066-321-26)

Location	Existing Land Use	Land Use Zoning District
Project Site	SCWC Office	Phelan Pinon Hills/General Commercial (PH/CG) and Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
North	Vacant land	Phelan Pinon Hills/General Commercial (PH/CG) and Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
South	Latter Day Saints Church/Vacant	Phelan Pinon Hills/General Commercial (PH/CG) and Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
East	Residences	Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
West	Vacant, further west Serrano High School, to the north of the High School, is the Snowline Joint Unified School District Office, as well as Piñon Mesa Middle School	Phelan Pinon Hills/General Commercial (PH/CG)

Table 2
EXISTING LAND USE AND LAND USE ZONING DISTRICTS: WELL #12 & #14
(APN: 3066-221-33)

Location	Existing Land Use	Land Use Zoning District
Project Site	Vacant site containing native vegetation characteristic of the High Desert	Phelan Pinon Hills/General Commercial (PH/CG)
North	Phelan Self Storage	Phelan Pinon Hills/General Commercial (PH/CG)
South	Snowline Joint Unified School District Office, as well as Piñon Mesa Middle School, and Serrano High School	Phelan Pinon Hills/Institutional (PH/IN)
East	Residences	Phelan Pinon Hills/General Commercial (PH/CG)
West	Vacant land	Phelan Pinon Hills/Multiple Residential (PH/RM)

Table 3
EXISTING LAND USE AND LAND USE ZONING DISTRICTS
WELL #13
(APN: 3066-181-26 (formerly 34))

Location	Existing Land Use	Land Use Zoning District
Project Site	Vacant site containing native vegetation characteristic of the High Desert	Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
North	San Bernardino County Fire Station #10	Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
South	Vacant land	Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
East	Vacant land	Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)
West	Vacant land	Phelan Pinon Hills/Single Residential 1-acre minimum (PH/RS-1)

Project Site Location, Existing Site Land Uses and Conditions (include site photos)

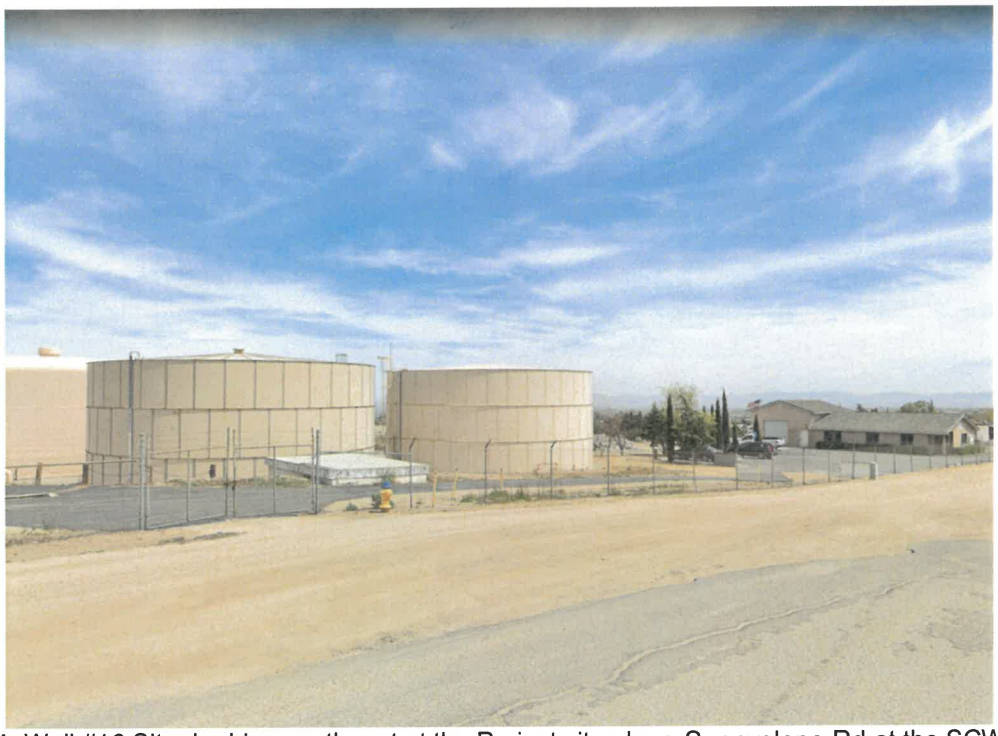

Exhibit 1: Well #16 Site, looking northeast at the Project site along Sunnyslope Rd at the SCWC Office

Exhibit 2: Well #16 Site, looking north at the Project site along Sunnyslope Rd at the SCWC Office

Exhibit 3: Well #12 & #14 Site, looking northwest at the Project site along Sheep Creek Rd

Exhibit 4: Well #12 & #14 Site, looking southwest at the Project site along Sheep Creek Rd

Exhibit 5: Well #12 & #14 Site, looking northwest at the Project site at the corner of Sheep Creek Rd and Nielson Rd

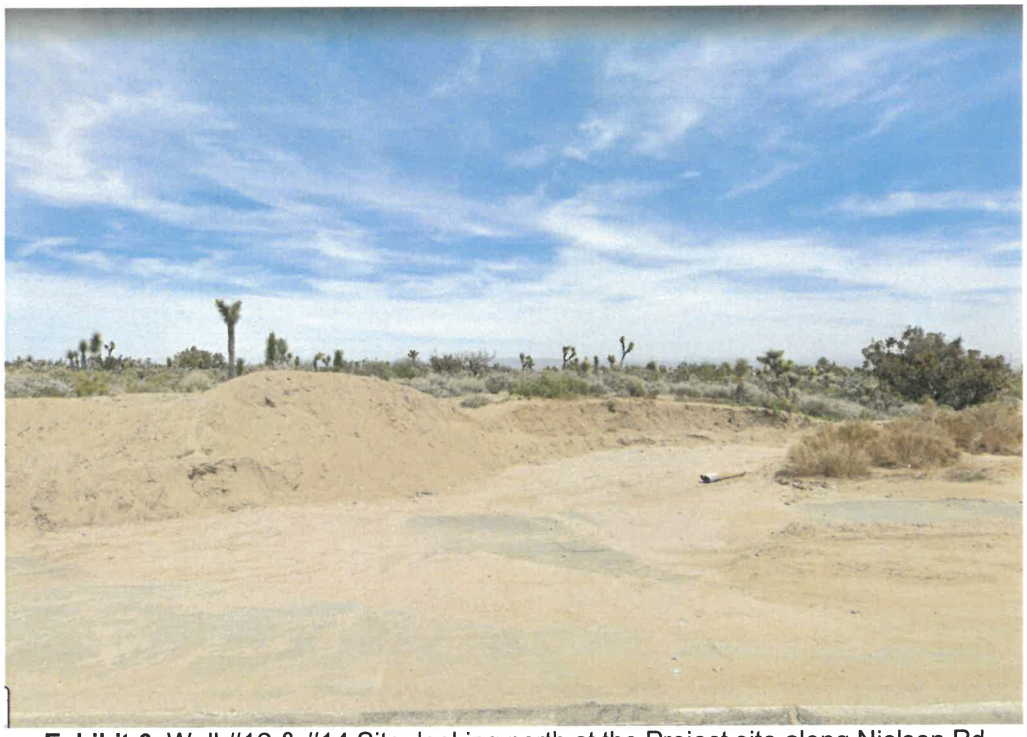

Exhibit 6: Well #12 & #14 Site, looking north at the Project site along Nielson Rd

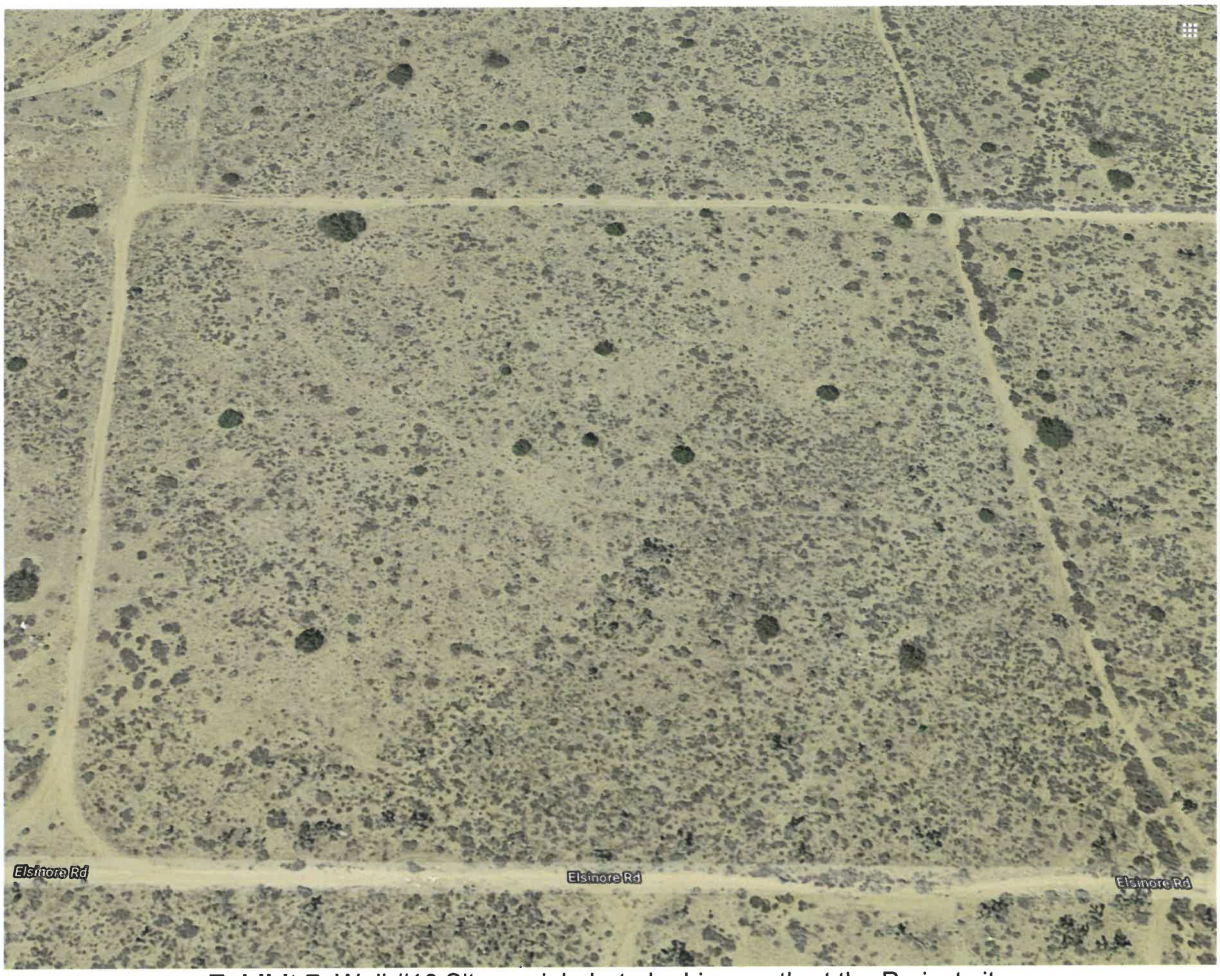

Exhibit 7: Well #13 Site, aerial photo looking north at the Project site

ADDITIONAL APPROVALS THAT MAY BE REQUIRED BY OTHER PUBLIC AGENCIES

(Example: permits, financing approvals or participation agreements.)

Well permitting and encroachment permitting is required by the County of San Bernardino. Other than the County, there are several other agencies with possible jurisdiction/responsibility over the proposed project. First among these is the California State Water Resources Control Board Division of Drinking Water (State Board). The State Board ultimately approves connection of each new well to SCWC's water distribution system after determining that the water quality is adequate to supply potable water to SCWC's customers. The existing SCWC water supply permit will be modified to include each new/replacement well assuming it produces water of adequate quality. Finally, based on the amount of area disturbed to support well drilling, it may be necessary to file a General Construction Permit Notice of Intent with the State Water Resources Control Board.

SUMMARY OF CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES

Four Tribes have requested consultation under AB 52 from County of San Bernardino that are historically affiliated with the High Desert: Colorado River Indian Tribe, Fort Mojave Indian Tribe, San Manuel Band of Mission Indians, and the Morongo Band of Mission Indians. These Tribes were contacted to initiate the AB-52 process in May of 2020 to notify the tribes of the proposed project through mailed letters. During the 30-day consultation period, responses were received from 1 tribe: the San Manuel Band of Mission Indians. The County received a response from the San Manuel Band of Mission Indians requesting the mitigation measures, which have been included as part of the analysis in this Initial Study. No input has been provided

by any other Tribe consulted as part of the AB 52 Consultation process. Therefore, this stage of consultation has concluded, but copies of this document will be available for further review and comment by the Tribes.

EVALUATION FORMAT

This Initial Study is prepared in compliance with the California Environmental Quality Act, Public Resources Code section 21000, et seq. (CEQA) and the State CEQA Guidelines, California Code of Regulations section 15000, et seq. Specifically, the preparation of an Initial Study is guided by Section 15063 of the CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based on its effect on 18 major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact**: No impacts are identified or anticipated and no mitigation measures are required.

2. **Less than Significant Impact**: No significant adverse impacts are identified or anticipated and no mitigation measures are required.

3. **Less than Significant Impact with Mitigation Incorporated**: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)

4. **Potentially Significant Impact**: Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below will 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
- ☒ Biological Resources
- ☒ Geology / Soils
- ☒ Hydrology & Water Quality
- ☒ Noise
- ☐ Recreation
- ☐ Utilities / Service Systems
- ☐ Agriculture and Forestry Resources
- ☒ Cultural Resources
- ☐ Greenhouse Gas Emissions
- ☐ Land Use / Planning
- ☐ Population / Housing
- ☒ Transportation
- ☐ Wildfire
- ☒ Air Quality
- ☐ Energy
- ☒ Hazards & Hazardous Materials
- ☐ Mineral Resources
- ☐ Public Services
- ☒ Tribal Cultural Resources
- ☒ Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

☐	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	Although the proposed project could have a significant effect on the environment, there shall 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 shall be prepared.
☐	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	The proposed project MAY have a "potentially significant impact" 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.
☐	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.

Signature (prepared by Magda Gonzalez, Senior Planner)
Land Use Services Department

July 1, 2020
Date

Signature (Chris Warrick, Supervising Planner)
Land Use Services Department/Planning Division

7-1-2020
Date

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐
c) In 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 publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

I. AESTHETICS

SUBSTANTIATION:
(Check ☐ if project is located within the view-shed of any Scenic Route listed in the General Plan)

a. **Less Than Significant With Mitigation** – Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic vistas that would be altered by new development. The proposed project would develop three wells at three locations within the community of Phelan. Well #16 will be located within SCWC's Office Site—which is a mostly developed site—does not contain any internal scenic vistas, particularly given the reservoirs on site, which are over 20 feet tall. Wells #12, #13, and #14 will be located on vacant sites that contain native vegetation, including native Joshua trees, but none of these would qualify as scenic vistas. A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with the view to a scenic vista. The County of San Bernardino General Plan states that, for the Desert Region, the County desires to "Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water and scenic vistas." There are no specific scenic vistas outlined in the General Plan that apply to the proposed Project. The Project sites are located in areas that contain views of the San Gabriel Mountains to the south that are somewhat limited by slope and development. Well #16 and possible back-up well, located at SCWC, will be located amongst similar development, and as such will blend in with the surroundings at the Project site. However, Wells #12, #13 (and possible back-up well), and #14, once developed and tested, will each be enclosed within a small structure which will be designed to conform to the surrounding setting, which will be enforced through the following mitigation measure:

Mitigation Measure AES-1: *The proposed structures shall be painted in colors that closely match the surrounding desert landscape, so as to create continuity in the potentially obscured views.*

Furthermore, given the limited development and the large size of the sites in which #12, #13 (and possible back-up well), and #14 will be located, it is not anticipated that the small structure will impede any views that may be located within the vicinity of the Project. Each well head will be placed in a 10' x 10' structure with a height that is similar to the surrounding structures—though views in all

directions from the project site consist of open space and residential and limited institutional and commercial development in the foreground and middle ground view. Construction activities will be temporary and localized. Operational activities and the new enclosure will cause minor changes in views from surrounding development, but will not obstruct scenic vistas and therefore the impact as such is considered less than significant. Additionally, the associated pipeline connections will be located below ground, thus the impact to any scenic vistas would be less than significant. No further mitigation is required.

b. **Less Than Significant With Mitigation** – The project sites are located in the rural community of Phelan; no scenic highways are located in the vicinity of the proposed project. Well #16 is located at the SCWC Office, and will be installed at a location with no scenic resources, given that the majority of the site has been previously graded. Wells #12, #13, and #14 are located at sites that are generally flat, containing extensive native vegetation, including Joshua trees. The project does not anticipate the removal of many, if any trees; however, in order to access the small area within the site in which each well will be installed, there is a potential need for tree and vegetation removal. As discussed in the Biological Resources Assessment provided as Appendix 2 to this document, there are several Joshua trees that may be located within the construction and operational footprint of the proposed well development project at two of the three proposed well sites. The San Bernardino Development Code, section 88.01.050 pertains to "Tree or Plant Removal Permits," the relevant sections are copied below:

"(f) Findings for Tree or Plant Removal Permits. The applicable review authority may authorize the removal of a regulated tree or plant only if the following findings are made:

(1) Findings for removals in the Valley Region, Mountain Region, and Desert Region. The removal of the regulated tree or plant is justified for one of the following reasons:

(A) The location of the regulated tree or plant and/or its dripline interferes with an allowed structure, sewage disposal area, paved area, or other approved improvement or ground disturbing activity and there is no other alternative feasible location for the improvement.

(B) The location of the regulated tree or plant and/or its dripline interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property and there is no other alternative feasible location for the improvement.

(C) The location of the regulated tree or plant is hazardous to pedestrian or vehicular travel or safety.

(D) The regulated tree or plant or its presence interferes with or is causing extensive damage to utility services or facilities, roadways, sidewalks, San Bernardino County Development Code Plant Protection and Management 88.01 Page 8-10 April 12, 2007 curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements.

(E) The condition or location of the regulated tree or plant is adjacent to and in such close proximity to an existing or proposed structure that the regulated tree or plant has or will sustain significant damage.

(3) In the Desert Region only, the applicable Review Authority shall also make the following findings: (A) Joshua trees that are proposed to be removed will be transplanted or stockpiled for future transplanting wherever possible."

The proposed project will require a permit for Joshua tree relocation/transplant due to the specific regulations pertaining to this species of tree. As such, the following mitigation measure shall be implemented:

Mitigation Measure AES-2: *SCWC shall obtain the required tree removal permits for all Joshua trees that require removal located within the project footprint. The Joshua trees that require removal shall be relocated or transplanted within the well development sites, per San Bernardino County Development Code Section 88.01.050(f.3).*

With the above mitigation measure, and the minimal removal of native vegetation on site, the proposed well development project is not anticipated to substantially degrade any scenic resources

located within the project site. Furthermore, the well development within the project site will require a minimal area of disturbance to install each well and connecting pipeline. Therefore, the proposed project would have a less than significant potential to substantially damage scenic resources within a state scenic highway corridor. No mitigation is required.

c. **Less Than Significant Impact** – The project area is considered to be non-urbanized, and the project sites are located in areas that are relatively developed for a rural community. Well #16 is located within an already developed site, containing the SCWC Offices. As such development at this location will be consistent with the existing visual character of the site and its surroundings. Additionally, public views to the site would not substantially change as they are consistent with the development that would be expected at a water company office that also contains infrastructure associated with its water supply. Wells #12 and #14 are located on a site that has not been developed, but is located in an area surrounded by development, as discussed in the Project Description, while Well #13 is on a vacant site that does not contain much surrounding development in the immediate vicinity. Ultimately, the development of these three wells and connecting pipelines within vacant sites is not anticipated to substantially degrade the visual character of the site or public views within the area. Given the small area of disturbance, and the structures surrounding the project site that would impede many public views surrounding the sites, it is not anticipated that the development of three enclosed wells at the two vacant sites will substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts under this issue are considered less than significant. No mitigation is required.

d. **Less Than Significant With Mitigation** – The surrounding land uses within the project footprint include Rural Living (RL) and Very Low Density Residential, with residences directly adjacent to each of the project sites. Lighting at the well sites will be installed as needed for safety. Thus, the proposed project has a potential to create a new source of substantial lighting or glare during construction that could adversely affect nighttime views at the adjacent residences, and residences can be considered a light sensitive land use. There will be a new permanent light sources to support operations of the well for security purposes. Lighting will also be required during the 24-hour drilling phase of the well construction. This poses a potential to result in a substantial change to the area surrounding the project site. To protect nearby residences from direct light and glare from new lighting, the following mitigation measures will be implemented:

Mitigation Measure AES-3: *A facilities lighting plan shall be prepared and shall demonstrate that glare from construction operations and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically verity that the lighting doesn't exceed 1.0 lumen at the nearest residence to any lighting site within the project footprint. This plan shall be implemented by the SCWC to minimize light or glare intrusion onto adjacent properties.*

With implementation of the above measure potential light and glare can be controlled to a less than significant impact level.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
II. AGRICULTURE AND FORESTRY 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. Will the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 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))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

II. AGRICULTURE AND FORESTRY RESOURCES

SUBSTANTIATION: (Check ☐ if project is located in the Important Farmlands Overlay)

a **No Impact** – The proposed SCWC wells are located within a rural community. Neither the project site nor the adjacent and surrounding properties are designated for agricultural use; no agricultural activities exist in the project area; and there is no potential for impact to any agricultural uses or values as a result of project implementation. According to the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, no prime farmland, unique farmland, or farmland of statewide importance exists within the vicinity of the proposed project (Figure II-1). No adverse impact to any agricultural resources would occur from implementing the proposed project. No mitigation is required.

b. **No Impact** – There are no agricultural uses currently within either Project site or on adjacent properties. The Well #16 site is designated for Commercial (C) and Very Low Density Residential (VLDR) use, and is zoned for General Commercial (PH/CG), Single Residential (PH/RS-1) use. The Well #12 and #14 sites are located on a site that is designated for Commercial (C) use, and is zoned for General Commercial (CG) use. The Well #13 site is zoned for Single Residential (PH/RS-1) and is designated for Very Low Density Residential (VLDR) use. No potential exists for a conflict between the proposed project and agricultural zoning or Williamson Act contracts within the project area. No mitigation is required.

c. **No Impact** – Please refer to issues II(a) and II(b) above. The proposed SCWC wells are located within a rural community. Neither the project site nor the adjacent and surrounding properties support forest land or timberland uses or designations. No potential exists for a conflict between the proposed project and forest/timberland zoning. No mitigation is required.

d. **No Impact** – There are no forest lands within the project area, which is because the project area is urbanized. No potential for loss of forest land would occur if the Project is implemented. No mitigation is required.

e. **No Impact** – Because the project sites and surrounding area do not support either agricultural or forestry uses and, furthermore, because the project sites and environs are not designated for such uses, implementation of the proposed project would not cause or result in the conversion of Farmland or forest land to alternative use. No adverse impact would occur. No mitigation is required.

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

III. AIR Quality

SUBSTANTIATION: (Discuss conformity with the South Coast Air Quality Management Plan, if applicable) The following information utilized in this section of the Initial Study was obtained from the *Sheep Creek Water Company Enhanced Groundwater, Supply Well Development Project, Phelan (San Bernardino County), California* prepared by Giroux and Associates dated November 12, 2019. This document is provided as Appendix 1 to this document.

Background

Climate
The climate of the Victor Valley, technically called an interior valley subclimate of Southern California's Mediterranean-type climate, is characterized by hot summers, mild winters, infrequent rainfall, moderate afternoon breezes, and generally fair weather. The clouds and fog that form along the Southern California coastline rarely extend across the mountains to Victorville and surrounding high desert communities. The most important local weather pattern is associated with the funneling of the daily onshore sea breeze through El Cajon Pass into the upper desert to the northeast of the heavily developed portions of the Los Angeles Basin. This daily airflow brings polluted air into the area late in the afternoon from late spring to early fall. This transport pattern creates both unhealthful air quality as well as destroying the scenic vistas of the mountains surrounding the Victor Valley.

Air Quality Standards
Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table III-1. Because the State of California had established Ambient Air Quality Standards (AAQS) several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

Of the standards shown in Table III-1, those for ozone (O3), and particulate matter (PM-10) are exceeded at times in the Mojave Desert Air Basin (MDAB). They are called "non-attainment pollutants." Because

of the variations in both the regional meteorology and in area-wide differences in levels of air pollution emissions, patterns of non-attainment have strong spatial and temporal differences.

Table III-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter (PM2.5)[9]	24 Hour	–	–	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15.0 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Flourescense; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead 8[12,13]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Footnotes

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above 150 $\mu g/m^3$, is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primarily and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primarily and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 j.tg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Baseline Air Quality

Monitoring of air quality in the MDAB is the responsibility of the Mojave Desert Air Quality Management District (MDAQMD) headquartered in Victorville, California. Because of the low population density of the air district, limited monitoring resources are distributed over a relatively large geographic area. The heaviest concentration of measurements is in the area of greatest development in the Victor Valley. Existing levels

of criteria air pollutants in the project area can generally be inferred from measurements conducted at the Hesperia monitoring station. Although the Hesperia Station does not monitor the complete spectrum of pollutants, data for NO_2 and PM-2.5 are available from the Victorville Monitoring Station. CO is no longer monitored in the Mojave Desert. Table III-3 summarizes the available monitoring history from the Hesperia and Victorville monitoring stations for the last 3 years. From these data one can infer that baseline air quality levels near the project site are occasionally unhealthful, but that such violations of clean air standards usually affect only those people most sensitive to air pollution exposure.

a. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard has been exceeded approximately 19 percent of all days in the last three years while the 1-hour state standard has been exceeded almost five percent of all days. The 8-hour federal standard has been exceeded approximately 12 percent of all days in the past three years. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade
b. Respirable dust (PM-10) levels often exceed the state standard of 50 $\mu g/m^3$ but the less stringent federal PM-10 standard of 50 $\mu g/m^3$ has only been violated three times within the last three years. Year 2018 had the lowest maximum 24-hour concentration in recent history.
c. A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). There has only been one measured violation in the last three years.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table III-3
PROJECT AREA AIR QUALITY MONITORING SUMMARY – 2016-2018
(DAYS STANDARDS WERE EXCEEDED AND MAXIMUM OBSERVED LEVELS)

Pollutant/Standard	2016	2017	2018
Ozone			
1-Hour > 0.09 ppm (S)	25	18	9
8-Hour > 0.07 ppm (S)	65	75	71
8- Hour > 0.075 ppm (F)	47	45	45
Max. 1-Hour Conc. (ppm)	0.119	0.114	0.113
Max. 8-Hour Conc. (ppm)	0.098	0.094	0.100
Nitrogen Dioxide			
1-Hour > 0.18 ppm (S)	0	0	0
Max. 1-Hour Conc. (ppm)	0.097	0.057	0.057
Respirable Particulates (PM-10)			
24-Hour > 50 $\mu g/m^3$ (S)	9	na	na
24-Hour > 150 $\mu g/m^3$ (F)	1	2	0
Max. 24-Hr. Conc. ($\mu g/m^3$)	203.5	163.9	138.9
Fine Particulates (PM-2.5)			
24-Hour > 35 $\mu g/m^3$ (F)	1	0	0
Max. 24-Hr. Conc. ($\mu g/m^3$)	41.5	27.2	32.7

na = not available; S=State Standard; F=Federal Standard
Source: Hesperia Station: Ozone, PM-10, Victorville Station: CO, NO_2, PM-2.5 data: www.arb.ca.gov/adam/

Air Quality Standards

The Mojave Desert AQMD has adopted numerical emissions thresholds as indicators of potential impact even if the actual air quality increment cannot be directly quantified. The MDAQMD thresholds are as follows:

Carbon Monoxide (CO)	548 pounds/day	100 tons/year
Nitrogen Oxides (NOx)	137 pounds/day	25 tons/year
Sulfur Oxides (SOx)	137 pounds/day	25 tons/year
Reactive Organic Gases (ROG)	137 pounds/day	25 tons/year
Particulate Matter (PM-10)	82 pounds/day	15 tons/year
Particulate Matter (PM-2.5)	65 pounds/day	12 tons/year
GHG	548,000 pounds/day	100,000 tons/year

Impact Analysis

a. **Less Than Significant Impact** – Projects such as the proposed SCWC Enhanced Groundwater Supply Well Development Project do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis. The SCWC Enhanced Groundwater Supply Well Development Project will be fully consistent with both the General Plan designation and Zone classification for the project site, mainly because the project involves water treatment, and such projects are considered land use independent. Thus, the proposed project is consistent with regional planning forecasts maintained by the Southern California Association of Governments (SCAG) regional plans. The MDAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant only because of consistency with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis. As the analysis of project-related emissions provided below indicates, the proposed project will not cause or be exposed to significant air pollution, and is, therefore, consistent with the applicable air quality plan.

b. **Less Than Significant Impact With Mitigation** – Air pollution emissions associated with the proposed project would occur over both a short and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and exhaust emission) at the proposed Project site. Long-term emissions generated by future operation of the proposed project primarily include energy consumption required to operate the proposed well.

Sheep Creek Water Company (SCWC) proposes to drill four new wells which will serve as a new source of water to supplement the existing water demand; up to 6 wells may be installed to provide a back-up water supply at two of the well locations. The total area of disturbance will be less than one acre per well. Each well will be drilled to approximately 1,500 feet deep using a reverse rotary drill unit. The wells will each be equipped with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. At each new well, the new pumps will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences. It is anticipated that about five persons will be on a given well site at any one time to support drilling the well: three drillers, the hydrologist inspector, and a foreman. Daily trips to complete the well will average about 10 roundtrips per day, including: two roundtrips for drill rigs; between 6 and 12 roundtrips for cement trucks; a few trips to deliver pipe; and about 20 trips per day for employees. It is estimated that it will require about 8 weeks to drill the well, with 24-hour drilling activities for 7 days a week (surrounding housing to be notified in advance).

At each well location a connection pipeline that will be installed will be no greater in length than 500 lineal feet (LF) and may be much shorter in length at two of the well locations (100-200 LF). Each new well pump will be located aboveground and placed in an enclosed structure as previously described.

Construction Emissions
CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. CalEEMod was used to analyze project impacts. Table III-4 provides the construction equipment inventory developed by CalEEMod for the project.

Table III-4
CONSTRUCTION ACTIVITY EQUIPMENT AND DURATIONS PER WELL

Phase Name and Duration	Round Trips per Day:	Equipment
Drilling (8 weeks) 24-hrs/day, 7 days/week	2 for Equipment 6-12 for Cement 10 trips Employees	1 Drill Rig
		2 Loader/Backhoes
		1 Dozer
Pipeline Installation (10 days) 8-hrs/day	1-2 for Pipe 10 trips Employees	1 Trencher
		1 Crane
		2 Loader/Backhoes

The activity for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod model's default load factors for off-road equipment. Utilizing the indicated equipment fleets and durations the worst case daily construction emissions are calculated by CalEEMod and are listed in Table III-5. As shown peak construction emissions would not exceed the daily MDAQMD significance thresholds. The only construction mitigation measure modeled was to water exposed site surfaces at least 3 times per day.

Table III-5
CONSTRUCTION ACTIVITY EMISSIONS MAXIMUM DAILY EMISSIONS (POUNDS/DAY)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
Each Well						
Unmitigated	2.5	27.6	16.9	0.0	1.4	1.1
w/Fugitive Dust Mitigation*	2.5	27.6	16.9	0.0	1.2	1.1
4 Wells						
Unmitigated	10.0	110.4	67.6	0.0	5.6	4.4
w/Fugitive Dust Mitigation*	10.0	110.4	67.6	0.0	4.8	4.4
MDAQMD Thresholds	**137**	**137**	**548**	**137**	**82**	**65**

* fugitive dust control measures provided in Mitigation section of this report
Source: CalEEMod output in report appendix

Since MDAQMD emissions guidelines include a not to exceed annual threshold, these emissions were also evaluated as shown in Table III-6. As shown annual construction emissions are similarly below thresholds.

Table III-6
CONSTRUCTION ACTIVITY EMISSIONS
ANNUAL EMISSIONS (POUNDS/DAY)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
Each Well						
Unmitigated	0.06	0.65	0.41	0.00	0.03	0.03
w/Fugitive Dust Mitigation*	0.06	0.65	0.41	0.00	0.03	0.03
4 Wells						
Unmitigated	0.24	2.60	1.64	0.00	0.12	0.12
w/Fugitive Dust Mitigation*	0.24	2.60	1.64	0.00	0.12	0.12
MDAQMD Thresholds	**25**	**25**	**100**	**25**	**15**	**12**

* fugitive dust control measures provided in Mitigation section of this report
Source: CalEEMod output in report appendix

Short-term emissions are primarily related to the construction of the project and are recognized to be short in duration and without lasting impacts on air quality. With the enhanced dust control mitigation measures listed below, construction activity air pollution emissions are not expected to exceed MDAQMD CEQA thresholds for any pollutant even if the wells are under simultaneous construction. Regardless, the PM-10 non-attainment status of the Mojave Desert area requires that Best Available Control Measures (BACMs) be used as required by the Mojave AQMD Rule 403. Recommended construction activity mitigation includes:

Mitigation Measure AIR-1: *Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation:*

- *Apply soil stabilizers such as hay bales or aggregate cover to inactive areas.*
- *Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.*
- *Stabilize previously disturbed areas if subsequent construction is delayed.*
- *Water exposed surfaces and haul roads 3 times/day.*
- *Cover all stockpiles with tarps.*
- *Replace ground cover in disturbed areas quickly.*
- *Reduce speeds on unpaved roads to less than 15 mph.*
- *Trenches shall be left exposed for as short a time as possible.*

Mitigation Measure AIR-2: *The following signage shall be erected no later than the commencement of construction: A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each project site entrance, meeting the specified minimum height text, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, identifying a responsible official for the site and local or toll free number that is accessible 24 hours per day:*

"[Site Name] {four-inch text}
[Project Name/Project Number] {four-inch text}
IF YOU SEE DUST COMING FROM {four-inch text}
THIS PROJECT CALL: {six-inch text}
[Contact Name], PHONE NUMBER {six-inch text}
If you do not receive a response, Please Call {three-inch text} The MDAQMD at 1-800-635-4617 {three-inch text}"

Mitigation Measure AIR-3: *During project operations a 4,000-gallon water truck shall be available on-site at all times for dust control.*

Mitigation Measure AIR-4: *Wind breaks and/or fencing shall be developed in areas that are susceptible to high wind induced dusting.*

Mitigation MeasureAIR-5: *The Applicant shall use a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. If the site contains exposed sand or fines deposits (and if the project would expose such soils through earthmoving), water application or chemical stabilization will be required to eliminate visible dust/sand from sand/fines deposits.*

Mitigation Measure AIR-6: *The Applicant shall formulate a high wind response plan that addresses enhanced dust control if winds are forecast to exceed 25-mph in any upcoming 24-hour period.*

With the above mitigation measure, any impacts related to construction emissions are considered less than significant. No further mitigation is required.

Operational Impacts
Each of the new production wells would require up to 1.5 million KWH to operate per year (if full time) with four wells operating at the same time. Electrical consumption has no single uniquely related air pollution emissions source because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis. As such, operational emissions would be less than significant.

Conclusion
With the incorporation of mitigation measures above, the development of the project would have a less than significant potential to 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 standard.

c. **Less Than Significant With Mitigation** – The proposed project would generate minimal construction and operation related emissions. The closest sensitive use to each well site is as follows:

Well 13:	430 feet to home to the west
Well16:	250 feet to home to the southeast
Wells 12 and 14:	360 feet to the south for school blacktop, 350 feet south to school classroom and 680 feet to the home to the west

Given the distance from the proposed project to nearby sensitive receptors, and the type of project proposed, the proposed project would not emit hazardous or toxic emissions that would create an excess cancer risk of more than 10 in a million or a non-cancerous health index of more than 1.0. Therefore, With the implementation of Mitigation Measures **AIR-1** through **AIR-6** outlined under issue III(b) above, implementation of the SCWC Enhanced Groundwater Supply Well Development Project is anticipated to have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations.

d. **Less Than Significant Impact** – Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational source odor impacts. New water wells and connecting pipelines are generally

not associated with odor impacts such as those often found in wastewater treatment. There are few biological organisms in the water supply and any such sources of odor are further removed in the pre-treatment process. SCWC currently uses a chlorine generator, though they may also use sodium hypochlorite and ammonia for chlorination to treat the water extracted from the proposed wells. The chlorination system will utilize sodium hypochlorite for disinfection. Some treatment chemicals have strong pungent odors. However, they are injected into the water stream and have no airborne pathways; furthermore, sensitive receptors are not located within 100 feet of any location in which chemicals are used. Thus, odor impacts are considered less than significant. No mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
IV. BIOLOGICAL RESOURCES: Will the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

IV. BIOLOGICAL RESOURCES

SUBSTANTIATION: (Check if project is located in the Biological Overlay or contains habitat for any species listed in the California Natural Diversity Database ☐): The following information is provided based on a study titled *"Biological Resource Assessment and Jurisdictional Delineation, Sheep Creek Water Company Enhanced Groundwater Supply Well Development Project, Community of Phelan, California"* prepared by Jericho Systems, Inc. dated November 16, 2019 and provided as Appendix 2. The following information is abstracted from Appendix 2.

General Site Conditions

Well #13
The proposed pipeline for this parcel follows an existing access road that is primarily free from vegetation.

Vegetation on site consists of scattered goldenhead (*Acamptopappus sphaerocephalus*), Joshua tree (*Yucca brevifolia*), California juniper (*Juniperus califonica*), California buckwheat (*Eriogonum fasciculatum*), brittlebush (*Encelia farinose*), burro weed (*Ambrosia dumosa*), silver cholla (*Cylindropuntia echinocarpa*), and *schismus*. One Joshua tree (9 feet tall, 8 inch dbh) would potentially be impacted by the pipeline component of the project, whereas seven (7) Joshua trees would be potentially impacted by well development on the parcel (Appendix B); number of trees impacted are subject to change when area of

impacts (including staging areas, temporary access, and finalized well dimensions and delineation) have been summarized.

Small mammal burrows were observed on site; wildlife observed included coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*, white-tailed antelope squirrel (*Ammospermophilus leucurus*), common raven (*Corvus corax*), and house finch (*Haemorhous mexicanus*). The focused surveys were structured in part to detect BUOW. No evidence of BUOW was found on APN 306-618-126. There was no sign of historic or current use of BUOW i.e. no BUOW pellets, feathers or whitewash, no burrows, and no ground squirrels or other fossorial animals to provide surrogate burrows. Additionally, no BUOW have been documented within a 3-mile radius of the subject parcel (Figure 3). Therefore, BUOW are, at the time of this report, considered absent from this parcel.

Wells #12 and #14
Joshua tree are prominent throughout the site (n>130), and other species observed include goldenhead, California juniper, creosote bush (*Larrea tridentata*), burro weed, chaparral yucca (*Hesperoyucca whipplei*), burrobrush (*Ambrosia salsola*), silver cholla, and Mojave woodyaster (*Xylorhiza tortifolia*). Vegetation is denser in the interior of the parcel and sparser on the north, east, and south (closer to development).

Small mammal burrows were observed on site; wildlife observed include domestic dog (*Canis lupus familiaris*), house finch, common raven, white-crowned sparrow (*Zonotrichia leucophrys*), and black-tailed jackrabbit. No evidence of BUOW was found on APN 306-622-133. There was no sign of historic or current use of BUOW i.e. no BUOW pellets, feathers or whitewash, no burrows, and no ground squirrels or other fossorial animals to provide surrogate burrows. Additionally, no BUOW have been documented within a 3-mile radius of the subject parcel. Therefore, BUOW are, at the time of this report, considered absent from this parcel.

Well #16
Vegetation in the undeveloped portion consists of goldenhead, California juniper, chaparral yucca, California buckwheat, burrobrush, burro weed, and Joshua tree. Nine (9) Joshua trees exist in one cluster on the property. Ornamental cottonwood trees (*Populus fremontii*) border the interior western fence line of the parcel.

Small mammal burrows were observed on site; species observed include desert cottontail and coyote. No evidence of BUOW was found on APN 306-632-126. There was no sign of historic or current use of BUOW i.e. no BUOW pellets, feathers or whitewash, no burrows, and no ground squirrels or other fossorial animals to provide surrogate burrows. Additionally, no BUOW have been documented within a 3-mile radius of the subject parcel. Therefore, BUOW are, at the time of this report, considered absent from this parcel.

Conclusions and Recommendations

Burrowing owl
There is potential for BUOW to migrate onto the site in the future. Pre-construction surveys are recommended 30 days prior to construction. If no BUOWs are found at that time, no further action would be required. If, however, BUOW are present, then a BUOW relocation plan would be necessary to passively relocate the owls off site. The relocation plan would also need to be approved by the California Department of Fish and Wildlife prior to implementation.

Nesting Birds
The vegetation on site does have a potential to support nesting birds and foraging raptors such as red-tailed hawks. Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season the following is recommended:

A qualified Avian Biologist shall conduct pre-construction Nesting Bird Surveys (NBS) prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required.

If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

Jurisdictional Waters
There are no drainages on site. No aspect of the site presents any evidence of jurisdictional waters. None of the following indicators are present on site: riparian vegetation, facultative, facultative wet or obligate wet vegetation, harrow marks, sand bars shaped by water, racking, rilling, destruction of vegetation, defined bed and bank, distinct line between vegetation types, clear natural scour line, meander bars, mud cracks, staining, silt deposits, litter- organic debris. No jurisdictional waters occur on site.

Impact Analysis

a. **Less Than Significant With Mitigation** – Implementation of the Project does not have a potential for a significant adverse effect, either directly or through habitat modifications, on 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 (CDFW) or U.S. Fish and Wildlife Service (USFWS). Based on a biological field survey of the site, the Biological Resources Assessment provided as Appendix 2 determined that because the site has been previously disturbed, and does not contain any suitable habitat for any Federal or State listed species; however, BUOW do have the potential to move into the project area, as potentially suitable habitat exists, as species such as the California ground squirrels move onto the site and create burrows. Therefore, the following mitigation measure shall be implemented:

   Mitigation Measure BIO-1: *In compliance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) the Project proponent shall ensure that a pre-construction burrowing owl survey is conducted at least 30 days prior to development of any wells within any of the three proposed project sites, and also prior to construction of any pipeline within and adjacent to any of the three proposed project sites.*

   With the implementation of the above mitigation measure, the project would have a less than significant impact, 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 Game or U.S. Fish and Wildlife Service. No further mitigation is necessary.

b. **Less Than Significant Impact** – Implementation of the proposed project will not have an adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. Refer to the discussion under General Site Conditions above, no sensitive natural communities or riparian habitat is located within the project sites that would be impacted by the proposed well development project. Based on the field survey conducted by Jericho Systems and the information contained in Appendix 2, no significant impacts to riparian habitat or other sensitive communities are anticipated to occur as a result of implementation of the proposed project.

c. ***No Impact*** – According to the data gathered by Jericho Systems in Appendix 2, no federally protected wetlands occur within the project footprint. Therefore, implementation of the proposed project will have no potential to impact any 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. No mitigation is required.

d. **Less Than Significant With Mitigation** – Based on the field survey of the project site, the project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites. However, the State does protect all migratory and nesting native birds. No impacts to nesting or migratory birds have been identified in Appendix 2, with the exception evidence of suitable BUOW habitat for which mitigation measure **BIO-1** has been identified to reduce impacts to a level of less than significant. Thus, the project area may include locations that function as nesting locations for native birds. To prevent interfering with native bird nesting, the following mitigation measure shall be implemented.

Mitigation Measure BIO-2: *The State of California prohibits the "take" of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the the State identified nesting season (Raptor nesting season is February 15 through July 31; and migratory bird nesting season is March 15 through September 1). Alternatively, the site shall be evaluated by a qualified biologist prior to the initiation of ground disturbace to determine the presence or absence of nesting birds. Active bird nests MUST be avoided during the nesting season. If an active nest is located in the project construction area it will be flagged and a 300-foot avoidance buffer placed around it. No activity shall occur within the 300-foot buffer until the young have fledged the nest.*

Thus, with implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

e. **Less Than Significant With Mitigation** – Based on the field survey, the project footprint contains one identified resource—Joshua trees—that are protected by local policies or ordinances. The proposed project will require a permit for Joshua tree relocation/transplant due to the specific regulations pertaining to this species of tree. As such, mitigation measure **AES-1** will ensure that the project complies with the San Bernardino County Development Code. No other biological resources located within the project footprint are protected under local policies or ordinances. Thus, with the implementation of mitigation measure **AES-1**, impacts under this issue are considered less than significant.

f. **No Impact** – Implementation of the project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There are no applicable Habitat Conservation Plans or Natural Community Conservation Plans in effect within the unincorporated communities of Phelan/El Mirage within the County of San Bernardino. Based on this information, no further analysis is needed. No impacts are anticipated. No mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
V. CULTURAL RESOURCES: Will the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

V. CULTURAL RESOURCES

SUBSTANTIATION: (Check if project is located in the ☐ or Paleontological ☐ Resources overlays or cite results of cultural resource review) A cultural resources report has been prepared to evaluate the potential for cultural resources to occur within the project area of potential effect entitled "Identification and Evaluation of Historic Properties: Sheep Creek Water Company Enhanced Groundwater Supply Well Development Project, Phelan Area, San Bernardino County, California," prepared by CRM TECH dated November 22, 2019 (Appendix 3). The following summary information has been abstracted from this report. It provides an overview and findings regarding the cultural resources found within the project area.

Background
The purpose of the study is to provide SCWC and the County with the necessary information and analysis to determine whether the proposed undertaking would have an effect on any "historic properties" or "historical resources," as defined by the pertinent federal and state statutes and regulations, that may exist in or near the area of potential effect (APE). In order to accomplish this objective, CRM TECH conducted a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE.

In order to accomplish this objective, CRM TECH conducted a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE. The results of these research procedures indicate that no potential "historic properties" / "historical resources" are present in the portions of the APE at Well No. 13 and Well No. 16, but two historic-period sites, 36-004415 (CA-SBR-4415H) and 3548-1H (temporary designation), have been identified within or partially within the portion at Well Nos. 12 and 14.

Site 36-004415 represents the course of Tejon Road, a 19th century wagon road connecting the Victor Valley and the Tejon Pass area in Los Angeles County. Supplanted by present-day State Route 138 and the local road grid at least by the 1930s-1940s, this historic road was gradually abandoned and much of it has been destroyed by later development or reclaimed by nature. The segment across the APE is clearly discernable in aerial photographs taken as late as 1968 but has since disappeared from the landscape. During the field survey, no remnants of the road could be found along its former alignment. This portion of Site 36-004415, therefore, no longer exists.

Site 3548-1H consists of a small, isolated scatter of common household refuse dating to the late 1950s and early 1960s. It is located adjacent to the portion of Site 36-004415 in the APE but temporally is not associated with Tejon Road. As a post-WWII refuse deposit of unknown origin, and in the absence of an exceptional quantity or quality of the artifacts, this site does not meet any of the criteria for listing in the National Register of Historic Places or the California Register of Historical Resources. Therefore, it does not qualify as a "historic property" or a "historical resource" under Section 106 or CEQA provisions.

No other potential "historic properties" or "historical resources" were found within or adjacent to the APE, and the subsurface component of the APE appears to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric origin, such as habitation sites. Based on these findings, and pursuant to 36 CFR 800.4(d)(1) and Calif. PRC §21084.1, CRM TECH recommends to the County a conclusion that the proposed undertaking will have no effect on any "historic properties" or "historical resources."

No further cultural resources investigation is recommended for the undertaking unless project plans undergo such changes as to include areas not covered by this study. However, in the interest of avoiding even perceived or conceptual impact on any aspect of region's historical heritage, the professional recommendation is that the specific sites for Well Nos. 12 and 14 be placed at least 50 feet from the former course of Tejon Road. If buried cultural materials are discovered during earth-moving operations associated with the undertaking, all work in the immediate area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

Impact Analysis

a&b. **Less Than Significant With Mitigation** – 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 discussed above, Site 3548-1H, the only cultural resource known to be present in the APE, does meet the statutory definition of a "historic property" or a "historical resource," and the subsurface component of the APE appears to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric origin. In light of these findings, the following conclusions have been reached for the Project:

- No "historic properties" or "historical resources" will be affected by the proposed undertaking.
- No further cultural resources investigation will be necessary for the undertaking unless project plans undergo such changes as to include areas not covered by this study.
- In the interest of avoiding even perceived or conceptual impact on any aspect of region's historical heritage, the specific sites for Well Nos. 12 and 14 should be placed at least 50 feet from the former course of Tejon Road. The roadway is delineated on Figure 6 of the Cultural Resources Report, which is provided here as Figure V-1.
- If buried cultural materials are encountered during earth-moving operations associated with the undertaking, all work in the immediate area will be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

Based on the findings detailed in the Cultural Resources Report provided as Appendix 3, the following mitigation measures shall be implemented:

Mitigation Measure CUL-1: *Wells No. 12 and 14 shall be placed at least 50 feet from the former course of Tejon Road as shown on Figure V-1.*

Mitigation Measure CUL-2: *Should any cultural resources be encountered during construction of the wells and associated pipelines, any earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the District's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.*

Additionally, as part of the AB 52 consultation process, the County received a response from the San Manuel Band of Mission Indians requesting the following mitigation measures in addition to mitigation measures **TRC-1** and **TRC-2** identified under Section XVIII, Tribal Cultural Resources below:

Mitigation Measure CUL-3: *In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within TCR-1, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.*

Mitigation Measure CUL-4: *If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI for review and comment, as detailed within TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.*

With the incorporation of the above mitigation measures, as well as the mitigation identified under Tribal Cultural Resources below, the potential for impacts to cultural resources will be reduced to a less than significant level. No additional mitigation is required.

c. **Less Than Significant With Mitigation** – No available information suggests that human remains may occur within the Area of Potential Effect (APE) and the potential for such an occurrence is considered very low. Human remains discovered during the Project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98, which is mandatory. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff and Coroner's Office receive notification if human remains are encountered. Compliance with these laws is considered adequate mitigation for potential impacts, however, as part of the AB 52 consultation process, the County received a response from the San Manuel Band of Mission Indians requesting the following mitigation measure, which shall be implemented by the Project:

Mitigation Measure CUL-5: *If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.*

With the above mitigation incorporated, the potential for impacts related to disturbance of any human remains, including those interred outside of formal cemeteries will be reduced to a less than significant level.

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

VI. ENERGY

SUBSTANTIATION:

a. **Less Than Significant Impact** – This project proposed the development of six wells, though there is only a potential for four wells to operate concurrently. Each well would be constructed with a pump that would consume about 1.5 million kilowatt hours per year. Energy consumption encompasses many different activities. For example, construction can include the following activities: delivery of equipment and material to a site from some location (note it also requires energy to manufacture the equipment and material, such as harvesting, cutting and delivering wood from its source); employee trips to work, possibly offsite for lunch (or a visit by a catering truck), travel home, and occasionally leaving a site for an appointment or checking another job; use of equipment onsite (electric or fuel); and sometimes demolition and disposal of construction waste. For the proposed project the number of employees will be limited due to the small size of the Project and site. Demolition, beyond the removal of a small section of concrete and asphalt to install the connecting pipeline, is not anticipated to be required for this project. To minimize energy costs of construction debris management, laws are in place that require diversion of all material subject to recycling. Energy consumption by equipment will be reduced by requiring shutdowns when equipment is not in use after five minutes and ensuring equipment is being operated within proper operating parameters (tune-ups) to minimize emissions and fuel consumption. These requirements are consistent with State and regional rules and regulations. Under the construction scenario outlined in the project description, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption during construction.

The proposed project will ultimately develop six wells—though there is only a potential for four wells to operate concurrently—that will pump water continuously to contribute to SCWC's existing potable water distribution center. No new employees are anticipated to be required in support of the Project once the well is in operation. The project will be supplied power from Southern California Edison (SCE). Additionally, SCWC plans to install an emergency backup generators at each of the sites, anticipated to be an approximately 125 kW Diesel Generator a Diesel Generator. As such, the Project is not anticipated to require a significant amount of electricity. The well and supporting infrastructure must be constructed in conformance with a variety of existing energy efficiency regulatory requirements or guidelines including, but not limited to the following:

- Compliance California Green Building Standards Code, AKA the CALGreen Code (Title 24, Part 11), which became effective on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of building through the use of building concepts encouraging sustainable construction practices.
- Compliance The Building Energy Efficiency Standards (CBSC) would ensure that the building energy use associated with the proposed project would not be wasteful or unnecessary.
- Compliance with diversion of construction and demolition materials from landfills.
- Compliance with AQMD Mandatory use of low-pollutant emitting finish materials.
- Compliance with AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.

- Compliance with diesel exhaust emissions from diesel vehicles and off-road diesel vehicle/equipment operations.
- Compliance with these regulatory requirements for operational energy use and construction energy use would not be wasteful or unnecessary use of energy.

Further, Southern California Edison (SCE) is presently in compliance with State renewable energy supply requirements and SCE will supply electricity to the Project. Under the operational scenario for the proposed project, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption that could result in a significant adverse impact to energy issues based on compliance with the referenced laws, regulations and guidelines. No mitigation is required.

b. **Less Than Significant Impact** – Based on the analysis in the preceding discussion, the proposed project will not conflict with current State energy efficiency or electricity supply requirements or any local plans or programs for renewable energy or energy efficiency requirements. No mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
(iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or offsite land-slide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

VII. GEOLOGY AND SOILS

SUBSTANTIATION: (Check ☐ if project is located in the Geologic Hazards Overlay District)

a. Ground Rupture

No Impact – According to the regulatory map obtained from the California Department of Conservation showing Alquist-Priolo Earthquake Fault Zones and other seismic hazards (Figure VII-1), the proposed project sites are located in an area that has not been mapped as containing geologic hazards, and therefore is not located in an Alquist Priolo Earthquake Fault Zone. The nearest fault zone is approximately about 6-7 miles to the south at the San Gorgonio Mountains. As such, the project sites and general area do not contain any known faults, active or inactive. Therefore, no potential exists for the proposed project to experience any fault rupture along a delineated active fault.

Strong Seismic Ground Shaking

Less Than Significant Impact – The proposed project site, as with most of southern California, is in a seismically active area and will most likely be subject to substantial ground shaking during the life of the Project. Due to the proximity of the nearby faults, located about 6-7 miles south of the project sites, the project area can be exposed to significant ground shaking during major earthquakes on either of these regional faults. This is illustrated on the San Bernardino County Land Use Plan General Plan Geologic Hazard Overlays Map (Figure VII-2). Wells are not typically susceptible to severe damage from ground shaking. However, because there is a potential for the proposed well development to be subject to relatively strong ground motion, any structures associated with the development of the well will be designed to meet seismic specifications for the project area based on the current Uniform Building Code. No significant impacts are forecast to occur.

Seismic-related Ground Failure Including Liquefaction

No Impact – The proposed project is located in the community of Phelan. According to the San Bernardino County General Plan, General Land Use Plan with Geologic Overlays (Figure VII-2), the project does not contain any land area with any liquefaction susceptibility. Therefore, it is not anticipated that the proposed project would be susceptible to seismic-related ground failure, including liquefaction. No impacts are anticipated and no mitigation is required.

Landslides

No Impact – The project area is relatively flat, sloping slightly from north to south. No hills or other significant topographic features exist on the project sites. According to the San Bernardino County General Plan, General Land Use Plan with Geologic Overlays (Figure VII-2), the project is not located in an area that is susceptible to landslides. No potential events can be identified that would result in adverse effects from landslides or that would cause landslides that could expose people or structures to such an event as a result of project implementation. No impacts are anticipated and no mitigation is required.

b. **Less Than Significant With Mitigation** – During construction, the project sites have a potential for soil erosion. Though not extensive, the disturbance associated with trenching the pipeline alignment within the project sites to connect to SCWC's distribution system, as well as site clearing and grading where the well will be developed, there is a potential for soil erosion. The project may result in exposing some soil to erosion during site grading activities before the well is drilled. The proposed project will be required to meet NPDES requirements. These will be met by requiring the construction contractor to use BMPs to control potential erosion and drainage off-site. Additionally, the mitigation measures identified below will be implemented and therefore, the potential for substantial soil erosion or loss can be controlled to a less than significant impact level. Based on the mitigation listed below, best management practices (BMPs) will be employed during construction to minimize the potential for soil erosion impacts.

Mitigation Measure GEO-1: *Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.*

Mitigation Measure GEO-2: *Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that pipeline connections within adjacent roadways and other disturbed areas are returned to as near the pre-project condition as is feasible.*

Mitigation Measure GEO-3: *All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from either of the well sites within which the water facilities are being installed.*

Mitigation Measure GEO-4: *The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.*

The following mitigation measure will be implemented to ensure the discharge of surface runoff from the sites does not result in significant soil erosion or loss of topsoil.

Mitigation Measure GEO-5: *The SCWC shall identify any additional BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.*

Implementation of the above measures in conjunction with mitigation measures identified in the Hydrology/Water Quality Section will adequately mitigate potential impacts associated with the water-related erosion of soil.

c. **No Impact** – The coarse alluvial soils located at the project sites exhibit stability. Based on a review of the United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey of the project footprint, the soil underlying the project sites are Avawatz-Oak Glen Association, gently sloping and Tujunga Sand, cool, 2 to 9 percent slopes (Appendix 4). This soil class is well drained, and is in a low runoff class (see Appendix 4). This soil class is well drained, and is in a low runoff class (see Appendix 3). Best management practices (BMPs) have been identified to in the preceding discussion to manage the wind and water erosion issues. Therefore, due to the nature of the proposed project, and the type of soil unit underlying the project site, the proposed project has a less than significant potential to 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. No further mitigation is required.

d. **Less Than Significant Impact** – The project sites are generally flat. The proposed project would develop three wells at three locations within the community of Phelan. Well #16 will be located within SCWC's Office Site, which is a mostly developed site. Wells #12, #13, and #14 will be located on vacant sites that contain native vegetation, including native Joshua trees. According to the to the United States Department of Agriculture Web Soil Survey, the majority of the project area of potential effect (APE) is underlain by Avawatz-Oak Glen Association, gently sloping and Tujunga Sand, cool, 2 to 9 percent slopes. Neither of these soil types are classified as being expansive under Table 18-1-B of the Uniform Building Code (1994), particularly as expansive soils are typically in the clay soil family. These classes of soil are well drained and are not considered expansive. Therefore, the proposed well development project will not create a substantial risk to life or property by being placed on expansive soils because none exist on the site. Any impacts are considered less than significant. No mitigation is required.

e. **No Impact** – The project does not propose any septic tanks or alternative wastewater disposal systems. Therefore, determining if the Project site soils are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater does not apply. No impacts are anticipated. No mitigation is required.

f. **Less Than Significant With Mitigation** – The potential for discovering paleontological resources during development of the Project is considered highly unlikely based on the fact that the geospatial

analyses of known prehistoric sites in inland southern California suggest that long-term residential settlements of the Native population were more likely to occur in sheltered areas at the base of hills and/or on elevated terraces and finger ridges near permanent or reliable sources of water, while the level, unprotected valley floor was used mainly for resource procurement, travel, and occasional camping during these activities. No unique geologic features are known or suspected to occur on or beneath the sites. However, because the Project has not been surveyed at depth in recent history, and the fact that these resources are located beneath the surface and can only be discovered as a result of ground disturbance activities; therefore, the following measure shall be implemented:

Mitigation Measure GEO-6: *Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the District onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.*

With incorporation of this contingency mitigation, the potential for impact to paleontological resources will be reduces to a less than significant level. No additional mitigation is required.

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

VIII. GREENHOUSE GAS EMISSIONS

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the *Sheep Creek Water Company Enhanced Groundwater, Supply Well Development Project, Phelan (San Bernardino County), California* prepared by Giroux and Associates dated November 12, 2019. This document is provided as Appendix 1 to this document.

a. & b. **Less than Significant Impact**. Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. Many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the Project evaluated in this GHG Impact Analysis cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC.

Significance Thresholds
The MDAQMD has published thresholds for Greenhouse Gases emissions (CO_2e). The daily threshold is 548,000 lbs/day and the annual threshold is 100,000 MT/year.

Construction Activity GHG Emissions
The project is assumed to require less than three months for installation. The CalEEMod2016.3.2 computer model predicts that the construction activities will generate the annual CO_2e emissions identified in Table VIII-1.

Table VIII-1
CONSTRUCTION EMISSIONS (METRIC TONS CO_2e)

	CO_2e Daily	**MT CO_2e Annual**
Single Well	4,617.7	96.2
4 Wells	18,470.8	384.8
Threshold	**548,000**	**100,000**

CalEEMod Output provided in appendix

As indicated in the table above, GHG impacts from construction are considered less than significant.

Operational GHG Emissions
Except for occasional maintenance, the only operational source of GHG emissions would be associated with pumping operations. Electricity is generated from a variety of resources at various locations in the western United States. The California Climate Action Registry Protocol (2009) states that each megawatt-hour (MW-HR) of electricity consumption in California results in the release of 0.331 MT of CO_2(e).

Each of the new production wells would require up to 1.5 million KWH to operate per year (if full time); and the assumption is that four could operate at the same time. With an 80% load factor this would translate to an annual average of 10.5 MW per year per well in increased project electrical consumption. All four wells would generate 42.0 MW. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California's electrical resource calculated as follows:

42 MWH/year x 0.331 MT/MWH = 13.9 MT/year

The screening threshold of 100,000 MT of CO_2(e) GHG emissions will not be exceeded; as such, operational emissions are considered less than significant.

Consistency with GHG Plans, Programs and Policies
In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan). This Reduction Plan was created in accordance to AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction-specific GHG reduction measures and baseline information that could be used by the 21 Partnership Cities of San Bernardino County, which include the City of San Bernardino.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. This project, a water supply improvement is GHG neutral, and is not directly relatable to the Reduction Plan and would result in a less than significant impact with respect to GHG emissions.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

IX. HAZARDS AND HAZARDOUS MATERIALS

SUBSTANTIATION:

a. **Less Than Significant Impact** – The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. However, operation and testing of the proposed wells would require the storage of chemicals necessary for treating the water extracted from the well. It is unknown at this time what treatment will be required for the well to meet the standards of the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW). However, it is likely that sodium hypochlorite may be required for disinfection as well as ammonia for chlorination to treat the water extracted from the proposed well. The substances typically utilized to treat well water, such as sodium hypochlorite, are potentially hazardous substances. However, SCWC will comply with State standards. Furthermore, SCWC has developed safety standards and operational procedures for safe transport and use of its operational and maintenance materials that are potentially hazardous. These procedures will comply with all federal, state and local regulations will ensure that the Project operates in a manner that poses no substantial hazards to the public or the environment. No additional mitigation is necessary to ensure the impact of managing these chemicals result in a less than significant impact on the environment. Therefore, potential impacts to the public or the environment through accidental release

due to the routine transport, use, or disposal of hazardous materials would be less than significant. SCWC has standard operational procedures for safe transport and use of its operational and maintenance materials. No additional measures are necessary to ensure the impact of managing this chemical result in a less than significant impact on the environment.

b. **Less Than Significant With Mitigation** – During construction or maintenance activities in support of the proposed project, fuels, oils, solvents, and other petroleum materials classified as "hazardous" will be used to support these operations. Mitigation designed to reduce, control or remediate potential accidental releases must be implemented to prevent the creation of new contaminated areas that may require remediation in the future and to minimize exposure of humans to public health risks from accidental releases. The following mitigation measure reduce such accidental spill hazards to a less than significant level:

Mitigation Measure HAZ-1: *All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The conta minated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility.*

By implementing this measure, potentially substantial adverse environmental impacts from accidental releases associated with installation of the proposed well can be reduced to a less than significant level.

c. **Less Than Significant Impact** – All of the well sites are located within one quarter mile of a school; however, it is not anticipated to emit hazardous emissions or handle hazardous materials or substances that would cause a significant impact to a local school. The nearest schools are Serrano High School, Piñon Mesa Middle School, Chaparral High School, and Eagle Summit Community Day School, which are located between Nielson Road to the north, Sheep Creek Road to the east, Mirago Road/Sunnyslope Road to the north, and Leboc Lane to the west. Given the safety measures in place for the chemicals required to operate the proposed wells, it is not anticipated that the project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during construction or operation in a quantity that would pose any danger to people adjacent to, or in the general vicinity of, the project site. Therefore, the impacts of the proposed project to this issue area would be considered less than significant.

d. **Less Than Significant Impact** – The proposed project would not be located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. None of the proposed actions related to the development of the new wells would be near to or impact a site known to have hazardous materials or a site under remediation for hazardous materials or associated issues. A review of the California State Water Resources Control Board GeoTracker database indicates that no open hazardous materials cleanup sites are located within a 2,500-foot radius of the proposed well development sites (Figures IX-1 through IX-3). There are no nearby open or closed Leaking Underground Storage Tank (LUST) Cleanup sites. Therefore, the proposed project is not forecast to result in a significant hazard to the public or the environment associated with this issue area. No mitigation is required.

e. **No Impact** – According to a review of Google Maps (September 18, 2019), the closest public airport to the Well sites is the Southern California Logistics Airport, which is located approximately 14 miles to the northeast of the Project site. According to a review of Google Maps (September 18, 2019), Gray Butte Field, Krey Field, and Brian Ranch Airports are all located more than 8 miles from the project area. Due to the distance from these private airports, as well as the distance from the Southern California Logistics Airport and the lack of any habitable structures on the project sites, implementation of the Project will not result in an exposure to a safety hazard for the people working in the project area. No impacts are anticipated and no mitigation is required.

f. **Less Than Significant With Mitigation** – The proposed well development will be confined to the both of the project sites and is not anticipated to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The pipeline that will connect each new well to SCWC's potable water system will involve a small amount of work within Nielson Road and/or Sheep Creek Road during construction, but this will occur during a limited period of time. A limited potential to interfere with an emergency response or evacuation plan will occur during construction. The project site is not located within an identified emergency access route. Therefore, no such plans will be affected by the Project. Refer to the Transportation/Traffic Section of this document. Mitigation to address traffic disruption and emergency access issues are included in this section. Impacts are reduced to a less than significant level with mitigation incorporated. No additional mitigation is required.

g. **No Impact** – The proposed project is located near a wildland fire hazard area, but according to Section 8 – Safety of the Phelan/Piñon Hills Community Plan (p.54), fire hazard severity is very high only in limited areas, south of Highway 138. The fire threat throughout most of the community plan area is considered moderate. The proposed well development would not expose people or structures to a significant risk of loss, injury or death involving wildland fires as they are not located in the vicinity of the high wildland fire hazard area. The project sites are north of Highway 138 and are in an areas without sufficient fuel load to pose a wildland fire hazard. No impacts are anticipated and no mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on-site or offsite?	☐	☒	☐	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site 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?; or,	☐	☒	☐	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

X. HYDROLOGY AND WATER QUALITY

SUBSTANTIATION:

a. **Less Than Significant With Mitigation** - Installation of the proposed well and connecting pipeline includes activities that have a potential to violate water quality standards or waste discharge requirements due to direct discharge of water brought to the surface during well testing. Prior to pumping large quantities of water from the proposed municipal-supply water well, SCWC will need to test the quality of the water to verify that it does not contain contaminants that would exceed the standard water quality objectives for this portion of the South Lahontan Watershed. The RWQCB would have jurisdiction over the groundwater quality and surface water discharges for the new well. A General Permit within the Regional Board's jurisdiction covers the discharge of groundwater generated from well drilling and development activities. This General Permit establishes specific performance requirements for discharges from well activities and the proposed project must comply with these requirements. Before discharge from each well test program can proceed, sampling must be completed to ensure that maximum contaminant levels (MCLs) are not exceeded in the groundwater brought to the surface and discharged. If water quality at one of the proposed wells is

degraded it must be blended to a level below MCLs or any specific pollutant exceeding MCLs must be treated and brought into compliance with General Permit discharge requirements prior to discharge to meet the MCL requirements for that pollutant. The following mitigation measure ensures that no significantly degraded groundwater (above MCLs) will be discharged during well testing:

Mitigation Measure HYD-1: *SCWC shall test the groundwater produced from the well prior to discharge. Prior to or during discharge any contaminants shall be blended below the pertinent MCL or treated prior to discharge, including sediment or other material.*

Mitigation Measure HYD-2: *SCWC shall prepare a Drilling Plan that describes the drilling method and construction contingencies to be employed. That plan shall describe waste management control and disposal methods for cuttings, mud, and development water discharges. The Drilling Plan should identify, and illustrate on appropriate scale maps, the Best Management Practices (BMPs) that will be employed to ensure there are no adverse effects on ground or surface water quality. The Company shall indicate how they will implement and monitoring the effectiveness of installed BMPs, and make necessary adjustments in the field if necessary to modify those BMPs and protect water quality. The Drilling Plan shall be made available to the Lahonton Regional Water Quality Control Board for their records.*

The proposed project may result in some soil erosion during excavating and construction activities. Due to the varied nature of the proposed project sites—varying from disturbed compacted dirt to containing native and non-native vegetation—and the flat topography at each site, the potential for this project to cause soil erosion, and subsequent water quality impacts, is moderate. The proposed project will be required to meet NPDES requirements. SCWC must file a Notice of Intent (NOI) with the State Water Resources Control Board and obtain a general construction National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit prior to the start of construction due to the area of impact for the proposed project, which is anticipated to be greater than 1 acre. Obtaining coverage under the General Construction NPDES permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that must be implemented during construction. Compliance with the terms and conditions of the NPDES and the SWPPP is mandatory and is judged adequate mitigation by the regulatory agencies for potential impacts to stormwater during construction activities.

Mitigation Measure HYD-3: *The County shall require of SCWC that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:*

- *The use of silt fences;*
- *The use of temporary stormwater desilting or retention basins;*
- *The use of water bars to reduce the velocity of stormwater runoff;*
- *The use of wheel washers on construction equipment leaving the site;*
- *The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;*
- *The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and*

- *Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.*

Implementation of the above mitigation measure, as well as mitigation measures **HAZ-1**, and **HYD-4** below, is considered adequate to reduce potential impacts to stormwater runoff to a less than significant level. The Project would have a less than significant impact under this issue. No further mitigation is required.

b. **Less Than Significant With Mitigation**– The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a substantial lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The proposed wells will extract groundwater from the Upper Mojave River Valley Groundwater Basin. SCWC has a pre 1931 water right to 3,000 acre-feet of water per year and currently pumps an average of approximately 750 acre-feet per year; however, this does not apply to the Upper Mojave River Valley Groundwater Basin. The use of the new wells as production wells would require SCWC to purchase water from Mojave Water Agency (MWA), which manages the Upper Mojave River Valley Groundwater Basin. The MWA Watermaster manages transfers from the Groundwater Basin and assesses a fee commensurate with the amount of water extracted. Though the Groundwater Basin has several sub-basins (including the Oeste and Alto basins from which the Project proposed to extract) that experienced overdrafts (total water use was greater than the supply) in 2017-2018[1], the Watermaster replaces overdrafts through fees collected from water users that is used to purchase additional water supplied through the State Water Project. The proposed new wells are each forecast to increase groundwater extraction by about 250 acre-feet per year. The proposed depth of water production from this well is approximately 1,500 feet below the ground surface, or as directed by the hydrogeologist. These wells are not designed to interfere with any private wells located within the same aquifer. However, since pumping tests will not be conducted until the proposed well is completed, the following mitigation measure shall be implemented by SCWC to ensure that other wells within this local aquifer do not incur a significant adverse impact from pumping the proposed well.

Mitigation Measure HYD-4: *SCWC shall conduct a pump test of the new well and determine whether any other wells are located within the cone of depression once the well reaches equilibrium. If any private wells are adversely impacted by future groundwater extractions from the proposed well, SCWC shall offset this impact through provision of water service; or adjusting the flow rates or hours of operation to mitigate adverse impacts.*

Ultimately, through payment to MWA for water pumped to supplement their current water supply, the proposed project will ensure that the required supply will be replaced to ensure that impacts to the Upper Mojave Groundwater Basin will be less than significant. As such, with implementation of the above mitigation measure, the impacts to this issue would be reduced to less than significant. No additional mitigation is required.

c. <u>i-iii</u>

Less Than Significant With Mitigation – The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite, or 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.
The proposed project sites vary from disturbed compacted dirt to containing native and non-native vegetation, as such, once each well is installed, the drainage pattern of the area of disturbance would

[1] http://www.mojavewater.org/files/25AR1718_Revised.pdf

not change substantially. It is not anticipated that substantial erosion or siltation would occur on site, given that the drainage will be managed as it is at present. The well sites will require minimal grading and site clearing in the small areas in which the wells will be installed, and as such would have a less than significant potential to interfere with the discharge of stormwater over the long-term as the site will remain essentially the same, with only the small area that will be disturbed as a result of the well development. Furthermore, because the development of each well would alter the site only minimally, the Project would not increase the amount of surface runoff, such that flooding on- or off-site would occur.

Counties require implementation of a set of BMPs to control discharges that surface runoff with pollutants could cause that may cause a significant adverse impact to surface water quality. Storm water pollution prevention BMPs will be incorporated to control pollution from construction activities in the vicinity of the project site. These measures, such as berms, coil rolls, silt fencing, detention basins, etc., are mandatory, as are the measures for ongoing non-point source pollution controls implemented by the local jurisdictions once the project is completed. The mandatory BMPs applied in conjunction with Mitigation Measures **HAZ-1**, and **HYD-3** in conjunction with measure **HYD-5** below, are deemed sufficient to reduce potential surface water quality impacts to a less than significant level. This is because the stormwater discharge will be treated to the point that the discharge will meet requirements for stormwater runoff from construction sites.

Mitigation Measure HYD-5: *SCWC and construction contractor shall select best management practices applicable to the project site and activities on the site to achieve a reduction in pollutants to the maximum extent practicable, both during and following development of the proposed municipal-supply water well and associated pipeline, and to control urban runoff after the Project is constructed and the well (if approved for operation post well testing) is in operation.*

Adequate drainage facilities exist or will be developed by this Project to accommodate future drainage flows, and will therefore result in a less than significant impact. Based on the data outlined above, this Project will not substantially alter the existing drainage pattern of the site or area; result in substantial erosion or siltation onsite or offsite; substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite; or, 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. Therefore, with the mitigation measure identified above, impacts under these issues are considered less than significant. No further mitigation is required.

c. iv

Less Than Significant Impact – According to the San Bernardino County General Plan Hazards Overlay Map, provided as Figure X-1, two of the well sites (Well #13 and #16) are not located within a special flood hazard area inundated by a 100-year flood; however, Well #12 and #14 are located within a special flood hazard area inundated by a 100-year flood; they are located within Zone A. Given that the two wells located on the site that may experience flooding would encompass a modest portion of the site above ground (a 10' x 10' enclosed concrete pad is anticipated to be required for each well), the inclusion of these wells at the site is not anticipated to redirect or impede flood flows. Furthermore, the location is outside of roadways, and drainage will be managed within the site. Therefore, the proposed project would have a less than significant potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would impede or redirect flows. No mitigation is required.

d. **Less Than Significant Impact** – Please refer to the discussion under c(iv) above. As stated above, two of the well sites (Well #13 and #16) are not located not located within a special flood hazard area inundated by a 100-year flood; however, Well #12 and #14 are located within a special flood hazard area inundated by a 100-year flood; they are located within Zone A (Figure X-1). The groundwater extracted from the proposed well is not anticipated to contain any pollutants that would harm the above-ground environment. Furthermore, the well water and any treatment thereof will be

self-contained, and as such, risk for accidental release of any water extracted from the well is anticipated to be extremely low. The proposed project is not located near any bodies of water that would place the wells within a seiche zone, and is far removed from the Ocean, such that no tsunami would affect the project area. As previously stated, BMPs in place would ensure that the minimal potential for pollutants that may occur on site would not be released in the event of project inundation. Therefore, impacts under this issue are considered less than significant.

e. **Less Than Significant Impact** – Please refer to the discussion under issue X(b) above. The "2018 Sustainable Groundwater Management Basin Prioritization: Process and Results" document, prepared by the State of California Department of Water Resources[2], indicates that the Mojave River basin is under very low priority. As stated in the 2018 Basin Prioritization, of the 517 groundwater basins in California, 109 are prioritized as high and medium and 408 are prioritized as low and very low. The Mojave River Basin does not have a sustainable groundwater management plan or and the Project will not interfere with the overall water quality of the basin as discussed above. As stated above under issue X(b), the MWA Watermaster manages transfers from the Groundwater Basin and assesses a fee commensurate with the amount of water extracted. Though the Groundwater Basin has several sub-basins that experienced overdrafts in 2017-2018[3], the Watermaster replaces overdrafts through fees collected from water users that is used to purchase additional water supplied through the State Water Project. As such, the payment of this fee will ensure that the proposed project is in compliance with the MWA Watermaster, and as such, it is not anticipated that the proposed well development project would have a significant potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

[2] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Basin-Prioritization/Files/2018-Sustainable-Groundwater-Management-Act-Basin-Prioritization.pdf
[3] http://www.mojavewater.org/files/25AR1718_Revised.pdf

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

XI. LAND USE AND PLANNING

SUBSTANTIATION:

a. **No Impact** – According to the San Bernardino County General Plan Land Use Services Zoning Look Up interactive website (accessed September 20, 2019), the Land Use designations within and surrounding the project footprint ranges from Commercial (C) to Very Low Density Residential (VLDR) and the zoning classification ranges from General Commercial (PH/CG) to Single Residential (PH/RS-1). Water facilities, such as wells, are land use independent. The proposed project is located within an the SCWC Office site, within a second site located at the northwest corner of Nielson Road and/or Sheep Creek Road, and at a site located between Cambria Road to the north and Elsinore Road to the south along Mescalero Road. The project does not involve construction of new structures that would cause any physical division of communities. Since the proposed project occurs within and supports existing land use designations, no potential exists for the proposed project to physically divide an existing community. No impact will result and no mitigation is required.

b. **No Impact** – Please refer to the discussion under issue XI(a) above. In general, water production facilities are zone independent because they are needed to support all types of land uses. Thus, implementation will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. No impacts are anticipated and no mitigation is required.

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

XII. MINERAL RESOURCES

SUBSTANTIATION: (Check ☐ if project is located within the Mineral Resource Zone Overlay)

a. **Less Than Significant Impact** – Implementation of the Project will not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of the state. According to the Geologic Map of the San Bernardino Quadrangle from the California Department of Conservation[4], the Project site is located on alluvial soils. Alluvial soils are not a unique soil classification in the Project vicinity, as well as in southern California. Neither the project sites nor surrounding vicinity have been mined in the past. If mineral resources were present on the project site, then there would have been historic operations on the project site to commercially extract these resources. Based on this information, no impacts to mineral resources from implementing the project are anticipated. No mitigation is required.

b. **Less Than Significant Impact** – Please reference response XI(a) above. While the General Plan does contain Goals and Policies that related to mineral resources (Goal CO7, Policies CO7.1 through CO7.8, pp. V-32 and V-33 of the San Bernardino County General Plan)[5], the project sites have not been historically mined for important mineral resources. No specific plan or other land use plan is in place that would delineate important mineral resources on the project site. Based on this information, no impacts to mineral resources from implementing the project are anticipated. No mitigation is required.

[4] http://www.quake.ca.gov/gmaps/RGM/sanbernardino/sanbernardino.html
[5] http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGPtext20130718.pdf

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

XIII. NOISE

SUBSTANTIATION: (Check if project is located in the Noise Hazard Overlay District ☐ or is subject to severe noise levels according to the General Plan Noise Element ☐)

Background

Noise is generally described as unwanted sound. Once the wells are developed and tested as a production wells, the proposed wells will be outfitted with a vertical turbine pump. Mitigation is provided below to ensure that, if the pump exceeds the County's standards for noise levels at the nearest sensitive receptor, it will be housed in a noise minimizing structure. Well #16 is located within SCWC's office site, while Wells #12 and #14 are located to the north on a vacant lot at Sheep Creek Road and Nielson Road, and Well #13 is located between Cambria Road to the north and Elsinore Road to the south along Mescalero Road. Sensitive receptors in the area include churches, residents, and schools, all of which are greater than 225 feet from the proposed well locations.

The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA (A-weighted decibel) increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally

acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

a. **Less Than Significant With Mitigation** – The proposed project site is located in a relatively low background noise environments. Local sources of noise include modest traffic along Sheep Creek Road, and minimal traffic along Nielson Road and Bartlett Road. Traffic along Parkdale Road and Bartlett Road is minimal because these roadways are dirt roadways that provide local access to rural residences in the area. Based on the limited traffic, background noise is estimated at about 45-50 dBA over a 24-hour period using the Community Noise Equivalent Level (CNEL). Implementation of the proposed project will generate noise. Generally, well drilling equipment can generate noise levels of about 70 to 90 dBA at a distance of 50 feet from the equipment. Drilling will be accomplished by using a reverse rotary drill unit to about 1,500 ft below ground surface (bgs) will occur over a 24-hour period until the well is completed to the design depth of about 1,500 ft bgs for about 3-4 weeks. Stationary source noise diminishes at a rate of about 6 dB for each doubling of the distance from the source. This means that periodic construction noise levels at the nearest receptor can be about 43 to 63 dBA. It is possible that the well drilling will exceed the County's noise standard of 65 dBA at the exterior of the nearest receptors. This increase in noise levels will be short term—about 8 weeks of 24 hour well drilling per well is anticipated to be required. Additionally, it anticipated that one well will be installed at a time, as such it is anticipated that 8 months of drilling will be required (8 weeks at the SCWC Office site and 16 weeks at the site located at Nielson Road and Sheep Creek Road, and 8 weeks at the Mescalero Road site). There is a potential for the development of two additional back-up wells; one each at the SCWC Office site and the Mescalero Road site if each well is viable. As such, it is possible for the entire project to require one year for construction. The increased noise levels will not be severe enough to pose a health or hearing hazard, but could be considered a short-term nuisance. However, mitigation is provided below to ensure that a noise wall is constructed during the period to minimize noise levels at nearby sensitive receptors; furthermore, should any residents find that the well drilling noise levels are a nuisance, a program will be in place for such persons to be temporarily relocated.

The connection pipelines that will be required for each well will be constructed at a similar distance to the well locations, and will be constructed concurrent with the determination that each well is viable to produce drinking water that then can be connected to SCWC's service area. Should each well be viable, pipeline construction will be limited to daylight hours to prevent significant impacts during the short (no more than one or two week) construction period for each.

Temporary construction noise is exempt from the County Noise Performance Standards between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The proposed project would be constructed in compliance with the County's Noise Performance Standards, and therefore construction of the project would be less than significant. However, to minimize the noise generated on the site to the extent feasible, the following mitigation measures shall be implemented:

Mitigation Measure NOI-1: *Noise measures shall be implemented to reduce noise levels to the greatest extent feasible (at or below 65 dBA). Measures may include portable noise barriers, scheduling specific construction activities to avoid conflict with adjacent sensitive receptors, or any other means by which to accomplish this noise minimization.*

Mitigation Measure NOI-2: *All construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by Applicant personnel during construction activities.*

Mitigation Measure NOI-3: *The District will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. If the noise level exceeds a Ldn of 60 dBA exterior or a Ldn of 45 dBA interior between the hours of 7 PM and 7 AM on any day except*

Sunday or a Federal holiday, or between the hours of 8 PM and 9 AM on Sunday or a Federal holiday at the receptor, the Applicant will implement adequate measures to reduce noise levels to the greatest extent feasible, including portable noise barriers at the project site or at affected residences, offer temporary relocation to affected residences, or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

Mitigation Measure NOI-4: *Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example on the north- or south-west corners of the project site.*

This noise can be mitigated, as outlined in the mitigation measure below by constructing a wooden or concrete housing unit to reduce operational noise levels to a less than significant impact, should the noise levels from the well pump exceed County of San Bernardino standards. The pipeline will not generate any noise once constructed. Additionally, to reduce potential long-term noise effects from the well pump to the greatest extent feasible, the mitigation measure presented below will be implemented.

Mitigation Measure NOI-5: *Well pump noise levels to be limited to 50 dB(A) or below at the exterior of the nearest sensitive noise receptor. A manner in which this may be accomplished is by installing surface well housing, housed in concrete block structure that attenuates noise to meet this performance standard. Another manner in which this may be accomplished is through installing the pump belowground. The aforementioned or other noise reducing measures shall be implemented should the District be unable to demonstrate that noise levels are limited to 50 dBA at the nearest sensitive receptor.*

Therefore, through the implementation of the mitigation measures identified above, neither operation or construction of the proposed project would violate noise standards outlined in the San Bernardino County Development Code. Impacts under this issue are considered less than significant with mitigation incorporated.

b. **Less Than Significant Impact** – Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g. earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g. explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (VdB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements.

The background vibration-velocity level in residential areas is generally 50 VdB; levels would generally be considered even less in rural areas such as the area surrounding the project footprint. Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration, but is generally associated with pile driving and rock blasting. Other construction equipment, such as air compressors, light trucks, hydraulic loaders, etc. generates little or no ground vibration. While no enforceable regulations for vibration exist within the County of San Bernardino, the Federal Transit Association (FTA) guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential Project related vibration impacts. Though well drilling activities generate relatively substantial vibration, given the distance between where the ground disturbance activities will be located, and the distance to the nearest sensitive receptor (greater than 225 feet at any given point within the project site), it is not anticipated that vibration from either construction or operation activities would reach any nearby residences. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.

c. **No Impact** – The proposed well development sites are not located within an airport land use plan, within two miles of a public airport or private airstrip. According to a review of Google Maps (September 18, 2019), the closest public airport to the project site is the Southern California Logistics Airport, which is located approximately 14 miles to the northeast of the Project site. According to a review of Google Maps (September 18, 2019), Gray Butte Field, Krey Field, and Brian Ranch Airports are all located more than 8 miles from the project area. Due to the distance from these private airports, as well as the distance from the Southern California Logistics Airport, the Project will have no potential to expose people residing or working in the project area to excessive noise levels generated by nearby aircraft or airport operations. No impacts are anticipated and no mitigation is required.

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

XIV. POPULATION AND HOUSING

SUBSTANTIATION:

a. **Less Than Significant Impact** – Implementation of the Project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). This project proposes to develop several new wells with connecting pipelines in the community of Phelan Piñon Hills within San Bernardino County, which will connect to SCWC's existing water distribution system. Though construction of the new SCWC wells will require a temporary work force, this is short-term and with a maximum of about 10 employees will not induce substantial population growth. Additionally, the number of employees needed to operate the new wells is minimal, as it is projected that one to two employees will visit the site on an as needed or scheduled maintenance basis. It is anticipated that these employees will be drawn from SCWC's existing work force. The development of up to six new wells will be important to provide water to the existing population within SCWC's service area and to any projected growth within their service area. The Project itself will not directly induce population growth as it does not propose any housing and any indirect impacts of increasing the amount of water available within the SCWC service area is considered less than significant. No mitigation is required.

b. **No Impact** – The proposed project will occur within three sites including the following, within an existing SCWC owned site, within a vacant site at Sheep Creek Road and Nielson Road, within a vacant site at Mescalero Road, and within roadways adjacent to each site (except the SCWC site). None of these sites contain housing or persons. No occupied residential homes are located within the project footprint; therefore, implementation of the proposed project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impacts will occur; therefore, no mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XV. PUBLIC SERVICES: Will 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:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

XV. PUBLIC SERVICES

SUBSTANTIATION:

a. **Less Than Significant Impact** – The San Bernardino County Fire Department (SBCFD) provides fire protection and emergency medical services for the Communities of Phelan Piñon Hills. The nearest fire station to the proposed project is San Bernardino County Fire Station #10 and is located approximately about 1 mile west of the Nielson Road and Sheep Creek Road well site and about one quarter mile northwest of the Mescalero Road well site at the address 9625 Beekley Rd, Phelan, CA 92371. The proposed project may require the use of chemicals such as sodium hypochlorite. Proper storage and handling are required to prevent any potential fire hazards; however, compliance with Federal, State, and local standards pertaining to hazardous materials would prevent a significant impact from occurring. The proposed Project will develop four wells that will connect to the existing SCWC water distribution system. The only possible structures proposed—a masonry building enclosing each well and above ground pump motor—would not present a substantial fire hazard because the materials used to construct the enclosure are considered fire-resistant. Thus, with compliance to Federal, State, and local standards, no new or altered fire protection facilities will be required to serve this Project. Any impact to the existing fire protection system is considered random and less than significant. No mitigation is required.

b. **Less Than Significant Impact** – The Community of Phelan Piñon Hills receives police services through the San Bernardino County Sheriff Department. The Department enforces local, state, and federal laws; performs investigations and makes arrests; administers emergency medical treatment; and responds to County emergencies. The sheriff station is located at 4050 Phelan Road, Phelan, CA 92371, which is located about 2,000 feet north of the well development site located at Nielson Road and Sheep Creek Road. The proposed Project will not include the kind of uses or activities that would likely attract criminal activity, except for random trespass and theft; however, any random trespass is unlikely because the project site will remain fenced off from public access. The proposed well would not be readily accessible to the public as each well will be fenced to prevent public access at each well. This will prevent any trespass from occurring during both operations and construction of the Project. The potential for greater demand of police protection services or expansion of police infrastructure as a result of implementation of the proposed project is therefore considered less than significant. No mitigation is required.

c. **No Impact** – The proposed project is located within the area served by the Snowline Joint Unified School District. The nearest schools are Serrano High School, Piñon Mesa Middle School, Chaparral High School, and Eagle Summit Community Day School, which are located between Nielson Road to the north, Sheep Creek Road to the east, Mirago Road/Sunnyslope Road to the north, and Leboc Lane to the west. The project would not induce population growth within the County, as operation of the proposed well is not anticipated to require SCWC to hire additional personnel. Thus, the proposed project will not generate an increase in elementary, middle, or high school population. Therefore, no impacts are anticipated under this issue and no mitigation is required.

d. **No Impact** – As stated in the preceding sections, the proposed Project is not anticipated to create an increase in population because the operation of the proposed well will not require any additional SCWC personnel once the proposed well has been installed. There are no parks within any of the well development sites or in the vicinity of the Project that would be impacted by the proposed well development project, and with no forecast increase in population, implementation of the proposed project would not cause a substantial adverse physical impact to any parks within the County. No impacts are anticipated and no mitigation is required.

e. **No Impact** – Other public facilities include library and general municipal services. Since the Project will not directly induce population growth, it is not forecast that the use of such facilities will increase as a result of the proposed project. No impacts under this issue are anticipated, and no mitigation is required.

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

XVI. RECREATION

SUBSTANTIATION:

a. **No Impact** – As previously discussed in Section XIII, Population and Housing and Section XIV, Public Services, this Project will not contribute to an increase in the population beyond that already allowed or planned for by local and regional planning documents. The proposed project will not increase the use of recreational facilities, nor will it result in the physical deterioration of other surrounding facilities. No impact is forecast and no mitigation is required.

b. **No Impact** – The proposed Project will develop four wells to serve SCWC's service area and will connect to SCWC's existing water distribution system through a connection pipeline within new pipeline. The well will be installed and operated by SCWC. The Project does not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. As previously stated, the proposed project will occur within three sites including the following, within an existing SCWC owned site, within a vacant site at Sheep Creek Road and Nielson Road, within a vacant site at Mescalero Road, and within roadways adjacent to each site (except the SCWC site). Furthermore, the proposed project is not forecast to induce substantial population growth as the well will operate without daily in-person supervision; visits will occur by SCWC employees on an as needed or scheduled maintenance basis. Therefore, no impacts are anticipated to occur under this issue, and no mitigation is required.

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

XVII. TRANSPORTATION

SUBSTANTIATION:

a. **Less Than Significant With Mitigation** – The proposed well development project is located within the community of Phelan Piñon Hills within San Bernardino County. Construction of the well will be limited to within the boundaries of each of the project sites, though each well will require a connection to SCWC's existing potable water distribution system, which will require a short period of construction within the corresponding roadways adjacent to each project site, with the exception of the SCWC Office Site, where the well will connect to reservoirs located within the site. The roadways within which construction will occur are as follows: Sheep Creek Road, Nielson Road, and Mescalero Road connecting to Cambria Road. In the short term, construction of each proposed well and pipeline will result in the generation of around 15-20 additional roundtrips per day on the adjacent roadways by construction personnel and the removal of any graded material and delivery of well construction materials. No new roads are required to construct or operate this Project. However, construction within existing roadways is necessary to complete construction of the connecting pipeline, for a period of approximately one to two weeks per well connection. No temporary roadway closure will be required though one lane may require closure at any given time throughout construction; given the temporary nature of the construction proposed within Sheep Creek Road, Nielson Road, and Mescalero Road, the proposed project is not anticipated to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. However, the proposed project shall implement the following mitigation measure to ensure that disturbances within public roadways will be repaired to at existing or better conditions.

Mitigation Measure TRAN-1: *The construction contractor will provide adequate traffic management resources, as determined by the County of San Bernardino. The County shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the County prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with*

drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.

Mitigation Measure TRAN-2: *The County shall require of SCWC that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.*

The operation phase of the proposed project would require minimal new trips to each of the well development sites on a maintenance basis only, and given that the project sites are located within a one mile radius from SCWC's Offices, the traffic on adjacent roadways as a result of well operations would be minimal. As such, operation of the proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Therefore, with implementation of the above mitigation measure, implementation of the Project would have a less than significant impact under this issue.

b. ***Less Than Significant Impact*** – The proposed project would install four new wells and connecting pipelines within Sheep Creek Road, Nielson Road, and Mescalero Road. Neither the County of San Bernardino nor the Lead Agency (the County) have not developed a threshold for vehicle miles travelled; however, the proposed project will not require a substantial amount of operational traffic beyond any maintenance trips to the well site, which, as previously stated, is located across the street from the District offices, which will enable ease of access for maintenance visits. Construction of the proposed project will require about 15-20 trips to and from one well site each day as a result of employee and construction related trips. Note that the wells will be developed sequentially and not concurrently. Given that these trips are temporary, and are not anticipated to exceed a 60 miles round trip per day during the 8 week period required to complete construction at each well (a total of about 8 months is required for construction of the four total wells; however, two additional back-up wells may be developed, and as such, construction may require up to one year), construction related vehicle miles traveled impacts are considered less than significant. As such, development of SCWC Enhanced Groundwater Supply Well Development Project is not anticipated to result in significant impact related to vehicle miles travelled, and thus would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts under this issue are considered less than significant.

c. **Less Than Significant With Mitigation** – The proposed project would not substantially increase hazards due to a design feature or incompatible uses. The construction of the well would occur at several locations within SCWC's service area. With the exception of the aforementioned trip generation during the construction phase and the installation of the connection pipeline from each well to SCWC's distribution system located perpendicular to each site (at Nielson Road, Sheep Creek Road, and Mescalero Road), the proposed project will not alter any adjacent roadways. The construction within the adjacent roadway will be limited to approximately one to two weeks per well site. Sheep Creek Road and Nielson Road experience modest traffic given their proximity to the local schools and given that Sheep Creek Road is a major throughway to Highway 138. As stated under issue XVII(a) above, the with the implementation of mitigation measures **TRAN-1** and **TRAN-2** above, which require implementation of a construction traffic management plan, any potential increase in hazards due to design features or incompatible use will be considered less than significant in the short term. In the long term, no impacts to any hazards or incompatible uses in existing roadways are anticipated because once the pipeline is installed, the roadway will be returned to its original condition. Thus, any potential increase in hazards due to design features or incompatible use will be considered less than significant. No mitigation is required.

d. **Less Than Significant With Mitigation** – Please refer to the discussion under issue XVII(a) above. The proposed project will require closure of one lane within the roadway in which the well connection pipeline is installed. This effort will occur within Nielson Road, Sheep Creek Road, and Mescalero Road. During construction, a potential exists for short-term hazards and constraints on

both normal and emergency access within the affected area, especially due to the construction of each connection pipeline, as it will require partial lane closure within existing rights-of-way. There are no emergency access roadways located within the project footprint. However, adequate emergency access will be provided along these routes throughout construction. Though closure of one lane will impact traffic, the implementation of mitigation measures **TRAN-1** and **TRAN-2** will ensure that impacts are reduced to a level of less than significant. No additional mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVIII. TRIBAL CULTURAL RESOURCES: Will the project:				
a) Would the project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American Tribe, and that is?				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or?	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

XVIII. TRIBAL CULTURAL RESOURCES

SUBSTANTIATION: Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

A Tribal Resource is defined in the Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1;
- 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purpose of this paragraph, the lead agency shall consider the significance of the resources to a California American tribe;
- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape;
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal resource if it conforms with the criteria of subdivision (a).

a&b. **Less Than Significant With Mitigation** – The project site is located within the area of cultural significance for the Colorado River Indian Tribe, Fort Mojave Indian Tribe, San Manuel Band of Mission Indians, and the Morongo Band of Mission Indians. As stated in the Project Description, the County sent letters to the tribes listed above pursuant to AB-52. The County received a response from the San Manuel Band of Mission Indians requesting the following mitigation measures in addition to mitigation measures **CUL-3** through **CUL-5** identified under Section VI, Cultural Resources above:

Mitigation Measure TRC-1: *The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed in CUL-3, of any pre-contact cultural resources discovered during project implementation, and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the project, should SMBMI elect to place a monitor on-site.*

Mitigation Measure TRC-2: *Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI throughout the life of the project.*

AB 52 has concluded as of June 16, 2020 with no further responses from any of the four tribes. As such, with implementation of mitigation measures **CUL-1** through **CUL-5**, and the mitigation measures identified above, the project is not anticipated to cause a change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape, or object with 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. No further mitigation is required.

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

XIX. UTILITIES AND SERVICE SYSTEMS

SUBSTANTIATION:

a. Water

Less Than Significant Impact – The proposed project is a well development project within the SCWC service area. As discussed in the preceding sections, the development of the proposed well would not have a significant impact on the environment. As discussed under Hydrology and Water Quality issue X(b), the proposed well will extract groundwater from the Upper Mojave River Valley Groundwater Basin. The amount of water SCWC plans to extract from the Basin is minimal compared to the overall amount of water extracted the Groundwater Basin. Payment of feed to MWA will ensure that impacts related to water supply are minimized. As such, though the Project would install six wells (only four would operate at a time) that will connect to SCWC's existing service area should they be viable, the Project would not result in a significant impact. Therefore, impacts under this issue are considered less than significant.

Wastewater

No Impact – The proposed project would install four wells and connecting pipelines to connect to SCWC's existing potable water distribution system. The well development is not anticipated to require expansion or development of new wastewater treatment facilities. This project would not require connection to wastewater treatment collection services once in operation. As such, this project is not anticipated to require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. No impacts under this issue are anticipated.

Stormwater

Less Than Significant Impact – The proposed project will manage stormwater at each of the well sites. The proposed project sites vary from disturbed compacted dirt to containing native and non-native vegetation, as such, once each well is installed, the drainage pattern of the area of disturbance would not change substantially. The well sites will require minimal grading and site clearing in the small areas in which the wells will be installed, and as such would have a less than significant potential to interfere with the discharge of stormwater over the long-term as the site will remain essentially the same, with only the small area that will be disturbed as a result of the well development. Adequate drainage facilities exist or will be developed by this Project to accommodate future drainage flows. The well will occupy a minimal portion of each of the well sites, and as such, the Project is not anticipated to result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects. Impacts under this issue are considered less than significant.

Electric Power

Less Than Significant Impact – The proposed project would install four wells. The new wells and connection pipelines will require electricity to operate the well's pump. The project area is served by Southern California Edison (SCE), and is not anticipated to require extension of electricity in order to operate as the site is currently connected to the electrical system with available supply of electricity at the site. Additionally, SCWC plans to install emergency a backup generators at each of the sites, anticipated to be an approximately 125 kW Diesel Generator a Diesel Generator. Given that the Project will not require additional construction or relocation of electrical power facilities, and that the Project is not anticipated to result in a significant impact under any issue, impacts under this issue are considered less than significant and no mitigation is required. The Project would have no potential to require or result in the relocation or construction of new or expanded electric power facilities, the construction or relocation of which could cause significant environmental effects. No impacts are anticipated under this issue.

Natural Gas

No Impact – Development of the four SCWC wells would not demand natural gas. Therefore, the Project would not result in a significant environmental effect related to the relocation or construction of new or expanded natural gas facilities. No impacts are anticipated.

Telecommunications

No Impact – Development of the four SCWC wells would not require installation of wireless internet service or phone serve. Therefore, the Project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunication facilities. No impacts are anticipated.

b. **Less Than Significant Impact** – Please refer to issue X(b), Hydrology and Water Quality, above. The proposed project will develop a well to supply water to SCWC's service area. The proposed well will extract groundwater from the Upper Mojave River Valley Groundwater Basin. SCWC has a pre 1931 water right to 3,000 acre-feet of water per year and currently pumps an average of approximately 750 acre-feet per year. The use of the new wells as production wells would require SCWC to purchase water from Mojave Water Agency (MWA), which manages the Upper Mojave River Valley Groundwater Basin. The MWA Watermaster manages transfers from the Groundwater Basin and assesses a fee commensurate with the amount of water extracted. Though the Groundwater Basin has several sub-basins (including the Oeste and Alto basins from which the Project proposed to extract) that experienced overdrafts (total water use was greater than the supply) in 2017-2018[6]. The Watermaster replaces overdrafts through fees collected from water users that is used to purchase additional water supplied through the State Water Project. The proposed new wells are each forecast to increase groundwater extraction by about 250 acre-feet per year. Ultimately, through payment to MWA for water pumped to supplement their current water supply, the proposed

[6] http://www.mojavewater.org/files/25AR1718_Revised.pdf

project will ensure that the required supply will be replaced to ensure that impacts to the Upper Mojave Groundwater Basin will be less than significant. Based on this information, it is anticipated that there will be available water supply within the Upper Mojave River Valley Groundwater Basin to support SCWC's new well pumping operations. Therefore, the proposed project is anticipated to have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years. Impacts under this issue are less than significant. No mitigation is required.

c. **No Impact** – Please refer to the discussion under XIX(a) above. The well operation will not require installation of restroom facilities; construction will require portable toilets that will be handled by the provider of such facilities. As such, given that the well operation will not require any new connection to wastewater treatment services, it is not anticipated that the Project would 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. No impacts under this issue are anticipated.

d-e. **Less Than Significant Impact** – Other than a small amount of construction wastes (concrete, wood, etc.) and a small amount of waste associated with operating the proposed wells, the Project will not generate a substantial amount of solid wastes and will not adversely affect the existing solid waste disposal system. Once in operation, the only above-ground features of the Project will be the developed well. Construction and demolition (C & D) waste will be recycled to the maximum extent feasible in accordance with the California Green Building Code, and any residual materials will be delivered to one of several C & D disposal sites in the area surrounding the project site. Additionally, any hazardous materials collected on the project site during either construction of the Project will be transported and disposed of by a permitted and licensed hazardous materials service provider. The Project will not conflict with any state, federal, or local regulations regarding solid waste. Solid waste will be disposed of in accordance with existing regulations at an existing licensed landfill—such as the Victorville Sanitary Landfill —with adequate capacity to handle the waste. According to the CalRecycle and San Bernardino County Solid Waste Management—which serves the community of Phelan—the maximum permitted capacity of Victorville Sanitary Landfill is 83,200,000 Cubic Yards (CY), while its remaining capacity is 81,510,000 CY; the Victorville Sanitary Landfill can accept 3,000 tons per day. Thus, there is adequate solid waste disposal capacity for solid waste generated as a result of implementation of the proposed Project both in the short term and long term. These impacts are considered less than significant. No additional mitigation is required.

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

XX. WILDFIRE

SUBSTANTIATION:

a-d. **No Impact** – The proposed project is located in a wildland fire hazard area, but according to Section 8 – Safety of the Phelan/Piñon Hills Community Plan (p.54), fire hazard severity is very high only in limited areas, south of Highway 138. The San Bernardino County Land Use Plan General Plan Hazard Overlay Map (Figure X-1), indicates that the proposed project is not located within the Fire Safety Overlay District, which is located south of the Project site and south of Snow Line Drive. Additionally, according to the Cal Fire Fire Hazard Severity Zone in a State Responsibility Area (SRA) Map (Figure XX-1), the proposed project is located in a Moderate Fire Hazard Severity Zone in an SRA. The fire threat throughout most of the community plan area is considered moderate. The proposed well development would not expose people or structures to a wildland fires as they are not located in the vicinity of the high wildland fire hazard area. Therefore, given that the propose project sites are located outside of a very high fire hazard severity zone, and the nature of the proposed project as a well development project that would expand the community's access to water that could be used for fire flow, no impacts under these issues are anticipated. No mitigation is required under these issues.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XXI. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

SUBSTANTIATION: The analysis in this Initial Study and the findings reached indicate that the proposed project can be implemented without causing any new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control potential environmental impacts of the proposed project to a less than significant impact level. The following findings are based on the detailed analysis of the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized following this section.

a. **Less Than Significant With Mitigation** – The Project has no potential to cause a significant impact any biological or cultural resources. The project has been identified as having no potential—with the implementation of mitigation measures—to degrade the quality of the natural environment, substantially reduce 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 reduce the number or restrict the range of a rare or endangered plant or animal. The project sites vary from vacant to containing the SCWC Offices. Though the sites contain vegetation, no sensitive natural biological habitat exists within the Project sites; however, mitigation is required to protect burrowing owl and nesting birds. The cultural resources evaluation concluded that the Project footprint does not contain historic resources, and as such, no impacts are anticipated. To ensure that any accidentally exposed subsurface cultural resources are properly handled, contingency mitigation measures will be implemented. With incorporation of Project mitigation measures all biology and cultural resource impacts will be reduced to a less than significant level.

b. **Less Than Significant Impact With Mitigation** – The Project has ten (10) potential impacts that are individually limited, but may be cumulatively considerable The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. The Project is not considered growth-inducing, as defined by *State CEQA Guidelines.* These issues require the implementation of

mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, would have a less than significant cumulative impact.

c. **Less Than Significant With Mitigation** – The Project will achieve long-term community goals by providing reliable potable water from the new wells. The short-term impacts associated with the Project, which are mainly construction-related impacts, are less than significant with mitigation, and the proposed Project is compatible with long-term environmental protection. The issues of Air Quality, Geology and Soils, Hazards and Hazardous Materials, and Noise require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed project have been determined to be less than significant.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Agricultural and Forestry Resources, Energy, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Population/Housing, Public Services, Recreation, and Wildfire. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Tribal Cultural Resources require the implementation of mitigation measures to reduce impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact.

Based on the findings in this Initial Study, the County proposes to adopt a Mitigated Negative Declaration (MND) for the Sheep Creek Water Company Enhanced Groundwater Supply Well Development Project. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) will be issued for this Project by the County. The Initial Study and NOI will be circulated for 30 days of public comment.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*,(1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; San *Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019
Authority: Public Resources Code sections 21083 and 21083.09
Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

MITIGATION MEASURES

Any mitigation measures that are not "self-monitoring" shall have a Mitigation Monitoring and Reporting Program prepared and adopted at time of project approval. Condition compliance will be verified by existing procedure.

Aesthetics

AES-1 The proposed structures shall be painted in colors that closely match the surrounding desert landscape, so as to create continuity in the potentially obscured views.

AES-2 SCWC shall obtain the required tree removal permits for all Joshua trees that require removal located within the project footprint. The Joshua trees that require removal shall be relocated or transplanted within the well development sites, per San Bernardino County Development Code Section 88.01.050(f.3).

AES-3 A facilities lighting plan shall be prepared and shall demonstrate that glare from construction operations and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically verity that the lighting doesn't exceed 1.0 lumen at the nearest residence to any lighting site within the project footprint. This plan shall be implemented by the SCWC to minimize light or glare intrusion onto adjacent properties.

Air Quality

AIR-1 Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation:

- Apply soil stabilizers such as hay bales or aggregate cover to inactive areas.
- Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces and haul roads 3 times/day.
- Cover all stockpiles with tarps.
- Replace ground cover in disturbed areas quickly.
- Reduce speeds on unpaved roads to less than 15 mph.
- Trenches shall be left exposed for as short a time as possible.

AIR-2 The following signage shall be erected no later than the commencement of construction: A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each project site entrance, meeting the specified minimum height text, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, identifying a responsible official for the site and local or toll free number that is accessible 24 hours per day:

"[Site Name] {four-inch text}
[Project Name/Project Number] {four-inch text}
IF YOU SEE DUST COMING FROM {four-inch text}
THIS PROJECT CALL: {six-inch text}
[Contact Name], PHONE NUMBER {six-inch text}
If you do not receive a response, Please Call {three-inch text}
The MDAQMD at 1-800-635-4617 {three-inch text}"

AIR-3 During project operations a 4,000-gallon water truck shall be available on-site at all times for dust control.

AIR-4 Wind breaks and/or fencing shall be developed in areas that are susceptible to high wind induced dusting.

AIR-5 The Applicant shall use a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. If the site contains exposed sand or fines deposits (and if the project would expose such soils through earthmoving), water application or chemical stabilization will be required to eliminate visible dust/sand from sand/fines deposits.

AIR-6 The Applicant shall formulate a high wind response plan that addresses enhanced dust control if winds are forecast to exceed 25-mph in any upcoming 24-hour period.

Biological Resources

BIO-1 In compliance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) the Project proponent shall ensure that a pre-construction burrowing owl survey is conducted at least 30 days prior to development of any wells within any of the three proposed project sites, and also prior to construction of any pipeline within and adjacent to any of the three proposed project sites.

BIO-2 The State of California prohibits the "take" of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the the State identified nesting season (Raptor nesting season is February 15 through July 31; and migratory bird nesting season is March 15 through September 1). Alternatively, the site shall be evaluated by a qualified biologist prior to the initiation of ground disturbace to determine the presence or absence of nesting birds. Active bird nests MUST be avoided during the nesting season. If an active nest is located in the project construction area it will be flagged and a 300-foot avoidance buffer placed around it. No activity shall occur within the 300-foot buffer until the young have fledged the nest.

Cultural Resources

CUL-1 Wells No. 12 and 14 shall be placed at least 50 feet from the former course of Tejon Road as shown on Figure V-1.

CUL-2 Should any cultural resources be encountered during construction of the wells and associated pipelines, any earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the District's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

CUL-3 In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within TCR-1, regarding any pre-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.

CUL-4 If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI for review and comment, as detailed within TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.

CUL-5 If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the

County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

Geology and Soils

GEO-1 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.

GEO-2 Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that pipeline connections within adjacent roadways and other disturbed areas are returned to as near the pre-project condition as is feasible.

GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from either of the well sites within which the water facilities are being installed.

GEO-4 The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.

GEO-5 The SCWC shall identify any additional BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.

GEO-6 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the District onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Hazards and Hazardous Materials

HAZ-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility.

Hydrology and Water Quality

HYD-1 SCWC shall test the groundwater produced from the well prior to discharge. Prior to or during discharge any contaminants shall be blended below the pertinent MCL or treated prior to discharge, including sediment or other material.

HYD-2 SCWC shall prepare a Drilling Plan that describes the drilling method and construction contingencies to be employed. That plan shall describe waste management control and disposal methods for cuttings, mud, and development water discharges. The Drilling Plan should identify, and illustrate on appropriate scale maps, the Best Management Practices (BMPs) that will be employed to ensure there are no adverse effects on ground or surface water quality. The Company shall indicate how they will implement and monitoring the effectiveness of installed BMPs, and make necessary adjustments in the field if necessary

to modify those BMPs and protect water quality. The Drilling Plan shall be made available to the Lahonton Regional Water Quality Control Board for their records.

HYD-3 The County shall require of SCWC that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:

- The use of silt fences;
- The use of temporary stormwater desilting or retention basins;
- The use of water bars to reduce the velocity of stormwater runoff;
- The use of wheel washers on construction equipment leaving the site;
- The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;
- The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and
- Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.

HYD-4 SCWC shall conduct a pump test of the new well and determine whether any other wells are located within the cone of depression once the well reaches equilibrium. If any private wells are adversely impacted by future groundwater extractions from the proposed well, SCWC shall offset this impact through provision of water service; or adjusting the flow rates or hours of operation to mitigate adverse impacts.

HYD-5 SCWC and construction contractor shall select best management practices applicable to the project site and activities on the site to achieve a reduction in pollutants to the maximum extent practicable, both during and following development of the proposed municipal-supply water well and associated pipeline, and to control urban runoff after the Project is constructed and the well (if approved for operation post well testing) is in operation.

Noise

NOI-1 Noise measures shall be implemented to reduce noise levels to the greatest extent feasible (at or below 65 dBA). Measures may include portable noise barriers, scheduling specific construction activities to avoid conflict with adjacent sensitive receptors, or any other means by which to accomplish this noise minimization.

NOI-2 All construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by Applicant personnel during construction activities.

NOI-3 The District will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. If the noise level exceeds a Ldn of 60 dBA exterior or a Ldn of 45 dBA interior between the hours of 7 PM and 7 AM on any day except Sunday or a Federal holiday, or between the hours of 8 PM and 9 AM on Sunday or a Federal holiday at the receptor, the Applicant will implement adequate measures to reduce noise levels to the greatest extent feasible, including portable noise barriers at the project site or at affected residences, offer temporary relocation to affected residences, or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

NOI-4 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example on the north- or south-west corners of the project site.

NOI-5 Well pump noise levels to be limited to 50 dB(A) or below at the exterior of the nearest sensitive noise receptor. A manner in which this may be accomplished is by installing surface well housing, housed in concrete block structure that attenuates noise to meet this performance standard. Another manner in which this may be accomplished is through installing the pump belowground. The aforementioned or other noise reducing measures shall be implemented should the District be unable to demonstrate that noise levels are limited to 50 dBA at the nearest sensitive receptor.

Transportation

TRAN-1 The construction contractor will provide adequate traffic management resources, as determined by the County of San Bernardino. The County shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the County prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.

TRAN-2 The County shall require of SCWC that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.

Tribal Cultural Resources

TRC-1 The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed in CUL-3, of any pre-contact cultural resources discovered during project implementation, and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the project, should SMBMI elect to place a monitor on-site.

TRC-2 Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI throughout the life of the project.

PROJECT-SPECIFIC REFERENCES

San Bernardino County General Plan

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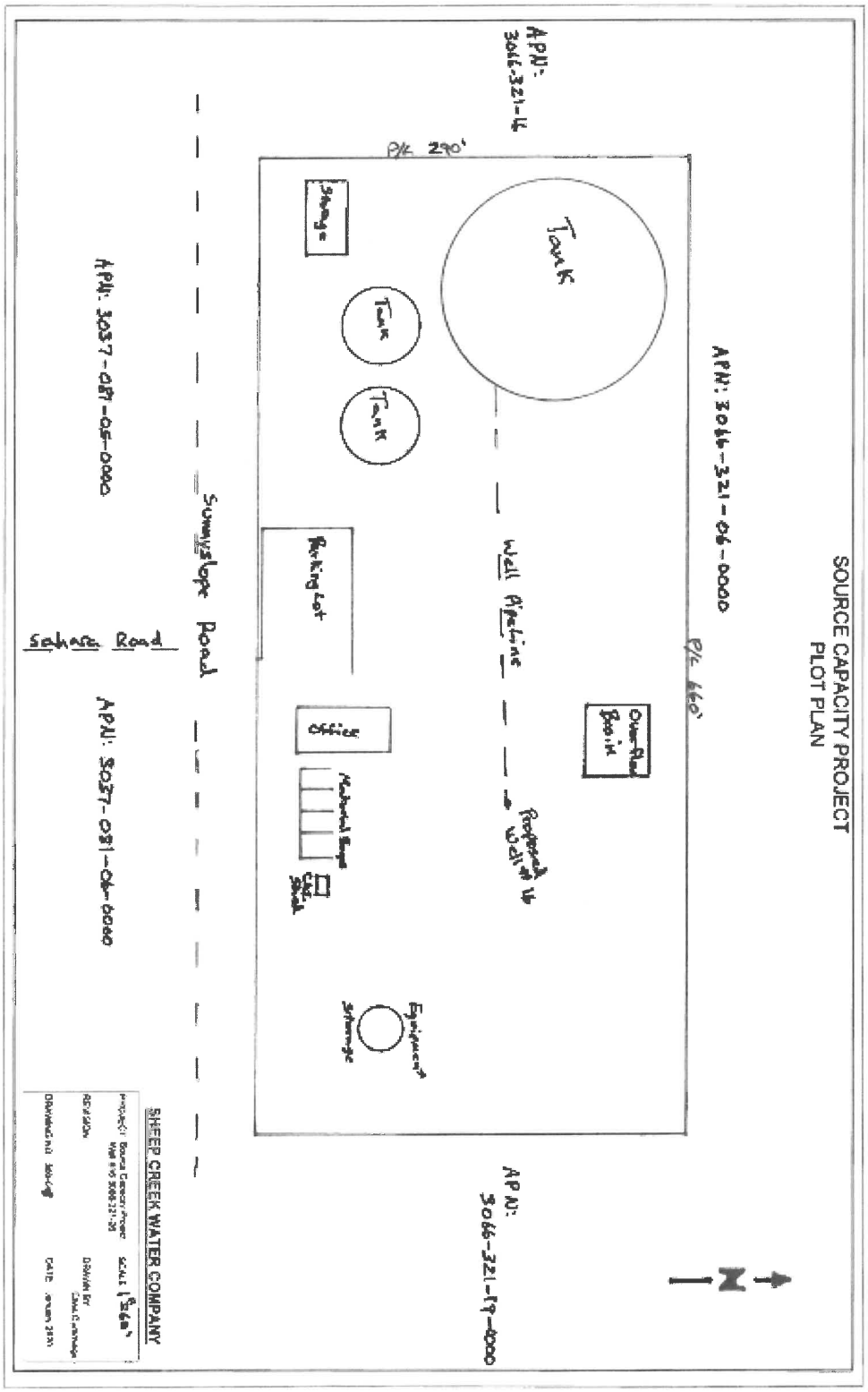
FIGURES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APN: 3066-321-19-0000
APN: 3037-081-05-0000
APN: 3037-081-06-0000
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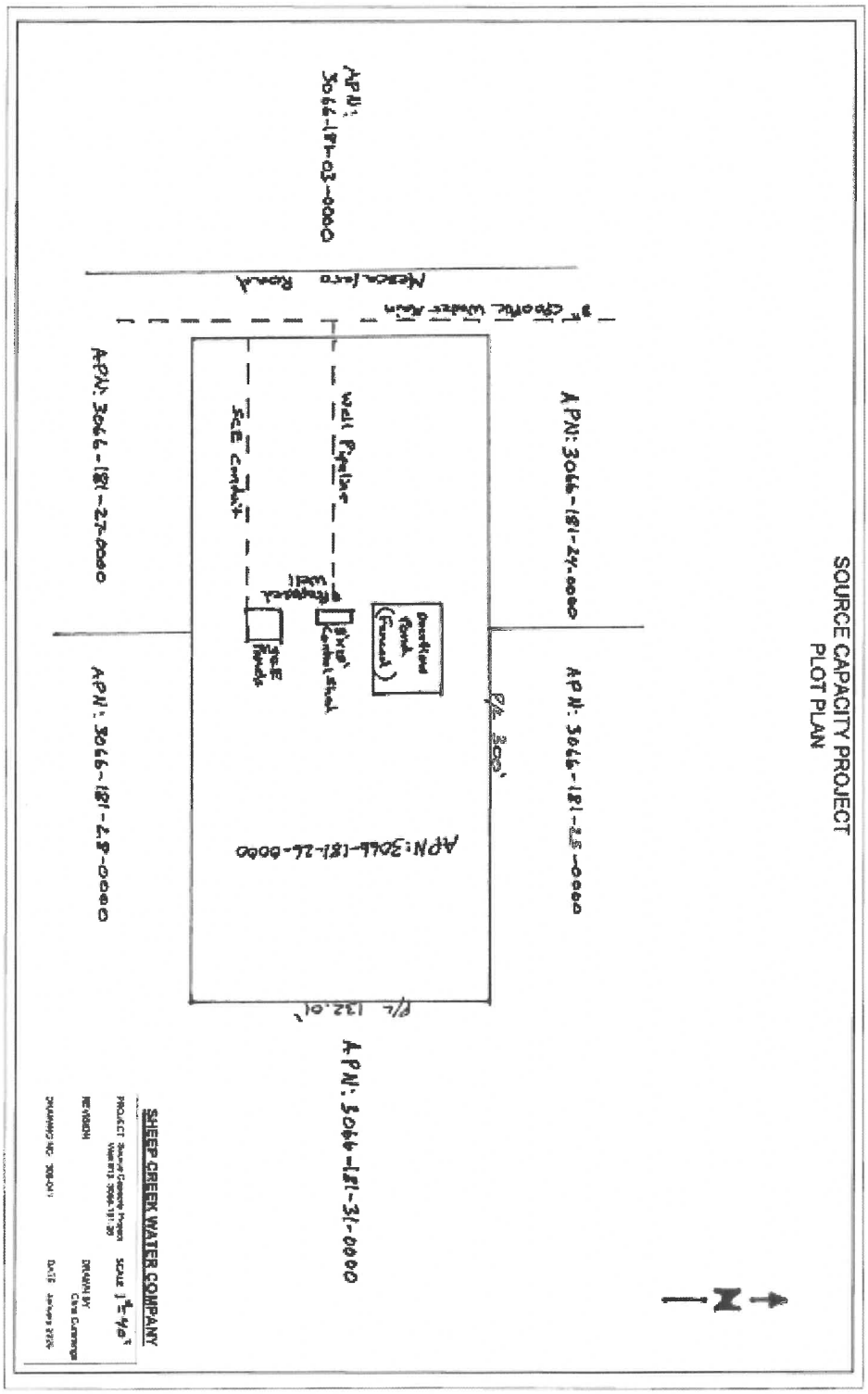
Sahara Road
Tank
Tank
Tank
Office
Well Pipeline
Proposed Well #16
Equipment Storage
SHEEP CREEK WATER COMPANY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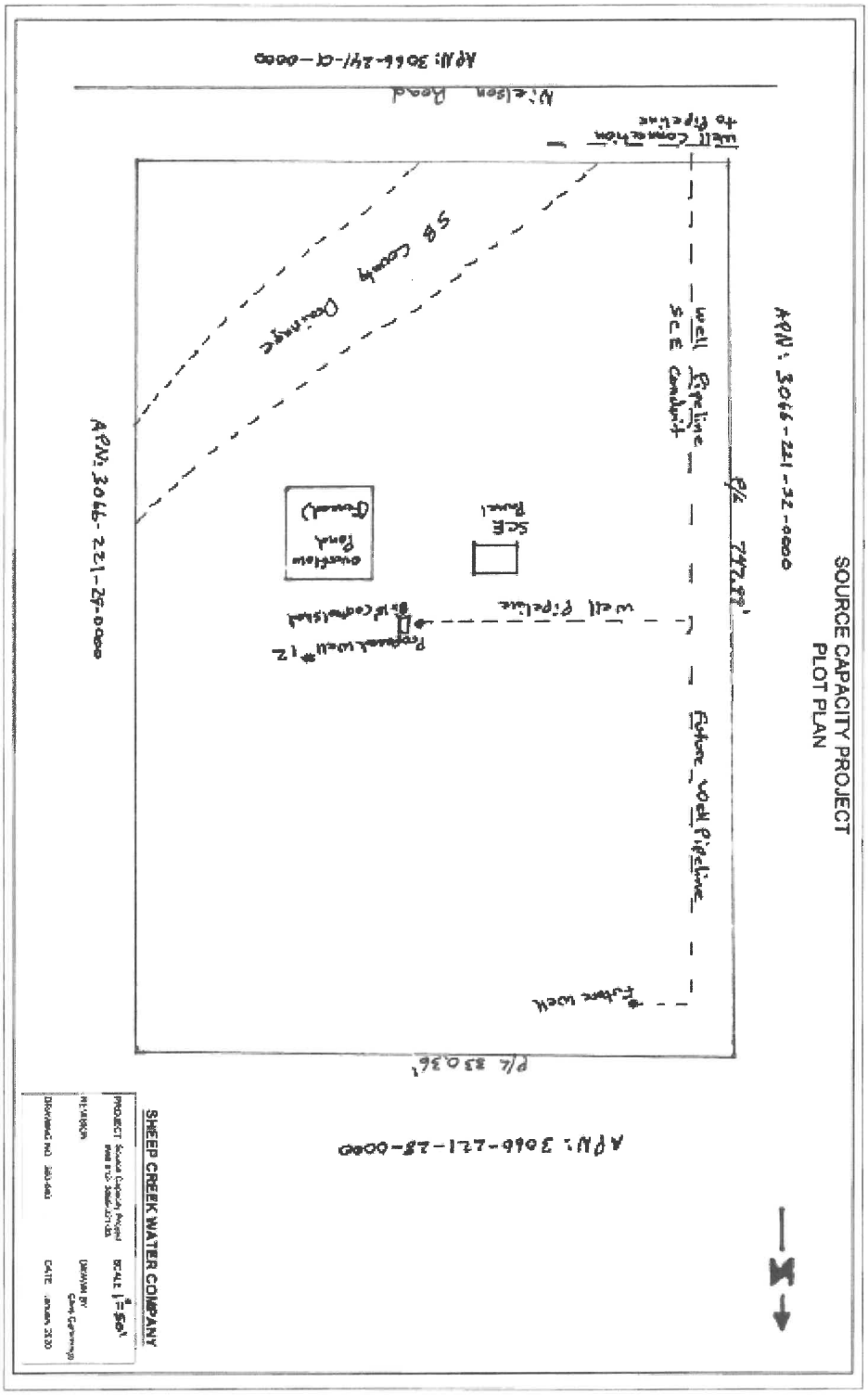
APN: 3066-181-27-0000
APN: 3066-181-28-0000
APN: 3066-181-31-0000
Well Pipeline
SCE Conduit
Mesa Jero Road
P/L 300'
P/L 132.01'


SOURCE CAPACITY PROJECT
PLOT PLAN
SHEEP CREEK WATER COMPANY
Nielsen Road
Well Pipeline
SCE Conduit
Future Well Pipeline
Future Well
Proposed Well #12
Well Pipeline
SCE Panel
Overflow Pond (Found)
SB County Drainage
APN: 3066-221-32-0000
APN: 3066-221-29-0000
APN: 3066-221-28-0000
P/L 747.99'
P/L 330.36'

APPENDIX 1

AIR QUALITY / GREENHOUSE GAS STUDY

AIR QUALITY and GHG IMPACT ANALYSES

SCW-462
SHEEP CREEK WATER COMPANY ENHANCED GROUNDWATER SUPPLY WELL DEVELOPMENT PROJECT

PHELAN (SAN BERNARDINO COUNTY), CALIFORNIA

Prepared by:

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PO Box 2307
San Bernardino, CA 92406

Date:

November 12, 2019

Project No.: P19-039 A

ATMOSPHERIC SETTING

The climate of the Victor Valley, technically called an interior valley subclimate of Southern California's Mediterranean-type climate, is characterized by hot summers, mild winters, infrequent rainfall, moderate afternoon breezes, and generally fair weather. The clouds and fog that form along the Southern California coastline rarely extend across the mountains to Victorville and surrounding high desert communities. The most important local weather pattern is associated with the funneling of the daily onshore sea breeze through El Cajon Pass into the upper desert to the northeast of the heavily developed portions of the Los Angeles Basin. This daily airflow brings polluted air into the area late in the afternoon from late spring to early fall. This transport pattern creates both unhealthful air quality as well as destroying the scenic vistas of the mountains surrounding the Victor Valley.

The low annual humidity, moderate temperature swings, very low rainfall and frequent breezy conditions are typical of California's "Upper Desert" subclimate. Most years do not see temperatures drop below about 20°F or above about 105°F. Occasionally, however, there are some very hot temperatures over 105°F with a record high of 113°F in 1995, and some colder temps down to a record low of -1°F in December 1949.

The Victor Valley is in a transition area between the semi-arid conditions of the Los Angeles Basin and the completely arid portions of the Mojave Desert. The Valley's location in the "rainshadow" of the San Gabriel Mountains further enhances its dryness. Rainfall averages around 6 inches per year, with light to moderate rain falling on only 10 days per year. Because of Southern California's location on the edge of the mid-latitude storm track, a shift in the jet stream aloft of a few hundred miles north or south can mean the difference between a year with twice the annual average rainfall and one with drought conditions where less than one-half of the normal rainfall is observed. The project area may occasionally experience a light winter snowfall (1-2 inches per year), but temperatures do not remain cold enough for the snow to stay on the ground for very long.

Winds blow primarily from south to north and from west to east in response to the regional pattern of airflow from the cool ocean to the heated interior. A large portion of the airflow across the proposed project area therefore has its origin in more developed areas of the Los Angeles Basin. Over 50 percent of all airflow derives from a narrow sector from south through west. These winds are moderately strong, averaging from 8-12 mph, but become light and variable at night with about 10 percent of all hours almost complete calm. Afternoon winds may, at times, exceed 20 mph and begin to pick up fine dust and other loose material.

The wind distribution is an important atmospheric parameter because it controls both the initial rate of pollutant dispersal near the source as well as the ultimate regional trajectory of air pollution. These prevailing winds provide a vehicle for visible smog to be transported from the South Coast Air Basin through the mountain passes to the Mojave Desert Air Basin (MDAB). The rapid daytime heating of the lower air leads to convective activity. This exchange of upper air tends to accelerate surface winds during the warm part of the day when convection is at a maximum. During the winter, the rapid cooling of the surface layers at night retards this exchange of momentum which often results in calm winds.

In addition to winds which govern the horizontal dispersion of locally generated emissions, vertical temperature structure controls the depth through which pollutants can be mixed. The strong surface heating by day in the Mojave Desert usually creates a vertical temperature distribution that decreases rapidly with height (unstable). At night, especially in winter, cool air settles in low-lying areas and forms shallow radiation-induced temperature inversions (stable) that may temporarily restrict the dispersion of low-level pollutant emissions. Such inversions "burn off" rapidly after sunrise. The elevated subsidence/marine inversions that create major air quality problems in coastal environments are rarely observed in the desert. When they do form, their bases are from 6 - 8,000 feet mean sea level and thus do not impede vertical dispersion. The low-level radiation inversions, however, play an important role in limiting the dispersive capacity of the local airshed from late evening to the next morning. Because they burn off rapidly in the morning, their importance to the dispersion of air contaminants is limited to localized effects.

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to “non-attainment” for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 $\mu g/m^3$)		0.070 ppm (137 $\mu g/m^3$)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	12.0 $\mu g/m^3$	15 $\mu g/m^3$	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 $\mu g/m^3$)	Gas Phase Chemiluminescence	100 ppb (188 $\mu g/m^3$)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m^3$)		0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 $\mu g/m^3$)	Ultraviolet Fluorescence	75 ppb (196 $\mu g/m^3$)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 $\mu g/m^3$)	
	24 Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 $\mu g/m^3$ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 $\mu g/m^3$		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO_2) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO_2 standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 $\mu g/m^3$ to 12 $\mu g/m^3$ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

Of the standards shown in Table 1, those for ozone (O_3), and particulate matter (PM-10) are exceeded at times in the MDAB. They are called "non-attainment pollutants." Because of the variations in both the regional meteorology and in area-wide differences in levels of air pollution emissions, patterns of non-attainment have strong spatial and temporal differences.

BASELINE AIR QUALITY

Monitoring of air quality in the MDAB is the responsibility of the Mojave Desert Air Quality Management District (MDAQMD) headquartered in Victorville, California. Because of the low population density of the air district, limited monitoring resources are distributed over a relatively large geographic area. The heaviest concentration of measurements is in the area of greatest development in the Victor Valley. Existing levels of criteria air pollutants in the project area can generally be inferred from measurements conducted at the Hesperia monitoring station. Although the Hesperia Station does not monitor the complete spectrum of pollutants, data for NO_2 and PM-2.5 are available from the Victorville Monitoring Station. CO is no longer monitored in the Mojave Desert. **Table 3** summarizes the available monitoring history from the Hesperia and Victorville monitoring stations for the last 3 years. From these data one can infer that baseline air quality levels near the project site are occasionally unhealthful, but that such violations of clean air standards usually affect only those people most sensitive to air pollution exposure.

a. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard has been exceeded approximately 19 percent of all days in the last three years while the 1-hour state standard has been exceeded almost five percent of all days. The 8-hour federal standard has been exceeded approximately 12 percent of all days in the past three years. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade

b. Respirable dust (PM-10) levels often exceed the state standard of 50 $\mu g/m^3$ but the less stringent federal PM-10 standard of 50 $\mu g/m^3$ has only been violated three times within the last three years. Year 2018 had the lowest maximum 24-hour concentration in recent history.

c. A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). There has only been one measured violation in the last three years.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table 3

Air Quality Monitoring Summary (2016-2018)
(Number of Days Standards Were Exceeded, and Maximum Levels During Such Violations)
(Entries shown as estimated days exceeding standard)

Pollutant/Standard	2016	2017	2018
Ozone			
1-Hour > 0.09 ppm (S)	25	18	9
8-Hour > 0.07 ppm (S)	65	75	71
8- Hour > 0.075 ppm (F)	47	45	45
Max. 1-Hour Conc. (ppm)	0.119	0.114	0.113
Max. 8-Hour Conc. (ppm)	0.098	0.094	0.100
Nitrogen Dioxide			
1-Hour > 0.18 ppm (S)	0	0	0
Max. 1-Hour Conc. (ppm)	0.097	0.057	0.057
Inhalable Particulates (PM-10)			
24-Hour > 50 $\mu g/m^3$ (S)	9	na	na
24-Hour > 150 $\mu g/m^3$ (F)	1	2	0
Max. 24-Hr. Conc. ($\mu g/m^3$)	203.5	163.9	138.9
Ultra-Fine Particulates (PM-2.5)			
24-Hour > 35 $\mu g/m^3$ (F)	1	0	0
Max. 24-Hr. Conc. ($\mu g/m^3$)	41.5	27.2	32.7

na = not available
S=State Standard
F=Federal Standard

Source: Hesperia Station: Ozone, PM-10, Victorville Station: CO, NO_2, PM-2.5
data: www.arb.ca.gov/adam/

AIR QUALITY IMPACTS

PROJECT DESCRIPTION

Sheep Creek Water Company (SCWC) is proposing to drill four new wells which will serve as a new source of water to supplement the existing water demand. The total area of disturbance will be less than one acre per well. Each well will be drilled to approximately 1,500 feet deep using a reverse rotary drill unit. The wells will each be equipped with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. At each new well, the new pumps will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences

It is anticipated that about five persons will be on a given well site at any one time to support drilling the well: three drillers, the hydrologist inspector, and a foreman. Daily trips to complete the well will average about 10 roundtrips per day, including: two roundtrips for drill rigs; between 6 and 12 roundtrips for cement trucks; a few trips to deliver pipe; and about 20 trips per day for employees. It is estimated that it will require about 8 weeks to drill the well, with 24-hour drilling activities for 7 days a week (surrounding housing to be notified in advance).

At each well location a connection pipeline that will be installed will be no greater in length than 500 lineal feet (LF) and may be much shorter in length at two of the well locations (100-200 LF). Each new well pump will be located aboveground and placed in an enclosed structure as previously described.

ADJACENT USES

The closest sensitive use to each well site is as follows:

Well 13:	430 feet to home to the west
Well16:	250 feet to home to the southeast
Wells 12 and 14:	360 feet to the south for school blacktop, 350 feet south to school classroom and 680 feet to the home to the west

STANDARDS OF SIGNIFICANCE

The Mojave Desert AQMD has adopted numerical emissions thresholds as indicators of potential impact even if the actual air quality increment cannot be directly quantified. The MDAQMD thresholds are as follows:

Carbon Monoxide (CO)	548 pounds/day	100 tons/year
Nitrogen Oxides (NOx)	137 pounds/day	25 tons/year
Sulfur Oxides (SOx)	137 pounds/day	25 tons/year
Reactive Organic Gases (ROG)	137 pounds/day	25 tons/year
Particulate Matter (PM-10)	82 pounds/day	15 tons/year
Particulate Matter (PM-2.5)	65 pounds/day	12 tons/year
GHG	548,000 pounds/day	100,000 tons/year

CONSTRUCTION ACTIVITY IMPACTS

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. CalEEMod was used to analyze project impacts.

Table 4 provides the construction equipment inventory developed by the CalEEMod model for the project.

Table 4
Construction Activity Equipment and Durations per Well

Phase Name and Duration	Round Trips per Day:	**Equipment**
Drilling (8 weeks) 24-hrs/day, 7 days/week	2 for Equipment 6-12 for Cement 10 trips Employees	1 Drill Rig
		2 Loader/Backhoes
		1 Dozer
Pipeline Installation (10 days) 8-hrs/day	1-2 for Pipe 10 trips Employees	1 Trencher
		1 Crane
		2 Loader/Backhoes

The activity for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod model's default load factors for off-road equipment.

Utilizing the indicated equipment fleets and durations the worst case daily construction emissions are calculated by CalEEMod and are listed in **Table 5.** As shown peak construction emissions would not exceed the daily MDAQMD significance thresholds. The only construction mitigation measure modeled was to water exposed site surfaces at least 3 times per day.

Table 5
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
Each Well						
Unmitigated	2.5	27.6	16.9	0.0	1.4	1.1
w/Fugitive Dust Mitigation*	2.5	27.6	16.9	0.0	1.2	1.1
4 Wells						
Unmitigated	10.0	110.4	67.6	0.0	5.6	4.4
w/Fugitive Dust Mitigation*	10.0	110.4	67.6	0.0	4.8	4.4
MDAQMD Thresholds	137	137	548	137	82	65

* fugitive dust control measures provided in Mitigation section of this report
Source: CalEEMod output in report appendix

Since MDAQMD emissions guidelines include a not to exceed annual threshold, these emissions were also evaluated as shown in **Table 6.** As shown annual construction emissions are similarly below thresholds.

Table 6
Construction Activity Emissions

Annual Emissions (pounds/day)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
Each Well						
Unmitigated	0.06	0.65	0.41	0.00	0.03	0.03
w/Fugitive Dust Mitigation*	0.06	0.65	0.41	0.00	0.03	0.03
4 Wells						
Unmitigated	0.24	2.60	1.64	0.00	0.12	0.12
w/Fugitive Dust Mitigation*	0.24	2.60	1.64	0.00	0.12	0.12
MDAQMD Thresholds	25	25	100	25	15	12

* fugitive dust control measures provided in Mitigation section of this report
Source: CalEEMod output in report appendix

OPERATIONAL IMPACTS

Each of the new production wells would require up to 1.5 million KWH to operate per year (if full time) with four wells operating at the same time. Electrical consumption has no single uniquely related air pollution emissions source because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis.

MITIGATION

CONSTRUCTION EMISSIONS MITIGATION

Short-term emissions are primarily related to the construction of the project and are recognized to be short in duration and without lasting impacts on air quality. With the enhanced dust control mitigation measures listed below, construction activity air pollution emissions are not expected to exceed MDAQMD CEQA thresholds for any pollutant even if the wells are under simultaneous construction. Regardless, the PM-10 non-attainment status of the Mojave Desert area requires that Best Available Control Measures (BACMs) be used as required by the Mojave AQMD Rule 403. Recommended construction activity mitigation includes:

Dust Control

- Apply soil stabilizers such as hay bales or aggregate cover to inactive areas.
- Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces and haul roads 3 times/day.
- Cover all stockpiles with tarps.
- Replace ground cover in disturbed areas quickly.
- Reduce speeds on unpaved roads to less than 15 mph.
- Trenches shall be left exposed for as short a time as possible.

PROJECT RELATED GHG EMISSIONS GENERATION

GHG THRESHOLDS

The MDAQMD has published thresholds for Greenhouse Gases emissions (CO_2e). The daily threshold is 548,000 lbs/day and the annual threshold is 100,000 MT/year.

CONSTRUCTION ACTIVITY GHG EMISSIONS

The project is assumed to require less than three months for installation. The CalEEMod2016.3.2 computer model predicts that the construction activities will generate the annual CO_2e emissions identified in **Table 7**.

Table 7
Construction Emissions (Metric Tons CO_2e)

	CO_2e Daily	MT CO_2e Annual
Single Well	4,617.7	96.2
4 Wells	18,470.8	384.8
Threshold	548,000	100,000

CalEEMod Output provided in appendix

Construction GHG emissions are less than applicable thresholds.

PROJECT OPERATIONAL GHG EMISSIONS

Except for occasional maintenance, the only operational source of GHG emissions would be associated with pumping operations. Electricity is generated from a variety of resources at various locations in the western United States. The California Climate Action Registry Protocol (2009) states that each megawatt-hour (MW-HR) of electricity consumption in California results in the release of 0.331 MT of $CO_2(e)$.

Each of the new production wells would require up to 1.5 million KWH to operate per year (if full time); and the assumption is that four could operate at the same time. With an 80% load factor this would translate to an annual average of 10.5 MW per year per well in increased project electrical consumption. All four wells would generate 42.0 MW. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California's electrical resource calculated as follows:

42 MWH/year x 0.331 MT/MWH = 13.9 MT/year

The screening threshold of 100,000 MT of $CO_2(e)$ GHG emissions will not be exceeded.

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan). This Reduction Plan was created in accordance to AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction-specific GHG reduction measures and baseline information that could be used by the 21 Partnership Cities of San Bernardino County, which include the City of San Bernardino.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. This project, a water supply improvement is GHG neutral, and is not directly relatable to the Reduction Plan and would result in a less than significant impact with respect to GHG emissions.

CALEEMOD2016.3.2 COMPUTER MODEL OUTPUT

- DAILY EMISISONS
- ANNUAL EMISSIONS

APPENDIX 2

BIOLOGICAL ANALYSIS

47 1st Street, Suite 1
Redlands, CA 92373-4601
(909) 915-5900

November 16, 2019

Tom Dodson and Associates
Attn: Tom Dodson
2150 N. Arrowhead Avenue
San Bernardino, California 92504

RE: BIOLOGICAL RESOURCE ASSESSMENT AND JURISDICTIONAL DELINEATION
SHEEP CREEK WATER COMPANY ENHANCED GROUNDWATER SUPPLY WELL DEVELOPMENT PROJECT
COMMUNITY OF PHELAN, CALIFORNIA

Dear Mr. Dodson:

Jericho Systems, Inc. (Jericho) is pleased to provide this letter report that details the results of a general Biological Resources Assessment (BRA) the proposed Sheep Creek Water Company (SCWC) enhanced groundwater supply well development (Project) located in the unincorporated community of Phelan, California.

This report is designed to address potential effects of any development to designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA), or species designated as sensitive by the California Department of Fish and Wildlife (CDFW), or the California Native Plant Society (CNPS). Attention was focused sensitive species known to occur locally.

This report also addresses resources protected under the Migratory Bird Treaty Act, federal Clean Water Act (CWA) regulated by the U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) respectively; Porter-Cologne Act regulated by the RWQCB and Section 1602 of the California Fish and Game Code (FCG) administered by the CDFW.

SITE LOCATION

The Project site is within three parcels (APNs 306-618-126; 306-622-133; 306-632-126), in San Bernardino County, all within the *Phelan* 7.5-minute USGS Topographic Quadrangle. APN 306-618-126 is located in Township 4 North, Range 7 West, Section 23 and occurs south of Cambria Road and north of Elsinore Road. APN 306-622-133 is located in Township 4 North, Range 7 West, Section 23 and is located at the northwest corner of Sheep Creek Road and Nielson Road. APN 306-632-126 is located in Township 4 North, Range 7 West, Section 24 and is located at the address 4200 Sunnyslope Road, Phelan, CA 92371 north of the terminus of Sahara Road.

ENVIRONMENTAL SETTING

The surrounding local area sits in the Victor Valley which is located in the EPA's Western Mojave Basins ecoregion. The Western Mojave Basins ecoregion is characterized by alluvial plains, fans, and bajadas that are typically dominated by creosote bush and white bursage. Other areas may be dominated by shadscale, four-wing saltbush, or scattered Joshua trees. The Western Mojave Basins typically has less rainfall than the Eastern Mojave Basins, with rainfall increasing southeast toward the Sonoran Desert.

METHODS

As stated above, the objective of this document is to determine whether the Project area supports special status or otherwise sensitive species and/ or their habitat, and to address the potential effects associated with the Proposed project on those resources. The species and habitats addressed in this document are based on database information and field investigation.

Prior to conducting the field study, species and habitat information was gathered from the reports related to the specific project and relevant databases for the *Phelan* USGS quadrangle to determine which species and/or habitats would be expected to occur on site. These sources include:

- U.S. Fish and Wildlife (USFWS) threatened and endangered species occurrence GIS overlay;
- USFWS Information for Planning and Consultation System (IPaC);
- California Natural Diversity Database (CNDDB) *Rarefind 5*;
- CNDDB Biogeographic Information and Observation System (BIOS);
- California Native Plant Society Electronic Inventory (CNPSEI) database;
- Calflora Database;
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey;
- USFWS National Wetland Inventory;
- Environmental Protection Agency (EPA) Water Program "My Waters" data layers
- USFWS Designated Critical Habitat Maps

Jericho biologist Christian Nordal conducted a general biological resources assessment on October 23, 2019, with an emphasis on special-status species known to occur in the area. Mr. Nordal has advanced degrees and multiple years of experience surveying biological resources within Southern California. Mr. Nordal conducted the systematic and comprehensive survey during calm weather, between the hours of 6 a.m. and 12:00 p.m. Weather conditions during the survey consisted of cloudy skies with temperatures ranging from 46 degrees Fahrenheit (°F) to 75° F and winds at 10 mph.

Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other sign. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species surveys was to identify potential habitat for special status wildlife within the project area. Disturbance characteristics and all animal sign encountered on the site are recorded in the results section.

Mr. Nordal walked transects spaced approximately 30 feet apart to provide 100 visual coverage of the ground surface of each parcel plus a 300-foot survey buffer, where accessible and feasible. Hand-held, global positioning system (GPS) units were used to survey straight transects, record coordinates of items of interest, to identify project boundaries, and for other pertinent information. Adjacent areas that were not accessible on foot were surveyed with binoculars.

During the site assessment, Mr. Nordal examined natural and non-natural substrates for burrows to determine size, shape, and aspect for suitability for burrowing owl (BUOW) and to see if any BUOW sign (molted feathers, cast pellets, prey remains, and owl whitewash) was present.

The site was also evaluated for the presence of jurisdictional waters, i.e. Clean Water Act (CWA) waters of the U.S.(WoUS) as regulated by the USACE and RWQCB, and California Fish and Game Code (FGC) streambed waters and associated riparian habitat as regulated by the CDFW. Evaluation of potential non-wetland WoUS at the Ordinary High Water Mark (OHWM) in variable, ephemeral, intermittent, or perennial non-wetland waters followed guidance described in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Lichvar and McColley

2008) and evaluation of potential State jurisdiction followed guidance in the Fish and Game Code and A Review of Stream Processes and Forms in Dryland Watersheds (CDFW, 2010) and *MESA Field Guide, Mapping Episodic Stream Activity* (2011) which look at the "maximum expression" on the landscape, often including the entire floodplain of a river and stream system.

RESULTS

The database searches identified 9 sensitive species (4 plant, 4 animal, 1 invertebrate) within the *Phelan* USGS 7.5-minute series quadrangle (Attachment B: Figure 4). A full summary of these results is outlined in Attachment A. The database searches did not indicate the presence of State- and/or federally-listed threatened or endangered species in the immediate vicinity of the project site.

Site Conditions

APN 306-618-126

APN 306-618-126 is an approximately 0.9-acre parcel that lies north of unimproved Elsinore Road and south of unimproved Cambria Road. The proposed pipeline for this parcel follows an existing access road that is primarily free from vegetation.

Vegetation on site consists of scattered goldenhead (*Acamptopappus sphaerocephalus*), Joshua tree (*Yucca brevifolia*), California juniper (*Juniperus califonica*), California buckwheat (*Eriogonum fasciculatum*), brittlebush (*Encelia farinose*), burro weed (*Ambrosia dumosa*), silver cholla (*Cylindropuntia echinocarpa*), and *schismus*. One Joshua tree (9 feet tall, 8 inch dbh) would potentially be impacted by the pipeline component of the project, whereas seven (7) Joshua trees would be potentially impacted by well development on the parcel (Appendix B); number of trees impacted are subject to change when area of impacts (including staging areas, temporary access, and finalized well dimensions and delineation) have been summarized.

Small mammal burrows were observed on site; wildlife observed included coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*, white-tailed antelope squirrel (*Ammospermophilus leucurus*), common raven (*Corvus corax*), and house finch (*Haemorhous mexicanus*). The focused surveys were structured in part to detect BUOW. No evidence of BUOW was found on APN 306-618-126. There was no sign of historic or current use of BUOW i.e. no BUOW pellets, feathers or whitewash, no burrows, and no ground squirrels or other fossorial animals to provide surrogate burrows. Additionally, no BUOW have been documented within a 3-mile radius of the subject parcel (Figure 3). Therefore, BUOW are, at the time of this report, considered absent from this parcel.

Soils on site consist of Tujunga sand, cool, 2 to 9 percent slopes.

APN 306-622-133

APN 306-622-133 is an approximately 5.6-acre parcel that lies north of Nielson Road, west of Sheep Creek Road, east of residential development, and south of Phelan Self Storage.

Joshua tree are prominent throughout the site (n>130), and other species observed include goldenhead, California juniper, creosote bush (*Larrea tridentata*), burro weed, chaparral yucca (*Hesperoyucca whipplei*), burrobrush (*Ambrosia salsola*), silver cholla, and Mojave woodyaster (*Xylorhiza tortifolia*). Vegetation is denser in the interior of the parcel and sparser on the north, east, and south (closer to development).

Small mammal burrows were observed on site; wildlife observed include domestic dog (*Canis lupus familiaris*), house finch, common raven, white-crowned sparrow (*Zonotrichia leucophrys*), and black-tailed jackrabbit. No evidence of BUOW was found on APN 306-622-133. There was no sign of historic or current use of BUOW i.e. no BUOW pellets, feathers or whitewash, no burrows, and no ground squirrels or other fossorial animals to provide surrogate burrows. Additionally, no BUOW have been documented within a 3-mile radius of the subject parcel. Therefore, BUOW are, at the time of this report, considered absent from this parcel.

Soils in the very south portion of the parcel consist of Avawatz-oak glen association, gently sloping* and Tujunga sand, cool, 2 to 9 percent slopes for the rest of the parcel. Avawatz series soils are classified as sandy, mixed, mesic Mollic Xerofluvents of granitic origin.

APN 306-632-126

APN 306-632-126 is an approximately 4.2-acre parcel that lies north of Sunnyslope Road and east of Sheep Creek Road. The site is currently in use by the Sheep Creek Water Company, with an office building and water tanks. The northeast quarter of the parcel contains remnant habitat.

Vegetation in the undeveloped portion consists of goldenhead, California juniper, chaparral yucca, California buckwheat, burrobrush, burro weed, and Joshua tree. Nine (9) Joshua trees exist in one cluster on the property. Ornamental cottonwood trees (*Populus fremontii*) border the interior western fence line of the parcel.

Small mammal burrows were observed on site; species observed include desert cottontail and coyote. No evidence of BUOW was found on APN 306-632-126. There was no sign of historic or current use of BUOW i.e. no BUOW pellets, feathers or whitewash, no burrows, and no ground squirrels or other fossorial animals to provide surrogate burrows. Additionally, no BUOW have been documented within a 3-mile radius of the subject parcel. Therefore, BUOW are, at the time of this report, considered absent from this parcel.

Soils on site consist entirely of Avawatz-oak glen association, gently sloping*.

Burrowing owl (BUOW)

The BUOW is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place (Coulombe 1971). In California, California ground squirrel (*Spermophilus beecheyi*) burrows are frequently used by BUOW, but they may use dens or holes dug by other fossorial species. They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. BUOW spend a great deal of time standing on dirt mounds at the entrance to a burrow or perched on a fence post or other low to the ground perch from which they hunt for prey. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active during the day and night but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

The BUOW is not listed under the State or federal ESA but is considered both a State and federal Species of Special Concern (SSC). The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (CDFG Code #3513 & #3503.5).

Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey." Therefore, all three parcels for the Project contain suitable habitat for this species for the following reasons:

- *Burrows or burrow surrogates are on all three parcels and are appropriate size shape and aspect for BUOW*
- *Vegetation is sparse throughout APN 06618126 and in parts of APN's 306622133 & 306632126*

Nesting Birds and Raptors

The site is suitable for use by raptors for foraging purposes. The project site and immediate surrounding areas do contain habitat suitable for nesting birds in general, including the shrubs on site.

Nesting birds are protected under the MBTA which provides protection for nesting birds that are both residents and migrants whether they are considered sensitive by resource agencies. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS, in coordination with the CDFW administers the MBTA. CDFW's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

Jurisdiction Waters

There are no drainages on site. No aspect of the site presents any evidence of jurisdictional waters. None of the following indicators are present on site: riparian vegetation, facultative, facultative wet or obligate wet vegetation, harrow marks, sand bars shaped by water, racking, rilling, destruction of vegetation, defined bed and bank, distinct line between vegetation types, clear natural scour line, meander bars, mud cracks, staining, silt deposits, litter- organic debris. No jurisdictional waters occur on site.

CONCLUSIONS AND RECOMMENDATIONS

Burrowing owl

There is potential for BUOW to migrate onto the site in the future. Pre-construction surveys are recommended 30 days prior to construction. If no BUOWs are found at that time, no further action would be required. If, however, BUOW are present, then a BUOW relocation plan would be necessary to passively relocate the owls off site. The relocation plan would also need to be approved by the California Department of Fish and Wildlife prior to implementation.

Nesting Birds

The vegetation on site does have a potential to support nesting birds and foraging raptors such as red-tailed hawks. Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season the following is recommended:

A qualified Avian Biologist shall conduct pre-construction Nesting Bird Surveys (NBS) prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required.

If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

CERTIFICATION

I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Please do not hesitate to contact me at 909-915-5900 should you have any questions or require further information.

Sincerely,

Shay Lawrey,
Ecologist/Regulatory Specialist

Attachments:

Attachment A – Table of Documented Occurrences
Attachment B – Figures
Attachment C – Site Photos

Attachment A
Table of Database Queries (CNDDB, IPAC, CNPSEI)

Scientific Name	Common Name	Federal Status State Status Other Statuses	Habitats	Potential To Occur
Plants				
Canbya candida	white pygmy-poppy	None None G3G4 S3S4 4.2 USFS: Sensitive	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Gravelly, sandy, granitic places. 600-1460 m.	Joshua tree woodland/Mojavean desert scrub exists on the Project site with sandy soils in the known elevation range. Species has a moderate potential to occur on all three parcels. Species was not observed during survey.
Castilleja plagiotoma	Mojave paintbrush	None None G4 S4 4.3	Great Basin scrub (alluvial), Joshua tree woodland, Lower montane coniferous forest, Pinyon and juniper woodland 300-2500 m	Joshua tree and juniper are present on all three parcels within known elevation range. Species has a moderate potential to occur on all three parcels. Species was not observed during survey.
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None None G5T3 S3 1B.2 BLM: Sensitive USFS: Sensitive	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon-juniper woodland. Sandy soil or coarse, granitic loam. 425-1800 m.	Joshua tree woodland/Mojavean desert scrub exists on the Project site with sandy soils in the known elevation range. Species has a moderate potential to occur on all three parcels. Species was not observed during survey.
Quercus turbinella	shrub live oak	None None G5 S4 4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland 1200-2000 m	While juniper is present on all three parcels, it is not the dominant species and site elevations occur at the lower range of where this species is found. Potential to occur is low.
Birds				
Gymnogyps californianus	California condor	Endangered Endangered G1 S1 CDF: Sensitive CDFW: Fully Protected IUCN: Critically Endangered	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	The site occurs outside of the current range of this species. Potential to occur is low.

		NABCI: Red Watch List		
Toxostoma lecontei	Le Conte's thrasher	None None G4 S3 CDFW: Species of Special Concern IUCN: Least Concern NABCI: Red Watch List USFWS: Birds of Conservation Concern	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	Desert succulent scrub occurs on all three parcels. Species has a moderate potential to occur on all three parcels. Species was not observed during survey.
Reptiles				
Gopherus agassizii	desert tortoise	Threatened Threatened G3 S2S3 IUCN: Vulnerable	Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Desert scrub/Joshua tree occurs on all three parcels. No desert tortoise have been documented within a 3-mile radius of the site. Species has a low potential to occur on all three parcels. Species or evidence of this species was not observed during survey.
Phrynosoma blainvillii	coast horned lizard	None None G3G4 S3S4 BLM: Sensitive CDFW: Species of Special Concern IUCN: Least Concern	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Species is a habitat generalist. Open areas occur on all three parcels. Species has potential to occur on all three parcels.
Insects				
Bombus crotchii	Crotch bumble bee	None Candidate Endangered G3G4 S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum.*	Food plant general occur on all three parcels. Species has potential to occur on all three parcels.

Coding and Terms

E = Endangered T = Threatened C = Candidate SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
1B = Plants rare, threatened, or endangered in California and elsewhere.
2A = Plants presumed extirpated in California, but common elsewhere.
2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
3 = Plants about which more information is needed; a review list.
4 = Plants of limited distribution; a watch list.

Threat Ranks:

.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Attachment B
Table of Joshua Tree Measurements on Parcels With Less Than Fifty Individuals

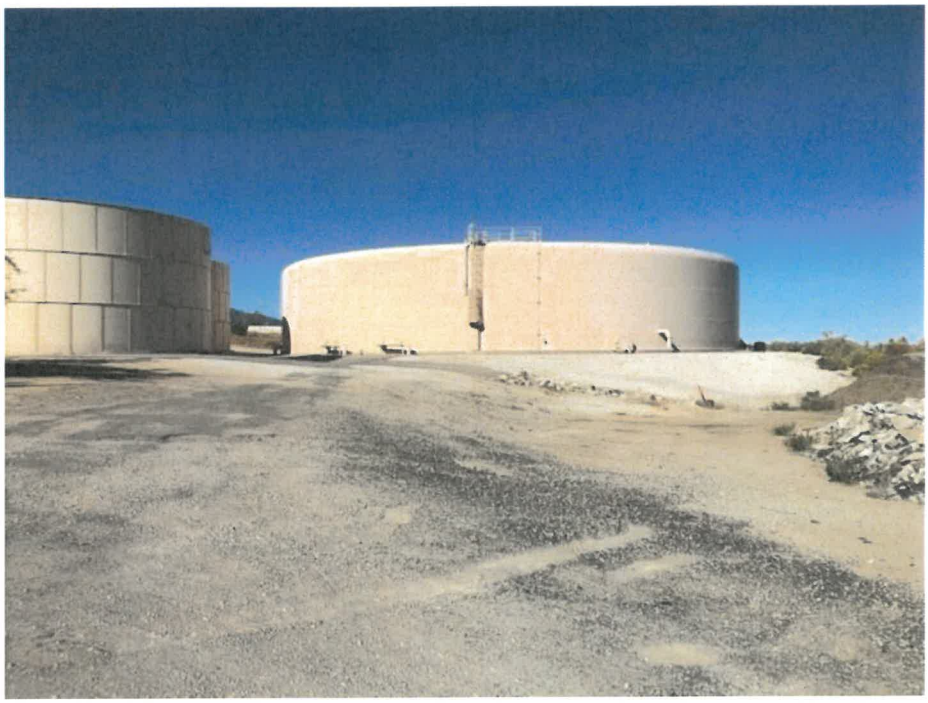
Abbreviation Code	Height	Diameter
APN 306-618-126		
JT1	18 feet	2 feet
JT1	18 feet	2 feet
JT1	18 feet	2 feet
JT1	10 feet	1 foot
JT1	10 feet	1 foot
JT1	10 feet	1 foot
JT1	10 feet	1 foot
JT1	10 feet	1 foot
JT1	10 feet	1 foot
APN 306-632-126		
YB1	7 feet	7 inches
YB2	2 feet	6 inches
YB3	5 feet	6 inches
YB4 (3 trunks)	4 feet	6 inches
YB5	5 feet	6 inches
YB6	3 feet	6 inches
YB7	2 feet	4 inches

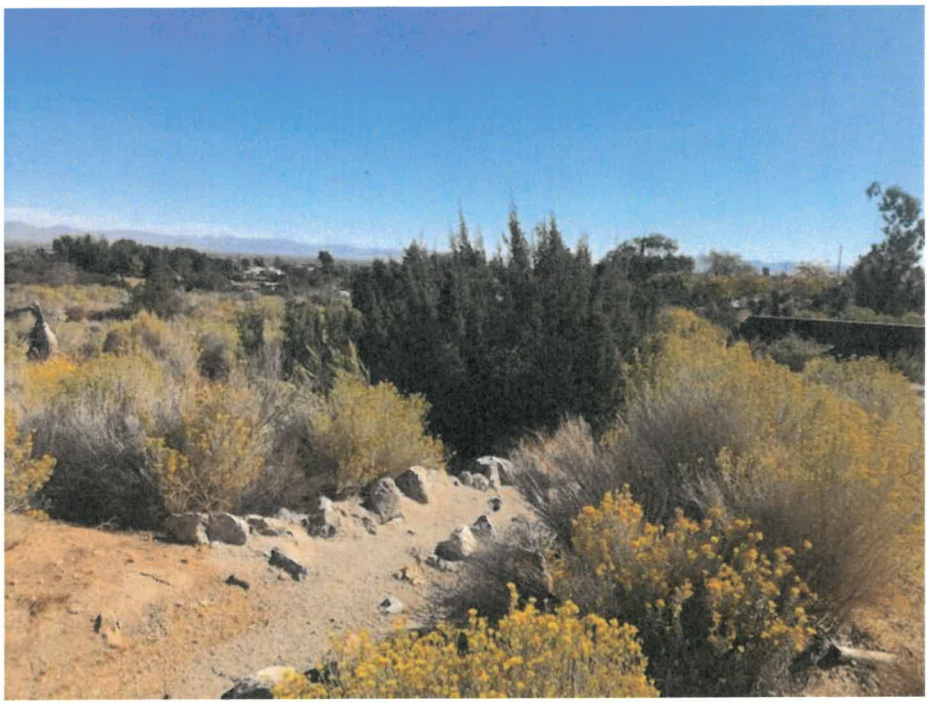
ATTACHMENT B
FIGURES

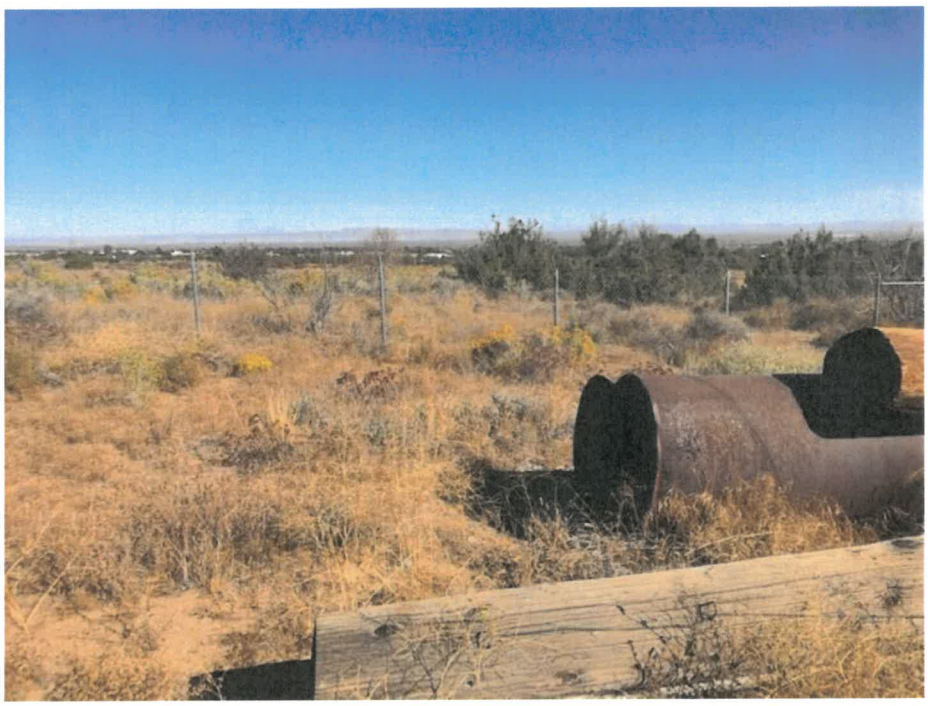
ATTACHMENT C
SITE PHOTOS

APN 306-618-126

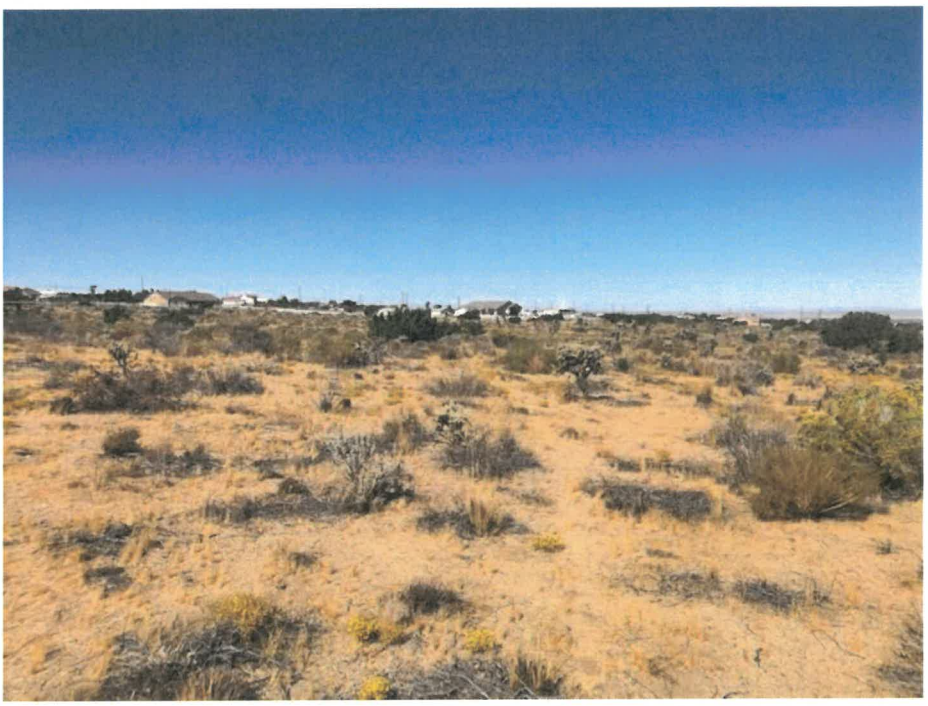
	Photo 1. North-facing view of the front of the parcel showing the existing office building and parking lot.
	Photo 2. North-facing view of the parcel showing rubble and remnant scrub.

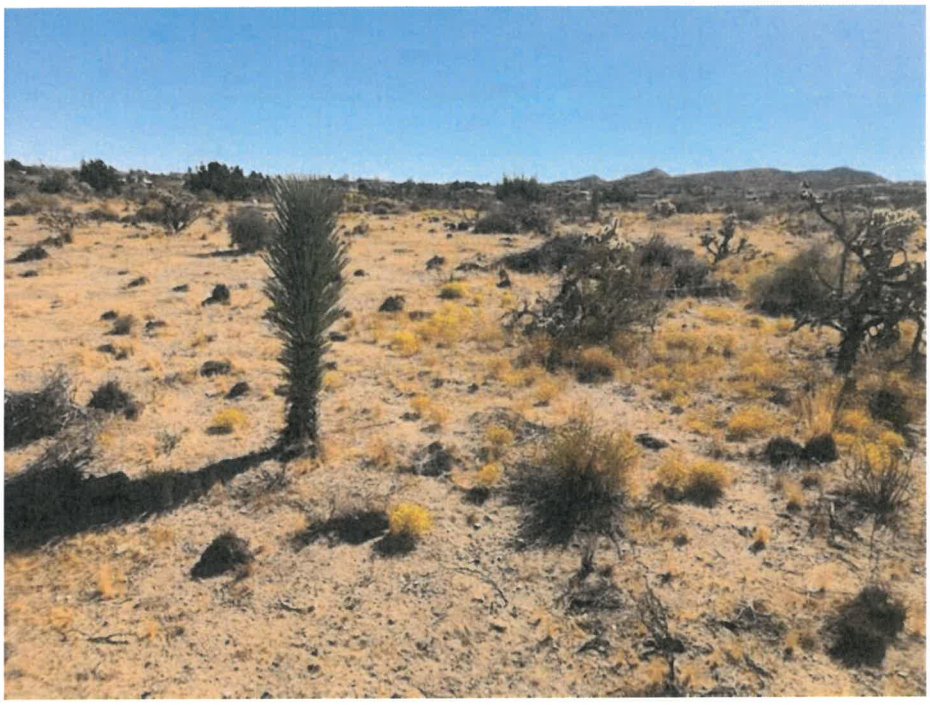
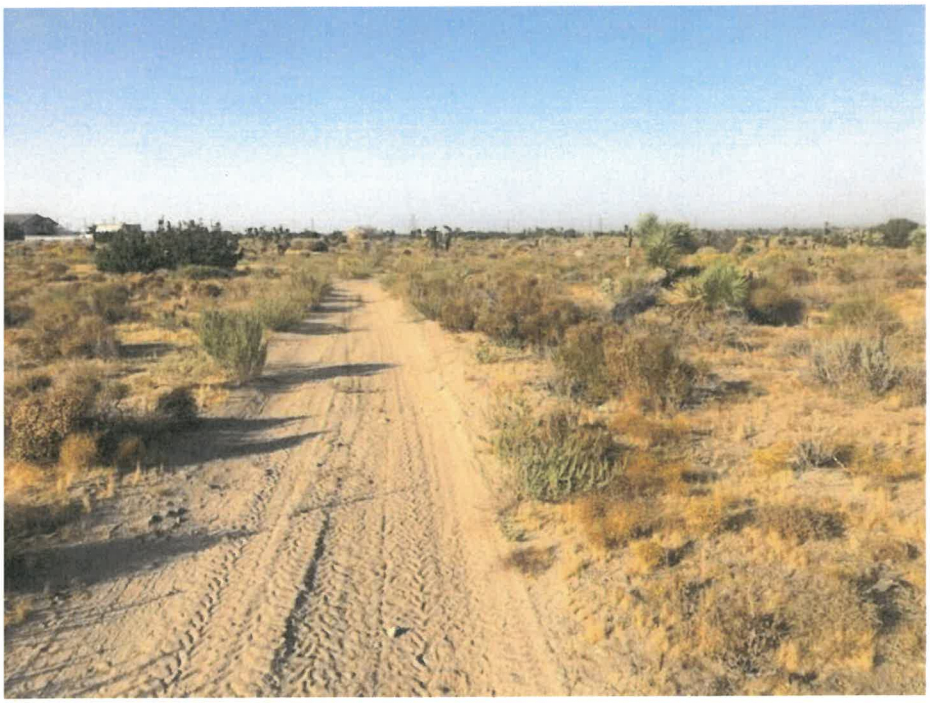
	Photo 3. East-facing view from the center of the parcel, showing remnant scrub in the northeast portion of the parcel.
	Photo 4. West-facing view from the center of the parcel showing existing water tank facilities.

	Photo 5. Remnant scrub in the northeast corner of the portion.
	Photo 6. Single stand of Joshua tree in the northeast corner of the parcel.

	Photo 7. Scrap material in the northern portion of the parcel.
	Photo 8. Southwest view from the scrub on site facing the existing office building and water tanks.

APN 306-632-126

	Photo 1. Northwest-facing view from the parcel; existing development on Beekley Road is visible.
	Photo 2. South-facing view from the parcel; existing development on Elsinore Road is visible.

	Photo 3. Southeast-facing view from the center of the parcel.
	Photo 4. North-facing view from the access road where the pipeline is to be built. The Joshua tree to be potentially impacted can be seen on the right.

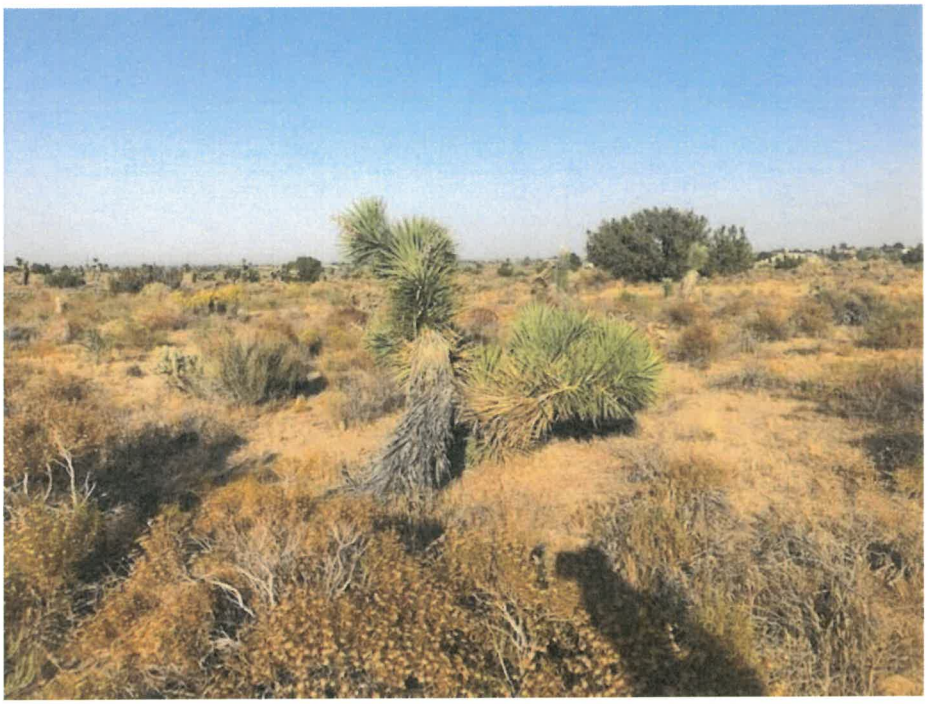


Photo 5. Joshua tree to be potentially impacted from the construction of the pipeline.

Tom Dodson
BRA/JD – SCWC Enhanced Groundwater Supply Well Development
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APN 306-622-133

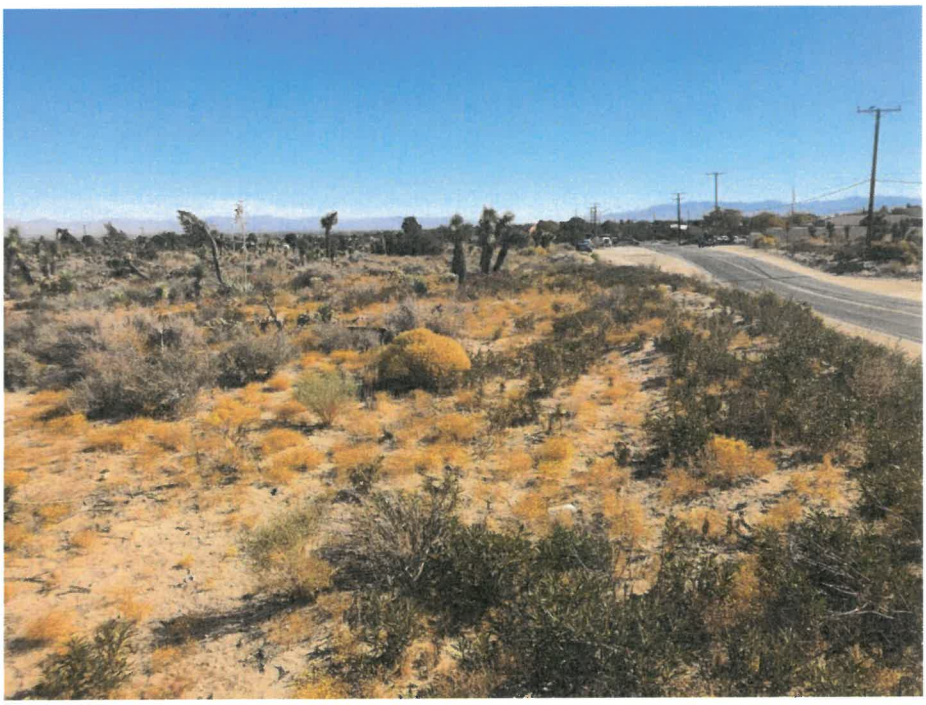
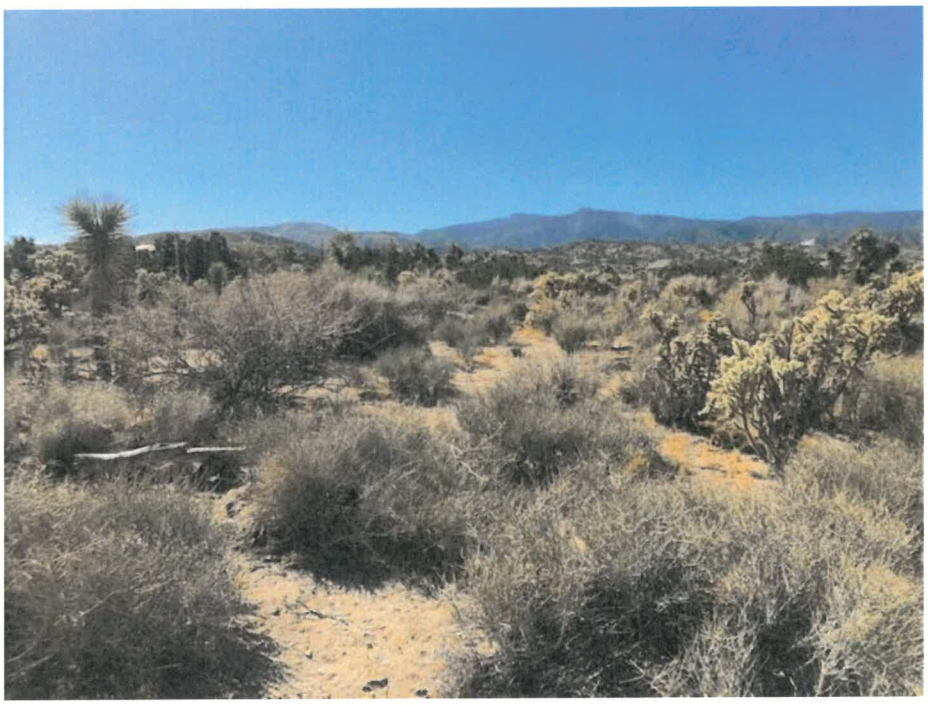
	Photo 1. East-facing photo of Nielson Road from the parcel's southwest corner.
	Photo 2. West-facing photo of development that is adjacent to the southwestern portion of the parcel.

	Photo 3. East-facing photo of Joshua trees and scrub on site; Nielson Road and powerlines are visible in the right portion of the photo.
	Photo 4. East-facing photo showing thicker stands of Joshua tree and Juniper in the center of the parcel.

	Photo 5. North-facing photo of the wall that separates the parcel from Phelan Self Storage.
	Photo 6. South-facing photo of the desert scrub and Joshua tree woodland on the parcel.

APPENDIX 3

PHASE 1 HISTORICAL / ARCHAEOLOGICAL RESOURCES SURVEY

IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES

SHEEP CREEK WATER COMPANY ENHANCED GROUNDWATER SUPPLY WELL DEVELOPMENT PROJECT

Phelan Area
San Bernardino County, California

For Submittal to:

San Bernardino County

Prepared for:

Tom Dodson and Associates
2150 N. Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

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

November 22, 2019

Title: Identification and Evaluation of Historic Properties: Sheep Creek Water Company Enhanced Groundwater Supply Well Development Project, Phelan Area, San Bernardino County, California

Author(s): Bai "Tom" Tang, Principal Investigator
Deirdre Encarnación, Archaeologist/Report Writer
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Date: November 22, 2019

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Prepared for: Kaitlyn Dodson-Hamilton
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2150 N. Arrowhead Avenue
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USGS Quadrangle: Phelan, Calif., 7.5' quadrangle (Sections 23 and 24, Township 4 North Range 7 West, San Bernardino Baseline and Meridian)

Project Size: Approximately 11 acres

Keywords: Southern Mojave Desert; Phase I historical/archaeological resources survey; Assessor's Parcel Nos. 3066-181-26, 3066-221-33, and 3066-321-26; Site 36-004415 (CA-SBR-4415H): Tejon Road, a 19th century wagon road; Site 3548-1H (temporary designation, pending assignment of official site number): 1950s-1960s refuse scatter; no "historic properties" or "historical resources" affected

EXECUTIVE SUMMARY

In October and November 2019, at the request of Tom Dodson and Associates, CRM TECH performed a cultural resources study on the Area of Potential Effects (APE) for the proposed Sheep Creek Water Company (SCWC) Enhanced Groundwater Supply Well Development Project in the unincorporated Phelan area of San Bernardino County, California. The undertaking entails mainly drilling four new groundwater production wells and potentially two backup wells to the depth of 1,500 feet to provide a supplemental source for the company's potable water supply. Each of the wells will be equipped with an above-ground pump motor installed on an approximately 10x10-foot concrete pad and enclosed with a masonry block building.

The APE consists of three parcels of rural land encompassing the proposed sites of the four primary wells and two backup wells, totaling approximately 11 acres, and a 300-foot-long and 50-foot-wide pipeline right-of-way extending from one of the parcels. By the designations for the primary wells, the three parcels are identified as Well No. 13, Well No. 16, and Well Nos. 12 and 14. The two backup wells, if deemed necessary, will be drilled on the same parcels as Well No. 13 and Well No. 16. Well No. 13 consists of Assessor's Parcel Number (APN) 3066-181-26, located on the east side of Mescalero Road between Cambria and Elsinore Roads, and the pipeline alignment runs north from this parcel to Cambria Road. Well No. 16 consists of APN 3066-321-26, which contains the SCWC headquarters at 4200 Sunnyslope Road. Well Nos. 12 and 14 consists of APN 3066-221-33, located on the north side of Nielson Road between Sheep Creek Road and Malpaso Road. The entire APE lies within Sections 23 and 24 of Township 4 North Range 7 West, San Bernardino Baseline and Meridian.

The study is a part of the environmental review process for this undertaking, as required by San Bernardino County as the lead agency, in compliance with the California Environmental Quality Act (CEQA) as well as Section 106 of the National Historic Preservation Act. The purpose of the study is to provide the County with the necessary information and analysis to determine whether the undertaking would have an adverse effect on any "historic properties," as defined by 36 CFR 800.16(l), or "historical resources," as defined by Calif. PRC §5020.1(j), that may exist in or near the APE.

In order to accomplish this objective, CRM TECH conducted a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE. The results of these research procedures indicate that no potential "historic properties"/"historical resources" are present in the portions of the APE at Well No. 13 and Well No. 16, but two historic-period sites, 36-004415 (CA-SBR-4415H) and 3548-1H (temporary designation), have been identified within or partially within the portion at Well Nos. 12 and 14.

Site 36-004415 represents the course of Tejon Road, a 19th century wagon road connecting the Victor Valley and the Tejon Pass area in Los Angeles County. Supplanted by present-day State Route 138 and the local road grid at least by the 1930s-1940s, this historic road was gradually abandoned and much of it has been destroyed by later development or reclaimed by nature. The segment across the APE is clearly discernable in aerial photographs taken as late as 1968 but has since disappeared from

the landscape. During the field survey, no remnants of the road could be found along its former alignment. This portion of Site 36-004415, therefore, no longer exists.

Site 3548-1H consists of a small, isolated scatter of common household refuse dating to the late 1950s and early 1960s. It is located adjacent to the portion of Site 36-004415 in the APE but temporally is not associated with Tejon Road. As a post-WWII refuse deposit of unknown origin, and in the absence of an exceptional quantity or quality of the artifacts, this site does not meet any of the criteria for listing in the National Register of Historic Places or the California Register of Historical Resources. Therefore, it does not qualify as a "historic property" or a "historical resource" under Section 106 or CEQA provisions.

No other potential "historic properties" or "historical resources" were found within or adjacent to the APE, and the subsurface component of the APE appears to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric origin, such as habitation sites. Based on these findings, and pursuant to 36 CFR 800.4(d)(1) and Calif. PRC §21084.1, CRM TECH recommends to the County a conclusion that the proposed undertaking will have no effect on any "historic properties" or "historical resources."

No further cultural resources investigation is recommended for the undertaking unless project plans undergo such changes as to include areas not covered by this study. However, in the interest of avoiding even perceived or conceptual impact on any aspect of region's historical heritage, CRM TECH recommends that the specific sites for Well Nos. 12 and 14 be placed at least 50 feet from the former course of Tejon Road. If buried cultural materials are discovered during earth-moving operations associated with the undertaking, all work in the immediate area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

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INTRODUCTION

In October and November 2019, at the request of Tom Dodson and Associates, CRM TECH performed a cultural resources study on the Area of Potential Effects (APE) for the proposed Sheep Creek Water Company (SCWC) Enhanced Groundwater Supply Well Development Project in the unincorporated Phelan area of San Bernardino County, California (Fig. 1). The undertaking entails mainly drilling four new groundwater production wells and potentially two backup wells to the depth of 1,500 feet to provide a supplemental source for the company's potable water supply. Each of the wells will be equipped with an above-ground pump motor installed on an approximately 10x10-foot concrete pad and enclosed with a masonry block building.

The APE consists of three parcels of rural land encompassing the proposed sites of the four primary wells and two backup wells, totaling approximately 11 acres, and a 300-foot-long and 50-foot-wide pipeline right-of-way extending from one of the parcels (Figs. 2, 3). By the designations for the primary wells, the three parcels are identified as Well No. 13, Well No. 16, and Well Nos. 12 and 14. The two backup wells, if deemed necessary, will be drilled on the same parcels as Well No. 13 and Well No. 16. Well No. 13 consists of Assessor's Parcel Number (APN) 3066-181-26, located on the east side of Mescalero Road between Cambria and Elsinore Roads, and the pipeline alignment runs north from this parcel to Cambria Road. Well No. 16 consists of APN 3066-321-26, which contains the SCWC headquarters at 4200 Sunnyslope Road. Well Nos. 12 and 14 consists of APN 3066-221-33, located on the north side of Nielson Road between Sheep Creek Road and Malpaso Road. The entire APE lies within Sections 23 and 24 of Township 4 North Range 7 West, San Bernardino Baseline and Meridian (Figs. 2, 3).

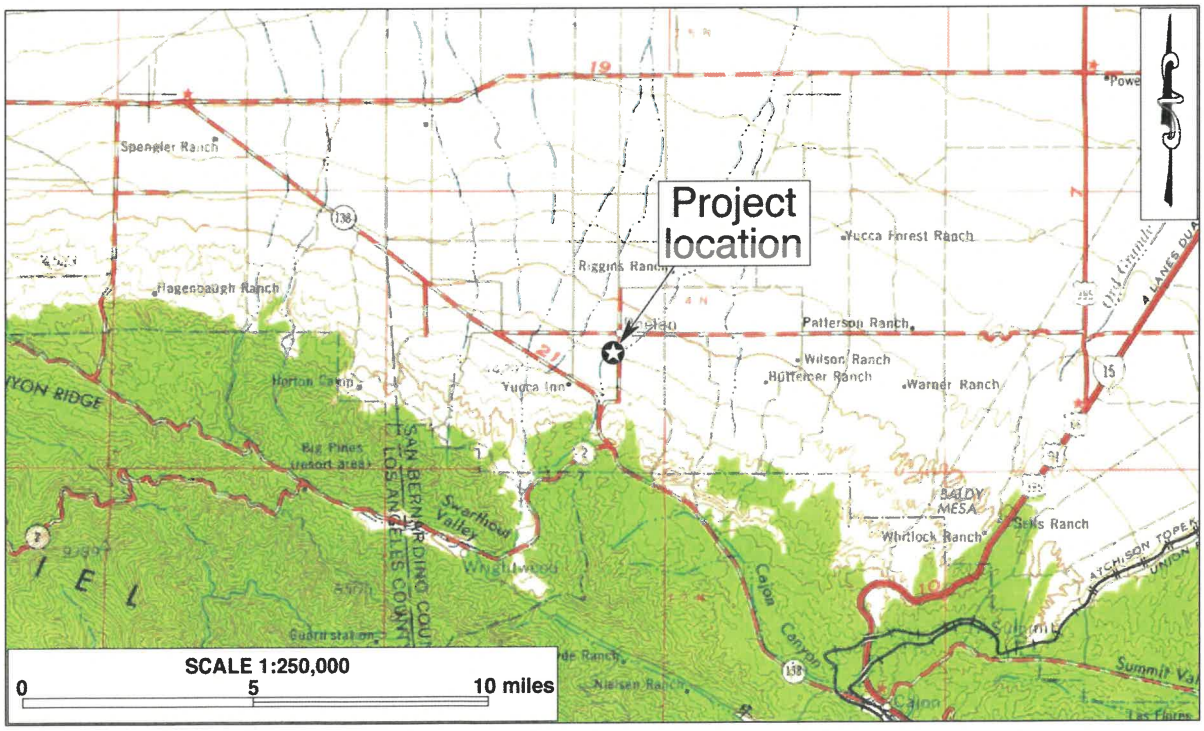

Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., (1:250,000) quadrangle [USGS 1969])

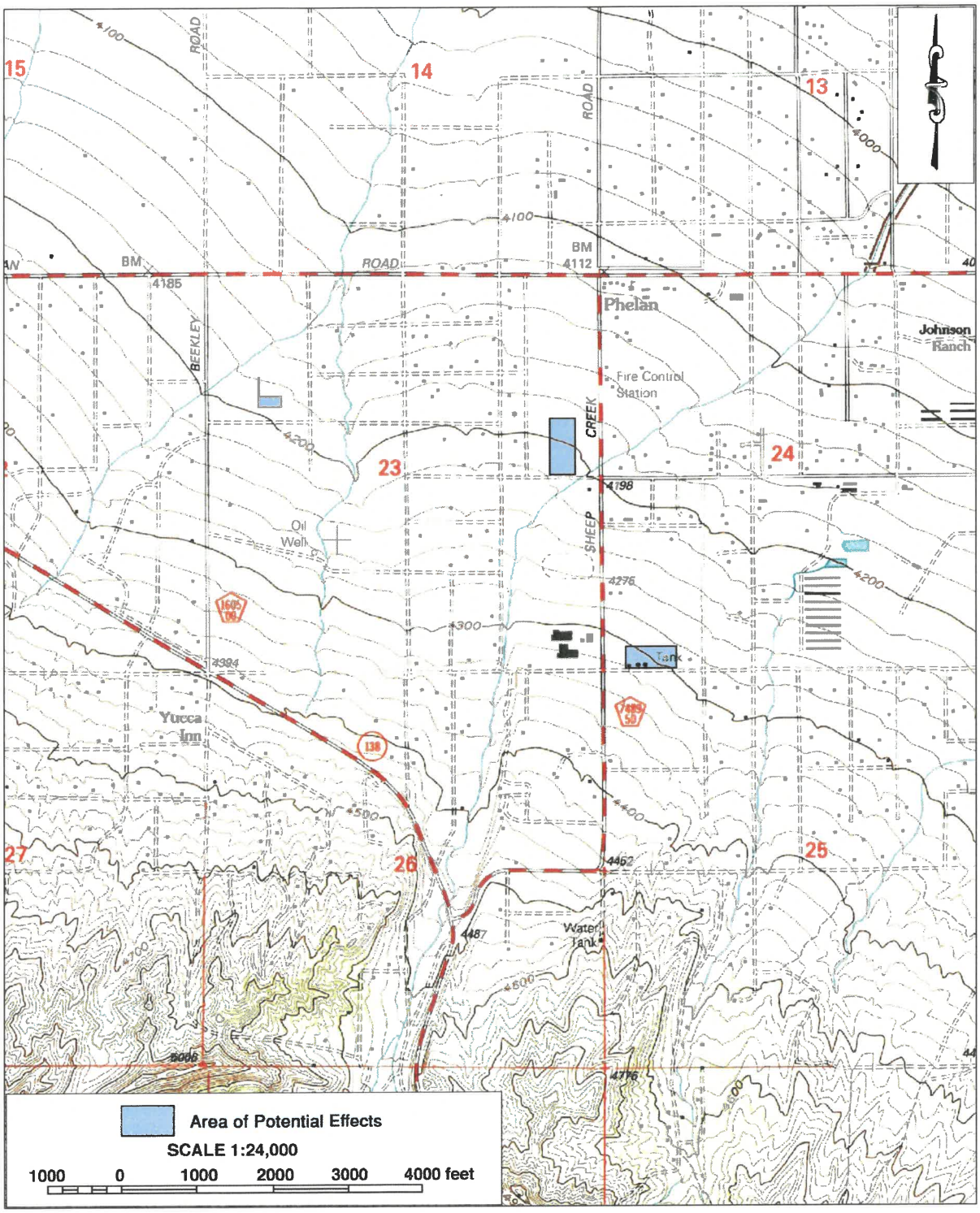

Figure 2. Area of Potential Effects. (Based on Phelan, Calif., 7.5', 1:24,000 quadrangle [USGS 1996])

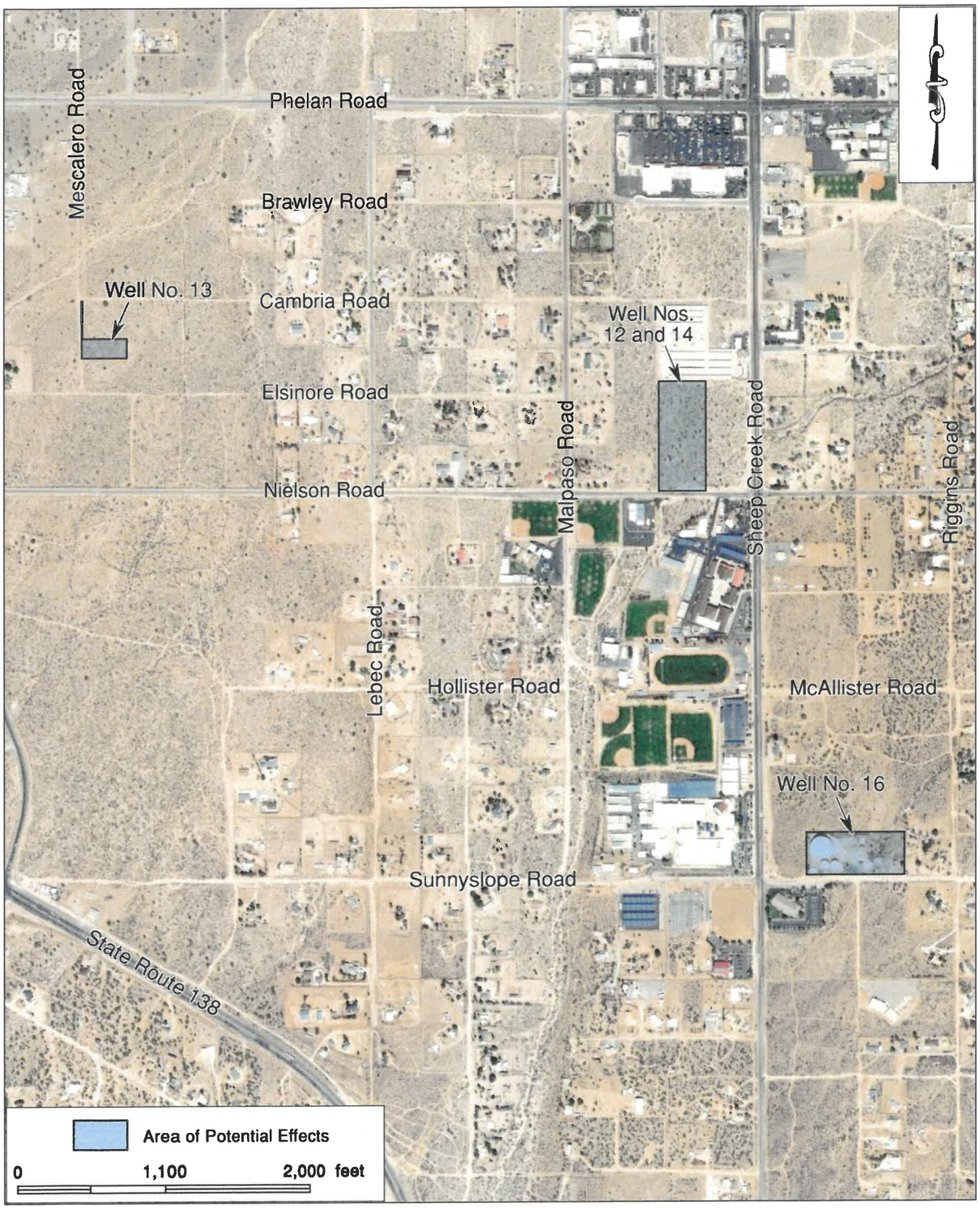

Figure 3. Aerial image of the APE. (Based on Google Earth imagery [Google Earth 2018])

The study is a part of the environmental review process for this undertaking, as required by San Bernardino County, as the lead agency, in compliance with the California Environmental Quality Act (CEQA) as well as Section 106 of the National Historic Preservation Act. The purpose of the study is to provide the County with the necessary information and analysis to determine whether the undertaking would have an adverse effect on any "historic properties," as defined by 36 CFR 800.16(l), or "historical resources," as defined by Calif. PRC §5020.1(j), that may exist in or near the APE.

In order to accomplish this objective, CRM TECH conducted a cultural resources records search, pursued historical and geoarchaeological background research, contacted Native American representatives, and carried out a systematic field survey of the entire APE. The following report is a complete account of the methods and results of the various avenues of research and the final conclusion of the study. Personnel who participated in the study are named in the appropriate sections, and their qualifications are provided in Appendix 1.

SETTING

CURRENT NATURAL SETTING

The small, rural community of Phelan is located in the northern foothills of the San Gabriel Mountains and on the western edge of the Victor Valley. The San Gabriel Mountains comprise the portion of the Transverse Range that extends from Newhall Pass on the west to the Cajon Pass on the east, dividing the Los Angeles Basin and the San Bernardino Valley from the western Mojave Desert. The climate and environment of the area are typical of southern California "high desert" country, so-called because of its higher elevation than the Colorado Desert to the southeast, and are marked by extremes in temperature and aridity. Summer highs reach well over 110°F and winter lows dip below freezing. Average annual precipitation is less than five inches.

The APE is situated in a sparsely settled area to the south of the Phelan town center, surrounded by scattered rural residences, schools, churches, a self-storage facility, and large expanses of vacant land (Fig. 3). The portions of the APE at Well No. 12, 13, and 14 are currently undeveloped, while the portion at Well No. 16 is occupied by the offices of the SCWC and three water tanks (Figs. 3, 4). The ground surface in the latter portion of the APE has been extensively disturbed by previous construction activities except in the northeast corner, and most of vacant area is covered by asphalt pavement or imported gravel. In comparison, the other two portions remain in a much more natural state. The proposed pipeline route extends along Mescalero Road, a lightly used dirt road.

Elevations within the APE range roughly from 4,195 feet to 4,325 feet above mean sea level, and the terrain is relatively level with a gentle incline toward the north. Soils in the vicinity are composed mostly of yellowish-brown, fine to coarse sands mixed with small to medium-sized, round cobbles, while a drainage located at Well Nos. 12 and 14 contains soils of light grey, medium- to coarse-grained sands with small to large rocks. The surrounding habitat is a part of the transitional area from Joshua tree to pinyon-juniper woodland zones, which features a wide range of native plants such as Joshua tree, scrub oak, ephedra, yucca, pinyon, juniper, buckwheat, sagebrush, manzanita, cactus, chollas, and other small shrubs and brush.

Figure 4. Typical landscapes within the APE. *Clockwise from upper left*: aerial view of the ground surface from a drone; site of Well Nos. 12 and 14, view the southwest; water tanks at Well No. 16, view to the west; proposed pipeline route near Well No. 13, view to the south. (Photographs taken on November 4, 2019)

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 nearby Cajon Pass area, 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 the works of Chartkoff and Chartkoff (1984), Warren (1984), and others. The prehistory of the inland region specifically 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 in different parts of the region, the general framework of the prehistory of inland southern California can be divided 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 leaves 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 Victor Valley area is situated near the presumed boundary between the traditional territories of the Serrano and the Vanyume peoples. The basic written sources on Serrano and Vanyume cultures are Kroeber (1925), Strong (1929), and Bean and Smith (1978), and the following ethnographic discussion of the Serrano and Vanyume peoples is based on these sources. Linguistically the Vanyume were probably related to the Serrano, their southern neighbor, although politically they seem to have differed from the Serrano proper. The number of Vanyumes, never large, dwindled rapidly between 1820 and 1834, when southern California Indians were removed to the various missions and their *asistencias*, and the group virtually disappeared well before 1900. As a result, very little is known about the Vanyume today.

The Serrano's territory is centered at the San Bernardino Mountains, but 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. However, it is nearly impossible to assign definitive boundaries for the Serrano territory due to the nature of the tribe's clan-based organization as well as the lack of reliable data. The name of the group, Serrano, was derived from a Spanish term meaning "mountaineer" or "highlander."

Prior to European contact, the Serrano were primarily hunter-gatherers and occasionally fishers, and 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 clans were patrilineal, but their exact structure, function, and number are unknown, except that the clans were the largest autonomous political and landholding units. There was no pan-tribal political union among the clans, but they shared strong trade, ceremonial, and marital connections that sometimes also extended to other surrounding nations, such as the Kitanemuk, the Tataviam, and the Cahuilla.

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was negligible until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano 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 Victor Valley region received its first European visitor, the famed Spanish missionary and explorer Francisco Garcés, in 1776, and the first Euroamerican settlements appeared in the valley as early as 1860 (Peirson 1970:128). Despite these "early starts," due to its harsh environment, development in the arid high desert country of southern California was slow and limited for much of the historic period, and the Victor Valley remained only sparsely populated until the second half of the 20th century.

Garcés traveled through the Victor Valley along an ancient Indian trading route known today as the Mojave Trail (Beck and Haase 1974:15). In 1829, most of this trail was incorporated into an important pack-train road known as the Old Spanish Trail, which extended between southern California and Santa Fe, New Mexico (Warren 2004). Some 20 years later, when the historic wagon road known as the Mormon Trail or Salt Lake Trail was established between Utah and southern California, it followed essentially the same route across the Mojave Desert (NPS 2001:5). Since then, the Victor Valley has always served as a crucial link on a succession of major transportation arteries, where the heritage of the ancient Mojave Trail was carried on by the Santa Fe Railway, by the legendary U.S. Route 66, and finally by today's Interstate Highway 15.

Thanks to the availability of fertile lands and the abundance of ground water, agriculture played a dominant role in the early development of the Victor Valley area (McGinnis 1988). During the late 19th and early 20th centuries, settlers in the valley attempted a number of money-making staples, such as alfalfa, deciduous fruits, and poultry, with only limited success. In the vicinity of present-day Phelan, settlement activities began in the early 20th century, when a number of ranches came into being along the foothills on the San Gabriel Mountains. The Phelan post office was established in 1916 and named after Senator James D. Phelan, whose political influence brought about its establishment (Gudde 1998:288).

Around the turn of the century, large deposits of limestone and granite were discovered, prompting cement manufacturing to become the leading industry in the valley (City of Victorville n.d.). During and after WWII, George Air Force Base, established in 1941, added a new driving force in the local economy with its 6,000 military and civilian employees. After being deactivated in 1992, the former base was converted for civilian use as the Southern California Logistics Airport.

Since the 1980s, development the Victor Valley has been characterized by the emergence of its leading urban enclaves as "bedroom communities" in support of the industrial and commercial centers in the Greater Los Angeles area. Spearheaded by the City of Victorville, the Town of Apple

Valley, and the City of Hesperia on Interstate Highway 15, the desert valley has been one of the fastest growing regions in California over the last few decades. The Phelan area in the western Victor Valley, in contrast, has largely remained outside the influence of the recent suburban expansion, and to this day retains much of its rural character.

RESEARCH METHODS

RECORDS SEARCH

On October 23 and 24, 2019, CRM TECH archaeologist Ben Kerridge completed the records search at the South Central Coastal Information Center (SCCIC), California State University, Fullerton. During the records search, Kerridge examined maps and records on file at the SCCIC for previously identified cultural resources and existing cultural resources reports within a one-mile radius of the various portions of the APE. Previously identified cultural resources include properties designated as California Historical Landmarks or Points of Historical Interest as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/ historian Bai "Tom" Tang. Sources consulted during the research included the published literature in local and regional history, U.S. General Land Office (GLO) land survey plat map dated 1856, U.S. Geological Survey (USGS) topographic maps dated 1903-1996, and aerial photographs taken in 1938-2018. The historic maps are collected at the Science Library of the University of California, Riverside, and the California Desert District of the U.S. Bureau of Land Management, located in Moreno Valley. The aerial photographs are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

GEOARCHAEOLOGICAL ANALYSIS

As a part of the research procedures, CRM TECH archaeologist Deirdre Encarnación pursued geoarchaeological analysis to assess the APE's potential for the deposition and preservation of subsurface cultural deposits from the prehistoric period, which cannot be detected through a standard surface archaeological survey. Sources consulted for this purpose included primarily geologic maps and literature pertaining to the surrounding area. Findings from these sources were used to develop a geomorphologic history of the APE and address geoarchaeological sensitivity of the vertical APE.

NATIVE AMERICAN PARTICIPATION

On October 9, 2019, 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. Following the NAHC's recommendations and previously established consultation protocol, CRM TECH further contacted a total of ten Native American representatives in the region in writing on October 24, 2019, for additional information on potential Native American cultural resources in the vicinity. Follow-up telephone solicitations were then carried out on November 8 and 15, 2019.

Correspondence between CRM TECH and the Native American representatives is summarized below, and a complete record is attached to this report in Appendix 2.

FIELD SURVEY

On November 4, 2019, CRM TECH archaeologist Daniel Ballester carried out the intensive-level field survey of the APE. The three proposed well sites were surveyed by walking a series of parallel transects at 15-meter (approximately 50-foot) intervals except where the ground surface is completely obscured by buildings, structures, or pavement, and the pipeline rough was surveyed along two transects placed on either side of Mescalero Road. In this way, the ground surface in the entire APE was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). Other than the areas that are completely obscured, ground visibility ranged from poor (25%) to fair (75%) depending upon the density of the vegetation growth.

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, the APE was previously included in two large-scale overview studies completed in 1981 and 1982, but neither of those studies involved a systematic field survey (Reynolds and Reynolds 1981; Bean et al. 1982). The APE, therefore, had not been surveyed adequately for cultural resources prior to this study. Within the one-mile scope of the records search, SCCIC records indicate that 18 area-specific studies were completed on various tracts of land and linear features between 1974 and 2011 (Fig. 5). As a result of these past studies, five historic-period sites have been recorded within the scope of the records search, as listed in Table 1, but no prehistoric—i.e., Native American—cultural resources have been identified.

Table 1. Previously Recorded Cultural Resources within the Scope of the Records Search
(See Appendix 3 for locations)

Site No.	Recorded by/Date	Description
36-004415*	Reynolds 1981	Tejon Road, pre-1850s
36-004418	Various 1981-2007	Tejon Road-Lane's Cutoff, pre-1850s
36-008082	Various 1995-2007	Phelan Road, ca. 1910s
36-024759	Trampier 2011	Lebec Road, ca. 1940s
36-024760	Trampier 2011	Pipeline Road, ca. 1950s

* Located partially within the APE

As Table 1 shows, all five of the previously recorded sites consisted of roads of historical origin. One of them, 36-004415 (CA-SBR-4415H), was delineated during the 1981 study as traversing across the APE at Well Nos. 12 and 14 in a generally northwest-southeast direction, on the basis of historic maps (Reynolds 1981; see App. 3, 4). The site represented Tejon Road, a 19th century wagon road connecting the Victor Valley and the Tejon Pass area in Los Angeles County, which was reportedly used by the Spanish explorer José María de Zalvidea in 1806 (*ibid.*). None of the other four sites was located in the immediate vicinity of the APE (see App. 3). Therefore, none of them requires further consideration during this study.

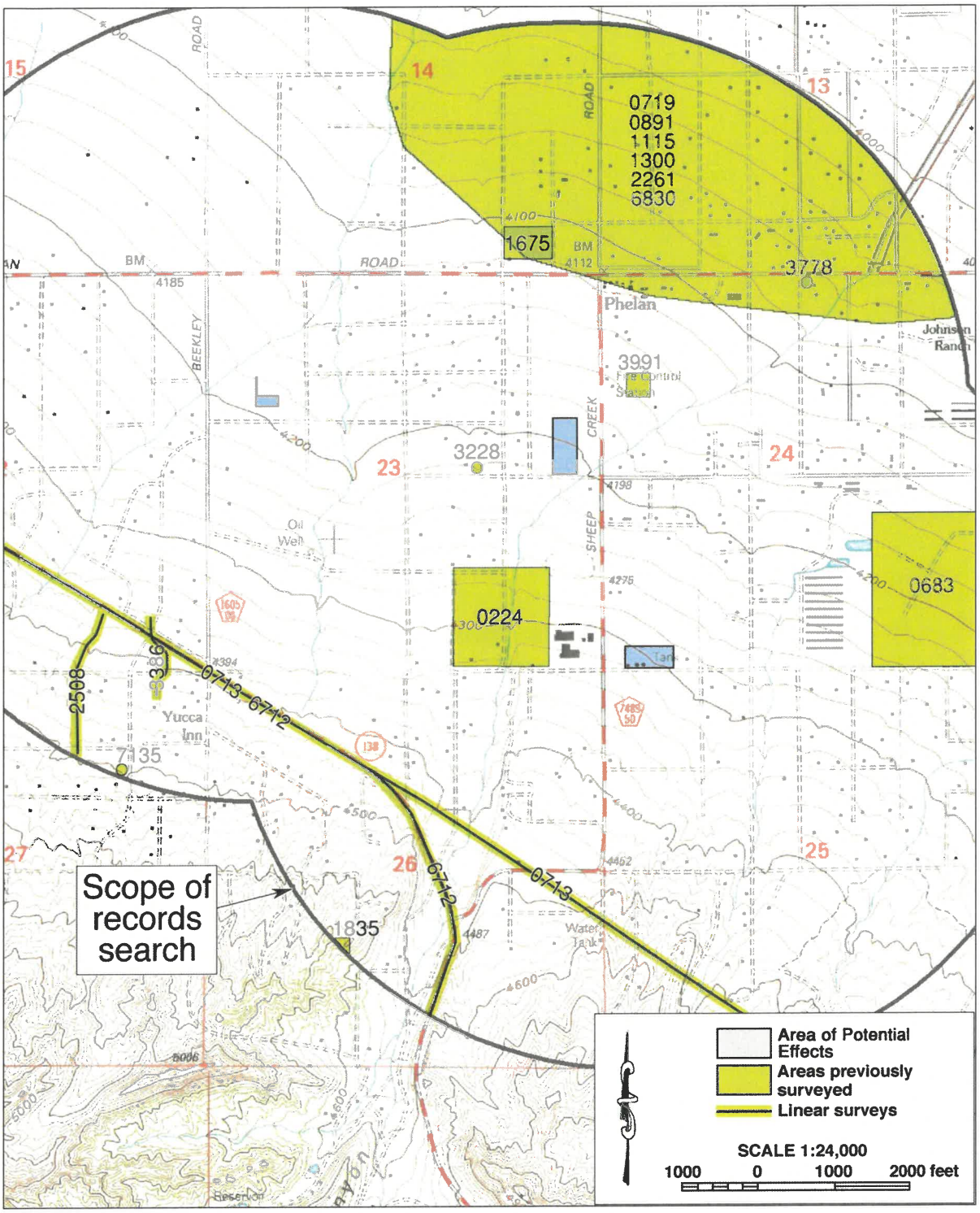

Figure 5. Previous cultural resources studies in the vicinity of the APE, listed by SCCIC file number.

HISTORICAL BACKGROUND RESEARCH

Historic maps and aerial photographs confirmed the presence of the early roads in the project vicinity but yielded no evidence of any settlement or development activities in any portion of the APE until the second half of the 20th century (Figs. 6-9). Prior to 1900, these roads, including Tejon Road across the APE, were the only man-made features noted in the project vicinity (Figs. 6, 7). By the 1930s-1940s, a few widely dispersed settlements had appeared in the area south of Phelan, and the pace of growth accelerated noticeably during the post-WWII boom (Figs. 8, 9; NETR Online 1938; 1952). Throughout these developments, however, the APE remained largely unaffected except a small portion at Well No. 16 that was cleared of vegetation prior to 1938, possibly as part of a landing strip (*ibid.*).

Also by the 1930s-1940s, a grid of roads had been established in the project vicinity, and State Route 138 had been constructed a short distance to the south, usurping the role that Tejon Road served during the 19th century (Figs. 8; NETR Online 1938). Presumably, Tejon Road gradually fell into disuse after that, but the dirt path remained clearly discernable across the APE at Well Nos. 12 and 14 in aerial photographs as late as 1968 (NETR Online 1968). Meanwhile, other segments of the road were increasingly obliterated by later development (NETR Online 1938-1994). The segment across the APE became much less visible by 1994 and finally disappeared altogether by 2006, although the parcel and the adjacent land continued to be undeveloped and retained much of their natural appearance (Google Earth 1994-2006).

Between the 1930s and the 1960s, the apparent landing strip near Well No. 16 also disappeared gradually from the landscape (NETR Online 1938-1968). By 1968, a small water tank at the Well

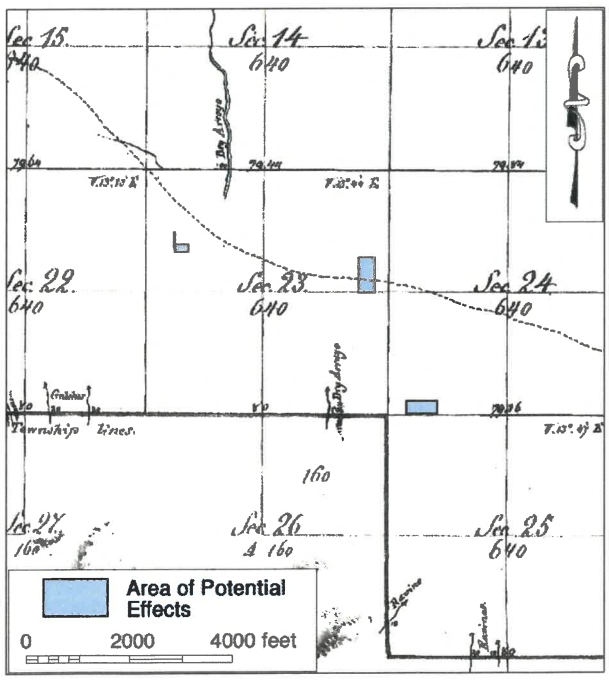

Figure 6. The APE and vicinity in 1855-1856. (Source: GLO 1856)

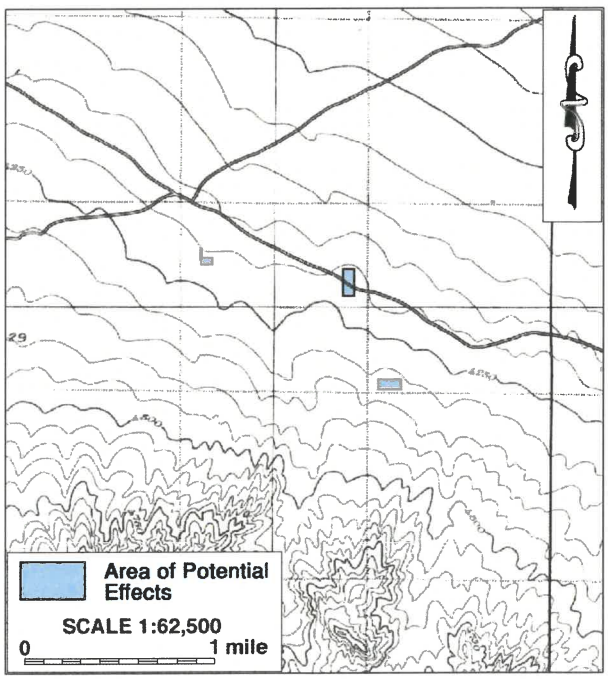

Figure 7. The APE and vicinity in 1899-1900. (Source: USGS 1903)

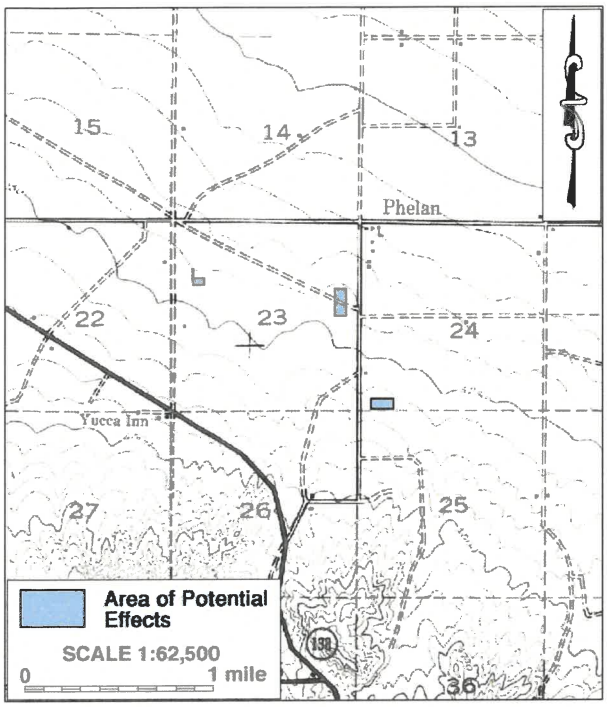

Figure 8. The APE and vicinity in 1941-1942. (Source: USGS 1942)

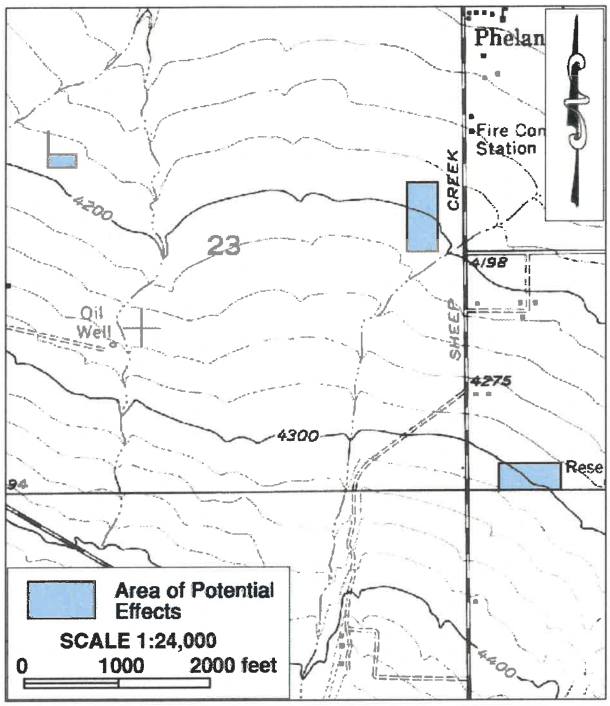

Figure 9. The APE and vicinity in 1952-1956. (Source: USGS 1956)

No. 16 had become the first building or structure to be constructed in the APE (NETR Online 1968). Sometime before 1994, it was replaced by two larger tanks, which were then joined by an even larger one in 2008-2009 (Google Earth 1994-2009; Google Maps 2008). The buildings in that portion of the APE date to the modern era as well (NETR Online 1968-2002; Google Earth 1994-2002). The other two portions of the APE, in the meantime, have remained vacant and undeveloped to the present time (NETR Online 1938-2016; Google Earth 1994-2018).

GEOARCHAEOLOGICAL ANALYSIS

The surface sediments within the APE have all been mapped as alluvial fan deposits but vary in specific composition and depositional age (Morton and Miller 2006). Both Well No. 13 and Well Nos. 12 and 14 contain Holocene-age sediments (*Qyf* and *Qyf3*, respectively), while Well No. 16 contains "very old alluvial fan deposits" of early to mid-Pleistocene age (*Qvof*; Fig. 10). These multiple generations of alluvial sediment are the result of several cycles of erosional denudation (Matti and Morton 2000).

Geospatial analyses of known prehistoric sites in inland southern California suggest that long-term residential settlements of the Native population were more likely to occur in sheltered areas at the base of hills and/or on elevated terraces and finger ridges near permanent or reliable sources of water, while the level, unprotected valley floor was used mainly for resource procurement, travel, and occasional camping during these activities. This is corroborated by the ethnographic literature that identifies foothills as preferred settlement environment for the Serrano (Bean and Smith 1978).

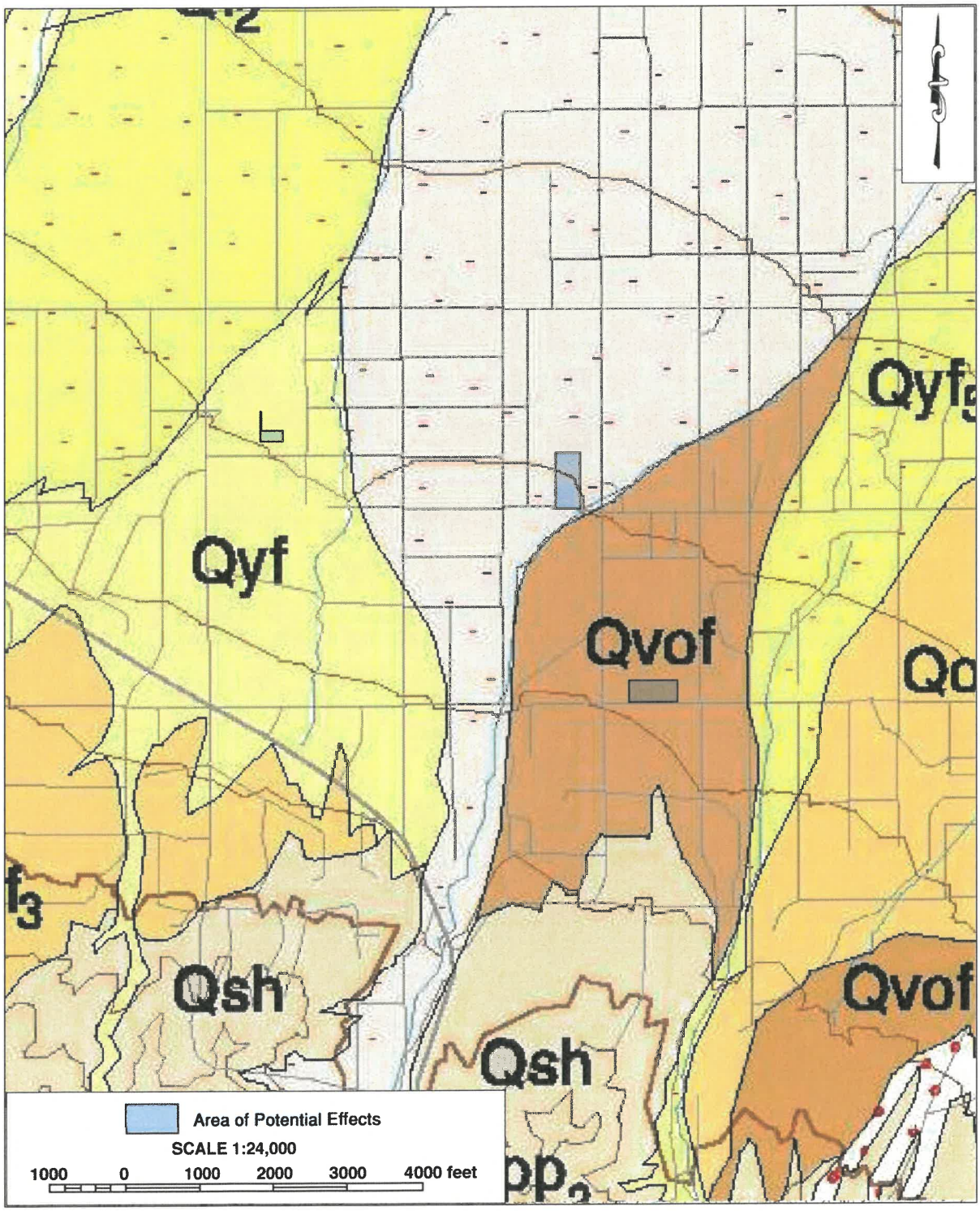

Figure 10. Geologic map of the project vicinity. (Based on Morton and Miller 2006)

The area around the APE has no permanent or reliable water sources but is subject to flooding during the occasional heavy rains. Generally speaking, the geographic setting of this location would not have been favorable for long-term habitation by the aboriginal population in prehistoric times, although the area may have been utilized for resource collection and temporary camping. Not surprisingly, a general survey of known prehistoric sites in the Victor Valley area shows a noticeable concentration along the Mojave River. In light of the area's geoarchaeological profile, the subsurface component of the APE appears to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric origin, such as habitation sites.

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC reported in a letter dated October 21, 2019, that the Sacred Lands File identified no Native American cultural resources in the APE but recommended that local Native American groups be contacted for further information. For that purpose, the NAHC provided a list of potential contacts in the region (see App. 2). Upon receiving the NAHC's reply, CRM TECH sent written requests for comments to all nine tribal organizations on the referral list and later followed up with telephone solicitations, as mentioned above (see App. 2). For some of the tribes, the designated spokesperson on cultural resources issues was contacted in lieu of the individuals on the referral list, as recommended in the past by the tribal government staff. In all, ten individuals were contacted at the nine tribal organizations, as listed below:

- Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians-Kizh Nation;
- Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians;
- Sandonne Goad, Chairperson, Gabrielino/Tongva Nation;
- Robert Dorame, Chairperson, Gabrieleno Tongva Indians of California Tribal Council;
- Charles Alvarez, Gabrielino-Tongva Tribe;
- Travis Armstrong, Tribal Historic Preservation Officer, Morongo Band of Mission Indians;
- Donna Yocum, Chairperson, San Fernando Band of Mission Indians;
- Lee Clauss, Director of Cultural Resources, San Manual Band of Mission Indians;
- Mark Cochrane, Co-Chairperson, Serrano Nation of Indians;
- Wayne Walker, Co-Chairperson, Serrano Nation of Indians.

As of this time, six tribal representatives have responded either in writing or by telephone (see App. 2). Among them, Robert Dorame of the Gabrieleno Tongva Indians of California Tribal Council, Anthony Morales of the San Gabriel Band, and Mark Cochrane of the Serrano Nation requested notification if any Native American cultural resources and/or human remains were discovered during the undertaking. In particular, Mr. Dorame requested to be notified of the discovery of any human remains even if the NAHC would determine that the Most Likely Descendent belongs to a different tribe. Additionally, Mr. Cochrane requested to participate in further consultation with the County, and Mr. Morales requested participation by his tribe if monitoring would be warranted.

Donna Yocum of the San Fernando Band found the APE to be a part of the tribe's ancestral territory and expressed concerns over potential disturbance to subsurface Native American cultural remains. Therefore, she indicated that the tribe might request Native American monitoring during the undertaking and asked for notification prior to any ground disturbance in the APE. Travis Armstrong of the Morongo Band stated that the tribe had no comments at this time but might provide

other information to the County during future government-to-government consultations under the provision of Assembly Bill (AB) 52.

Alexandra McCleary, Tribal Archaeologist for the San Manuel Band, replied on behalf of Lee Claus, stating that the tribe had no knowledge of any culturally sensitive areas in or around the APE and believed that the possibility for subsurface Native American cultural resources was low in the area. However, she pointed out that these determinations would need to be finalized during government-to-government consultations pursuant to AB 52.

FIELD SURVEY

During the field survey, no remnants of Tejon Road (Site 36-004415) were found along its former course across the APE at Well Nos. 12 and 14. With prior knowledge of its approximate location, the course of the road could be speculatively established based on the pattern of vegetation growth, but the road itself is no longer extant today. Also in that portion of the APE, a small, isolated refuse scatter was found adjacent to Site 36-004415, but temporally these artifacts are not associated with Tejon Road. The refuse scatter was recorded into the California Historical Resources Inventory as a separate site and temporarily designed 3548-1H, pending the assignment of official site number.

Site 3548-1H measures approximately 75x45 feet in size and is composed of common refuse items dating to the late 1950s and early 1960s, based on the artifacts observed. It contains fewer than 75 artifacts, including a total of 30 rusted cans, a slightly smaller number of glass shards from bottles and jars, ceramic tableware fragments, metal fragments, and some battery remains. Among the cans are 27 condense milk cans, two sanitary cans, and a rectangular meat can. The site appears to represent the result of a single episode of household trash dumping.

Figure 11. Historic-period refuse at Site 3548-1H.

MANAGEMENT CONSIDERATIONS

DEFINITIONS OF "HISTORIC PROPERTIES" AND "HISTORICAL RESOURCES"

The purpose of this study is to identify and evaluate any "historic properties" or "historical resources" that may exist within or adjacent to the additional APE. "Historic properties," as defined by the Advisory Council on Historic Preservation, include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior" (36 CFR 800.16(l)). The eligibility for inclusion in the National Register is determined by applying the following criteria, developed by the National Park Service as per provision of the National Historic Preservation Act:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
> (b) that are associated with the lives of persons significant in our past; or
> (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> (d) that have yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4)

For CEQA-compliance considerations, the State of California's Public Resources Code (PRC) establishes the definitions and criteria for "historical resources," which require similar protection to what NHPA Section 106 mandates for historic properties. "Historical resources," according to PRC §5020.1(j), "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 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))

DISCUSSION

In summary of the research results presented above, no potential "historic properties"/"historical resources" are known to be present in the portions of the APE at Well No. 13 and Well No. 16, while two historic-period sites, 36-004415 and 3548-1H, have been identified within or partially within the portion at Well Nos. 12 and 14. However, the portion of Site 36-004415 in the APE, representing an approximately 335-foot-long segment of the 19th-century Tejon Road, is no longer in existence today, leaving Site 3548-1H, a 1950s-1960s refuse scatter, the only potential "historic property"/ "historical resource" to be addressed in this report.

Small, isolated refuse deposits of unknown historical background, such as Site 3548-1H, constitute the most common type of historic-period sites in the southern California desert region, especially those from the late historic period. Like other sites of similar nature, 3548-1H does not have any documented association, let alone a close association, with a person or an event of recognized significance in national, state, or local history. In the absence of an exceptional quantity or quality of the artifacts, the site does not hold the potential for any important archaeological data. Based on these considerations, 3548-1H does not appear to meet any of the criteria for listing in the National Register of Historic Places or the California Register of Historical Resources, and does not qualify as a "historic property" or a "historical resource" under Section 106 or CEQA provisions.

CONCLUSION AND RECOMMENDATIONS

Section 106 of the National Historic Preservation Act mandates that federal agencies take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate any adverse effects on such properties (36 CFR 800.1(a)). Similarly, 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 an historical resource would be impaired."

As discussed above, Site 3548-1H, the only cultural resource known to be present in the APE, does meet the statutory definition of a "historic property" or a "historical resource," and the subsurface component of the APE appears to be relatively low in sensitivity for potentially significant archaeological remains of prehistoric origin. In light of these findings, CRM TECH presents the following recommendations to the County:

- No "historic properties" or "historical resources" will be affected by the proposed undertaking.
- No further cultural resources investigation will be necessary for the undertaking unless project plans undergo such changes as to include areas not covered by this study.
- In the interest of avoiding even perceived or conceptual impact on any aspect of region's historical heritage, the specific sites for Well Nos. 12 and 14 should be placed at least 50 feet from the former course of Tejon Road.
- If buried cultural materials are encountered during earth-moving operations associated with the undertaking, all work in the immediate area will be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the find.

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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.

Honors and Awards

1988-1990	University of California Graduate Fellowship, UC Riverside.
1985-1987	Yale University Fellowship, Yale University Graduate School.
1980, 1981	President's Honor List, Northwestern University, 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., RPA*

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.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
1992-1998	Assistant Research Anthropologist, University of California, Riverside
1992-1995	Project Director, Archaeological Research Unit, U. C. Riverside.
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	Archaeological Technician, Field Director, and Project Director 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

* Register of Professional Archaeologists; Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

REPORT WRITER/PROJECT ARCHAEOLOGIST
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.
2001	Archaeological Field School, San Diego State University.
2000	Archaeological Field School, San Diego State University.

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.

PROJECT ARCHAEOLOGIST/NATIVE AMERICAN LIAISON
Nina Gallardo, B.A.

Education

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

Professional Experience

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

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

Cultural Resources Management Reports

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

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

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.
2007	Certificate in Geographic Information Systems (GIS), California State University, San Bernardino.
2002	"Historic Archaeology Workshop," presented by Richard Norwood, Base Archaeologist, Edwards Air Force Base; presented at CRM TECH, Riverside, California.

Professional Experience

2002-	Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
2011-2012	GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew Chief, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew, ECorp, Redlands.
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.

APPENDIX 2

CORRESPONDENCE WITH NATIVE AMERICAN REPRESENTATIVES*

* Ten local Native American representatives were contacted; a sample letter is included in this report.

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 (fax)
nahc@pacbell.net

Project: Proposed Sheep Creek Water Company's Enhanced Groundwater Supply Well Development Project; Assessor's Parcel Numbers 3066-181-26, 3066-221-33, and 3066-321-26 (CRM TECH No. 3548)

County: San Bernardino

USGS Quadrangle Name: Phelan, Calif.

Township 4 North **Range** 7 West SB **BM; Section(s):** 23 and 24

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

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

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

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

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to supplement the Sheep Creek Water Company's current water production by the possible construction of three well sites on approximately 11 acres of land in three separate parcels, APNs 3066-181-26, 3066-221-33, and 3066-321-26. The APE is generally located south of Phelan Road, north of Sunnyslope Road, one to the east and one to the west of Sheep Creek Road, and one to the east of Beekley Road, near the community of Phelan, San Bernardino County, California.

October 9, 2019

October 24, 2019

Travis Armstrong, Tribal Historic Preservation Officer
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

RE: Sheep Creek Water Company's Enhanced Groundwater Supply Well Development Project
Phelan Area of San Bernardino County, California
CRM TECH Contract #3548

Dear Mr. Armstrong:

I am writing to bring your attention to an ongoing CEQA-Plus study for the proposed project referenced above. The project entails the drilling and construction of several new wells on 11 acres of land located in three separate parcels (APNs 3066-181-26, 3066-221-33, and 3066-321-26). The Area of Potential Effects (APE) are generally located south of Phelan Road, north of Sunnyslope Road, one to the east and one to the west of Sheep Creek Road, and one to the east of Beekley Road, near the community of Phelan, San Bernardino County, California. The accompanying map, based on the USGS Phelan, Calif., 7.5' quadrangle, depicts the locations of the APE in the northern half of Section 23 and southwest quarter of Section 24, T4N R7W, SBBM.

In a letter dated October 21, 2019, the Native American Heritage Commission reports that the sacred lands record search identified no Native American cultural resources within the project area but recommends that local Native American groups be contacted for further information (see attached). Therefore, as part of the cultural resources study for this project, I am writing to request your input on potential Native American cultural resources in or near the project area.

Please respond at your earliest convenience if you have any specific knowledge of sacred/religious sites or other sites of Native American traditional cultural value in or near the project area, or any other information to consider during the cultural resources investigations. Any information or concerns may be forwarded to CRM TECH by telephone, e-mail, facsimile, or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agency, namely the County of San Bernardino.

We would also like to clarify that, as the cultural resources consultant for the project, CRM TECH is not involved in the AB 52-compliance process or in government-to-government consultations. The purpose of this letter is to seek any information that you may have to help us determine if there are cultural resources in or near the project area that we should be aware of. Thank you for your time and effort in addressing this important matter.

Respectfully,

Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH
Email: ngallardo@crmtech.us

Encl.: NAHC response letter and project location map

From: Travis Armstrong <TArmstrong@morongo-nsn.gov>
Sent: Tuesday, November 12, 2019 1:30 PM
To: 'ngallardo@crmtech.us'
Subject: Sheep Creek Water Company

Hello,

Regarding the above referenced project, we have no additional comments to provide at this time to CRM TECH but may provide other information to the lead agency during the AB 52 consultation process.

Thank you for reaching out to our office.

Sincerely,

Travis Armstrong
Tribal Historic Preservation Officer
Morongo Band of Mission Indians
951-755-5259
Email: thpo@morongo-nsn.gov

From: Alexandra McCleary <Alexandra.McCleary@sanmanuel-nsn.gov>
Sent: Thursday, November 14, 2019 1:54 PM
To: ngallardo@crmtech.us
Subject: Sheep Creek Water Company's Enhanced Groundwater Supply Well Development Project

Dear Nina,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding your request for SMBMI's knowledge of Native American cultural resources on or near the project area, which was received by the Cultural Resources Management Department on October 28th, 2019.

There is not, to our knowledge, any culturally sensitive areas in or around the project area. Moreover, we believe that there is a low probability of subsurface Native American cultural resources within that area. However, these determinations will be finalized during government-to-government consultation.

Kind regards,
Alexandra

Alexandra McCleary
TRIBAL ARCHAEOLOGIST
O: (909) 864-8933 x502023
M: (909) 633-0054
26569 Community Center Drive Highland CA 92346

From: donna <ddyocum@comcast.net>
Sent: Friday, November 15, 2019 1:27 PM
To: ngallardo@crmtech.us
Subject: RE: NA Scoping Letter for the Proposed Sheep Creek Water Company's Enhanced Groundwater Supply Well Development Project (CRM TECH #3548)

Nina,

Thank you for the information regarding Proposed Sheep Creek Water Company's Enhanced Groundwater Supply Well Development Project (CRM TECH #3548), the project is within the San Fernando Band of Mission Indians Vanyume territorial boundaries, therefore we would have concerns of potential discovery or disturbance of Native American cultural resources during ground disturbances, Especially due to the fact of the depth that wells would require. SFBMI would like to be notified prior to ground disturbance and may need to place a Native American Monitor on the project during ground disturbance.

Regards,
Donna Yocum, Chairwoman
SFBMI

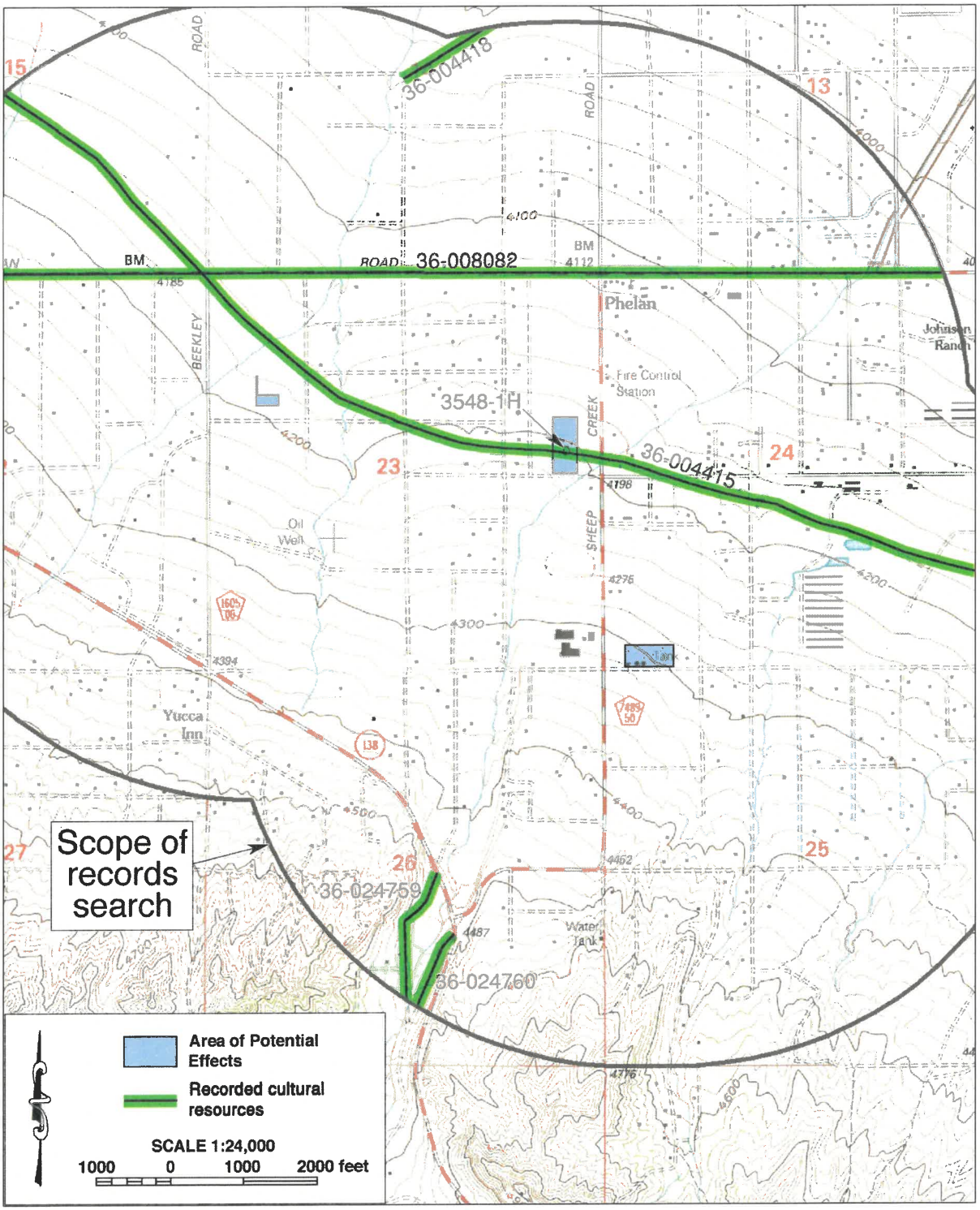
TELEPHONE LOG

Name	Tribe/Affiliation	Telephone Contacts	Note
Sandonne Goad, Chairperson	Gabrielino/Tongva Nation	9:41 am, November 8; 11:27 am, November 15	Left voice messages; no response to date.
Andrew Salas, Chairman	Gabrieleño Band of Mission Indians–Kizh Nation	9:44 am, November 8; 11:32 am, November 15	Left voice messages; no response to date.
Anthony Morales, Chairperson	Gabrieleno/Tongva San Gabriel Band of Mission Indians	9:47 am, November 8; 2:30 pm, November 12	Mr. Morales requested to be notified if any cultural resources were found. If the project warrants monitoring, the tribe wishes to participate.
Charles Alvarez, Chairperson	Gabrielino-Tongva Tribe	9:52 am, November 8; 11:33 am, November 15	Left voice messages; no response to date.
Robert F. Dorame, Tribal Chair/Cultural Resources	Gabrielino Tongva Indians of California Tribal Council	9:50 am, November 8; 11:40 am, November 15	Mr. Dorame requested to be notified immediately if any cultural resources or human remains were discovered during ground-disturbing activities. He requested notification of discovery of human remains even if the NAHC makes a determination that the Most Likely Descendent belongs to a different tribe.
Travis Armstrong, Tribal Historic Preservation Officer	Morongo Band of Mission Indians	10:24 am, November 8	Mr. Armstrong responded by e-mail on November 12, 2019 (copy attached).
Donna Yocum, Chairperson	San Fernando Band of Mission Indians	10:28 am, November 8; 12:10 pm, November 15	Ms. Yocum responded by e-mail on November 15, 2019 (copy attached).
Lee Clauss, Director of Cultural Resources	San Manuel Band of Mission Indians	10:30 am, November 8	Alexandra McCleary, Tribal Archaeologist, responded by e-mail on November 14, 2019 (copy attached).
Mark Cochrane, Co-Chairperson	Serrano Nation of Indians	10:35 am, November 8	Mr. Cochrane requested to participate in further consultation with the lead agency and to be notified immediately if any cultural resources or human remains were discovered during ground-disturbing activities.
Wayne Walker, Co-Chairperson	Serrano Nation of Indians	None	Mark Cochrane responded on behalf of the tribe (see above).

APPENDIX 3

LOCATIONS OF KNOWN CULTURAL RESOURCES IN OR NEAR THE APE

(Confidential)


36-004418
36-008082
36-004415
36-024759
36-024760
3548-1H
Scope of records search
Phelan
Fire Control Station
Johnson Ranch
Yucca Inn
Oil Well
Water Tank
BEEKLEY ROAD
SHEEP CREEK ROAD
ROAD
BM
15
13
23
24
25
26
27
Area of Potential Effects
Recorded cultural resources
SCALE 1:24,000
1000 0 1000 2000 feet

APPENDIX 4

CALIFORNIA HISTORICAL RESOURCES INVENTORY RECORD FORMS

Sites 36-004415 (CA-SBR-4415H) and 3548-1H

(Confidential)