

INITIAL STUDY

FOR THE

PHELAN PIÑON HILLS
COMMUNITY SERVICES DISTRICT
WELL DEVELOPMENT PROJECT

Prepared for:

Phelan Piñon Hills Community Services District
4176 Warbler Road
Phelan, California 92371

Prepared by:

Tom Dodson & Associates
P.O. Box 2307
San Bernardino, California 92406
(909) 882-3612

March 2022

TABLE OF CONTENTS

Introduction..... 1

Environmental Factors Potentially Affected 7

Determination 8

Evaluation of Environmental Impacts..... 9

 I. Aesthetics 11

 II. Agricultural and Forestry Resources 13

 III. Air Quality 15

 IV. Biological Resources 25

 V. Cultural Resources 33

 VI. Energy..... 35

 VII. Geology and Soils..... 37

 VIII. Greenhouse Gas Emissions 41

 IX. Hazards and Hazardous Materials 44

 X. Hydrology and Water Quality..... 47

 XI. Land Use and Planning 52

 XII. Mineral Resources 53

 XIII. Noise 54

 XIV. Population and Housing..... 59

 XV. Public Services 60

 XVI. Recreation..... 62

 XVII. Transportation / Traffic..... 63

 XVIII. Tribal Cultural Resources 66

 XIX. Utilities and Service Systems 68

 XX. Wildfire 71

 XXI. Mandatory Findings of Significance..... 72

Summary of Mitigation Measures 74

References..... 80

APPENDICES

- Appendix 1 – Air Quality / GHG
- Appendix 2 – Biology
- Appendix 3 – Cultural
- Appendix 4 – Soils Maps

FIGURES

Figure 1	Regional Map
Figure 2	Well 15 Site Location
Figure 3	Well 16 Site Location
Figure 4	Proposed Well No. 15 Preliminary Layout
Figure 5	Proposed Well No. 15 Transmission Pipeline
Figure 6	Proposed Well No. 16 Preliminary Layout
Figure II-1	Farmland Map
Figure IV-1	Jurisdictional Features (“Waters of the State”) – Well 15
Figure IV-2	Jurisdictional Features (“Waters of the State”) – Well 16
Figure VII-1	Earthquake Fault Zones
Figure VII-2	Liquefaction & Landslides
Figure IX-1	GeoTracker
Figure IX-2	GeoTracker
Figure IX-3	Airports
Figure IX-4	Fire Hazard Severity Zones Map
Figure X-1	Flood Hazards Map
Figure X-2	Groundwater Basins Map
Figure XII-1	Mineral Resource Zones

TABLES

Table 1	Existing Land Use and Land Use Zoning Districts: Well #15	5
Table 2	Existing Land Use and Land Use Zoning Districts: Well #16	5
Table III-1	Ambient Air Quality Standards	16
Table III-2	Health Effects of Major Criteria Pollutants.....	18
Table III-3	Project Area Air Quality Monitoring Summary (2018-2020)	19
Table III-4	Construction Duration and Equipment	21
Table III-5	Daily Emissions	22
Table III-6	Annual Emissions	22
Table VII-1	Daily Emissions	42
Table VII-2	Annual Emissions	42
Table XIII-1	Vibration Levels Measured During Construction Activities.....	57
Table XIII-2	Vibration Levels Contours During Construction Activities	57

LIST OF ABBREVIATIONS AND ACROYNMS

AAQS	Ambient Air Quality Standards
ACOE	Army Corps of Engineers
AJD	approved Jurisdictional Delineation
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AVAA	Antelope Valley Adjudication Area
BACMs	Best Available Control Measures
BMPs	Best Management Practices
BRA/JD	Biological Resources Assessment/Jurisdictional Delineation
BUOW	Burrowing Owl
CAAA	Clean Air Act Amendment
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CIP	Capital Improvement Project
CNEL	Community Noise Equivalent Level
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
DOI	Department of Interior
FGC	Fish & Game Code
FTA	Federal Transit Association
GCC	Global Climate Change
GHG	Greenhouse Gas
HAS	Hydrologic Sub-Area
LSA	Lake or Streambed Alteration
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
MBA	Mojave Basin Area
MBTA	Migratory Bird Treaty Act
MCL	maximum contamination level
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MM	Mitigation Measure
NAAQS	National Ambient Air Quality Standards
NBP	Nesting Bird Area
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System

PPHCSD	Phelan Piñon Hills Community Services District (or District)
RL	Rural Living
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SIP	State Implementation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration-velocity decibel
VMT	vehicle miles traveled
WEAP	Worker Environmental Awareness Program
WOTUS	Waters of the United States
WQMP	Water Quality Management Plan

ENVIRONMENTAL CHECKLIST

1. Project Title: Phelan Piñon Hills Community Services District Wells No. 15 and No. 16 Development Project
2. Lead Agency Name: Phelan Piñon Hills Community Services District
Address: 4176 Warbler Road, Phelan, California 92371
3. Contact Person: George Cardenas, Engineering Manager
Phone Number: (760) 868-1212
4. Project Location: The project is located at two locations within the Phelan Piñon Hills Community in the High Desert region of San Bernardino County.

The first Well is located at the northwest corner of the intersection of Crudup Road and Azalea Road with a pipeline proposed within Azalea Road south leading from the site, then east along South Road, then south along Soldea Road then east along Hatillo Road past Sheep Creek Road where the pipeline will connect with an existing connection at the District's Reservoir site at 14425 Sheep Creek Road. The project is located within the USGS Topo 7.5-minute map for Shadow Mountains SE, CA, and is located in Section 14, Township 5 North and Range 7 West, San Bernardino Meridian. The approximate GPS coordinates of the project site are 34.519263°, -117.582832°.

The second well is located just west and north of the intersection of Sheep Creek Road and Cayucos Drive. The project is located within the USGS Topo 7.5-minute map for Phelan, CA, and is located in Section 26, Township 5 North and Range 7 West, San Bernardino Meridian. The approximate GPS coordinates of the project site are 34.488218°, -117.573450°. Refer to Figures 1, 2, and 3 for the regional and site location maps showing both wells.

5. Project Sponsor: Phelan Piñon Hills Community Services District
Address: 4176 Warbler Road, Phelan, California 92371
6. General Plan Designation: Rural Living (RL) PH/RL-5
7. Zoning: Phelan/Pinon Hills/Rural Living-5 Acre Minimum (PH/RL-5)
8. Project Description:

Project Description

Introduction

The Phelan Piñon Hills Community Services District (District or PPHCSD), formed as an independent District by voters in 2008, is located in the High Desert area of San Bernardino County between the Los Angeles/San Bernardino County Line and Victorville. The District provides the following community services: water distribution, solid waste and recycling collection,

parks, and street lighting. The District operates under Domestic Well Supply Permit No. 05-13-10-P-005 issued in September 2010, and as System No. 361020. Users within the District are largely single family residences on large parcels. A majority of the water produced in the District is for residential customers due to the limited industrial and commercial development within the District service area. The water distribution system of the District consists of 21 groundwater wells, 44 reservoirs, 31 active pressure reducing stations, 25 booster stations, approximately 338 miles of water lines, and three emergency interties.

Local groundwater supply makes up 100 percent of the District's current water supply portfolio, though the District owns three emergency interties that would allow the District to exchange water during shortage or emergency, thus enabling the use of imported water. The District owns 21 production wells in two groundwater adjudicated areas: the Mojave Basin Area (MBA) and the Antelope Valley Adjudication Area (AVAA). Three of the wells are not connected to the District's distribution system and are not used to supply the service area.

In June of 2021, the District Board approved the 2021-2022 budget which includes a number of Capital Improvement Projects (CIP) including the construction of a new well under its hexavalent chromium (Chromium-6) maximum contaminant level (MCL) mitigation in anticipation of upcoming California Department of Public Health (CDPH) recommendations and State Water Resources Control Board adoption. In recent months, production has dramatically increased within the District due to the cannabis grow houses stressing the production wells. The recent challenges in the increased production levels have necessitated acceleration of the proposed well to be developed and in production by the beginning of the peak demand season in late spring of 2022 and to ensure the District's water quality requirements are met. Staff anticipates the State to approve a new MCL for Chromium-6 in the near-term future. As such, the District is proposing the construction of two new wells, Wells No. 15 and 16, to meet the above circumstances.

Project Description

The District seeks to install two new wells as part of their CIP, which would both aid the District in meeting current and future demand, and minimize Chromium-6 concentrations in the District's water supply. Well No. 15 is proposed to be located on the recently acquired 5-acre parcel (Assessor's Parcel Number [APN] 3101-031-04) north of the District, at the northwest corner of the intersection of Crudup Road and Azalea Road, on Azalea Road and Victor Street (refer to the site plans provided as Figures 4 and 5). The project will also include 5,900 lineal feet (LF) of water pipeline, which will connect to the District's existing water distribution system that feeds reservoirs 2-1 and 2-2 on Sheep Creek Road. The pipeline alignment would traverse from the new Well No. 15 south on Azalea Road, then east along South Road, and then south along Soldea Road, then east along Hatillo Road past Sheep Creek Road where the pipeline will connect with an existing connection at the District's Reservoir site at 14425 Sheep Creek Road. The pipeline is anticipated to be 12" diameter in size. The project will include a retention basin, a 10' x 10' chlorination structure, switch gear, and proposed transformer that will connect to an existing power pole opposite the project site along Azalea Road.

The District is also planning to install a second well, Well No. 16, to connect to the District's existing water distribution system. Well No. 16 is proposed to be installed on a 40-acre site the District currently owns along Sheep Creek Road, just north of the intersection of Sheep Creek Road and Cayucos Drive along the western side of the street (APN 3098-071-05) (refer to the site plan provided as Figure 6). The site would include the following features: a 6" in diameter pipeline connecting to the District's distribution system in Sheep Creek Road; a 4" drain line to

the retention basin; a 10' x 10' chlorination building adjacent to the proposed well; and, a 4" conduit, switch gear, and transformer to connect to the existing powerline pole.

Environmental Setting

The proposed project is located at the southwestern edge of the Mojave Desert, where it transitions to the San Gabriel Mountain foothills overlooking the Victor Valley. The Mojave Desert is characterized by broad alluvial fans, dissected terraces, playas, and scattered mountains. The general region is seismically active and subject to potential significant regional seismic events. Runoff from the San Gabriel Mountains is the primary source of surface stream flows. The project area has a shallow slope from south to north. 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. Overall air quality is fair to poor. Both of the sites within which the District intends to install the new wells are currently vacant, containing native and non-native vegetation consistent with the high desert. The pipelines would be installed belowground within graded dirt and paved roadways.

Construction Scenario

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

- 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.
- Borehole to target depth.
- Construct the well.
- Conduct initial well development by airlift, swab, and pump.
- Demobilize the drill rig and mobilize the test pump.
- Conduct final development by pumping to waste.
- Conduct pumping tests, sampling.
- Temporarily cap the well and demobilize remaining equipment.
- Return the site to original condition.
- Connect well to PPHCSD's potable Distribution System.
- Construct well discharge appurtenances: electric, etc.
- Construct necessary electrical infrastructure.

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 15 roundtrips per day, which on a given day may include: two roundtrips for drill rigs; between 6 and 12 roundtrips for cement trucks; a few trips to deliver pipe; and about 10-15 trips per day for employees. It is estimated that it will require about 6-10 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 300 gpm. Assuming the groundwater quality is potable (see the discussion under Hydrology and Water Quality), the new wells will each be connected to the District's distribution system.

At the Well No. 15 location, the closest connection to the District's system is about 5,900 LF from the proposed well development site. This section of pipeline would be installed within unpaved

roadways, which are common throughout the District's service area; note that the portion of the alignment that traverses Sheep Creek Road is paved. At the Well No. 16 location, the new well would connect to the District's distribution system via a connection within the adjacent paved roadway—Sheep Creek Road. The length of the connecting pipeline would be no greater in length than 500 LF. Each new well will be outfitted with a vertical turbine pump that will be located above ground and placed in a shaded structure designed to attenuate noise.

It is assumed that an underground utility installation team can install approximately 200 to 400 lineal feet (LF) of water distribution pipeline per day. A team consists of the following:

- 200-400 feet of pipeline installed per day
- 1 Excavator
- 1 Backhoe
- 1 Paver
- 1 Roller
- 1 Water truck
- 1 Dump Truck
- Traffic Control Signage and Devices
- 10 Dump/Delivery trucks (140 miles round trip distance)
- Employees (11 members per team)

The emissions calculations are based upon the above assumptions for each pipeline installation team. It is assumed that installation of about 5,900 LF of water distribution pipeline will occur over about 60 to 90 construction days. The final activity associated with the pipeline installation is repaving or recompaction of roads disturbed by the construction. Note paving will probably occur as quickly as possible when large enough areas are completed.

Ground disturbance emissions assume roughly 0.2 acre of land would be actively excavated on a given day. It is anticipated that installation of pipeline in developed locations will require the use of a backhoe, crane, compactor, roller/vibrator, pavement cutter, grinder, haul truck and two dump trucks operating 6 hours per day; a water truck and excavator operating 4 hours per day and a paving machine and compactor operating 2 hours per day. Installation of pipeline in undeveloped locations would require the same equipment as developed area without the paving equipment (cutter, grinder, paving machine). The contractor may occasionally use a portable generator and welder for equipment repairs or incidental uses.

Operational Scenario

Operation of each new well would not require any new employees as each well will be monitored and controlled remotely. Each of the possible two new production wells would require up to 1.5 million KWH to operate per year (if full time). It is not anticipated that back-up generators will be installed, though the District currently utilizes portable back-up generators when needed to ensure that each well has continuous electricity. Chemicals used in the water production process will be chlorine for disinfection.

9. Surrounding land uses and setting: (Briefly describe the project's surroundings)

The proposed project, as stated above under "Environmental Setting," is located in the Phelan Piñon Hills area of San Bernardino County, which is located in the high desert just north of the San Gabriel Mountains. Both the Well No. 15 and 16 sites are vacant. The Well No. 15 site currently is undisturbed containing native and non-native vegetation characteristic of the high

desert, while the Well No. 16 site contains similar vegetation, but has also been disturbed by an existing water station and archery use (refer to Figure 6).

**Table 1
 EXISTING LAND USE AND LAND USE ZONING DISTRICTS: WELL #15**

Location	Existing Land Use	Land Use Zoning District
Project Site	Vacant site containing native vegetation characteristic of the High Desert	Rural Living
North	Various Residences	Rural Living
South	Vacant sites containing native vegetation characteristic of the High Desert	Rural Living
East	Various Residences and Vacant sites containing native vegetation characteristic of the High Desert	Rural Living
West	Vacant sites containing native vegetation characteristic of the High Desert	Rural Living

**Table 2
 EXISTING LAND USE AND LAND USE ZONING DISTRICTS: WELL #16**

Location	Existing Land Use	Land Use Zoning District
Project Site	Vacant site containing native vegetation characteristic of the High Desert	Rural Living
North	Various Residences and Vacant site containing native vegetation characteristic of the High Desert, as well as the California Aqueduct	Rural Living
South	Vacant sites containing native vegetation characteristic of the High Desert	Rural Living
East	Various Residences	Rural Living
West	Vacant sites containing native vegetation characteristic of the High Desert	Rural Living

10. Other agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

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 PPHCSD’s water distribution system after determining that the water quality is acceptable to supply potable water to District’s customers. The existing District water supply permit will be modified to include each new well.
- Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) for a NPDES general construction stormwater discharge permit. This permit is granted by submittal of an NOI to the SWRCB, but is enforced through a Storm Water Pollution Prevention Plan (SWPPP) that identifies construction best management practices (BMPs) for the site. In the project area, the Lahonton Regional Water Quality Control Board enforces the BMP requirements described in the NPDES permit by ensuring construction activities

adequately implement a SWPPP. Implementation of the SWPPP is carried out by the construction contractor, with the Regional Board and County providing enforcement oversight.

- The project may have the potential to discharge of fill into or to make alterations to “waters of the United States,” “waters of the State,” and stream beds of the State of California. Regulatory permits to allow fill and/or alteration activities due to project activities such as pipeline installation are likely be required from the Army Corps of Engineers (ACOE), the Regional Board, and California Department of Fish and Wildlife (CDFW) over the life of the Project. A Section 404 permit for the discharge of fill material into “waters of the United States” may be required from the ACOE; a Section 401 Water Quality Certification may be required from the Regional Board; a Report of Waste Discharge may be required from the Regional Board; and a 1600 Streambed Alteration Agreement may be required from the CDFW. The above permits may or may not be necessary depending on the results of the Biological Resources Assessment and Jurisdictional Delineation (BRA/JD).
- The U.S. Fish and Wildlife Service (USFWS) and/or CDFW may need to be consulted regarding threatened and endangered species documented to occur within the project area. Where such species are discovered in the Biological Resources Analysis, the appropriate consultation efforts will be required.

11. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

PPHCSD has been contacted by one Tribe under Assembly Bill (AB) 52: the San Manuel Band of Mission Indians. The tribe was contacted to initiate the AB-52 process on September 28, 2021 to notify the tribes of the proposed project through mailed letters. During the 30-day consultation period that concluded on October 27, 2021, no response was received from the tribe. Therefore, consultation has concluded with no request from any tribe to be included as a consulting party for this project.

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. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology / Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology & Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (To be completed by the Lead Agency)

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

<input type="checkbox"/>	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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.

Tom Dodson & Associates
Prepared by

03/02/2022
Date


Lead Agency (signature)

3/2/22
Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. *Less Than Significant With Mitigation Incorporated* – 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 two wells at two locations within the community of Phelan. Both Well #15 and Well #16 will be located within currently vacant sites. The Well No. 15 site currently is undisturbed containing native and non-native vegetation characteristic of the high desert, while the Well No. 16 site contains similar vegetation, but has also been disturbed by some vehicular use (refer to Figure 4). Neither site contains features that would be considered 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 generally 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 newly adopted San Bernardino Countywide 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 existing development. The wells, once developed and tested, will be placed under a small shaded structure with corrugated metal on the sides which will be designed to conform to the surrounding setting, which will be enforced through the following 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 the wells 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 under a small shaded structure with corrugated metal on the sides with a height that is of similar height to the surrounding residential structures—though views in all directions from the project sites consist of vacant land as well as rural residential 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 Impact* – The project sites are located in the rural community of Phelan; no scenic highways are located in the vicinity of the proposed project. The sites within which the proposed wells are planned to be located are generally flat, containing extensive native vegetation, including Joshua trees. The project does not anticipate the removal of any Joshua trees, as the site design will avoid impacting any such trees located within the project sites during either construction or operations. Therefore, the proposed project would not substantially damage scenic resources, including, trees. Furthermore, no historic buildings, rock outcroppings, or other important any scenic resources existing within the project footprint. As such, with no scenic resources within the project footprint, and no features with scenic qualities therein, the proposed project would have a less than significant potential to substantially damage scenic resources. 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 part of the rural landscape that makes up the majority of the District’s service area. Much of the area surrounding either site consists of vacant land, with scattered rural residences. Both of the proposed wells are located on a sites that have not been developed and contain native vegetation typical of the high desert region within the County of San Bernardino. Ultimately, the development of these wells and connecting pipelines within vacant sites is not anticipated to substantially degrade the visual character of the sites or public views within the area. Given the small area of disturbance, and the minimal height of the well enclosures proposed as part of this project, the project site that would impede many public views surrounding the sites, it is not anticipated that the development of two 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 Incorporated* – The proposed project will be located within two sites that have been designated for Rural Living (RL) use, with the whole of the area surrounding these sites and the proposed pipeline alignment also designated for RL use. While much of the land adjacent to the project sites is vacant, there are scattered rural residences adjacent to the sites as well. 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:

AES-2 *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 verify 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 District 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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>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. Would the project:</p>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – The proposed District wells and associated pipeline are located within a rural community. Neither the project sites nor the adjacent and surrounding properties are designated for agricultural use; no agricultural activities exist in the project area, though some farmland of statewide importance exists within the project area. However, there is no potential for impact to any agricultural uses or values as a result of project implementation. According to the San Bernardino Countywide Plan Agricultural Resources Policy Map, 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 sites are designated for Rural Living (RL) use with the zoning classification for each site being Phelan/Pinon Hills/Rural Living-5 Acre Minimum (PH/RL-5). Given that the zoning

classifications and land use designation do not support agricultural 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 District 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 a desert. 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the “Air Quality and GHG Impact Analyses for Phelan Piñon Hills Community Services District, Wells No. 15 and 16 Development Project, Phelan, California” prepared by Giroux and Associates dated October 26, 2021. 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/m ³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM10) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		–		
Fine Particulate Matter (PM2.5) ⁹	24 Hour	–	–	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15.0 µg/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 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–	–	
Nitrogen Dioxide (NO2) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO2) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	–	Ultraviolet Flourescence; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		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/m ³	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	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 $150 \mu\text{g}/\text{m}^3$, 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 25C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25C 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 $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primarily and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primarily and secondary) of $150 \mu\text{g}/\text{m}^3$ 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 ($1.5 \mu\text{g}/\text{m}^3$ 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)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • 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. The closest monitoring station to the project site is in Phelan. That station, however, only monitors ozone and nitrogen dioxide. The nearest station that

monitors particulates is the Victorville Station at 14306 Park Avenue. Table 3 summarizes the last three years of monitoring data from the available data at the Phelan and Victorville monitoring stations. Findings are summarized below:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of five percent of all days in the last three years at the monitoring station closest to the project site and the 8-hour state standard was violated on average 18 percent per year. The Mojave Desert Air Basin does not generate enough ozone precursor emissions to substantially affect ozone levels. Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities.
2. PM-10 days exceeding the state 24-hour standard is not available near Phelan but is available from the Victorville Station. The most stringent state standards are not available in the last three years. The three times less stringent federal 24 hour-standard has been exceeded 1-2 days per year during this period. Although the number of exceedances of the state 24-hour standard is not available, presumably it is significant, given the high maximum 24-hour concentrations each year.
3. PM-10 is affected by construction, by unpaved road travel, by open fires and/or by agricultural practices. These emissions can be controlled to some extent, and are, therefore, components in a respirable range (10-micron diameter) particulate matter (PM-10) attainment plan developed by the Mojave Desert AQMD. An attainment plan for PM-10 was adopted in July 1995, for designated federal PM-10 non-attainment areas in the MDAB. Any project-related PM-10 generation activities require an enhanced level of controls consistent with the control measures that are part of that plan.
4. A fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Year 2020 showed the highest maximum 24-hour concentration in the past three years as well as the most violations.
5. More localized pollutants such as carbon monoxide and nitrogen oxides, etc. are generally very low near the project site because background levels in the Mojave Desert area never exceed allowable levels except perhaps during wildfire events. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS. CO is no longer monitored in the Mojave Desert area.

Table III-3
AIR QUALITY MONITORING SUMMARY (2018-2020)
(Number Of Days Standards Were Exceeded and Maximum Levels During Such Violations)

Pollutant/Standard	2018	2019	2020
Ozone			
1-Hour > 0.09 ppm (S)	25	12	19
8-Hour > 0.07 ppm (S)	87	44	63
8- Hour > 0.075 ppm (F)	55	19	44
Max. 1-Hour Conc. (ppm)	0.125	0.119	0.130
Max. 8-Hour Conc. (ppm)	0.107	0.090	0.093
Nitrogen Dioxide			
1-Hour > 0.18 ppm (S)	0	0	0
Max. 1-Hour Conc. (ppm)	0.051	0.056	0.059
Inhalable Particulates (PM-10)			
24-Hour > 50 µg/m ³ (S)	na	na	na
24-Hour > 150 µg/m ³ (F)	1	2	2
Max. 24-Hr. Conc. (µg/m ³)	165.2	170.0	261.4
Ultra-Fine Particulates (PM-2.5)			
24-Hour > 35 µg/m ³ (F)	0	0	4
Max. 24-Hr. Conc. (µg/m ³)	32.7	17.8	48.4

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

Source: Phelan Station: Ozone, NO_x; Victorville Station: PM-10, 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

Additional Indicators

In its CEQA Handbook (2020), the MDAQMD states that any project is significant if it triggers or exceeds the most appropriate evaluation criteria shown above. In general, the emissions comparison (criteria number 1), below is sufficient for the District's purposes in relation to this project:

1. Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds;
2. Generates a violation of any ambient air quality standard when added to the local background;
3. Does not conform with the applicable attainment or maintenance plans;
4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) non-cancerous greater than or equal to 1.

Therefore, except in special circumstances, the CEQA Handbook notes that meeting the daily or annual emissions thresholds as shown above is normally sufficient to demonstrate a less than significant impact.

Impact Analysis

- a. *Less Than Significant Impact* – Projects such as the proposed PPHCSD Wells No. 15 and 16 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 proposed project will be fully consistent with both the General Plan designation and Zone classification for the project site, mainly because the project involves water infrastructure, 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 With Mitigation Incorporated* – 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 wells.

The District proposes the drilling of two new production wells and installation of associated new water conveyance pipeline. Potential air quality impacts to the immediate project vicinity would derive almost exclusively during construction of the proposed improvements. The total area of disturbance will be less than one acre per well. Each well will be drilled to approximately 1,000 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, with an adjacent 10-foot x 10-foot chlorination structure. Each new well will be outfitted with a vertical turbine pump that will be located above ground and placed in a shaded structure designed to attenuate noise at nearby sensitive receptors. It is anticipated that about between 5 and 11 persons will be on a given well site at any one time to support drilling the well including the following rolls: drillers, the hydrologist inspector, and a foreman. Daily trips to complete the well will average about 15 roundtrips per day, including: between 6 and 12 roundtrips for cement trucks; a few trips to deliver pipe; and about 10-15 trips per day for employee. It is estimated that it will require about 6-10 weeks to drill the well, with 24-hour drilling activities for 7 days a week (surrounding housing to be notified in advance).

At Well No. 16, a connection pipeline will be installed that will be no greater in length than 500 lineal feet (LF). At Well No. 15, a connection pipeline will be installed that will be 5,900 LF. Each new well pump will be located aboveground and placed in a shaded structure designed to attenuate noise at nearby sensitive receptors 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. The construction scenario modeled for the various activities that are planned for the proposed project are listed below.

**Table III-4
CONSTRUCTION DURATION AND EQUIPMENT**

Well Drilling 2 weeks	1 Drill Rig
	1 Pump
	1 Loader/Backhoe
Well Equipping 8 weeks	1 Crane
	1 Welder
	1 Loader/Backhoe
	1 Generator Set
Pipeline Trench and Excavate 25 days	1 Concrete Saw
	1 Excavator
	1 Loader/Backhoe
	5 Signal Boards
Install Pipe and Cover/Pave 45 days	1 Crane
	1 Welder
	1 Loader/Backhoe
	1 Paver
	1 Compactor
	1 Roller
5 Signal Boards	

Emissions for a single well were calculated and then multiplied to reflect the two units needed for project completion. As a worst case scenario, it was assumed that construction of all project components would occur simultaneously. Therefore, the total in Table III-5 reflects all project components occurring in the same year (2022) as a worst-case condition. Table III-5 provides maximum daily emissions as compared to the MDAQMD thresholds. Table III-6 provides the annual emissions as compared to their associated thresholds.

**Table III-5
 DAILY EMISSIONS (lbs/day)**

Maximal Construction Emissions	ROG	NOx	CO	SO ₂	PM-10	PM-2.5	CO ₂
2022							
Single Well	2.0	17.2	20.4	0.1	2.4	1.3	5,277.2
2 Wells	4.0	34.3	40.9	0.1	4.7	2.6	10,554.4
Pipeline	2.1	16.6	19.1	0.0	5.7	3.3	2,023.9
Total	6.1	50.9	60	0.1	10.4	5.9	12,578.3
MDAQMD Thresholds	137	137	548	137	82	82	548,000
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

**Table III-6
 ANNUAL EMISSIONS (tons per year)**

Maximal Construction Emissions	ROG	NOx	CO	SO ₂	PM-10	PM-2.5	CO ₂
2022							
Single Well	0.03	0.25	0.29	0.00	0.03	0.02	55.10
2 Wells	0.06	0.49	0.57	0.00	0.05	0.04	110.20
Pipeline	0.06	0.27	0.34	0.00	0.07	0.04	53.80
Total	0.12	0.76	0.91	0.00	0.12	0.09	164.01
MDAQMD Thresholds	25	25	100	25	15	12	100,000
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Maximum project-related air pollution emissions were compared to daily and annual MDAQMD thresholds. Even if all activities occurred in a single calendar year and overlapped daily, maximum emissions are less than their MDAQMD thresholds.

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:

- 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 District 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 District 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

Operational air pollution emissions will be minimal. Electrical generation of power will be used for pumping. 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.

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 Incorporated* – The proposed project would generate minimal construction and operation related emissions. The closest sensitive use to each well site is as follows:

<u>Well No. 15:</u>	500 feet to the nearest sensitive receptor
<u>Well No. 16:</u>	500 feet to the nearest sensitive receptor
<u>Pipelines:</u>	75 feet to nearest sensitive receptor

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 (MMs) **AIR-1** through **AIR-6** outlined under issue III(b) above, implementation of the District's Wells No. 15 and 16 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. The District would use chemicals in the water production process, specifically chlorine to disinfect the water extracted from the proposed wells. 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: The following information is provided based on a study titled “*Phelan Piñon Hills Community Services District, Wells No. 15 and 16 Development Project, Biological Resources Assessment and Jurisdictional Delineation Report*” (BRA) prepared by Jacobs Engineering Group, Inc. dated February 2022 and provided as Appendix 2.

General Site Conditions

The project area is in the southwestern portion of the Mojave Desert, west of the Mojave River and north of the San Gabriel Mountains. The topography of the project area is flat and the elevation within the proposed project area ranges from approximately 3,300 feet above mean sea level (amsl) near the Well 15 site, to 3,520 feet amsl near the proposed Well 16 site.

Hydrologically, the project area is situated within an unnamed Hydrologic Sub-Area (HSA 628.10). This HSA comprises a 106,382-acre drainage area, within the larger Mojave Watershed (HUC 18090208). The Mojave River is the major hydrogeomorphic feature within the Mojave Watershed.

Habitat

Habitat within the undeveloped portions of the project area consists of *Larrea tridentata* Shrubland Alliance (creosote bush scrub). This habitat is dominated by creosote bush, with white bursage (*Ambrosia dumosa*), cheesebush (*A. salsoia*), and allscale (*Atriplex polycarpa*) present in the shrub layer as well. Additionally,

there are several Joshua trees (*Yucca brevifolia*) present in the immediate vicinity of the proposed Well 16 site. The proposed 12-inch water pipeline connecting Well 15 to existing District facilities southwest of the proposed Well 15 site is entirely within existing unpaved roads surrounded by adjacent creosote bush scrub and rural residential development. The proposed Well 15 site is within creosote bush scrub habitat. The proposed Well 16 site is within heavily disturbed creosote bush scrub habitat.

Wildlife

No amphibian species were observed or otherwise detected within the project area. The only reptiles observed within the project area was Great Basin whiptail (*Aspidoscellis tigris tigris*) and western side-blotched lizard (*Uta stansburiana elegans*). Other common herp species expected to occur within the project area include western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), red racer (*Coluber flagellum piceus*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*), long-nosed leopard lizard (*Gambelia wislizenii*), California kingsnake (*Lampropeltis californiae*), southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*) and yellow-backed spiny lizard (*Sceloporus uniformis*).

Birds were the most observed wildlife group during survey and species observed or otherwise detected in the project area during the reconnaissance-level survey included:

- California quail (*Callipepla californica*)
- common raven (*Corvus corax*)
- American kestrel (*Falco sparverius*)
- house finch (*Haemorhous mexicanus*)
- Say's phoebe (*Sayornis saya*)
- yellow-rumped warbler (*Setophaga coronata*)
- European starling (*Sturnus vulgaris*)
- white-crowned sparrow (*Zonotrichia leucophrys*)

Identification of mammals within the project area was generally determined by physical evidence rather than direct visual identification. This is because 1) many of the mammal species that potentially occur onsite are nocturnal and would not have been active during the survey and 2) no mammal trapping was performed. Mammal species observed or otherwise detected during the reconnaissance-level survey included white-tailed antelope squirrel (*Ammospermophilus leucurus*), black-tailed jackrabbit (*Lepus californicus*) and desert cottontail (*Sylvilagus audubonii*). Other common species expected to occur within the project area include coyote (*Canis latrans*), Merriams' kangaroo rat, (*Dipodomys merriami*), striped skunk (*Mephitis mephitis*) and California ground squirrel (*Otospermophilus beecheyi*).

Conclusion

Sensitive Biological Resources

A BRA survey was conducted by Jacobs in January 2022 to identify potential habitat for special status plants and wildlife within the project area. No state and/or federally listed threatened or endangered species or other special status species were observed within the project area during survey and none are expected to occur.

Mojave Desert Tortoise

Although the creosote bush scrub and creosote bush scrub habitat within the project area is suitable for the federally listed as endangered Mojave desert tortoise, a protocol-level desert tortoise survey was conducted within the project area by Jacobs biologists in January 2022 and the result of the survey was negative for this species. No desert tortoise individuals or sign including desert tortoise burrows, scat, carcasses or other sign were observed during survey and Mojave desert tortoise are considered absent from the project area at the time of survey. Although the Project is not likely to adversely affect this species, there is still a low potential for this species to occur in the project area and the following precautionary avoidance measures are recommended to ensure the Project does not result in any impacts to Mojave desert tortoise:

- A qualified biologist shall develop a Worker Environmental Awareness Program (WEAP) that would include information on general and special status species within the project area, identification of

these species and their habitats, techniques being implemented during construction to avoid impacts to species, consequences of killing or injuring an individual of a listed species, and reporting procedures when encountering listed or sensitive species. All construction crews, foremen, and other Project personnel potentially working on site should attend this education program prior to the first day of work.

- Preconstruction surveys for desert tortoise should be conducted no more than 14 days prior to new ground disturbance within each phase of development to verify that Mojave desert tortoise remain absent from the project area.
- A qualified biological monitor should be present during all ground disturbing activities (clearing, grubbing and grading) to ensure that construction related activities do not impact any sensitive wildlife that may wander onto the site during construction.

Mojave Ground Squirrel

Based on the habitat conditions and existing disturbances within the project site and surrounding area, as well as the proximity of the project area relative to the current known population distributions of Mohave ground squirrel, this species is not likely to occur within the project area and the Project is not likely to adversely affect this species. No additional avoidance, minimization or mitigation measures beyond those to those already recommended for Mojave desert tortoise (above) are warranted or recommended.

Burrowing Owl

A Burrowing owl (BUOW) habitat suitability assessment was conducted by Jacobs biologists in January 2022 that included 100 percent visual coverage of the project site, wherever potentially suitable desert tortoise habitat was present, including an approximately 500-foot buffer area around the project site, where feasible and appropriate. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals, appropriately sized mammal burrows, burrow surrogates, or sign including castings, feathers or whitewash were observed and BUOW are considered absent from the project area at the time of survey. Although the Project is not likely to adversely affect this species, there is still a low potential for this species to occur in the project area and the following precautionary avoidance measures are recommended to ensure the Project does not result in any impacts to BUOW:

- BUOW would be included as one of the species covered in the WEAP that all construction crews, foremen, and other Project personnel potentially working on site should attend prior to the first day of work.
- Preconstruction surveys for BUOW should be conducted no more than 14 days prior to new ground disturbance within each phase of development to verify that BUOW remain absent from the project area.

Joshua Trees

The Joshua tree is a Candidate Species for listing as endangered under the CESA. As such, Joshua trees are protected from take by the CDFW under interim protection status while the CDFW reviews the listing petition for this species. There are several Joshua trees within the immediate vicinity of the proposed Well 16 site. Therefore, all Project-related activities must avoid any impacts to Joshua trees.

Nesting Birds

There is habitat within the project area that is suitable to support nesting birds, including adjacent habitat potentially suitable to support SWFL and LBVI. Most native bird species are protected from unlawful take by the MBTA (Appendix A). In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA (USFWS 2018).

However, the State of California provides additional protection for native bird species and their nests in the FGC (Appendix A). Bird nesting protections in the FGC include the following (Sections 3503, 3503.5, 3511, 3513 and 3800):

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully Protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.
- Section 3800 prohibits the take of any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

Jurisdictional Waters

The two ephemeral drainage features that flow through the westernmost portions of the proposed Well 15 and Well 16 sites (Figures IV-1 & IV-2) are subject to regulation by the CDFW under Section 1602 of the FGC and by the RWQCB under the Porter Cologne Water Quality Control Act. Therefore, any proposed permanent or temporary impacts to these features would require a “Lake or Streambed Alteration Agreement” from the CDFW, as well as a permit from the RWQCB for “Discharges of Dredged or Fill Material to Waters of the State”. Additionally, an Approved Jurisdictional Determination (AJD) Form would need to be submitted to the USACE for concurrence with the determination that the Project will not result in any impacts (temporary or permanent) to WOTUS.

FGC Section 1602 Lake or Streambed Alteration Agreement

An FGC Section 1602 Lake or Streambed Alteration (LSA) Agreement is required for all activities that alter streams (including ephemeral streams) and lakes and their associated riparian habitat. Unless the Project design can avoid any impacts (temporary or permanent) to the two ephemeral drainage features that flow through the westernmost portions of the proposed Well 15 and Well 16 sites (Figures IV-1 & IV-2), the Project would require a Section 1602 LSA Agreement. In addition to the formal application materials and fee (based on cost of the Project), a copy of the appropriate CEQA documentation must be included with the application.

Regional Water Quality Control Board Permitting

The project area is within the jurisdiction of the Lahontan RWQCB (Regional Board 6V). The RWQCB regulates impacts to Waters of the State of California under the Porter Cologne Water Quality Control Act through issuance of a Construction General Permit, State General Waste Discharge Order, or Waste Discharge Requirements, depending upon the level of impact and the waterway. Project-related impacts to the two ephemeral drainage features that flow through the westernmost portions of the proposed Well 15 and Well 16 sites (Figures IV-1 & IV-2) would require a RWQCB permit and the Project Proponent would be required to submit an application for Discharges of Dredged or Fill Material to Waters of the State to the Lahontan RWQCB prior to commencement of any Project-related activities that may impact these ephemeral drainages. In addition to the formal application materials and fee (based on area of impact), a copy of the appropriate California Environmental Quality Act (CEQA) documentation must be included with the application.

However, it should be noted that the project has been designed to avoid jurisdictional features, as shown on Figures 4 and 6, thus avoiding the requirement for the above permits.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – It is not anticipated that the proposed project would result in 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 CDFW or USFWS. The project site is vacant, though as stated above, it been used as an illegal trash dump site. The Biological Resources Assessment (BRA) provided as Appendix 2 to this Initial Study determined that, of the 9 State and/or federally listed or Candidate

species identified by the database queries as potentially occurring within the region, only the following 2 State and/or federally listed species have been documented in the Project vicinity (within approximately 3 miles): Mojave desert tortoise (*Gopherus agassizii*) and Mohave ground squirrel (*Xerospermophilus mohavensis*). Burrowing owl (*Athene cunicularia*) is a CDFW species of special concern (SSC) and is considered particularly sensitive species within the region; as such potential for this species to occur within the project site was analyzed.

As stated above under *Conclusions*, there is still a low potential for Mojave desert tortoise to occur in the project area and the following precautionary avoidance measures are recommended to ensure the project does not result in any impacts to Mojave desert tortoise:

BIO-1 *A qualified biologist shall develop a Worker Environmental Awareness Program (WEAP) that will include information on general and special status species within the project area, identification of these species and their habitats, techniques being implemented during construction to avoid impacts to species, consequences of killing or injuring an individual of a listed species, and reporting procedures when encountering listed or sensitive species. Construction crews, foremen, and other personnel potentially working on site will attend this education program and place their name on a sign-in sheet. This briefing shall include provisions of any requirements required for the project. The contractor shall implement Worker Environmental Awareness Program (WEAP) training on the first day of work and periodically throughout construction as needed.*

To ensure that no net loss of function and value will occur as a result of the Project, site facilities, equipment staging areas, and excavated soil stockpiles shall be microsited outside stream channels and floodplain areas. Buffer areas shall be identified, and exclusion fencing shall be used to protect the water resource and prevent unauthorized vehicles or equipment from entering or otherwise disturbing the surface waters. Equipment shall use existing roadways to the extent feasible.

BIO-2 *Preconstruction surveys for Desert Tortoise shall be conducted no more than 14 days prior to new ground disturbance within each phase of development to verify that Mojave desert tortoise remain absent from the project area.*

BIO-3 *A qualified biological monitor shall be present during the initial ground disturbing activities (clearing, grubbing and initial grading) to ensure no sensitive resources wander onto the site and to ensure no impacts will result during construction.*

Based on the habitat conditions and existing disturbances within the project site and surrounding area, as well as the proximity of the project area relative to the current known population distributions of Mohave ground squirrel, this species is not likely to occur within the project area and the Project is not likely to adversely affect this species. No additional avoidance, minimization or mitigation measures beyond those to those already recommended for Mojave Desert tortoise (above) are warranted or recommended.

As stated above, although the project is not likely to adversely affect BUOW, there is still a low potential for this species to occur in the project area and the following precautionary avoidance measures are recommended to ensure the project does not result in any impacts to BUOW:

BIO-4 *Preconstruction presence/absence surveys for burrowing owl shall be conducted no less than 14 days prior to any onsite ground disturbing activity by a qualified biologist. The burrowing owl surveys shall be conducted*

pursuant to the recommendations and guidelines established by the California Department of Fish and Wildlife in the "California Department of Fish and Wildlife 2012 Staff Report on Burrowing Owl Mitigation." In the event this species is not identified within the Project limits, no further mitigation is required, and a letter shall be prepared by the qualified biologist documenting the results of the survey. The letter shall be submitted to CDFW prior to commencement of Project activities. If during the preconstruction survey, the burrowing owl is found to occupy the site, Mitigation Measure BIO-2 shall be required.

BIO-5 ***If burrowing owls are identified during the survey period, PPHCSD and/or the Applicant shall take the following actions to offset impacts prior to ground disturbance:***

Active nests within the areas scheduled for disturbance or degradation shall be avoided until fledging has occurred, as confirmed by a qualified biologist. Following fledging, owls may be passively relocated by a qualified biologist, as described below.

If impacts on occupied burrows are unavoidable, onsite passive relocation techniques may be used if approved by the CDFW to encourage owls to move to alternative burrows provided by PPHCSD and/or the Applicant outside of the impact area.

If relocation of the owls is approved for the site by CDFW, CDFW shall require PPHCSD and/or the Applicant to hire a qualified biologist to prepare a plan for relocating the owls to a suitable site and conduct an impact assessment. A qualified biologist shall prepare and submit a passive relocation program in accordance with Appendix E (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012) to the CDFW for review/approval prior to the commencement of disturbance activities onsite.

The relocation plan must include all of the following and as indicated in Appendix E:

- The location of the nest and owls proposed for relocation.***
- The location of the proposed relocation site.***
- The number of owls involved and the time of year when the relocation is proposed to take place.***
- The name and credentials of the biologist who will be retained to supervise the relocation.***
- The proposed method of capture and transport for the owls to the new site.***
- A description of site preparation at the relocation site (e.g., enhancement of existing burrows, creation of artificial burrows, one-time or long-term vegetation control).***

The applicant shall conduct an impact assessment, in accordance with the Staff Report on Burrowing Owl Mitigation prior to commencing Project activities to determine appropriate mitigation, including the acquisition and conservation of occupied replacement habitat at no less than a 2:1 ratio.

Prior to passive relocation, suitable replacement burrows site(s) shall be provided at a ratio of 2:1 and permanent conservation and management of burrowing owl habitat such that the habitat acreage, number of burrows and burrowing owl impacts are replaced consistent with the Staff Report on

Burrowing Owl Mitigation including its Appendix A within designated adjacent conserved lands identified through coordination with CDFW and the PPHCSD and/or the Applicant. A qualified biologist shall confirm the natural or artificial burrows on the conservation lands are suitable for use by the owls. Monitoring and management of the replacement burrow site(s) shall be conducted and a reporting plan shall be prepared. The objective shall be to manage the replacement burrow sites for the benefit of burrowing owls (e.g., minimizing weed cover), with the specific goal of maintaining the functionality of the burrows for a minimum of 2 years.

A final letter report shall be prepared by the qualified biologist documenting the results of the passive relocation. The letter shall be submitted to CDFW.

BIO-6 *Burrowing owl shall be included as one of the species covered in the WEAP that all construction crews, foremen, and other project personnel potentially working on site shall attend prior to the first day of work.*

No other species have been identified as having a potential to exist within or be impacted by the proposed project. With implementation of the above mitigation, there is a less than significant potential for implementation of this project to have a significant adverse effect, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

- 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 Jacobs 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. Impacts are less than significant under this issue.
- c. ***Less Than Significant Impact*** – According to the data gathered by Jacobs in Appendix 2, the two ephemeral streams within Well 15 and 16 are subject to regulation by the CDFW under Section 1602 of the FGC and by the RWQCB under the Porter Cologne Water Quality Control Act. However, the proposed Project has been designed to completely avoid impacting these features, including any wetland/riparian habitat, and the project design incorporates a 25-foot set-back from all jurisdictional features. Therefore, through avoidance of any wetland and riparian habitat in the project vicinity, implementation of the proposed project will have no potential to impact any federally protected wetlands through direct removal, filling, hydrological interruption, or other means. As such, the proposed project would have a less than significant potential to 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. ***Less Than Significant With Mitigation Incorporated*** – 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 being evidence of suitable BUOW habitat for which mitigation measure **BIO-4** through **BIO-6** have 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.

BIO-7 *Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).*

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 Impact* – Development of the proposed project would have a less than significant potential to conflict with any local policies or ordinances protecting biological resources. Impacts to biological resources have been addressed above under issues IV(a-d). Therefore, the potential for the project to conflict with local policies or ordinances pertaining to biological resources would be considered less than significant.
- f. *No Impact* – Please refer to the discussion under response IV(a) above. The project has not been identified as being located within an area within a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and implementation of the project will therefore not result in a significant impact to any such plans. No further mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: A cultural resources report has been prepared to evaluate the potential for cultural resources to occur within the project area of potential effect entitled “Historical/Archaeological Resources Survey Report, Wells No. 15 And No. 16 Development Project,” prepared by CRM TECH dated February 9, 2022 (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 the District 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 identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey. Throughout the course of these research procedures, no potential “historical resources” were encountered within or adjacent to the project area. Although one of the roads along the pipeline alignment, namely South Street, is known to have been present since the 1930s, with the others dating to the 1960s-1990s era, these non-descript dirt roads, as well-maintained working components of the modern infrastructure, do not demonstrate any distinctively historical characteristics, nor did the background research yield any evidence of potential significance. As such, they are not considered potential “historical resources” and require no further study.

Based on these findings, and pursuant to PRC §21084.1, CRM TECH recommends to the PPHCSD a determination of *No Impact* regarding “historical resources.” No further cultural resources investigation is recommended for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – 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.”

Per the above discussion and definition, no archaeological sites or isolates were recorded within the project boundaries; thus, none of them requires further consideration during this study. In light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the project:

- No historical resources within or adjacent to the project area have any potential to be disturbed as they are not within the proposed area in which the facilities will be constructed and developed, and thus, the project as it is currently proposed will not cause a substantial adverse change to any known historical resources.
- No further cultural resources investigation is necessary for the proposed project unless construction plans undergo such changes as to include areas not covered by this study.

However, if any ground disturbing activities are required, the following mitigation measure will ensure that impacts to any buried cultural materials that may be discovered during earth moving activities is carried are less than significant:

CUL-1 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.

With the incorporation of the above mitigation measures, 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 Incorporated* – 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 following measure, which expands on the legal requirements pertaining to discovery of human remains, shall be implemented by the project:

CUL-2 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – This project proposes the development of two new wells. Each well would be constructed with a 150-500 HP 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 construction workers will be limited due to the small size of the project and site. Demolition, beyond the removal of small sections 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 two new wells that will pump water continuously to contribute to the District’s existing potable water distribution center. No new employees are anticipated to be required in support of the project once the wells are in operation. The project will be supplied power from Southern California Edison (SCE). Additionally, no backup generators will be installed at the site; the wells will be equipped with switchgear to utilize the District’s portable generators in case of emergency power failure. As such, the project is not anticipated to require a significant amount of electricity in the context of existing available power sources. 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 with 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, SCE is presently in compliance with State renewable energy supply requirements and SCE will supply electricity to the project. The proposed project does not include any substantive new stationary or mobile sources of emissions, and therefore, by its very nature, will not generate substantive amounts of energy demand from project operations. The project does not propose a trip-generating land use or facilities that would generate any substantive amount of on-going energy demands. While it is anticipated that the project would require intermittent maintenance, such maintenance would be minimal requiring a negligible amount of traffic trips on an annual basis. As such, 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. Ground Rupture

No Impact – According to the San Bernardino Countywide Plan Earthquake Fault Zone Map (Figure VII-1), the proposed project sites are located in an area that has not been mapped as containing geologic hazards, and therefore are not located in an Alquist Priolo Earthquake Fault Zone. The nearest fault zone is approximately about 7 miles to the south at the San Gabriel 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 sites, as with most of southern California, are located 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 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 Countywide Plan Earthquake Fault Zone Map (Figure VII-1). 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 Countywide Plan Liquefaction & Landslides Map (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 Countywide Plan Liquefaction & Landslides Map (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 Incorporated* – During construction, the project sites have a potential for soil erosion. The disturbance associated with trenching the pipeline alignment within the project sites to connect to the District’s distribution system, as well as site clearing and grading where each well will be developed, may result in soil erosion. The project may result in exposing some soil to erosion during site grading activities before each well is drilled. The proposed well development project will result in land disturbance in the areas that will require construction within roadways and adjacent rights-of-way to accommodate the trenching required to install the transmission pipeline. Adequate drainage facilities exist to accommodate existing drainage flows, and no change in drainage will result once the roadways are repaved or recompacted and the pipelines are in place belowground. This project will result in the disturbance of more than one acre of land and will require filing a Notice of Intent (NOI), securing a National Pollutant Discharge Elimination System (NPDES), general construction stormwater discharge permit, and preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include but not be limited to the following measures to mitigate potential impacts associated with erosion and surface water quality degradation during construction:

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.

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.

GEO-5 The District 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. *Less Than Significant Impact* – The coarse alluvial soils located at the project sites exhibit stability. Based on a review of the United States Department of Agriculture (USDA) Natural Resource Conservation Service Web Soil Survey of the project footprint, the soil underlying the project sites are Cajon Sand¹ and Manet Coarse Sand² (Appendix 4). The Cajon series is well drained, and is in a low runoff class, while the Manet series is well drained with slow runoff and moderately rapid permeability. This soil class is somewhat excessively drained; negligible to low runoff; and has rapid permeability. Best management practices (BMPs) have been identified in the preceding discussion to manage the wind and water erosion issues.

As stated under issues VII(a[iii]) and VII(a[iv]) above, the project footprint traverses is not located in areas that are susceptible to landslides and liquefaction. This indicates that the project footprint and general area are unlikely to be underlain by unstable soils, or be affected by subsidence, lateral spreading, or collapse. Furthermore, damage to pipelines can occur, but can be repaired and placed back into operation with no loss of human life. 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 two wells at two locations with associated pipelines and pipeline connections within the Community of Phelan. As stated above, the USDA Web Soil Survey indicates that the majority of the project area of potential effect (APE) is underlain by Cajon Sand and Manet Coarse Sand. 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. Expansive soils are typically in the clay soil family, which are not present within the project footprint; furthermore, while damage to pipelines can occur,

¹ https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CAJON.html

² https://soilseries.sc.egov.usda.gov/OSD_Docs/M/MANET.html

damaged pipelines can be repaired and placed back into operation with no loss of human life. Given the above, the proposed project would have a less than significant potential to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

- 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 Incorporated* – The potential for discovering paleontological resources during development of the project is considered highly unlikely based on the fact that the project area is underlain by granite bedrock and the alluvial soils/sediment is relatively young. No unique geologic features are known or suspected to occur on or beneath the project footprint. 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:

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's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the “Air Quality and GHG Impact Analyses for Phelan Piñon Hills Community Services District, Wells No. 15 and 16 Development Project, Phelan, California” prepared by Giroux and Associates dated October 26, 2021. This document is provided as Appendix 1 to this document.

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 (CO₂e). The daily threshold is 548,000 lbs/day and the annual threshold is 100,000 MT/year.

Construction Activity GHG Emissions

In response to the requirements of SB97, the state Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate”. The most common practice for infrastructure/combustion GHG emissions quantification is to use a computer model such as CalEEMod.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not

have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

The MDAQMD has developed significance guidelines for CO₂-equivalent emissions as shown in Tables VIII-1 and VIII-2. Daily and annual construction emissions are much less than their associated thresholds.

**Table VIII-1
 DAILY EMISSIONS (lbs/day)**

Maximal Construction Emissions	CO ₂
2022	
Single Well	5,277.2
2 Wells	10,554.4
Pipeline	2,023.9
Total	12,578.3
MDAQMD Thresholds	548,000
<i>Exceeds Thresholds?</i>	<i>No</i>

**Table VIII-2
 ANNUAL EMISSIONS (metric tons per year)**

Maximal Construction Emissions	CO _{2e}
2022	
Single Well	55.10
2 Wells	110.20
Pipeline	53.80
Total	164.01
MDAQMD Thresholds	100,000
<i>Exceeds Thresholds?</i>	<i>No</i>

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

Operational GHG Emissions

Operation of the new wells would not require any shifts or employees as they will be monitored and controlled remotely. However, each of the two new production wells would require up to 1.5 million KWH to operate per year (if operated full time).

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 CO₂(e).

The new pumping operations for this project are expected to consume 1.5 million KWH per well if operations occur full time. Assuming a 50% load factor, this would translate to an annual average of 750 MW per year in increased project electrical consumption. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California’s electrical resource calculated as follows:

$$750 \text{ MWH/year} \times 0.331 \text{ MT/MWH} \times 2 \text{ pumps} = 496.5 \text{ MT/year}$$

Construction emissions were shown in Table 7 to create 164.01 MT of CO₂(e). The addition of 496.5 MT will not create an exceedance of the 100,000 MT threshold. Both the construction and operations GHG emissions are far below the threshold for impact significance.

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 of the proposed PPHCSD wells is anticipated to require treatment prior to connecting to the District’s existing distribution system. It is anticipated that both well sites would store chemicals required for the treating of water extracted from the well. It is unknown at this time what treatment will be required for the wells to meet the standards of the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW). However, the proposed project is anticipated to install a structure to house the sodium hypochlorite required to chlorinate the water extracted at both Wells No. 15 and 16, and this substance is considered a potentially hazardous substance. The District will comply with State standards. Furthermore, the District 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. The District 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 Incorporated* – 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:

HAZ-1 *All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall 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 a licensed disposal or treatment facility. This measure shall be incorporated into the SWPPP prepared for the proposed project. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.*

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. Additionally, roadways adjacent to and within the project footprint are public roads that can be used by any common carrier to or from the local area. For such transporters, the existing regulatory mandates ensure that the hazardous materials and any hazardous wastes transported to and from the project site will be properly managed. These regulations are codified in Titles 8, 22, and 26 of the California Code of Regulations. For example, maintenance trucks for construction equipment must transport their hazardous materials in appropriate containers, such as tanks or other storage devices. In addition, the haulers must comply with all existing applicable federal, state and local laws and regulations regarding transport, use, disposal, handling and storage of hazardous wastes and material, including storage, collection and disposal. Compliance with these laws and regulations related to transportation will minimize potential exposure of humans or the environment to significant hazards from transport of such materials and wastes.

The proposed 5,500 LF pipeline required to connect the proposed Well No. 15 will be installed underground within existing compacted dirt roadways; once constructed, the roadways will be recompacted to their original condition. Thus, once constructed, the pipelines will not require or result in transport, use, or disposal of hazardous materials. Therefore, with implementation of the identified mitigation measure, impacts are considered less than significant.

- c. *Less Than Significant Impact* – The two well sites are not 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 more than 5 miles to the south of the project site nearer to Highway 138. 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. *No 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 to 5,500 radius of the proposed well development sites and pipeline alignment (Figures IX-1 through IX-2). 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 impacts under this issue are anticipated and no mitigation is required.
- e. *No Impact* – According to the San Bernardino Countywide Plan Airport Map (Figure IX-3), the closest public airport to the Well sites is the Southern California Logistics Airport, which is located approximately 12 miles to the northeast of the project site. The nearest private airports are Gray Butte Field, Krey Field, and Brian Ranch Airports are all located more than 5 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 Incorporated* – 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 pipelines that will connect each new well to the District’s potable water system will involve a small amount of work within Sheep Creek Road, Azalea Road, South Road, and Soldea 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. At no time during the installation of pipeline will the entirety of these roadways be closed. The project would require one lane to be closed, which would allow for through-traffic so long as a traffic management plan is developed and implemented. As such, please refer to the Transportation/Traffic Section of this document, Section XVII. Mitigation to address any potential traffic disruption and emergency access issues on area roadways are included in this section. Impacts are reduced to a less than significant level with mitigation incorporated. No additional mitigation is required.
- g. *Less Than Significant Impact* – The proposed project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The proposed project area is located about 7 miles north of the San Gabriel Mountains. The proposed project is located near a wildland fire hazard area, but according to Section 8 – Safety of the Phelan Community Plan (p.54), fire hazard severity is very high only in limited areas, south of Highway 138. Furthermore, according to the CALFIRE Fire Hazard Severity Zone Map (Figure IX-4), the proposed project is not located in a high or very high fire hazard severity zone. 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 the well sites would not be 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 significant wildland fire hazard. Impacts under this issue are considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(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,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – Installation of the proposed wells 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, PPHCSD 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:

HYD-1 The District 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, including sediment or other material.

HYD-2 The District 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 District 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 nature of the proposed project sites—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 are moderate. To address stormwater and accidental spills within this environment, any new project must ensure that site development implements a Storm Water Pollution Prevention Plan (SWPPP) to control potential sources of water pollution that could violate any standards or discharge requirements during construction and a Water Quality Management Plan (WQMP) to ensure that project-related surface runoff meets discharge requirements over the short- and long-term. In the short term, construction activities will have some potential to affect the quality of stormwater discharged from the project sites. Land disturbance activities could result in erosion and sedimentation immediately adjacent to the disturbed project alignment. Spills or leaks of petroleum products used by construction equipment could also potentially affect the quality of surface water. The project will be required to obtain a general construction National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit prior to the start of construction. Obtaining coverage under the General Construction NPDES permit requires the preparation and implementation of the SWPPP, which specifies Best Management Practices (BMPs) that must be implemented during construction of this specific project. Compliance with the terms and conditions of the NPDES and the SWPPP, as well as the WQMP, is mandatory and is judged adequate mitigation by the regulatory agencies for potential impacts to stormwater during construction activities. Implementation of the following mitigation measure is also considered adequate to reduce potential impacts to stormwater runoff to a less than significant level.

HYD-3 The District shall require 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 Incorporated* – 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). All water delivered by the District to each customer's faucet comes directly from two local groundwater basins. Together, the groundwater basins contain over 600,000 acre-feet of water, or over 195 billion gallons.³ The District pumps groundwater from the Oeste Subarea and Alto Subarea of the Mojave Basin Area (MBA) and from the Antelope Valley Adjudication Area (AVAA). The proposed wells would pump from the Oeste Subarea of the MBA. The MBA was adjudicated by the Mojave Basin Area Judgment (MBA Judgment) that was settled in 1996 due to rapid growth within the area and overdraft issues. As a Producer utilizing groundwater within the adjudicated MBA, the District is subject to the MBA Judgment, and as such, if it exceeds the allotted Free Production Allowance, the Producer must pay the Mojave Water Agency (MWA)—the Watermaster of the MBA—a Replacement Water Assessment. MWA has invested in a groundwater replenishment system to manage and help sustain the groundwater resources of the MBA since the MBA Judgment. Purchased water from the State Water Project (SWP) has been discharged to the MBA via the Mojave River Pipeline since 2006.⁴ The proposed new wells are each forecast to increase groundwater extraction by an estimated 394 million gallons per year (MGY). The proposed depth of water production from these well is anticipated to be approximately 1,000 feet below the ground surface (bgs), 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 the District to ensure that other wells within this local aquifer do not incur a significant adverse impact from pumping the proposed well.

HYD-4 The District 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, the District 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 MBA 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.

³ <https://www.pphcsd.org/transparency.html>

⁴ Phelan Piñon Hills Community Services District Urban Water Management Plan 2020

c. i-iii

Less Than Significant With Mitigation Incorporated – 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 footprint varies 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. 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 and pipeline installation. 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.

HYD-5 The District 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 wells and associated pipelines, and to control urban runoff after the project is constructed and the wells (if approved for operation post well testing) are in operation.

The paved and dirt roadways within which the pipelines will be installed will be returned to their original condition upon completion of the placement of each section of pipeline. The roadways will generate essentially the same amount of stormwater as they do at present because no expansion of roadway or change in drainage patterns are anticipated. Conveyance of stormwater to drainage alignments and storm drains within these roadways will remain intact and unchanged once construction has been completed. No substantial change to the existing drainage pattern will result from project implementation. Adequate drainage facilities exist to accommodate pre- and post-project 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 Countywide Plan Flood Hazard Map, provided as Figure X-1, neither well site is located within 100-year flood zone, however the proposed Well No. 16 site is located within the 500-year flood zone area (0.2% Annual Chance Flood Hazard). Given that the well 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 to contain the sodium hypochlorite, and the well will be located under a shaded, corrugated metal structure), the installation of this well at the Well No. 16 site is not anticipated to redirect or impede flood flows. Furthermore, the location of the wells will be outside of roadways, and drainage will be managed within the site. The proposed pipelines will be installed belowground, and once installed, the roadways will be returned to their original condition, thus minimizing the potential for drainage patterns to be altered. 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, neither well site is located within 100-year flood zone, though Well No. 16 is located within a 500-year flood zone (Figure X-1). The groundwater extracted from the proposed wells are 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 Sustainable Groundwater Management Act (SGMA) “requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.”⁵ The San Bernardino Countywide Plan Groundwater Basin Map indicates that the Mojave River Basin is under very low priority (Figure X-2). As the Mojave River Basin is under very low priority, it is currently not required to prepare a sustainable groundwater management plan and the project will not interfere with the overall water quality of the MBA 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 have experienced overdraft in the last 10 years, 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.

⁵ <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – According to the San Bernardino Countywide Plan Land Use Map, the Land Use designations of the project sites are Rural Living (RL) PH/RL-5. Though the proposed project includes pipeline alignments, the land uses surrounding the project footprint are all designated for Rural Living. Proposed pipelines are anticipated to be constructed primarily within existing public rights-of-way, and the wells will be installed on sites that do not contain any structures or housing. There are no features of the wells that would create a barrier or physically divide an established community, particularly given that wells are integrated into the landscape unobtrusively. Thus, 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. The wells would be located on vacant or mostly vacant parcels that contain existing water related facilities. In general, water production facilities are zone independent because they are needed to support all types of land uses. Per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. Therefore, any project facilities that could potentially conflict with local General Plan land use designations would not be subject to a conditional use permit or general plan amendment. The County of San Bernardino Countywide Plan supports the provision of adequate infrastructure; therefore, the project would not conflict with the goals and policies of the applicable General Plans. 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- 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, the project sites are located on alluvial soils. Alluvial soils are not a unique soil classification in the project vicinity, as well as in southern California. In addition, neither the project sites nor surrounding vicinity have been mined in the past. If mineral resources were present on the project sites, then there would have been historic operations on the project sites to commercially extract these resources. Based on this information, any impacts to mineral resources from implementing the Project will be considered less than significant. No mitigation is required.
- b. *No Impact* – Please reference response XII(a) above. While the San Bernardino Countywide Plan does contain Goals and Policies that related to mineral resources (Goal NR-6.1, NR-6.2, and NR-6.3 of the San Bernardino County General Plan)⁶, the project sites have not been historically mined for important mineral resources, and are not located on the Countywide Plan Mineral Resource Zone Map⁷ (Figure XII-1). 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.

⁶ <http://countywideplan.com/policy-plan/beta/nr/>

⁷ <https://www.arcgis.com/apps/webappviewer/index.html?id=9948b9bc78f147fd9ea193c2ce758081>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

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 No. 15 and 16 are located on vacant lots that would be adjacent to land that is designated for rural living. Well No. 15 would be located about 500 feet from the nearest sensitive receptor, which has been measured at the exterior of the nearest adjacent resident. Well No. 16 would be located about 500 feet from the nearest sensitive receptor, which has also been measured at the exterior of the nearest adjacent resident. The pipelines would be installed within roadways that would traverse rural residential neighborhoods, and therefore would be within about 75 feet from the nearest receiving structure during construction, but would not generate noise once installed belowground.

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.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project footprint is located in relatively low background noise environments. Local sources of noise include modest traffic along Sheep Creek Road, and minimal traffic along Crudup Road, Azalea Road, South Road, Soldea Road and Hatillo Road 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 1,000 ft below ground surface (bgs) and will occur over a 24-hour period until the well is completed to the design depth of about 1,000 ft bgs for about 6 to 10 weeks for each well. 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 49 to 59 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 10 weeks of 24 hour well drilling per well is anticipated to be required. Additionally, it is anticipated that one well will be installed at a time, as such it is anticipated that 5 months of drilling will be required in total to install at the two wells. 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 concurrent with the determination that each well is viable to produce drinking water that then can be connected to PPHCSD's service area. The project will install a total of 5,900 LF of pipeline in addition to the piping that will be installed on each well site as described in the project description. 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:

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 District 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.

Well pump 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.

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. As shown in Table XIII-1, the use of vibration-generating construction equipment would generate vibration levels ranging from 0.003 to 0.089 in/sec PPV, or 58 to 94 VdB, at a distance of 25 feet. Table XIII-2 summarizes the minimum

distances at which vibration generated by construction equipment would attenuate to less than significant levels at various receivers. CBP construction activities utilizing equipment at the minimum distances shown in Table XIII-2 would have a less than significant construction vibration impact.

**Table XIII-1
VIBRATION LEVELS MEASURED DURING CONSTRUCTION ACTIVITIES**

Equipment	PPV at 25 feet (in/sec)	VdB at 25 feet
Large Bull Dozer	0.089	87
Small Bull Dozer	0.003	58
Drill Rig ¹	0.089	87
Loaded Truck	0.076	83
Vibratory Roller	0.21	94
Jackhammer	0.035	79

PPV = peak particle velocity; in/sec = inches per second; VdB = vibration decibels

¹ Vibration levels from caisson drilling were used as a proxy for drill rigs.

Source: FTA. 2018. *Transit Noise and Vibration Impact Assessment Manual*.

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed October 2021).

**Table XIII-2
VIBRATION LEVEL CONTOURS DURING CONSTRUCTION ACTIVITIES**

Equipment	Minimum Distance to Receiving Land Use for a Less Than Significant Impact (feet)			
	Historic Sites ¹	All Other Structures ²	Daytime Vibration-Sensitive Land Uses ³	Nighttime Vibration-Sensitive Land Uses ⁴
Large Bull Dozer	20	15	10	55
Small Bull Dozer	5	5	5	5
Loaded Truck	20	10	10	35
Drill Rig ⁵	20	15	15	55
Vibratory Roller	40	30	25	110
Jackhammer	10	5	5	25

PPV = peak particle velocity in inches per second; VdB = vibration decibels

Note: Distances are rounded to the nearest 5 feet.

¹ Distance to the 0.12 in/sec PPV contour (FTA construction vibration damage criteria for buildings extremely susceptible to vibration damage, as shown in Table XIII-1).

² Distance to the 0.2 in/sec PPV contour (FTA construction vibration damage criteria for non-engineered timber and masonry buildings, as shown in Table XIII-1).

³ Distance to the 0.24 in/sec PPV contour (the level at which vibration associated with transient vibration sources is distinctly perceptible, as shown in Table XIII-1).

⁴ Distance to 80 VdB contour (the recommended threshold to evaluate human annoyance impacts at residences and buildings where people normally sleep).

⁵ Caisson drilling was used as a proxy for drill rigs.

For well drilling activities, the proposed project would be installed outside of the minimum distances from historic and other structures, daytime vibration-sensitive land use, and nighttime vibration-sensitive land use, and as such, 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 500 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. The installation of pipeline may require the use of jackhammer, and ultimately may

require large and small bull dozers, loaded trucks, and vibratory rollers to recompact and pave roadways where applicable. Given the 75 foot distance from nearby sensitive receptors and structures, the installation of pipelines would be located outside of the minimum distance to receiving land use for a less than significant impact for historic and other structures, daytime vibration-sensitive land uses, and as such, 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 the San Bernardino Countywide Plan the closest public airport to the project site is the Southern California Logistics Airport, which is located approximately 13 miles to the northeast of the project site. Similarly, the San Bernardino Countywide Plan Gray Butte Field, Krey Field, and Brian Ranch Airports are all located more than 7 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 two new wells with connecting pipelines in the community of Phelan within San Bernardino County, which will connect to the District’s existing potable water distribution system. Though construction of the new District wells will require a temporary work force, this is short-term and with a maximum of about 11 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 sites on an as needed or scheduled maintenance basis. It is anticipated that these employees will be drawn from the District’s existing work force. The development of 2 new wells will be important to provide water to the existing population within PPHCSD’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 District’s service area is considered less than significant. No mitigation is required.
- b. *No Impact* – The proposed project will occur within two vacant sites located in the District’s service area. Well #15 is located at the northwest corner of the intersection of Crudup Road and Azalea Road with a pipeline proposed within Azalea Road south leading from the site, then east along South Road, then south along Soldea Road then east along Hatillo Road past Sheep Creek Road where the pipeline will connect with an existing connection at the District’s Reservoir site at 14425 Sheep Creek Road. The second well is located just west and north of the intersection of Sheep Creek Road and Cayucos Drive. 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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. The nearest fire station to the proposed project is San Bernardino County Fire Station #10 and is located approximately about 5 to 7 miles south of the proposed project footprint at the address 9625 Beekley Rd, Phelan, CA 92371. The proposed project may require the use of chemicals such as sodium hypochlorite at both well sites. 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 two wells that will connect to the existing PPHCSD water distribution system. The only possible structures proposed—a structure to enclose the sodium hypochlorite at each well site and a shaded structure for each well at each well site—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 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, about 5 miles south of the proposed project footprint. 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 wells would not be readily accessible to the public as each well will be fenced to prevent public access at each well. This will minimize the potential for 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 located about 5 miles to the south of the proposed project footprint around the Sheep Creek Road and Phelan Road corridor. The project would not induce population growth within the District’s service area, as operation of the proposed well is not

anticipated to require PPHCSD to hire additional personnel, and furthermore, is needed to address the growing demand for water within the District's service area. Thus, the proposed project will not generate an increase in elementary, middle, or high school population. Therefore, no adverse 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 wells will not require any additional District personnel once the proposed well has been installed. There are no parks within 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 attributable to the proposed project, implementation of the proposed project would not cause a substantial adverse physical impact to any parks within the District's service area. 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 services will increase as a result of the proposed project. No impacts under this issue are anticipated, and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – As previously discussed in Section XIV, Population and Housing and Section XV, 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 two wells to serve the District’s service area and will ultimately connect to the District’s existing water distribution system through connecting pipelines, as well as on site piping. The well will be installed and operated by the District. 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 two vacant sites, neither of which have been designated for recreational use nor contain recreational uses at present. Furthermore, the proposed project is not forecast to induce substantial population growth as the wells will operate without daily in-person supervision; visits will occur by District employees on an as needed or scheduled maintenance basis. Therefore, no impacts are anticipated to occur under this issue, and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. *Less Than Significant With Mitigation Incorporated* – The proposed well development project is located within the community of Phelan within San Bernardino County. Construction of the wells will be limited to within the boundaries of each of the project well sites, though each well will require a connection to the District’s existing potable water distribution system. Though Well No. 16 will require a short period of construction within the corresponding roadways adjacent to the project site, Well No. 15 will require about 5,900 LF of pipeline to connect to the District’s system at its reservoir site at 14425 Sheep Creek Road. The roadways within which construction will occur are as follows: Azalea Road, South Road, Soldea Road, Hatillo Road, and Sheep Creek Road. In the short term, construction of each proposed well and pipeline will result in the generation of an average of about 10-15 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 at Well No. 16 for a period of approximately one to two weeks, while the installation of the proposed Well No. 15 pipeline would occur over a period of 60 to 90 days. 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 Azalea Road, South Road, Soldea Road, Hatillo Road, and Sheep Creek 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.

TRAN-1 *The construction contractor will provide adequate traffic management resources, as determined by the District. The District 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 District 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 District shall require 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 about 5 to 7 miles of the District'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 measures, implementation of the project would have a less than significant impact under this issue.

- b. *Less Than Significant Impact* – The proposed project would install two new wells and connecting pipelines within Azalea Road, South Road, Soldea Road, Hatillo Road, and Sheep Creek Road. A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under Response (a) above, construction vehicles on local roadways would be temporarily increased during project construction due to the presence of construction vehicles and equipment. Increases in VMT from construction would be short-term, minimal, and temporary. The duration of the potential significant impacts would be limited to the period of time needed to construct individual projects. As such, VMT standards, which are intended to monitor and address long-term transportation impacts resulting from future development, do not apply to temporary impacts associated with construction activities. Therefore, no construction impact associated with VMT per CEQA Guidelines Section 15064.3 would occur.

The proposed project would not cause substantial long-term/ongoing transportation effects, because proposed project facilities, once constructed, would only require maintenance activities similar to those that occur under existing conditions and no increase in employees due to the implementation of the proposed project is forecast to occur. The Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) states, "Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant VMT impact." Scheduled maintenance visits would also occur in the future with one trip per maintenance event, with occasional trips also occurring when unforeseen circumstances arise that would require maintenance or repair of certain facilities. As such, the proposed project would generate less than 110 trips per day, which is the recommended screening threshold. Therefore, the proposed project would not result in a substantial addition of VMT per service population or induce additional roadway vehicle travel by increasing physical roadway capacity or adding new roadways to the network. Therefore, no operational impact associated with VMT per CEQA Guidelines Section 15064.3 would occur.

Thus, development of the District's Well No. 15 and No. 16 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 Incorporated* – The proposed project would not substantially increase hazards due to a design feature or incompatible uses. The construction of the wells and supporting pipelines would occur at two locations and within roadways within the District'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 the District's distribution system, the proposed project will not alter any adjacent roadways. The construction within the adjacent roadway to Well No. 16 will be limited to approximately one to two weeks per well site, while the installation of pipeline required to connect Well No. 15 to the District's system would occur over a period of about 60 to 90 days. Sheep Creek Road experiences modest traffic given that it is a major thoroughway to Highway 138. As stated under issue XVII(a) above, 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 roadway 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 Incorporated* – Please refer to the discussion under issue XVII(a) above. The proposed project may require closure of one lane within the roadway in which the well connection pipeline is installed. This effort will occur within Azalea Road, South Road, Soldea Road, Hatillo Road, and Sheep Creek 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 the pipeline 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: 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:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

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).

Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – PPHCSD has been contacted by one Tribe under Assembly Bill (AB) 52: the San Manuel Band of Mission Indians. The tribe was contacted to initiate the AB-52 process on September 28, 2021 to notify the tribes of the proposed project through mailed letters. During the 30-day consultation period that concluded on October 27, 2021, no response was received from the tribe. Therefore, consultation has concluded with no request from any tribe to be included as a consulting party for this project. Therefore, with no input from the Tribe, the analysis and conclusions under the Cultural Resources Section above shall ensure that no

significant impacts to any Tribal Cultural Resources occur. As such, MM **CUL-1** and **CUL-2**, which require earthmoving or grading activities in the immediate area of any cultural materials to be halted and for an onsite inspection to be performed immediately by a qualified archaeologist, impacts to tribal cultural resources would be less than significant. No further mitigation is required beyond that which was identified under Section V, Cultural Resources, above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. Water
Less Than Significant Impact – The proposed project is a well development project within the PPHCSD 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 wells will extract groundwater from the Upper Mojave River Valley Groundwater Basin. The amount of water the District plans to extract from the Basin is minimal compared to the overall amount of water extracted the Groundwater Basin. Payment of fees to MWA will ensure that impacts related to water supply are minimized. As such, though the project would install two wells that will connect to District'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 two wells and connecting pipelines to connect to the District'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 onsite 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 two 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. The project will install internal electricity, as shown on Figures 3 and 5. 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, the proposed 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 two PPHCSD 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 two PPHCSD wells would not require installation of wireless internet service or phone service. 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 two wells to supply water to the District's service area. The proposed wells will extract groundwater from the Upper Mojave River Valley Groundwater Basin. The proposed wells would pump from the Oeste Subarea of the MBA. As a Producer utilizing groundwater within the adjudicated MBA, the District is subject to the MBA Judgement, and as such, if it exceeds the allotted Free Production Allowance, the Producer must pay the Mojave Water Agency (MWA)—the Watermaster of the MBA—a Replacement Water Assessment. The Groundwater Basin has several sub-basins that experienced overdraft (total water use was greater than the supply) in 2019-2020, however, for the Oeste sub-basin, the supply and demand were balanced⁸. MWA indicates that this is unlikely to remain stable and that as the population grows, the balance of supply and demand within this basin is unlikely to be sustainable at the current level of water use per capita. However, if the Oeste sub-basin experiences overdraft in the future, the Watermaster would replace 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 394 MGY. 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 MBA will be less than significant. Based on this information, it is anticipated that there will be available water supply within the MBA to support the District's new well pumping operations. Therefore, the proposed project is anticipated to have sufficient water supplies

⁸ https://www.mojavewater.org/files/27AR1920_Revised.pdf

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 wells. 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

a-d. *No Impact* – The proposed project is not located in a wildland fire hazard area, as 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 CalFire Fire Hazard Severity Zone Viewer Map (Figure IX-1), indicates that the proposed project is not located within a very high fire hazard severity zone and the proposed project is in fact located wither within a moderate fire hazard severity zone, or has not been designated as being located within a fire hazard severity zone. 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 Incorporated* – 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 well sites are each vacant. Though the sites contain vegetation, no sensitive natural biological habitat exists within the project sites; however, mitigation is required to protect desert tortoise, burrowing owl, and nesting birds. The cultural resources evaluation concluded that the project footprint does not contain archaeological or 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 Incorporated* – The project has nine (9) 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, and Transportation 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*, as it would not result in any new residents either directly, through the creation of housing, or indirectly, through the creation of jobs. The above issues require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure

that cumulative effects from the proposed project 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, the project's contribution to significant cumulative impacts would be less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – 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 Phelan Piñon Hills Community Service District proposes to adopt a Mitigated Negative Declaration (MND) for the Phelan Piñon Hills Community Service District Wells No. 15 and 16 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

SUMMARY OF MITIGATION MEASURES

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 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 verify 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 District 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 District 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 District 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 A qualified biologist shall develop a Worker Environmental Awareness Program (WEAP) that will include information on general and special status species within the project area, identification of these species and their habitats, techniques being implemented during construction to avoid impacts to species, consequences of killing or injuring an individual of a listed species, and reporting procedures when encountering listed or sensitive species. Construction crews, foremen, and other personnel potentially working on site will attend this education program and place their name on a sign-in sheet. This briefing shall include provisions of any requirements required for the project. The contractor shall implement Worker Environmental Awareness Program (WEAP) training on the first day of work and periodically throughout construction as needed.

To ensure that no net loss of function and value will occur as a result of the Project, site facilities, equipment staging areas, and excavated soil stockpiles shall be microsited outside stream channels and floodplain areas. Buffer areas shall be identified, and exclusion fencing shall be used to protect the water resource and prevent unauthorized vehicles or equipment from entering or otherwise disturbing the surface waters. Equipment shall use existing roadways to the extent feasible.

- BIO-2 Preconstruction surveys for Desert Tortoise shall be conducted no more than 14 days prior to new ground disturbance within each phase of development to verify that Mojave Desert tortoise remain absent from the project area.

- BIO-3 A qualified biological monitor shall be present during the initial ground disturbing activities (clearing, grubbing and initial grading) to ensure no sensitive resources wander onto the site and to ensure no impacts will result during construction.

- BIO-4 Preconstruction presence/absence surveys for burrowing owl shall be conducted no less than 14 days prior to any onsite ground disturbing activity by a qualified biologist. The burrowing owl surveys shall be conducted pursuant to the recommendations and guidelines established by the California Department of Fish and Wildlife in the "California Department of Fish and Wildlife 2012 Staff Report on Burrowing Owl Mitigation." In the event this species is not identified within the Project limits, no further mitigation is required, and a letter shall be prepared by the qualified biologist documenting the results of the survey. The letter shall be submitted to CDFW prior to commencement of Project activities. If during the preconstruction survey, the burrowing owl is found to occupy the site, Mitigation Measure BIO-2 shall be required.

- BIO-5 If burrowing owls are identified during the survey period, PPHCSD and/or the Applicant shall take the following actions to offset impacts prior to ground disturbance:

Active nests within the areas scheduled for disturbance or degradation shall be avoided until fledging has occurred, as confirmed by a qualified biologist. Following fledging, owls may be passively relocated by a qualified biologist, as described below.

If impacts on occupied burrows are unavoidable, onsite passive relocation techniques may be used if approved by the CDFW to encourage owls to move to alternative burrows provided by PPHCSD and/or the Applicant outside of the impact area.

If relocation of the owls is approved for the site by CDFW, CDFW shall require PPHCSD and/or the Applicant to hire a qualified biologist to prepare a plan for relocating the owls to a suitable site and conduct an impact assessment. A qualified biologist shall prepare and submit a

passive relocation program in accordance with Appendix E (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012) to the CDFW for review/approval prior to the commencement of disturbance activities onsite.

- The relocation plan must include all of the following and as indicated in Appendix E:
- The location of the nest and owls proposed for relocation.
- The location of the proposed relocation site.
- The number of owls involved and the time of year when the relocation is proposed to take place.
- The name and credentials of the biologist who will be retained to supervise the relocation.
- The proposed method of capture and transport for the owls to the new site.
- A description of site preparation at the relocation site (e.g., enhancement of existing burrows, creation of artificial burrows, one-time or long-term vegetation control).

The applicant shall conduct an impact assessment, in accordance with the Staff Report on Burrowing Owl Mitigation prior to commencing Project activities to determine appropriate mitigation, including the acquisition and conservation of occupied replacement habitat at no less than a 2:1 ratio.

Prior to passive relocation, suitable replacement burrows site(s) shall be provided at a ratio of 2:1 and permanent conservation and management of burrowing owl habitat such that the habitat acreage, number of burrows and burrowing owl impacts are replaced consistent with the Staff Report on Burrowing Owl Mitigation including its Appendix A within designated adjacent conserved lands identified through coordination with CDFW and the PPHCSD and/or the Applicant. A qualified biologist shall confirm the natural or artificial burrows on the conservation lands are suitable for use by the owls. Monitoring and management of the replacement burrow site(s) shall be conducted and a reporting plan shall be prepared. The objective shall be to manage the replacement burrow sites for the benefit of burrowing owls (e.g., minimizing weed cover), with the specific goal of maintaining the functionality of the burrows for a minimum of 2 years.

A final letter report shall be prepared by the qualified biologist documenting the results of the passive relocation. The letter shall be submitted to CDFW.

BIO-6 Burrowing owl shall be included as one of the species covered in the WEAP that all construction crews, foremen, and other project personnel potentially working on site shall attend prior to the first day of work.

BIO-7 Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

Cultural Resources

- CUL-1 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-2 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 District 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's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.

Hazards and Hazardous Materials

- HAZ-1 All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall 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 a licensed disposal or treatment facility. This measure shall be incorporated into the SWPPP

prepared for the proposed project. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.

Hydrology and Water Quality

- HYD-1 The District 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, including sediment or other material.
- HYD-2 The District 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 District 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 District shall require 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 The District 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, the District shall offset this impact through provision of water service; or adjusting the flow rates or hours of operation to mitigate adverse impacts.
- HYD-5 The District 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 wells and associated pipelines, and to control urban runoff after the project is constructed and the wells (if approved for operation post well testing) are 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 District 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.
- 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 District. The District 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 District 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 District shall require 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.

REFERENCES

CRM TECH, "Historical/Archaeological Resources Survey Report for Wells No. 15 and No. 16 Development Project, Phelan Piñon Hills Community Services District" dated February 9, 2022

Giroux & Associates, "Air Quality and GHG Impact Analyses for Phelan Piñon Hills Community Services District, Wells No. 15 and 16 Development Project" dated October 26, 2021

Jacobs Engineering Group, Inc., "Phelan Piñon Hills Community Services District, Wells No. 15 and 16 Development Project, Biological Resources Assessment and Jurisdictional Delineation Report" dated February 2022

Phelan Piñon Hills Community Services District Urban Water Management Plan 2020

Websites

https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CAJON.html

https://soilseries.sc.egov.usda.gov/OSD_Docs/M/MANET.html

<https://www.pphcsd.org/transparency.html>

<https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>

<http://countywideplan.com/policy-plan/beta/nr/>

<https://www.arcgis.com/apps/webappviewer/index.html?id=9948b9bc78f147fd9ea193c2ce758081>

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed October 2021).

https://www.mojavewater.org/files/27AR1920_Revised.pdf

FIGURES

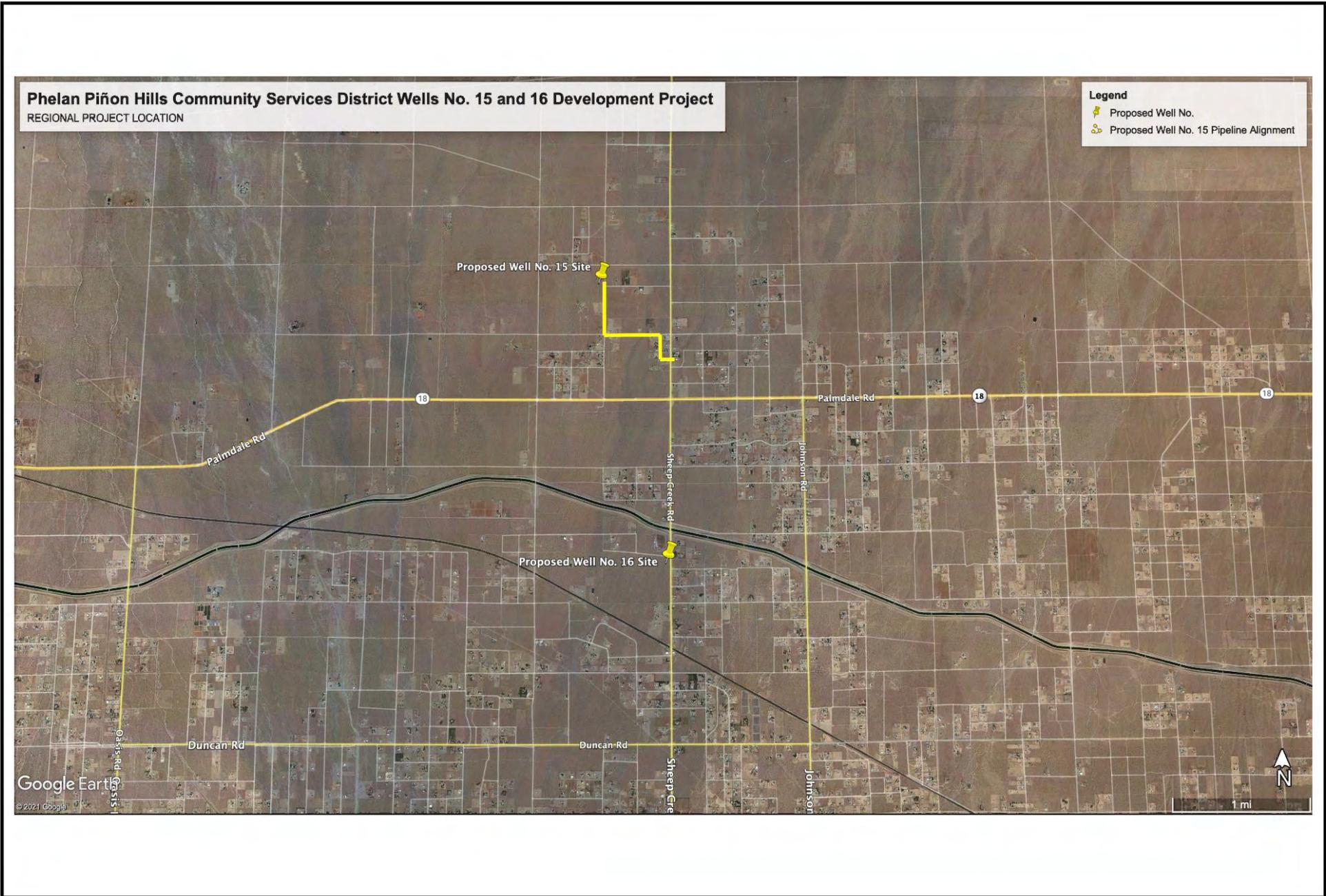


FIGURE 1

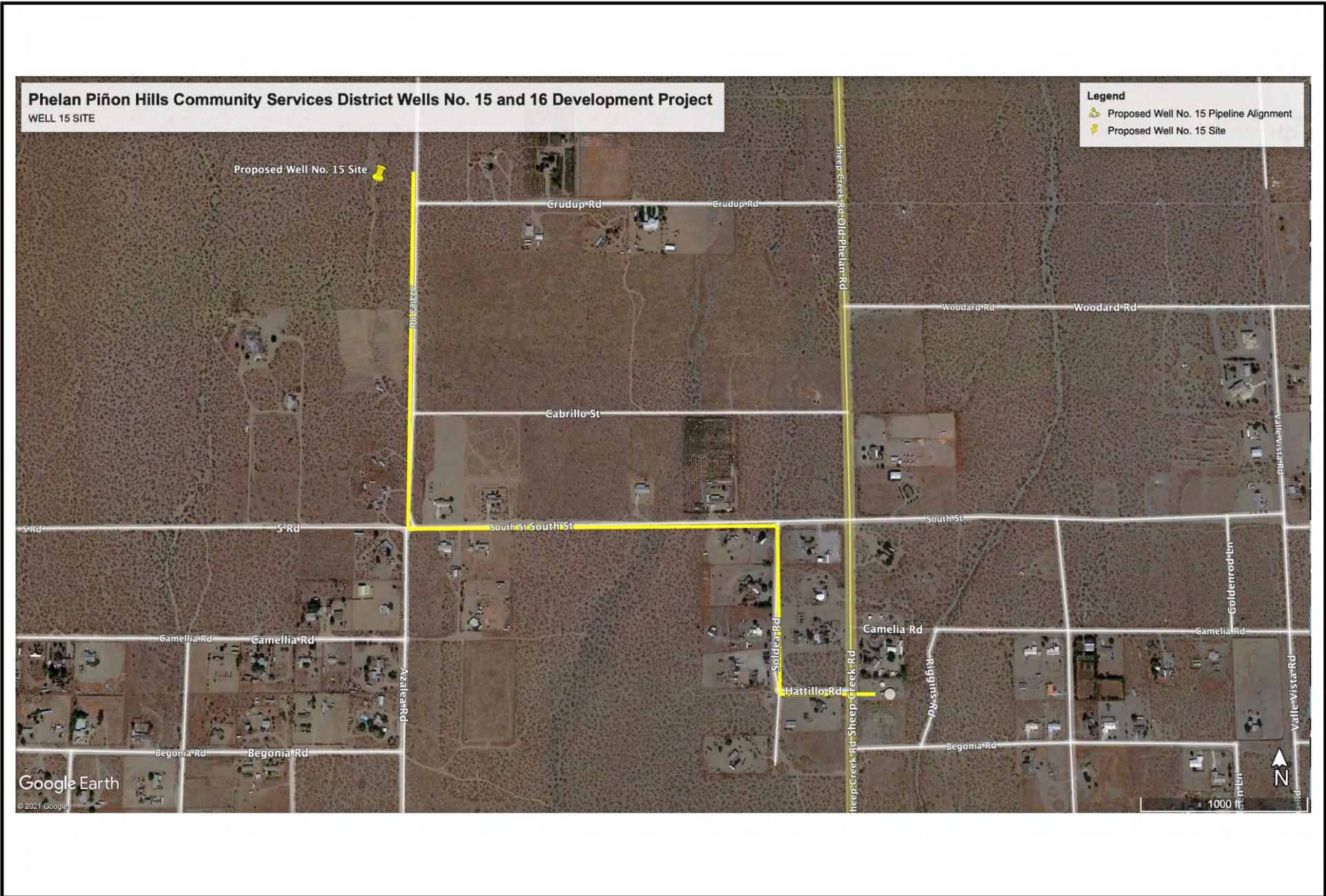


FIGURE 2

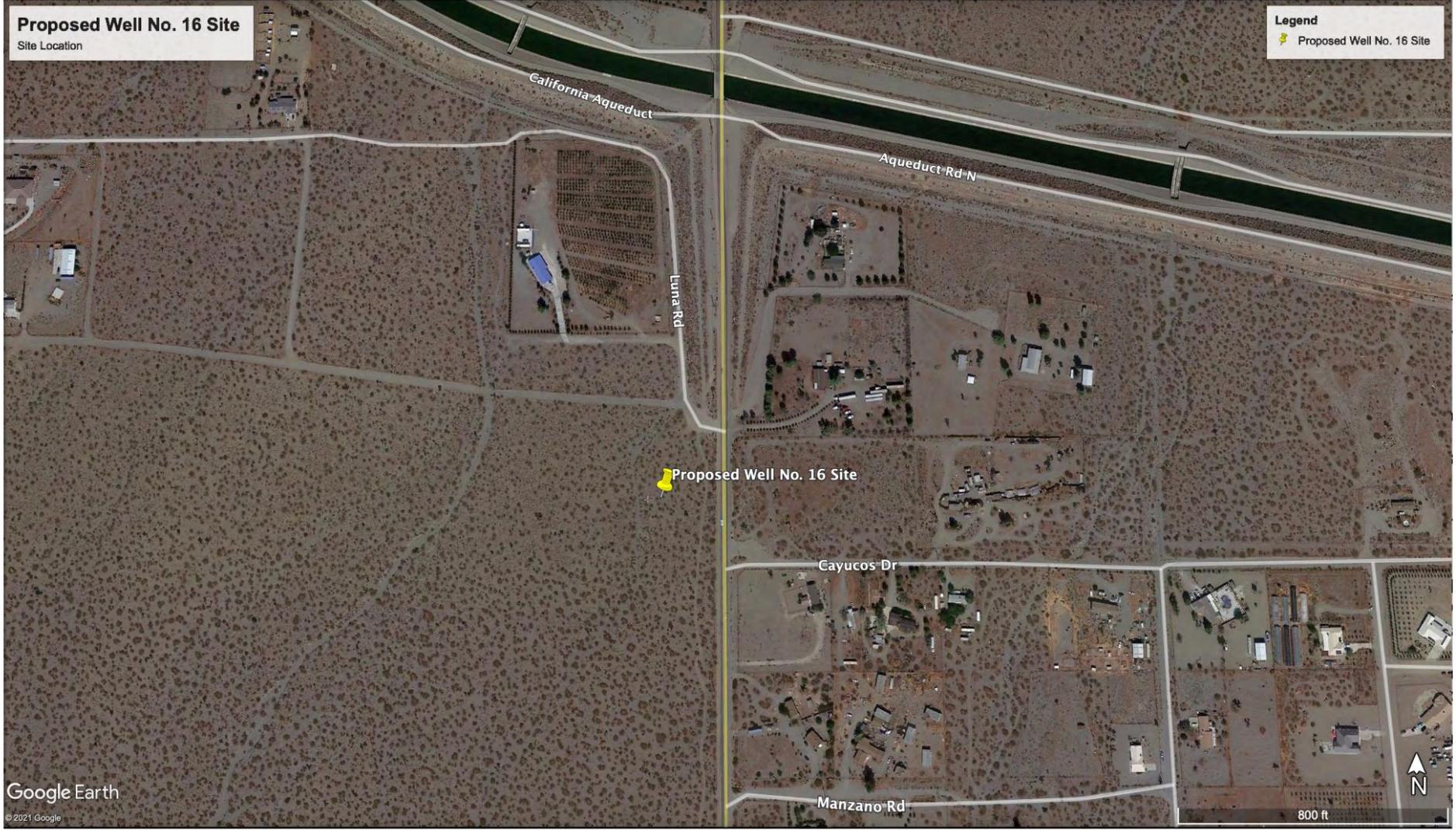


FIGURE 3

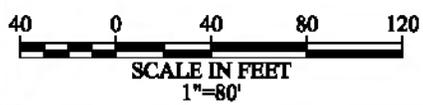
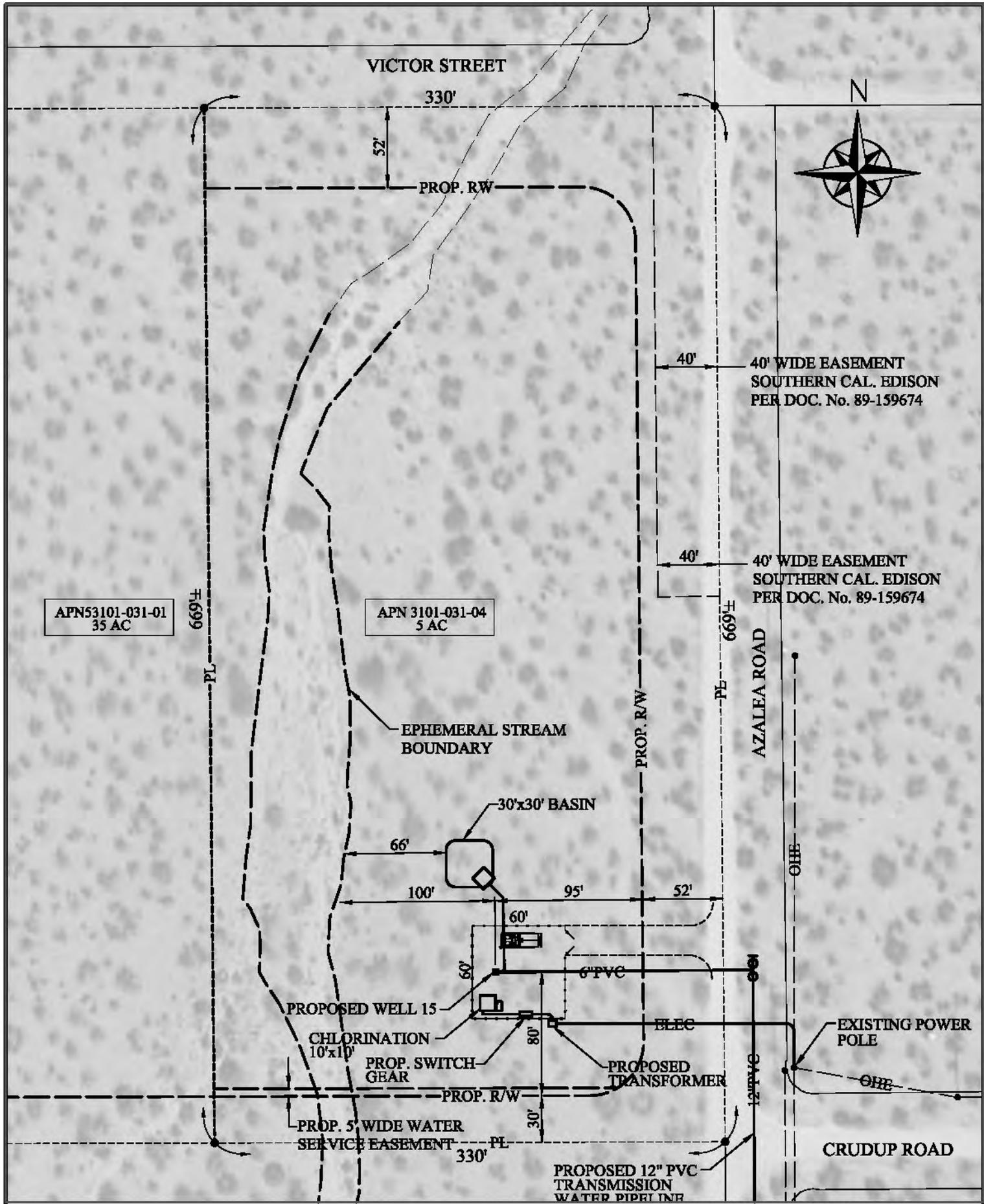
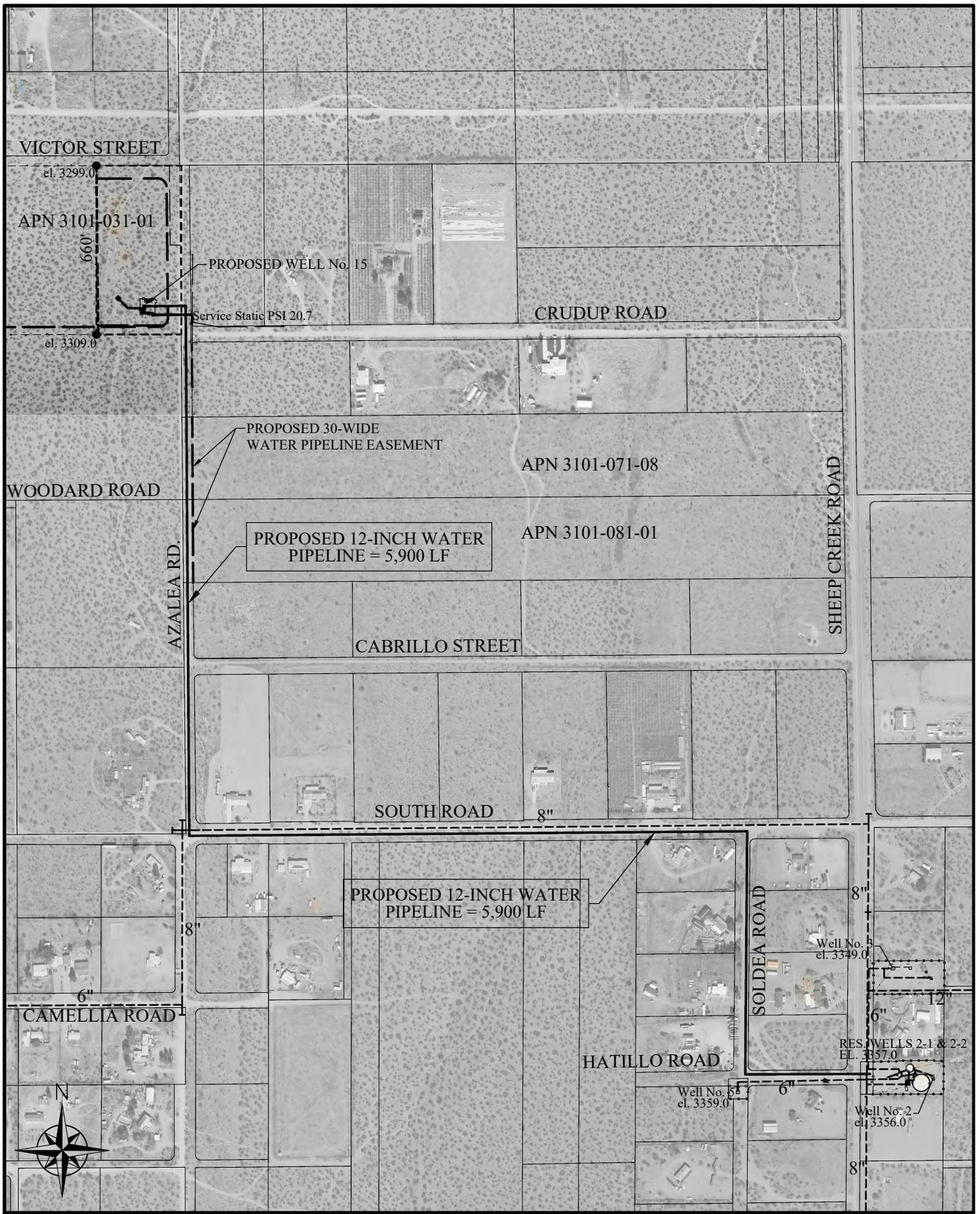


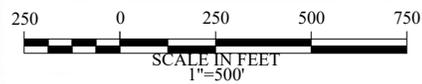
FIGURE 4

**PHELAN PINON HILLS
 COMMUNITY SERVICES DISTRICT**
 APN 3101-031-04
**PROPOSED WELL No. 15
 PRELIMINARY LAYOUT**



PHELAN PINON HILLS
COMMUNITY SERVICES DISTRICT
 PROPOSED WELL No. 15
 TRANSMISSION PIPELINE
FIGURE 5

FIGURE 5



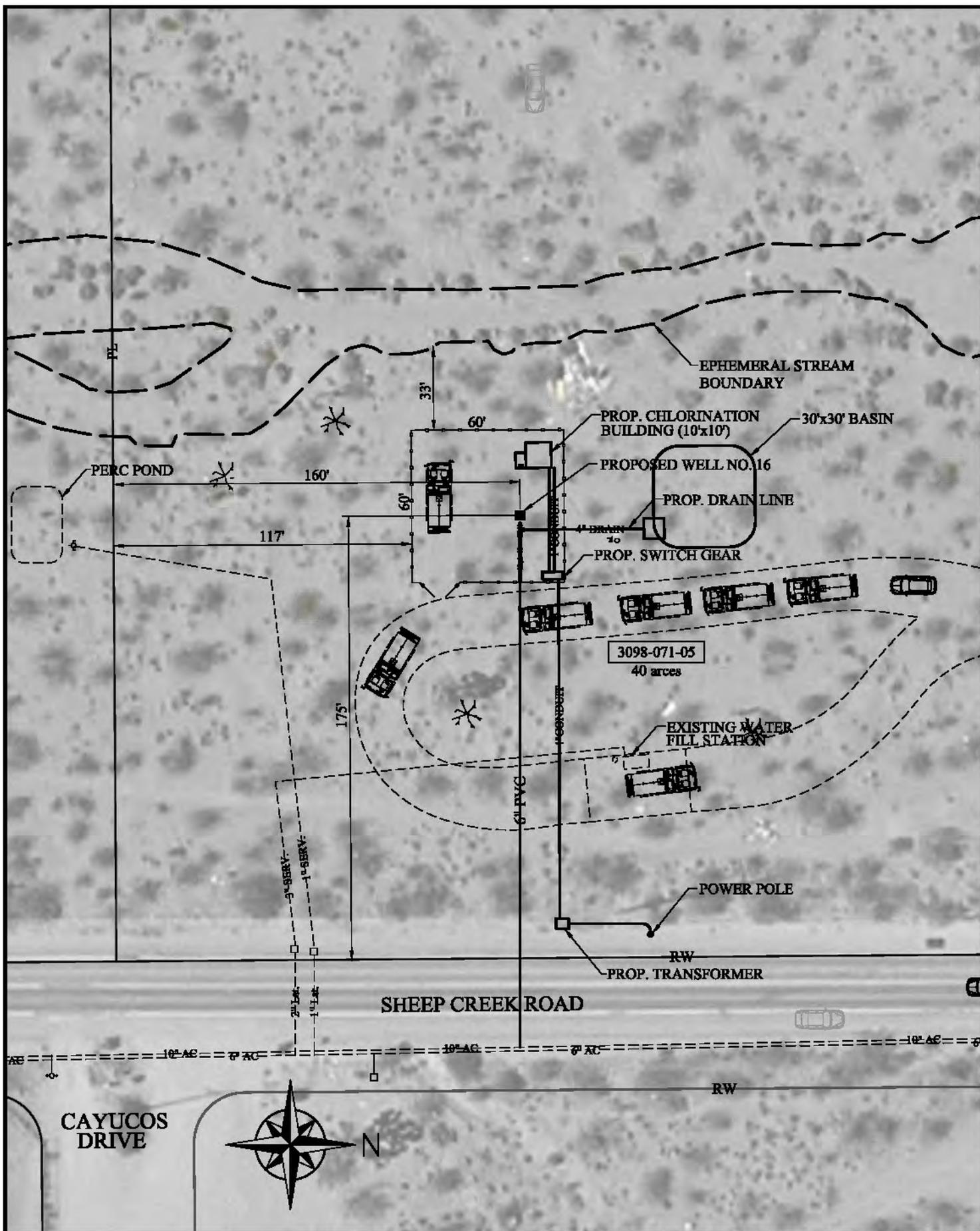
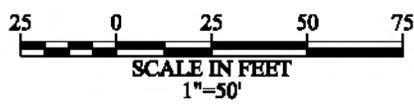


FIGURE 6

**PHELAN PINON HILLS
COMMUNITY SERVICES DISTRICT**
 APN 3098-071-05
**PROPOSED WELL No. 16
PRELIMINARY LAYOUT**



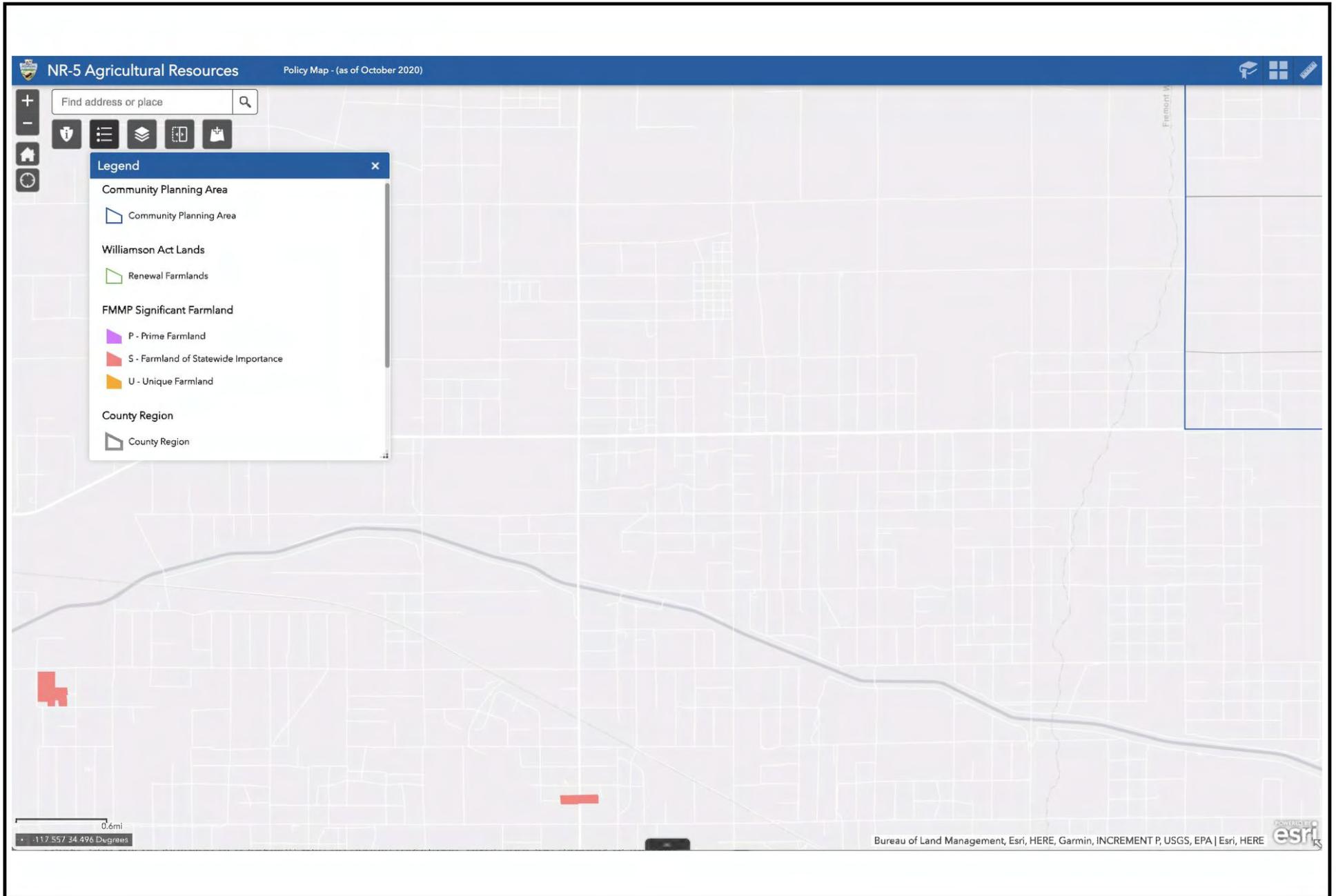


FIGURE II-1



SOURCE: Google Earth



FIGURE IV-1



SOURCE: Google Earth

JACOBSTM

FIGURE IV-2

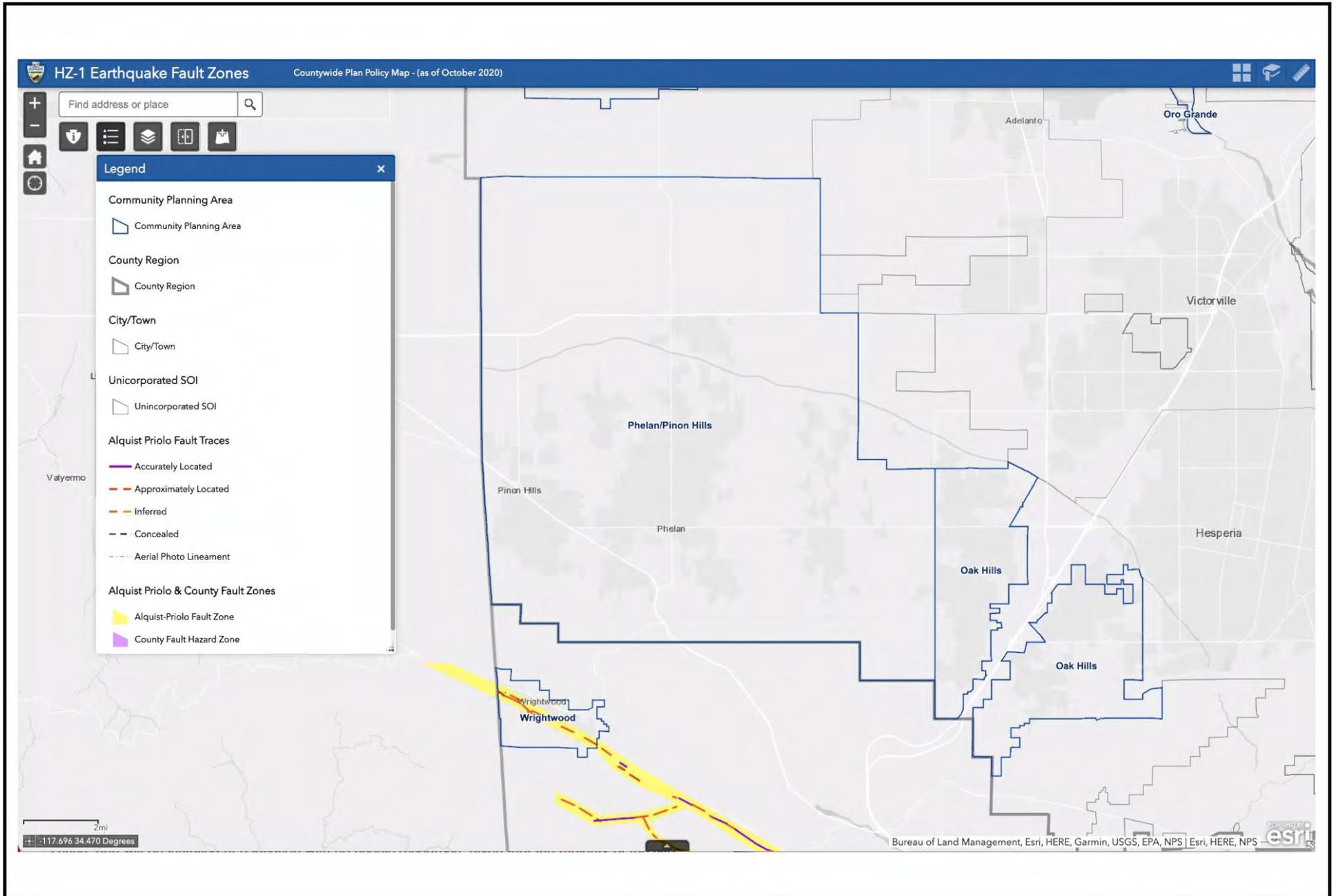


FIGURE VII-1

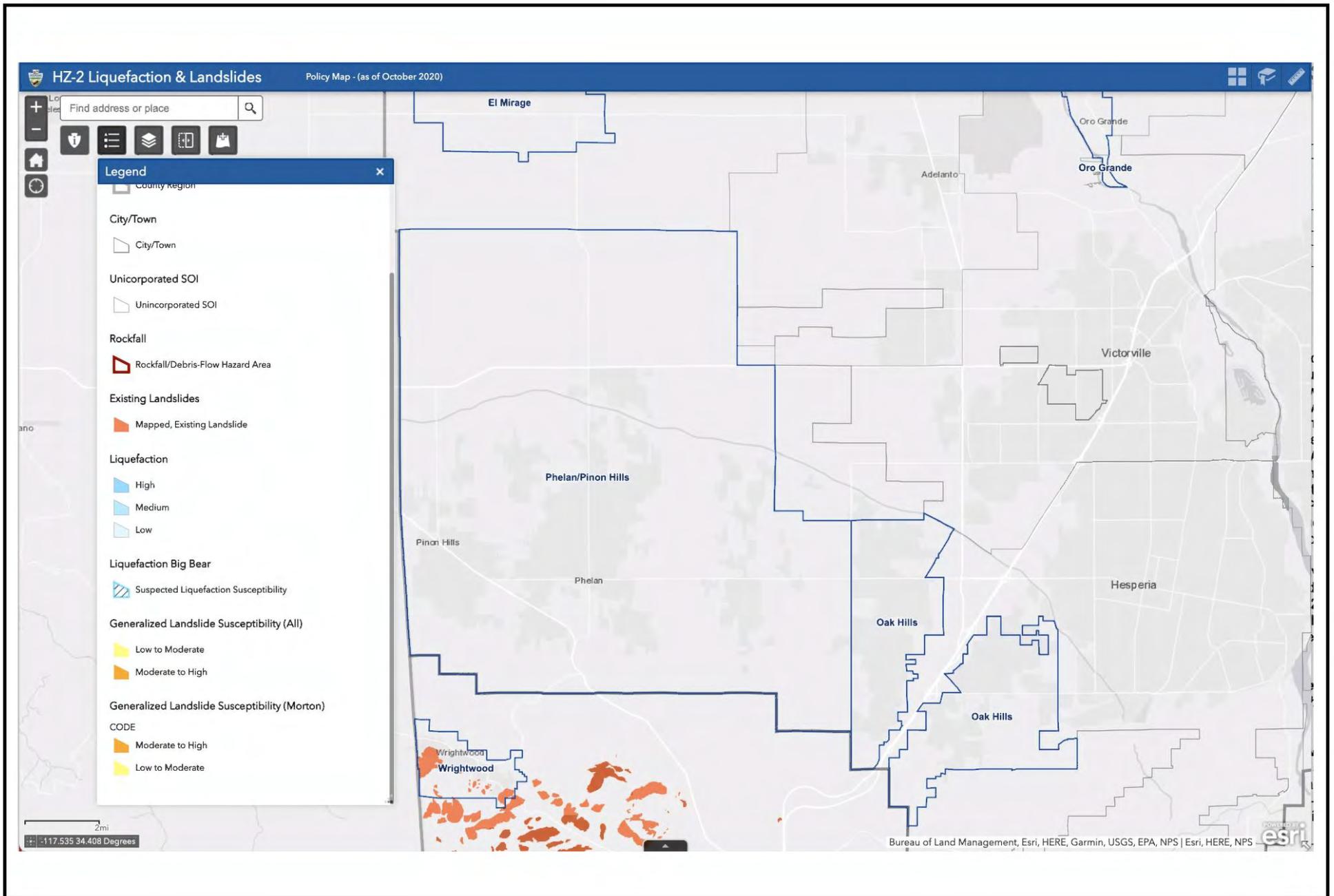


FIGURE VII-2

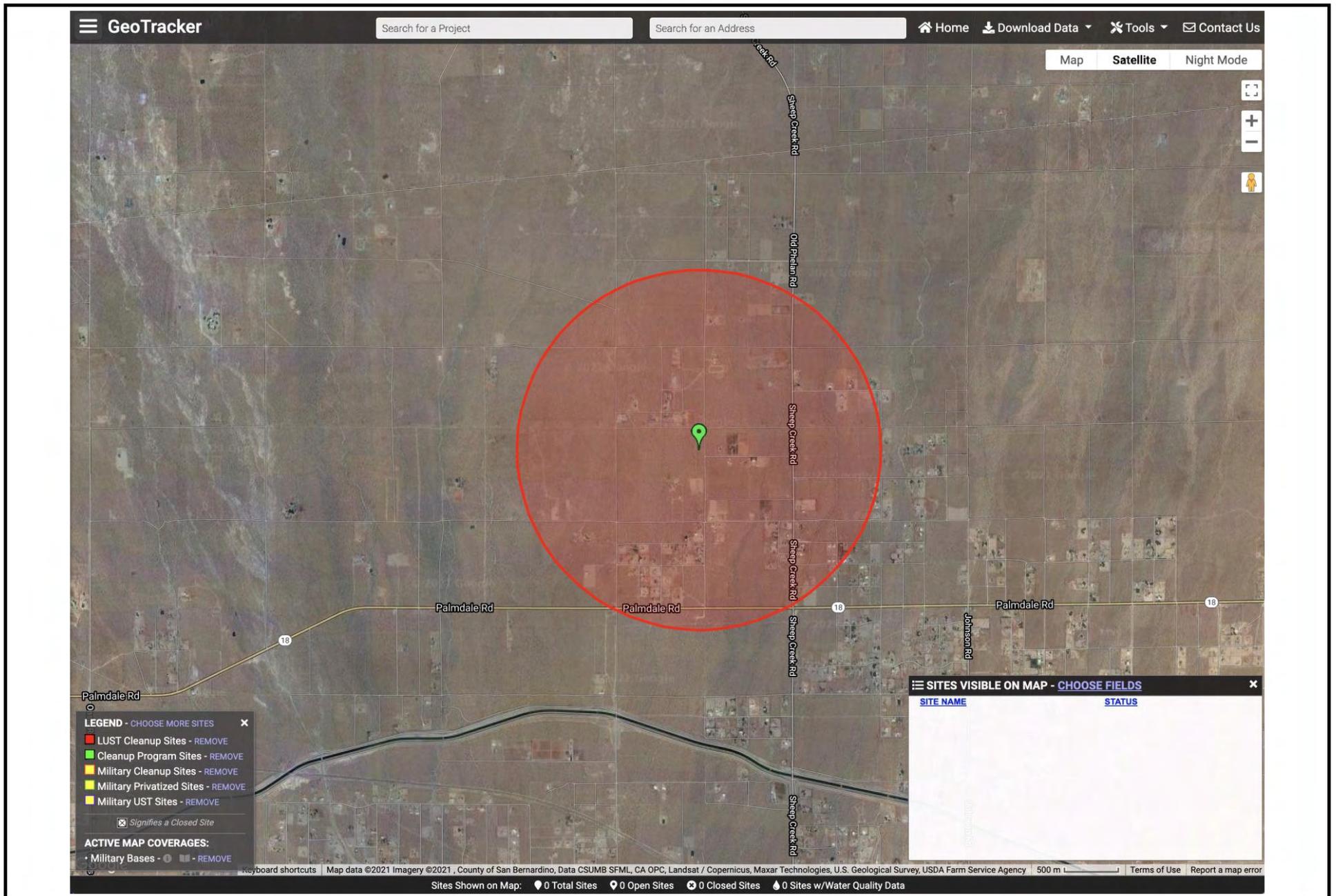


FIGURE IX-1

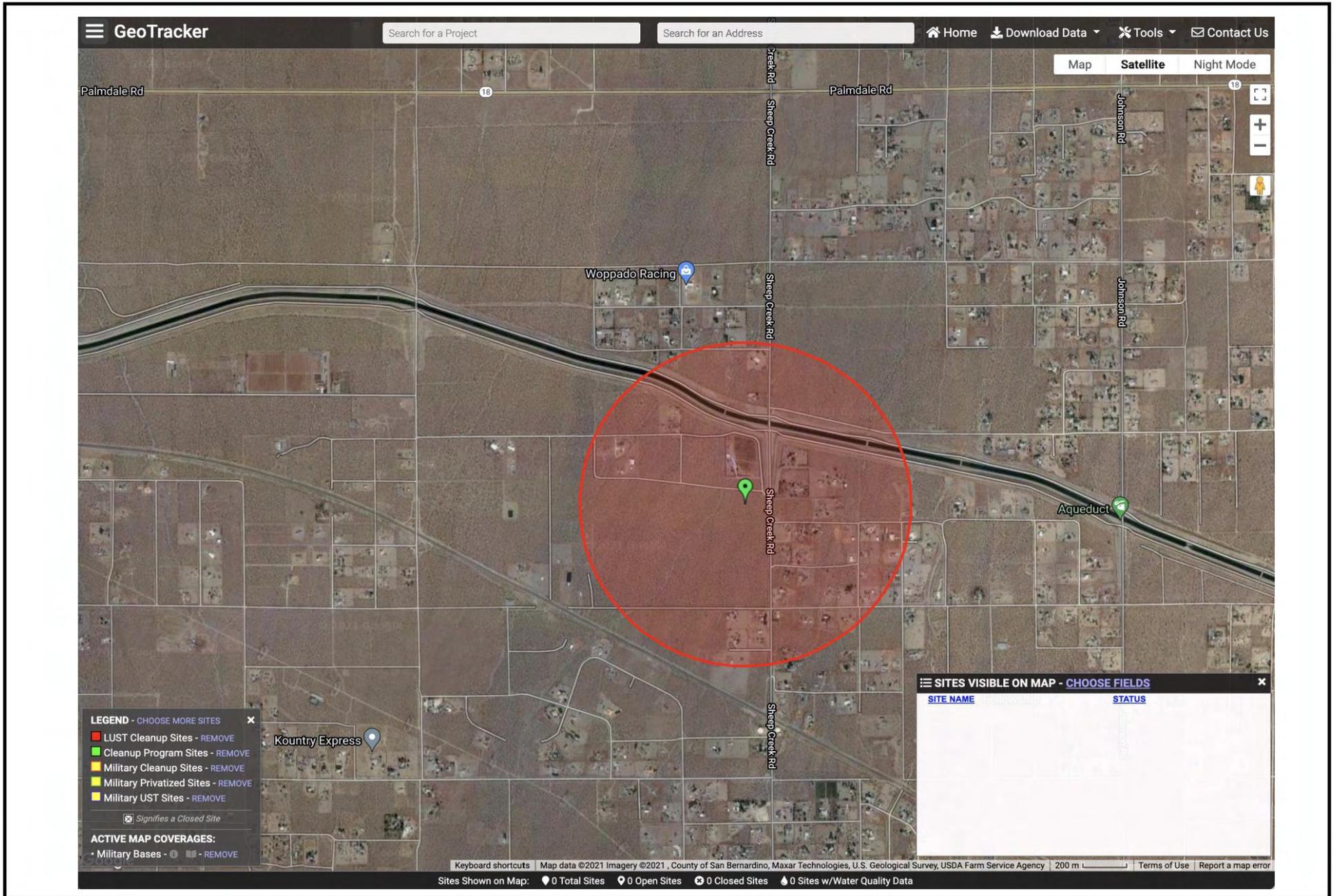


FIGURE IX-2

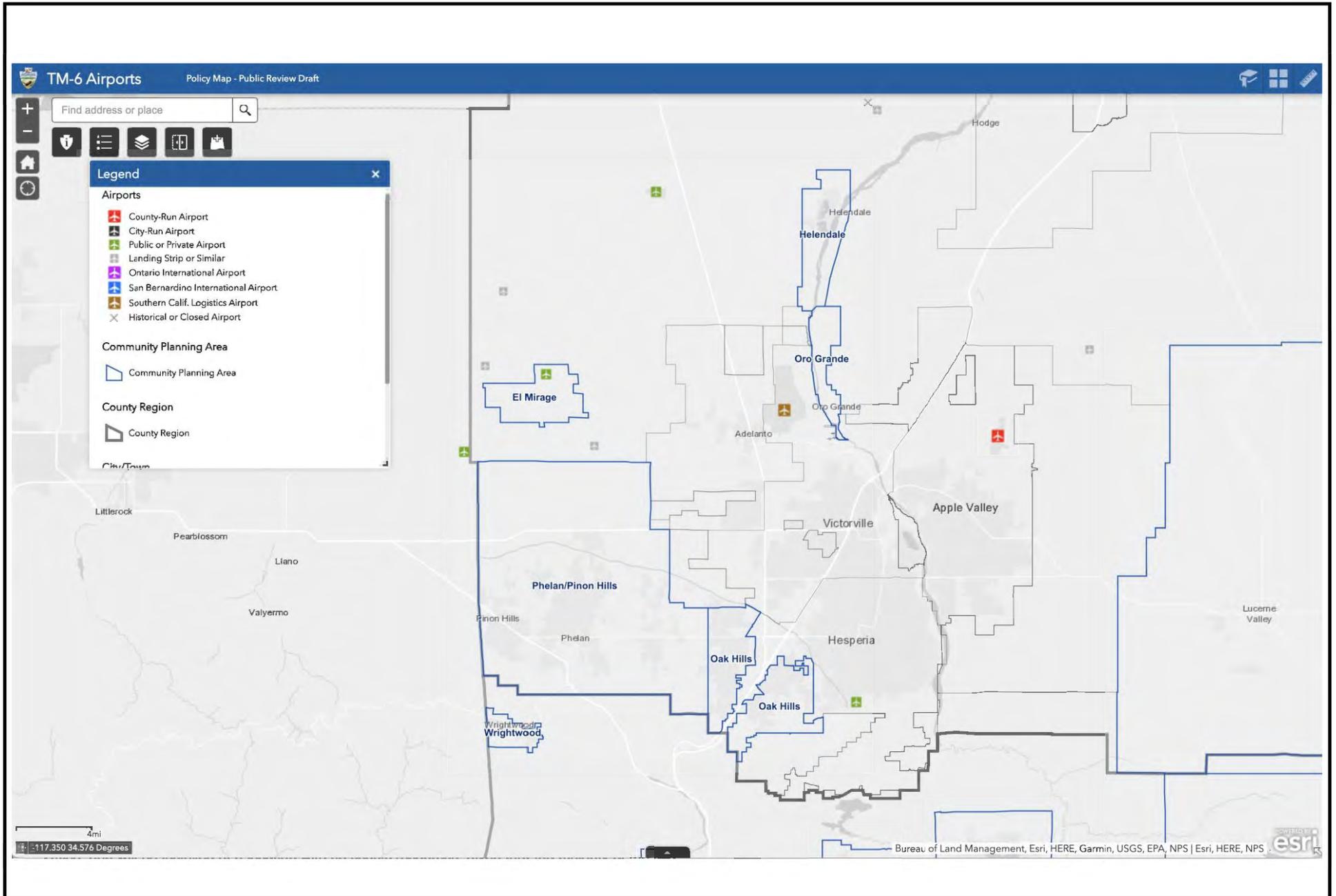


FIGURE IX-3
Airports

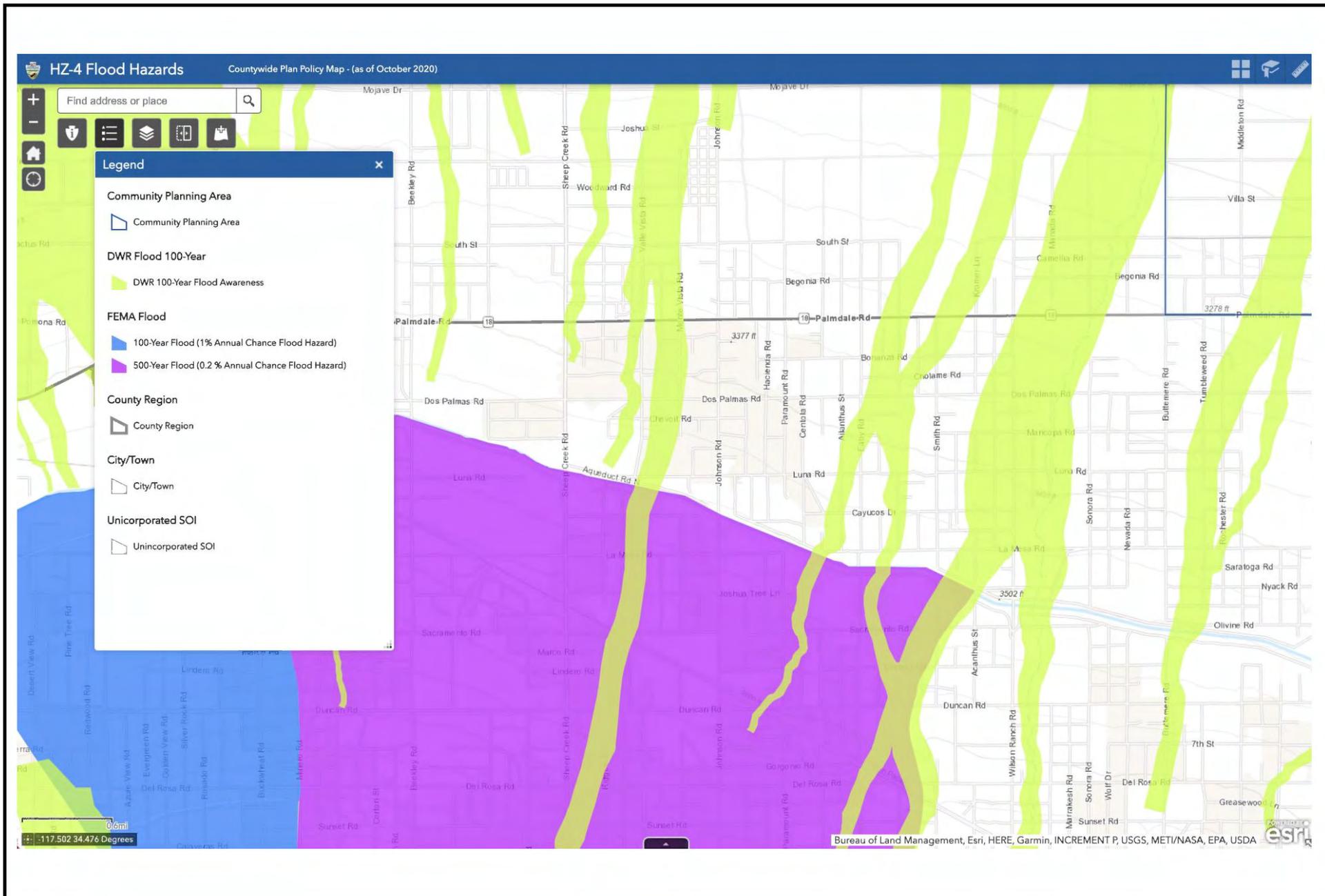


FIGURE X-1

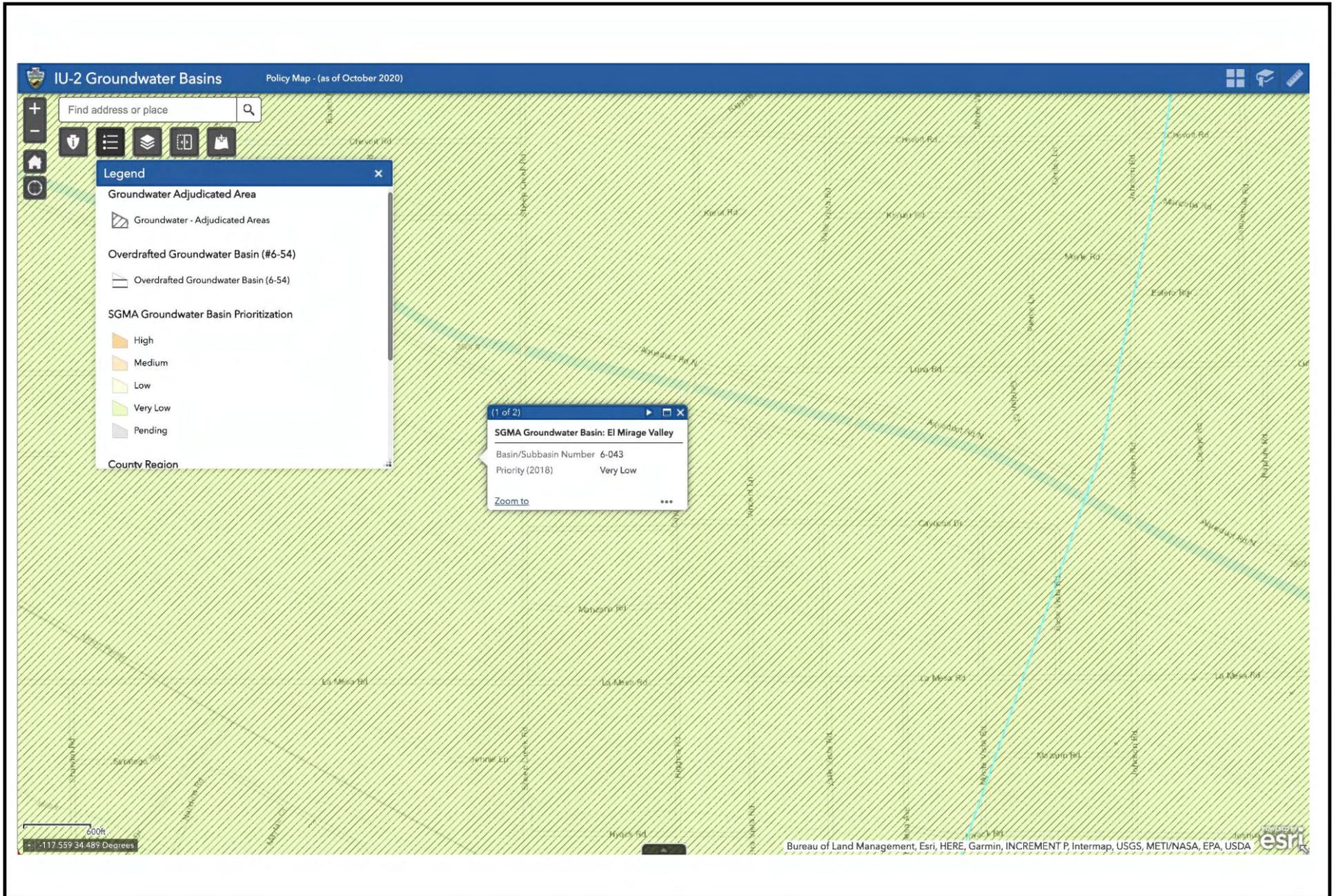


FIGURE X-2

APPENDIX 1

AIR QUALITY and GHG IMPACT ANALYSES

PPH-116

PHELAN PIÑON HILLS COMMUNITY SERVICES DISTRICT
WELLS NO. 15 AND 16 DEVELOPMENT PROJECT

PHELAN, CALIFORNIA

Prepared by:

Sara Friedman-Gerrick
Giroux & Associates
5319 University Drive, #26
Irvine, CA. 92612

Prepared for:

Tom Dodson & Associates
Attn: Kaitlyn Dodson
PO Box 2307
San Bernardino, CA 92406-2307

Date:

October 26, 2021

Project No.: P20-040 AQ

METEOROLOGY 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 unhealthy 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 located 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 "rain shadow" 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 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM10) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM2.5) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/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 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/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 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/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 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARE-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 $150 \mu\text{g}/\text{m}^3$ 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 $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ 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 ($1.5 \mu\text{g}/\text{m}^3$ 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)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • 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 (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO₂ 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 µg/m³ to 12 µg/m³ 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.

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO₂) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO₂) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO₂ is typically not a problem pollutant.

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. The closest monitoring station to the project site is in Phelan. That station, however, only monitors ozone and nitrogen dioxide. The nearest station that monitors particulates is the Victorville Station at 14306 Park Avenue. Table 3 summarizes the last three years of monitoring data from the available data at the Phelan and Victorville monitoring stations. Findings are summarized below:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of five percent of all days in the last three years at the monitoring station closest to the project site and the 8-hour state standard was violated on average 18 percent per year. The Mojave Desert Air Basin does not generate enough ozone precursor emissions to substantially affect ozone levels. Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities.
2. PM-10 days exceeding the state 24-hour standard is not available near Phelan but is available from the Victorville Station. The most stringent state standards are not available in the last three years. The three times less stringent federal 24 hour-standard has been exceeded 1-2 days per year during this period. Although the number of exceedances of the state 24-hour standard is not available, presumably it is significant, given the high maximum 24-hour concentrations each year.
3. PM-10 is affected by construction, by unpaved road travel, by open fires and/or by agricultural practices. These emissions can be controlled to some extent, and are, therefore, components in a respirable range (10-micron diameter) particulate matter (PM-10) attainment plan developed by the Mojave Desert AQMD. An attainment plan for PM-10 was adopted in July 1995, for designated federal PM-10 non-attainment areas in the MDAB. Any project-related PM-10 generation activities require an enhanced level of controls consistent with the control measures that are part of that plan.
4. A fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Year 2020 showed the highest maximum 24-hour concentration in the past three years as well as the most violations.
5. More localized pollutants such as carbon monoxide and nitrogen oxides, etc. are generally very low near the project site because background levels in the Mojave Desert area never exceed allowable levels except perhaps during wildfire events. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS. CO is no longer monitored in the Mojave Desert area.

Table 3
Air Quality Monitoring Summary (2018-2020)
(Number of Days Standards Were Exceeded, and
Maximum Levels During Such Violations)

Pollutant/Standard	2018	2019	2020
Ozone			
1-Hour > 0.09 ppm (S)	25	12	19
8-Hour > 0.07 ppm (S)	87	44	63
8- Hour > 0.075 ppm (F)	55	19	44
Max. 1-Hour Conc. (ppm)	0.125	0.119	0.130
Max. 8-Hour Conc. (ppm)	0.107	0.090	0.093
Nitrogen Dioxide			
1-Hour > 0.18 ppm (S)	0	0	0
Max. 1-Hour Conc. (ppm)	0.051	0.056	0.059
Inhalable Particulates (PM-10)			
24-Hour > 50 µg/m ³ (S)	na	na	na
24-Hour > 150 µg/m ³ (F)	1	2	2
Max. 24-Hr. Conc. (µg/m ³)	165.2	170.0	261.4
Ultra-Fine Particulates (PM-2.5)			
24-Hour > 35 µg/m ³ (F)	0	0	4
Max. 24-Hr. Conc. (µg/m ³)	32.7	17.8	48.4

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

Source:
Phelan Station: Ozone, NO
Victorville Station: PM-10, PM-2.5
data: www.arb.ca.gov/adam/

AIR QUALITY IMPACTS

CEQA STANDARDS OF SIGNIFICANCE

The project proposes to install improvements to allow for an increase in water production. The Phelan Piñon Hills Community Services District service area proposes the drilling of two new production wells and installation of associated new water conveyance pipeline. Potential air quality impacts to the immediate project vicinity would derive almost exclusively during construction of the proposed improvements.

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:

Table 4 MDAQMD Significance Thresholds

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

ADDITIONAL INDICATORS

In its CEQA Handbook (2020), the MDAQMD states that any project is significant if it triggers or exceeds the most appropriate evaluation criteria shown in Table 4. The District will clarify upon request which threshold is most appropriate for a given project; in general, the emissions comparison (criteria number 1, below is sufficient:

1. Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds;
2. Generates a violation of any ambient air quality standard when added to the local background;
3. Does not conform with the applicable attainment or maintenance plans;
4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) non-cancerous greater than or equal to 1.

Therefore, except in special circumstances, the CEQA Handbook notes that meeting the daily or annual emissions thresholds as shown in Table 4 is normally sufficient to demonstrate a less-than-significant impact.

CONSTRUCTION ACTIVITY IMPACTS

Annualized construction activity emissions for the proposed project were calculated using the South Coast Air Quality Management District (SCAQMD) CalEEMod2020.4.0 computer model for the indicated equipment fleet and time frame. CalEEMod was developed by the SCAQMD and provides a model to calculate construction emissions. It calculates both the daily maximum and annual emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. The construction scenario modeled for the various activities that are planned for the proposed project are listed below.

**Table 5
Construction Duration and Equipment**

Well Drilling 2 weeks	1 Drill Rig
	1 Pump
	1 Loader/Backhoe
Well Equipping 8 weeks	1 Crane
	1 Welder
	1 Loader/Backhoe
	1 Generator Set
Pipeline Trench and Excavate 25 days	1 Concrete Saw
	1 Excavator
	1 Loader/Backhoe
	5 Signal Boards
Install Pipe and Cover/Pave 45 days	1 Crane
	1 Welder
	1 Loader/Backhoe
	1 Paver
	1 Compactor
	1 Roller
5 Signal Boards	

Emissions for a single well were calculated and then multiplied to reflect the two units needed for project completion. As a worst case scenario, it was assumed that construction of all project components would occur simultaneously. Therefore, the total in Table 6 reflects all project components occurring in the same year (2022) as a worst-case condition. Table 6 provides maximum daily emissions as compared to the MDAQMD thresholds. Table 7 provides the annual emissions as compared to their associated thresholds.

Table 6
Daily Emissions (lbs/day)

Maximal Construction Emissions	ROG	NOx	CO	SO ₂	PM-10	PM-2.5	CO ₂
2022							
Single Well	2.0	17.2	20.4	0.1	2.4	1.3	5,277.2
2 Wells	4.0	34.3	40.9	0.1	4.7	2.6	10,554.4
Pipeline	2.1	16.6	19.1	0.0	5.7	3.3	2,023.9
Total	6.1	50.9	60	0.1	10.4	5.9	12,578.3
MDAQMD Thresholds	137	137	548	137	82	82	548,000
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Table 7
Annual Emissions (tons per year)

Maximal Construction Emissions	ROG	NOx	CO	SO ₂	PM-10	PM-2.5	CO ₂
2022							
Single Well	0.03	0.25	0.29	0.00	0.03	0.02	55.10
2 Wells	0.06	0.49	0.57	0.00	0.05	0.04	110.20
Pipeline	0.06	0.27	0.34	0.00	0.07	0.04	53.80
Total	0.12	0.76	0.91	0.00	0.12	0.09	164.01
MDAQMD Thresholds	25	25	100	25	15	12	100,000
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Maximum project-related air pollution emissions were compared to daily and annual MDAQMD thresholds. Even if all activities occurred in a single calendar year and overlapped daily, maximum emissions are less than their MDAQMD thresholds.

OPERATIONAL IMPACTS

Operational air pollution emissions will be minimal. Electrical generation of power will be used for pumping. 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.

ODOR IMPACTS

Project operations (pumping of the wells and treatment with chlorine) are an essentially closed system with negligible odor potential.

GREENHOUSE GAS EMISSIONS

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, over the next 13 years (by 2020).
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion

emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Greenhouse Gas Emissions Significance Thresholds

In response to the requirements of SB97, the state Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate”. The most common practice for infrastructure/combustion GHG emissions quantification is to use a computer model such as CalEEMod.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

The MDAQMD has developed significance guidelines for CO₂-equivalent emissions as shown in Tables 6 and 7. Daily and annual construction emissions are much less than their associated thresholds.

Project Operational GHG Emissions

Operation of the new wells would not require any shifts or employees as they will be monitored and controlled remotely. However, each of the two new production wells would require up to 1.5 million KWH to operate per year (if operated full time).

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 CO₂(e).

The new pumping operations for this project are expected to consume 1.5 million KWH per well if operations occur full time. Assuming a 50% load factor, this would translate to an annual average of 750 MW per year in increased project electrical consumption. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California’s electrical resource calculated as follows:

$$750 \text{ MWH/year} \times 0.331 \text{ MT/MWH} \times 2 \text{ pumps} = 496.5 \text{ MT/year}$$

Construction emissions were shown in Table 7 to create 164.01 MT of CO₂(e). The addition of 496.5 MT will not create an exceedance of the 100,000 MT threshold. Both the construction and operations GHG emissions are far below the threshold for impact significance.

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 phases 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 stock piles 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.
- Identify proper compaction for backfilled soils in construction specifications.

APPENDIX

CalEEMod2020.4.0 Computer Model Output

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**PPH-116 Phelan Wells and Pipeline
Mojave Desert AQMD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	30
Climate Zone	10	Operational Year		2023	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - disturbance area per proj description

Construction Phase - Well Drilling 10 days, Well Equip 40 days, Pipeline Trench 25 days, Pipeline Backfill and Cover 45 days

Trips and VMT - trip numbers from proj description

Off-road Equipment - Well Drilling: 1 Drill Rig 24/7, 1 Pump 24/7, 1 Loader/Backhoe

Off-road Equipment - Pipe Trench: 1 Loader/Backhoe, 1 Excavator, 1 Concrete Saw. 5 Signal Boards

Off-road Equipment - Well Equip: 1 Crane, 1 Welder, 1 Loader/Backhoe, 1 Gen Set

Off-road Equipment - Pipeline Install and Cover: 1 Crane, 1 Welder, 1 Loader/Backhoe, 1 Paver, 1 Compactor, 5 Signal Boards, 1 Roller

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	2.00	10.00

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	2.00	25.00
tblConstructionPhase	NumDays	5.00	45.00
tblConstructionPhase	PhaseEndDate	6/22/2022	3/30/2022
tblConstructionPhase	PhaseEndDate	2/2/2022	5/5/2022
tblConstructionPhase	PhaseEndDate	6/29/2022	8/24/2022
tblConstructionPhase	PhaseStartDate	2/1/2022	4/1/2022
tblGrading	AcresOfGrading	18.75	1.50
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	PhaseName		Pipeline Trench and Excavate
tblOffRoadEquipment	PhaseName		Pipeline Trench and Excavate
tblOffRoadEquipment	PhaseName		Pipe Install and Cover
tblOffRoadEquipment	PhaseName		Well Equipping
tblOffRoadEquipment	PhaseName		Well Drilling
tblOffRoadEquipment	PhaseName		Pipeline Trench and Excavate
tblOffRoadEquipment	PhaseName		Well Equipping
tblOffRoadEquipment	PhaseName		Well Drilling
tblOffRoadEquipment	PhaseName		Pipe Install and Cover

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	PhaseName		Pipe Install and Cover
tblOffRoadEquipment	PhaseName		Pipe Install and Cover
tblOffRoadEquipment	UsageHours	7.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	0.00	30.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational
 Unmitigated Operational

Category		lb/day													
ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Area	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Category		lb/day													
ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Area	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Well Drilling	Grading	1/15/2022	1/28/2022	5	10	
2	Pipeline Trench and Excavate	Grading	4/1/2022	5/5/2022	5	25	
3	Well Equipping	Building Construction	2/3/2022	3/30/2022	5	40	
4	Pipe Install and Cover	Paving	6/23/2022	8/24/2022	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4.38

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipeline Trench and Excavate	Excavators	1	4.00	158	0.38
Pipeline Trench and Excavate	Concrete/Industrial Saws	1	7.00	81	0.73
Well Equipping	Cranes	1	4.00	231	0.29
Pipe Install and Cover	Cranes	1	4.00	231	0.29
Well Equipping	Welders	1	6.00	46	0.45
Well Drilling	Bore/Drill Rigs	1	24.00	221	0.50
Pipe Install and Cover	Pavers	1	7.00	130	0.42

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Pipe Install and Cover	Rollers	1	7.00	80	0.38
Pipeline Trench and Excavate	Signal Boards	5	8.00	6	0.82
Well Equipping	Generator Sets	1	8.00	84	0.74
Well Equipping	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Well Drilling	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Pipeline Trench and Excavate	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipe Install and Cover	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Well Drilling	Pumps	1	24.00	84	0.74
Pipe Install and Cover	Plate Compactors	1	6.00	8	0.43
Pipe Install and Cover	Welders	1	4.00	46	0.45
Pipe Install and Cover	Signal Boards	5	8.00	6	0.82

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Well Drilling	5	30.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Trench and Excavate	3	8.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Well Equipping	5	30.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipe Install and Cover	7	18.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Well Drilling - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2173	0.0000	1.2173	0.4639	0.0000	0.4639			0.0000			0.0000
Off-Road	1.8550	16.9965	19.0281	0.0505		0.7540	0.7540		0.7310	0.7310		4,849.4188	4,849.4188	1.0593		4,875.9006
Total	1.8550	16.9965	19.0281	0.0505	1.2173	0.7540	1.9712	0.4639	0.7310	1.1949		4,849.4188	4,849.4188	1.0593		4,875.9006

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-003	0.0766	0.0361	3.7000e-004	0.0123	1.0300e-003	0.0133	3.5300e-003	9.9000e-004	4.5200e-003		39.1275	39.1275	2.1000e-004	5.3600e-003	40.7295
Worker	0.1499	0.0943	1.3664	3.5400e-003	0.3832	1.8400e-003	0.3850	0.1016	1.7000e-003	0.1033		357.7096	357.7096	8.7000e-003	8.9000e-003	360.5788
Total	0.1535	0.1709	1.4025	3.9100e-003	0.3955	2.8700e-003	0.3983	0.1052	2.6900e-003	0.1078		396.8371	396.8371	8.9100e-003	0.0143	401.3083

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Well Drilling - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2173	0.0000	1.2173	0.4639	0.0000	0.4639			0.0000			0.0000
Off-Road	1.8550	1.2567	19.0281	0.0505		0.7540	0.7540		0.7310	0.7310	0.0000	4,849.4188	4,849.4188	1.0593		4,875.9006
Total	1.8550	1.2567	19.0281	0.0505	1.2173	0.7540	1.9712	0.4639	0.7310	1.1949	0.0000	4,849.4188	4,849.4188	1.0593		4,875.9006

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-003	0.0766	0.0361	3.7000e-004	0.0123	1.0300e-003	0.0133	3.5300e-003	9.9000e-004	4.5200e-003		39.1275	39.1275	2.1000e-004	5.3600e-003	40.7295
Worker	0.1499	0.0943	1.3664	3.5400e-003	0.3832	1.8400e-003	0.3850	0.1016	1.7000e-003	0.1033		357.7096	357.7096	8.7000e-003	8.9000e-003	360.5788
Total	0.1535	0.1709	1.4025	3.9100e-003	0.3955	2.8700e-003	0.3983	0.1052	2.6900e-003	0.1078		396.8371	396.8371	8.9100e-003	0.0143	401.3083

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Trench and Excavate - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5802	0.0000	4.5802	2.4895	0.0000	2.4895			0.0000			0.0000
Off-Road	0.8456	6.6072	8.3056	0.0143		0.3233	0.3233		0.3135	0.3135		1,279.9915	1,279.9915	0.2204		1,285.5014
Total	0.8456	6.6072	8.3056	0.0143	4.5802	0.3233	4.9035	2.4895	0.3135	2.8031		1,279.9915	1,279.9915	0.2204		1,285.5014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2100e-003	0.1531	0.0723	7.4000e-004	0.0245	2.0700e-003	0.0266	7.0700e-003	1.9800e-003	9.0500e-003		78.2550	78.2550	4.2000e-004	0.0107	81.4590
Worker	0.0400	0.0252	0.3644	9.4000e-004	0.1022	4.9000e-004	0.1027	0.0271	4.5000e-004	0.0276		95.3892	95.3892	2.3200e-003	2.3700e-003	96.1544
Total	0.0472	0.1783	0.4366	1.6800e-003	0.1267	2.5600e-003	0.1293	0.0342	2.4300e-003	0.0366		173.6442	173.6442	2.7400e-003	0.0131	177.6133

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Trench and Excavate - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5802	0.0000	4.5802	2.4895	0.0000	2.4895			0.0000			0.0000
Off-Road	0.8456	3.9172	8.3056	0.0143		0.3233	0.3233		0.3135	0.3135	0.0000	1,279.9915	1,279.9915	0.2204		1,285.5014
Total	0.8456	3.9172	8.3056	0.0143	4.5802	0.3233	4.9035	2.4895	0.3135	2.8031	0.0000	1,279.9915	1,279.9915	0.2204		1,285.5014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2100e-003	0.1531	0.0723	7.4000e-004	0.0245	2.0700e-003	0.0266	7.0700e-003	1.9800e-003	9.0500e-003		78.2550	78.2550	4.2000e-004	0.0107	81.4590
Worker	0.0400	0.0252	0.3644	9.4000e-004	0.1022	4.9000e-004	0.1027	0.0271	4.5000e-004	0.0276		95.3892	95.3892	2.3200e-003	2.3700e-003	96.1544
Total	0.0472	0.1783	0.4366	1.6800e-003	0.1267	2.5600e-003	0.1293	0.0342	2.4300e-003	0.0366		173.6442	173.6442	2.7400e-003	0.0131	177.6133

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Well Equipping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8887	7.7932	8.1319	0.0145		0.3718	0.3718		0.3577	0.3577		1,359.2970	1,359.2970	0.2360		1,365.1974
Total	0.8887	7.7932	8.1319	0.0145		0.3718	0.3718		0.3577	0.3577		1,359.2970	1,359.2970	0.2360		1,365.1974

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-003	0.0766	0.0361	3.7000e-004	0.0123	1.0300e-003	0.0133	3.5300e-003	9.9000e-004	4.5200e-003		39.1275	39.1275	2.1000e-004	5.3600e-003	40.7295
Worker	0.1499	0.0943	1.3664	3.5400e-003	0.3832	1.8400e-003	0.3850	0.1016	1.7000e-003	0.1033		357.7096	357.7096	8.7000e-003	8.9000e-003	360.5788
Total	0.1535	0.1709	1.4025	3.9100e-003	0.3955	2.8700e-003	0.3983	0.1052	2.6900e-003	0.1078		396.8371	396.8371	8.9100e-003	0.0143	401.3083

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Well Equipping - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8887	3.7678	8.1319	0.0145		0.3718	0.3718		0.3577	0.3577	0.0000	1,359.2970	1,359.2970	0.2360		1,365.1974
Total	0.8887	3.7678	8.1319	0.0145		0.3718	0.3718		0.3577	0.3577	0.0000	1,359.2970	1,359.2970	0.2360		1,365.1974

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-003	0.0766	0.0361	3.7000e-004	0.0123	1.0300e-003	0.0133	3.5300e-003	9.9000e-004	4.5200e-003		39.1275	39.1275	2.1000e-004	5.3600e-003	40.7295
Worker	0.1499	0.0943	1.3664	3.5400e-003	0.3832	1.8400e-003	0.3850	0.1016	1.7000e-003	0.1033		357.7096	357.7096	8.7000e-003	8.9000e-003	360.5788
Total	0.1535	0.1709	1.4025	3.9100e-003	0.3955	2.8700e-003	0.3983	0.1052	2.6900e-003	0.1078		396.8371	396.8371	8.9100e-003	0.0143	401.3083

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Pipe Install and Cover - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1112	9.6083	9.5603	0.0171		0.4486	0.4486		0.4214	0.4214		1,538.0267	1,538.0267	0.4165		1,548.4383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1112	9.6083	9.5603	0.0171		0.4486	0.4486		0.4214	0.4214		1,538.0267	1,538.0267	0.4165		1,548.4383

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2100e-003	0.1531	0.0723	7.4000e-004	0.0245	2.0700e-003	0.0266	7.0700e-003	1.9800e-003	9.0500e-003		78.2550	78.2550	4.2000e-004	0.0107	81.4590
Worker	0.0900	0.0566	0.8198	2.1200e-003	0.2299	1.1100e-003	0.2310	0.0610	1.0200e-003	0.0620		214.6258	214.6258	5.2200e-003	5.3400e-003	216.3473
Total	0.0972	0.2097	0.8921	2.8600e-003	0.2545	3.1800e-003	0.2576	0.0680	3.0000e-003	0.0710		292.8808	292.8808	5.6400e-003	0.0161	297.8062

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Pipe Install and Cover - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1112	6.8913	9.5603	0.0171		0.4486	0.4486		0.4214	0.4214	0.0000	1,538.0267	1,538.0267	0.4165		1,548.4383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1112	6.8913	9.5603	0.0171		0.4486	0.4486		0.4214	0.4214	0.0000	1,538.0267	1,538.0267	0.4165		1,548.4383

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2100e-003	0.1531	0.0723	7.4000e-004	0.0245	2.0700e-003	0.0266	7.0700e-003	1.9800e-003	9.0500e-003		78.2550	78.2550	4.2000e-004	0.0107	81.4590
Worker	0.0900	0.0566	0.8198	2.1200e-003	0.2299	1.1100e-003	0.2310	0.0610	1.0200e-003	0.0620		214.6258	214.6258	5.2200e-003	5.3400e-003	216.3473
Total	0.0972	0.2097	0.8921	2.8600e-003	0.2545	3.1800e-003	0.2576	0.0680	3.0000e-003	0.0710		292.8808	292.8808	5.6400e-003	0.0161	297.8062

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.526992	0.056742	0.174739	0.140288	0.030240	0.007815	0.006009	0.021774	0.000488	0.000160	0.028107	0.000925	0.005722

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**PPH-116 Phelan Wells and Pipeline
Mojave Desert AQMD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - disturbance area per proj description

Construction Phase - Well Drilling 10 days, Well Equip 40 days, Pipeline Trench 25 days, Pipeline Backfill and Cover 45 days

Trips and VMT - trip numbers from proj description

Off-road Equipment - Well Drilling: 1 Drill Rig 24/7, 1 Pump 24/7, 1 Loader/Backhoe

Off-road Equipment - Pipe Trench: 1 Loader/Backhoe, 1 Excavator, 1 Concrete Saw. 5 Signal Boards

Off-road Equipment - Well Equip: 1 Crane, 1 Welder, 1 Loader/Backhoe, 1 Gen Set

Off-road Equipment - Pipeline Install and Cover: 1 Crane, 1 Welder, 1 Loader/Backhoe, 1 Paver, 1 Compactor, 5 Signal Boards, 1 Roller

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	40.00
tblConstructionPhase	NumDays	2.00	10.00

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	2.00	25.00
tblConstructionPhase	NumDays	5.00	45.00
tblConstructionPhase	PhaseEndDate	6/22/2022	3/30/2022
tblConstructionPhase	PhaseEndDate	2/2/2022	5/5/2022
tblConstructionPhase	PhaseEndDate	6/29/2022	8/24/2022
tblConstructionPhase	PhaseStartDate	2/1/2022	4/1/2022
tblGrading	AcresOfGrading	18.75	1.50
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	PhaseName		Pipeline Trench and Excavate
tblOffRoadEquipment	PhaseName		Pipeline Trench and Excavate
tblOffRoadEquipment	PhaseName		Pipe Install and Cover
tblOffRoadEquipment	PhaseName		Well Equipping
tblOffRoadEquipment	PhaseName		Well Drilling
tblOffRoadEquipment	PhaseName		Pipeline Trench and Excavate
tblOffRoadEquipment	PhaseName		Well Equipping
tblOffRoadEquipment	PhaseName		Well Drilling
tblOffRoadEquipment	PhaseName		Pipe Install and Cover

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	PhaseName		Pipe Install and Cover
tblOffRoadEquipment	PhaseName		Pipe Install and Cover
tblOffRoadEquipment	UsageHours	7.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	0.00	30.00

2.0 Emissions Summary

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-15-2022	4-14-2022	0.3143	0.1417
2	4-15-2022	7-14-2022	0.1442	0.1027
3	7-15-2022	9-30-2022	0.1615	0.1217
		Highest	0.3143	0.1417

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Well Drilling	Grading	1/15/2022	1/28/2022	5	10	
2	Pipeline Trench and Excavate	Grading	4/1/2022	5/5/2022	5	25	
3	Well Equipping	Building Construction	2/3/2022	3/30/2022	5	40	

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Pipe Install and Cover	Paving	6/23/2022	8/24/2022	5	45
---	------------------------	--------	-----------	-----------	---	----

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4.38

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipeline Trench and Excavate	Excavators	1	4.00	158	0.38
Pipeline Trench and Excavate	Concrete/Industrial Saws	1	7.00	81	0.73
Well Equipping	Cranes	1	4.00	231	0.29
Pipe Install and Cover	Cranes	1	4.00	231	0.29
Well Equipping	Welders	1	6.00	46	0.45
Well Drilling	Bore/Drill Rigs	1	24.00	221	0.50
Pipe Install and Cover	Pavers	1	7.00	130	0.42
Pipe Install and Cover	Rollers	1	7.00	80	0.38
Pipeline Trench and Excavate	Signal Boards	5	8.00	6	0.82
Well Equipping	Generator Sets	1	8.00	84	0.74
Well Equipping	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Well Drilling	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Pipeline Trench and Excavate	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipe Install and Cover	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Well Drilling	Pumps	1	24.00	84	0.74
Pipe Install and Cover	Plate Compactors	1	6.00	8	0.43
Pipe Install and Cover	Welders	1	4.00	46	0.45
Pipe Install and Cover	Signal Boards	5	8.00	6	0.82

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Well Drilling	5	30.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Trench and Excavate	3	8.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Well Equipping	5	30.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipe Install and Cover	7	18.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Well Drilling - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0900e-003	0.0000	6.0900e-003	2.3200e-003	0.0000	2.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2700e-003	0.0850	0.0951	2.5000e-004		3.7700e-003	3.7700e-003		3.6600e-003	3.6600e-003	0.0000	21.9966	21.9966	4.8000e-003	0.0000	22.1167
Total	9.2700e-003	0.0850	0.0951	2.5000e-004	6.0900e-003	3.7700e-003	9.8600e-003	2.3200e-003	3.6600e-003	5.9800e-003	0.0000	21.9966	21.9966	4.8000e-003	0.0000	22.1167

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Well Drilling - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.0000e-004	1.8000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1776	0.1776	0.0000	2.0000e-005	0.1849
Worker	6.5000e-004	5.2000e-004	5.7100e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4809	1.4809	4.0000e-005	4.0000e-005	1.4947
Total	6.7000e-004	9.2000e-004	5.8900e-003	2.0000e-005	1.9400e-003	2.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.6585	1.6585	4.0000e-005	6.0000e-005	1.6796

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0900e-003	0.0000	6.0900e-003	2.3200e-003	0.0000	2.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2700e-003	6.2800e-003	0.0951	2.5000e-004		3.7700e-003	3.7700e-003		3.6600e-003	3.6600e-003	0.0000	21.9966	21.9966	4.8000e-003	0.0000	22.1167
Total	9.2700e-003	6.2800e-003	0.0951	2.5000e-004	6.0900e-003	3.7700e-003	9.8600e-003	2.3200e-003	3.6600e-003	5.9800e-003	0.0000	21.9966	21.9966	4.8000e-003	0.0000	22.1167

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Well Drilling - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.0000e-004	1.8000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1776	0.1776	0.0000	2.0000e-005	0.1849
Worker	6.5000e-004	5.2000e-004	5.7100e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4809	1.4809	4.0000e-005	4.0000e-005	1.4947
Total	6.7000e-004	9.2000e-004	5.8900e-003	2.0000e-005	1.9400e-003	2.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.6585	1.6585	4.0000e-005	6.0000e-005	1.6796

3.3 Pipeline Trench and Excavate - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0573	0.0000	0.0573	0.0311	0.0000	0.0311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.0826	0.1038	1.8000e-004		4.0400e-003	4.0400e-003		3.9200e-003	3.9200e-003	0.0000	14.5149	14.5149	2.5000e-003	0.0000	14.5773
Total	0.0106	0.0826	0.1038	1.8000e-004	0.0573	4.0400e-003	0.0613	0.0311	3.9200e-003	0.0350	0.0000	14.5149	14.5149	2.5000e-003	0.0000	14.5773

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Trench and Excavate - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	2.0200e-003	9.2000e-004	1.0000e-005	3.0000e-004	3.0000e-005	3.3000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	0.8881	0.8881	0.0000	1.2000e-004	0.9245
Worker	4.3000e-004	3.5000e-004	3.8000e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9873	0.9873	3.0000e-005	3.0000e-005	0.9965
Total	5.2000e-004	2.3700e-003	4.7200e-003	2.0000e-005	1.5500e-003	4.0000e-005	1.5900e-003	4.2000e-004	3.0000e-005	4.5000e-004	0.0000	1.8753	1.8753	3.0000e-005	1.5000e-004	1.9209

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0573	0.0000	0.0573	0.0311	0.0000	0.0311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.0490	0.1038	1.8000e-004		4.0400e-003	4.0400e-003		3.9200e-003	3.9200e-003	0.0000	14.5148	14.5148	2.5000e-003	0.0000	14.5773
Total	0.0106	0.0490	0.1038	1.8000e-004	0.0573	4.0400e-003	0.0613	0.0311	3.9200e-003	0.0350	0.0000	14.5148	14.5148	2.5000e-003	0.0000	14.5773

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Pipeline Trench and Excavate - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	2.0200e-003	9.2000e-004	1.0000e-005	3.0000e-004	3.0000e-005	3.3000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	0.8881	0.8881	0.0000	1.2000e-004	0.9245
Worker	4.3000e-004	3.5000e-004	3.8000e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	0.9873	0.9873	3.0000e-005	3.0000e-005	0.9965
Total	5.2000e-004	2.3700e-003	4.7200e-003	2.0000e-005	1.5500e-003	4.0000e-005	1.5900e-003	4.2000e-004	3.0000e-005	4.5000e-004	0.0000	1.8753	1.8753	3.0000e-005	1.5000e-004	1.9209

3.4 Well Equipping - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0178	0.1559	0.1626	2.9000e-004		7.4400e-003	7.4400e-003		7.1500e-003	7.1500e-003	0.0000	24.6627	24.6627	4.2800e-003	0.0000	24.7697
Total	0.0178	0.1559	0.1626	2.9000e-004		7.4400e-003	7.4400e-003		7.1500e-003	7.1500e-003	0.0000	24.6627	24.6627	4.2800e-003	0.0000	24.7697

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Well Equipping - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	1.6200e-003	7.4000e-004	1.0000e-005	2.4000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.7105	0.7105	0.0000	1.0000e-004	0.7396
Worker	2.5900e-003	2.0700e-003	0.0228	6.0000e-005	7.5300e-003	4.0000e-005	7.5600e-003	2.0000e-003	3.0000e-005	2.0300e-003	0.0000	5.9236	5.9236	1.6000e-004	1.7000e-004	5.9787
Total	2.6600e-003	3.6900e-003	0.0236	7.0000e-005	7.7700e-003	6.0000e-005	7.8200e-003	2.0700e-003	5.0000e-005	2.1200e-003	0.0000	6.6340	6.6340	1.6000e-004	2.7000e-004	6.7183

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0178	0.0754	0.1626	2.9000e-004		7.4400e-003	7.4400e-003		7.1500e-003	7.1500e-003	0.0000	24.6626	24.6626	4.2800e-003	0.0000	24.7697
Total	0.0178	0.0754	0.1626	2.9000e-004		7.4400e-003	7.4400e-003		7.1500e-003	7.1500e-003	0.0000	24.6626	24.6626	4.2800e-003	0.0000	24.7697

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Well Equipping - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	1.6200e-003	7.4000e-004	1.0000e-005	2.4000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.7105	0.7105	0.0000	1.0000e-004	0.7396
Worker	2.5900e-003	2.0700e-003	0.0228	6.0000e-005	7.5300e-003	4.0000e-005	7.5600e-003	2.0000e-003	3.0000e-005	2.0300e-003	0.0000	5.9236	5.9236	1.6000e-004	1.7000e-004	5.9787
Total	2.6600e-003	3.6900e-003	0.0236	7.0000e-005	7.7700e-003	6.0000e-005	7.8200e-003	2.0700e-003	5.0000e-005	2.1200e-003	0.0000	6.6340	6.6340	1.6000e-004	2.7000e-004	6.7183

3.5 Pipe Install and Cover - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0250	0.2162	0.2151	3.9000e-004		0.0101	0.0101		9.4800e-003	9.4800e-003	0.0000	31.3937	31.3937	8.5000e-003	0.0000	31.6062
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0250	0.2162	0.2151	3.9000e-004		0.0101	0.0101		9.4800e-003	9.4800e-003	0.0000	31.3937	31.3937	8.5000e-003	0.0000	31.6062

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Pipe Install and Cover - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	3.6300e-003	1.6600e-003	2.0000e-005	5.4000e-004	5.0000e-005	5.9000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	1.5985	1.5985	1.0000e-005	2.2000e-004	1.6641
Worker	1.7500e-003	1.4000e-003	0.0154	4.0000e-005	5.0800e-003	2.0000e-005	5.1100e-003	1.3500e-003	2.0000e-005	1.3700e-003	0.0000	3.9984	3.9984	1.1000e-004	1.2000e-004	4.0356
Total	1.9100e-003	5.0300e-003	0.0171	6.0000e-005	5.6200e-003	7.0000e-005	5.7000e-003	1.5100e-003	6.0000e-005	1.5700e-003	0.0000	5.5969	5.5969	1.2000e-004	3.4000e-004	5.6997

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0250	0.1551	0.2151	3.9000e-004		0.0101	0.0101		9.4800e-003	9.4800e-003	0.0000	31.3936	31.3936	8.5000e-003	0.0000	31.6062
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0250	0.1551	0.2151	3.9000e-004		0.0101	0.0101		9.4800e-003	9.4800e-003	0.0000	31.3936	31.3936	8.5000e-003	0.0000	31.6062

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Pipe Install and Cover - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	3.6300e-003	1.6600e-003	2.0000e-005	5.4000e-004	5.0000e-005	5.9000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	1.5985	1.5985	1.0000e-005	2.2000e-004	1.6641
Worker	1.7500e-003	1.4000e-003	0.0154	4.0000e-005	5.0800e-003	2.0000e-005	5.1100e-003	1.3500e-003	2.0000e-005	1.3700e-003	0.0000	3.9984	3.9984	1.1000e-004	1.2000e-004	4.0356
Total	1.9100e-003	5.0300e-003	0.0171	6.0000e-005	5.6200e-003	7.0000e-005	5.7000e-003	1.5100e-003	6.0000e-005	1.5700e-003	0.0000	5.5969	5.5969	1.2000e-004	3.4000e-004	5.6997

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.526992	0.056742	0.174739	0.140288	0.030240	0.007815	0.006009	0.021774	0.000488	0.000160	0.028107	0.000925	0.005722

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

PPH-116 Phelan Wells and Pipeline - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

APPENDIX 2

Phelan Piñon Hills Community Services District Wells No. 15 and 16 Development Project Amended Biological Resources Assessment And Jurisdictional Delineation Report

Unincorporated Community of Phelan Piñon Hills, San Bernardino County, California
USGS – *Shadow Mountains SE* and *Phelan* Quadrangles
Section 14, Township 5 North, Range 7 West

Date Prepared: February 2022

Prepared for:

Phelan Piñon Hills Community Services District
4176 Warbler Road
Phelan, California 92371

On Behalf of:

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

Prepared by:

Jacobs Engineering Group, Inc.
33574 Washington Drive
Yucaipa, CA 92399

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Lisa Patterson, National Senior Environmental Project Manager

Table of Contents

1	INTRODUCTION	1
1.1	PROJECT DESCRIPTION.....	1
1.2	LOCATION.....	6
1.3	ENVIRONMENTAL SETTING	11
2	ASSESSMENT METHODOLOGY	12
2.1	BIOLOGICAL RESOURCES ASSESSMENT	12
2.2	JURISDICTIONAL DELINEATION.....	13
3	RESULTS.....	14
3.1	EXISTING BIOLOGICAL AND PHYSICAL CONDITIONS	14
3.1.1	<i>Habitat</i>	14
3.1.2	<i>Wildlife</i>	14
3.2	SPECIAL STATUS SPECIES AND HABITATS	15
3.2.1	<i>Special Status Species</i>	15
3.2.2	<i>Special Status Habitats</i>	17
3.3	JURISDICTIONAL DELINEATION.....	17
4	CONCLUSIONS AND RECOMMENDATIONS	21
4.1	SENSITIVE BIOLOGICAL RESOURCES.....	21
4.2	JURISDICTIONAL WATERS.....	23
5	REFERENCES.....	24

Table 1. CNDDDB Species and Habitats Documented Within the *Shadow Mountain SE* and *Phelan* USGS 7.5-minute Quadrangles

Site Photographs

Appendix A: Regulatory Framework

1 Introduction

Phelan Piñon Hills Community Services District (PPHCSD or District) provides water distribution, solid waste and recycling collection, parks, and street lighting for the community of Phelan Piñon Hills. The water distribution system of the District consists of 21 groundwater wells, 44 reservoirs, 31 active pressure reducing stations, 25 booster stations, approximately 338 miles of water lines, and three emergency interties. PPHCSD proposes to install two new wells (Well 15 and Well 16) as part of their Capital Improvement Projects (CIP), which would both aid the District in meeting current and future demand and minimize Chromium-6 concentrations in the District's water supply.

On behalf of Tom Dodson and Associates (TDA), Jacobs Engineering Group, Inc. (Jacobs) has prepared this Biological Resources Assessment (BRA) report for the proposed Project (Project). The BRA fieldwork was conducted by Jacobs biological field technician Daniel Smith in January 2022. The purpose of the BRA was to address potential effects of the Project 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 [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS).

The Project Area was assessed for sensitive species known to occur locally. Particular attention was focused on those state and/or federally listed as threatened or endangered species and California Fully Protected species that have been documented in the Project vicinity, whose habitat requirements are present within or adjacent to the Project site. Results of the habitat assessment are intended to provide sufficient baseline information to the Project proponent and, if required, to federal and State regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if impacts will occur to sensitive biological resources and to identify mitigation measures to offset those impacts.

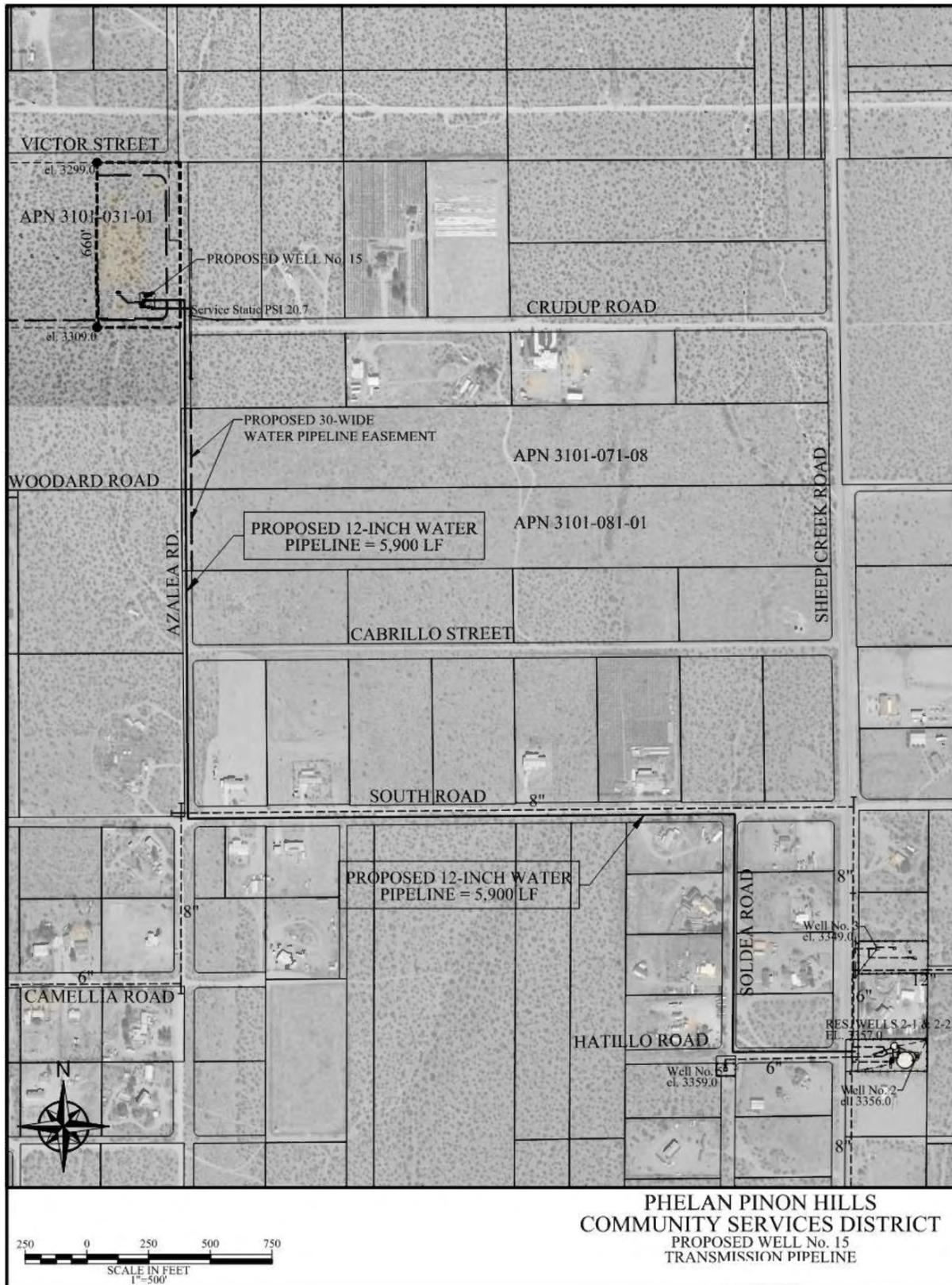
In addition to the BRA and focused surveys, Jacobs biological field technician Daniel Smith conducted a Jurisdictional Delineation (JD) of the Project Area. The purpose of the JD is to determine the extent of State and federal jurisdictional waters within the Project Area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively.

1.1 Project Description

Well 15 is proposed to be located on the recently acquired 5-acre portion of a 40-acre parcel (Assessor's Parcel Number [APN] 3101-031-41) north of the District, at the northwest corner of the intersection of Crudup Road and Azalea Road, on Azalea Road and Victor Street (refer to the site plans provided as Figures 1a & 1b). The Project will also include 5,900 lineal feet (LF) of water pipeline, which will connect to the District's existing water distribution system, which feeds reservoirs 2-1 and 2-2 on Sheep Creek Road. The pipeline alignment would traverse from the new Well 15 south on Azalea Road, then east along South Road, and then south along Soldea Road, then east along Hatillo Road past Sheep Creek Road where the pipeline will connect with an existing connection at the District's Reservoir site at 14425 Sheep Creek Road. The pipeline is anticipated to be 12" diameter in size. The Project will include a drain line to retention basin, a 10' x 10' chlorination structure, a switch gear, and proposed transformer that will connect to an existing power pole opposite the project site along Azalea Road.

The District is also planning to install a second well, Well 16, to connect to the District's existing water distribution system. Well 16 is proposed to be installed on a 40-acre site the District currently owns along

Sheep Creek Road, just north of the intersection of Sheep Creek Road and Cayucos Drive along the western side of the street (APN 3098-071-05) (refer to the site plan provided as Figure 1c). The site would include the following features: a 6” in diameter pipeline connecting to the District’s distribution system in Sheep Creek Road; a 4” drain line to retention basin; a 10’ x 10’ chlorination building; and, a 4” conduit, switch gear, and transformer to connect to the existing powerline pole.



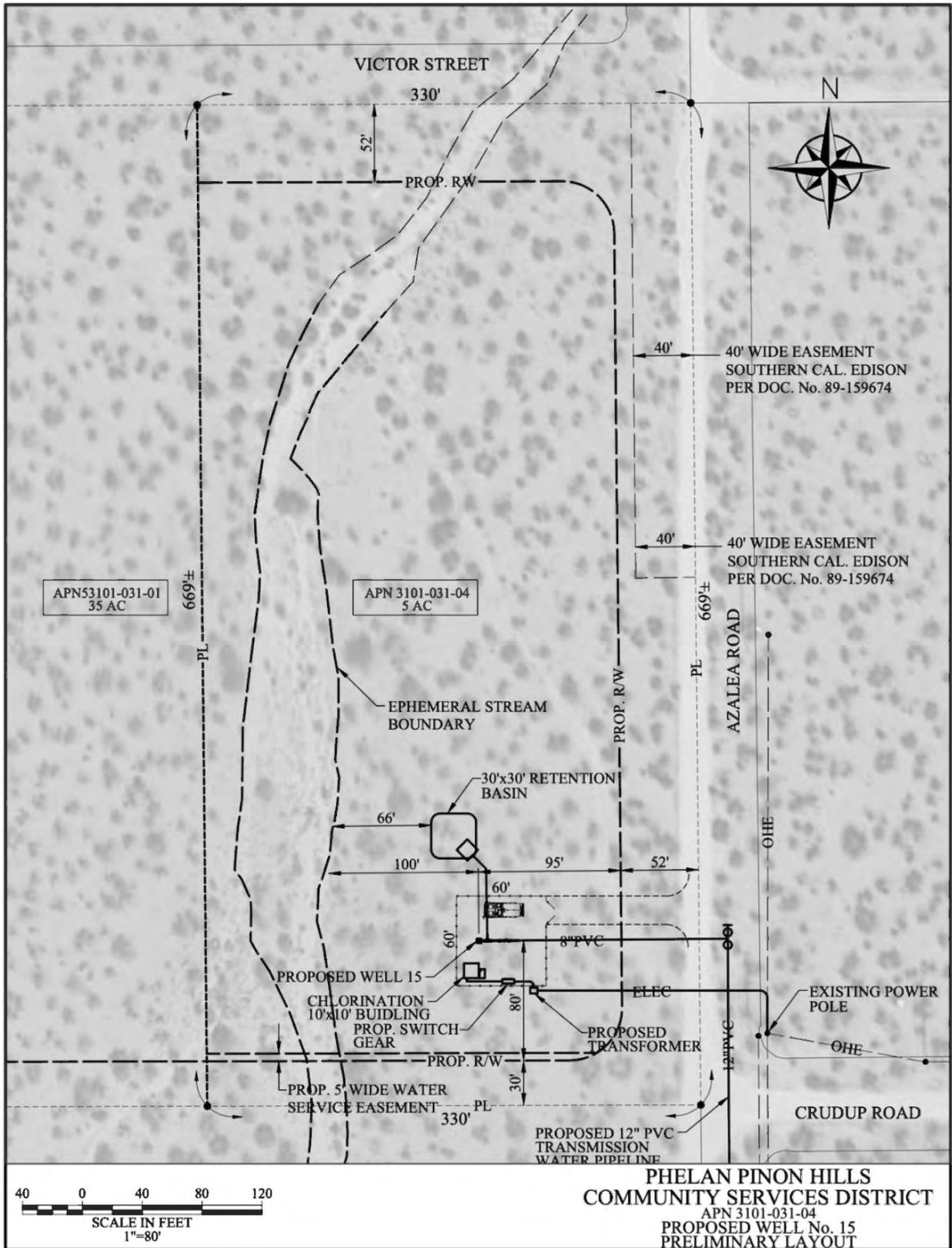
SOURCE: PPHCSD and Tom Dodson & Associates

FIGURE 1a



Well 15 Transmission Pipeline Plan
 PPH-116 Phelan Piñon Hills CSD Project



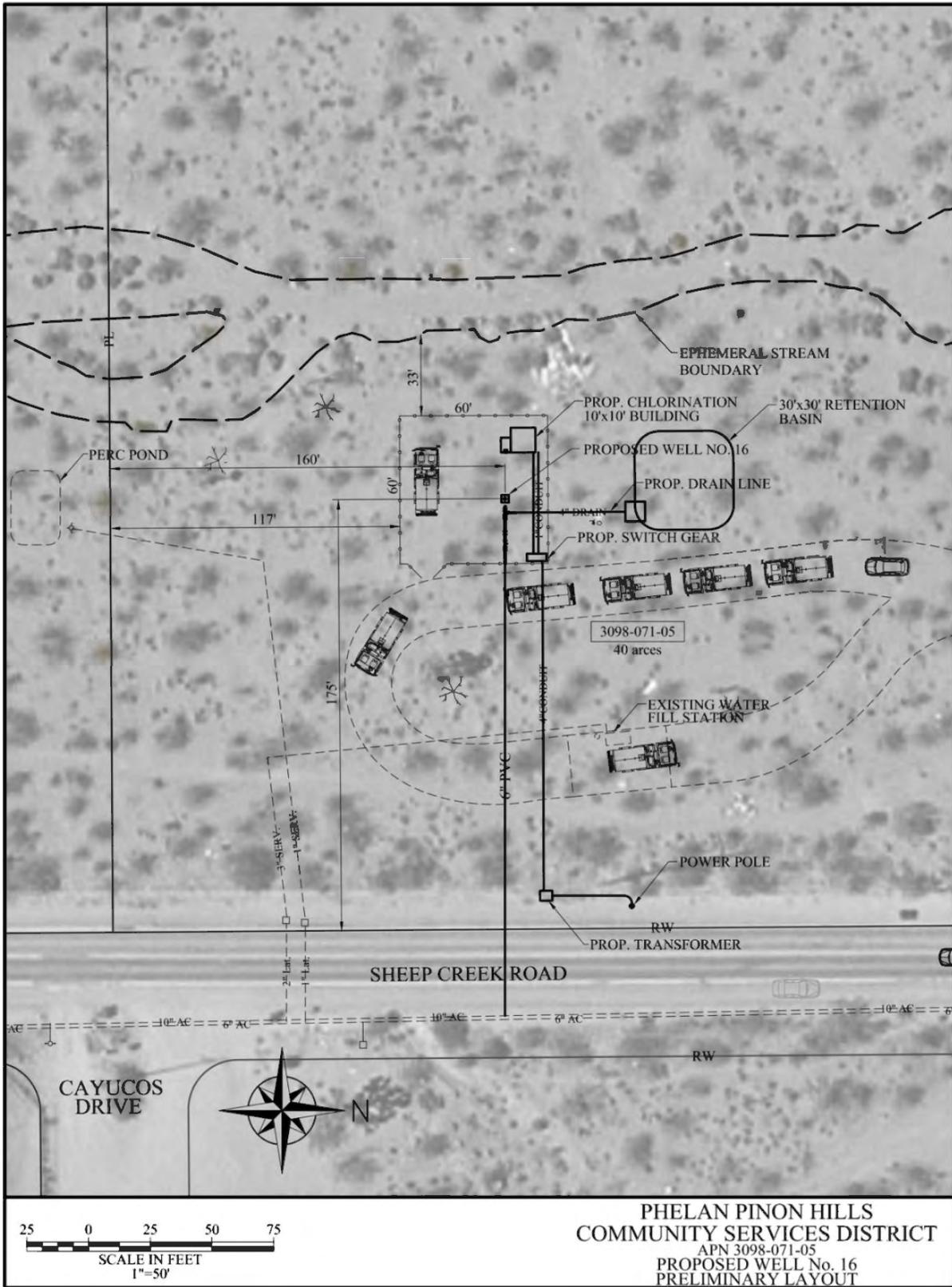


SOURCE: PPHCSD and Tom Dodson & Associates

FIGURE 1b

JACOBS

Well 15 Site Plan
PPH-116 Phelan Piñon Hills CSD Project



SOURCE: PPHCSD and Tom Dodson & Associates

FIGURE 1c

JACOBS Well 16 Site Plan
 PPH-116 Phelan Piñon Hills CSD Project

1.2 Location

The Project is located at two locations within the Phelan Piñon Hills Community within the High Desert region of San Bernardino County. The first Well is located at the northwest corner of the intersection of Crudup Road and Azalea Road with a pipeline proposed within Azalea Road south leading from the site, then east along South Road, then south along Soldea Road then east along Hatillo Road past Sheep Creek Road where the pipeline will connect with an existing connection at the District's Reservoir site at 14425 Sheep Creek Road. The project is located within the USGS Topo 7.5-minute map for *Shadow Mountains SE, CA*, and is in Section 14, Township 5 North and Range 7 West, San Bernardino Base Meridian. The approximate GPS coordinates of the project site are 34.519263°, -117.582832°.

The second well is located just west and north of the intersection of Sheep Creek Road and Cayucos Drive. The project is located within the USGS Topo 7.5-minute map for *Phelan, CA*, and is located in Section 26, Township 5 North and Range 7 West, San Bernardino Meridian. The approximate GPS coordinates of the project site are 34.488594°, -117.572798°. Refer to Figures 2 and 3 for the Regional and Site Location maps showing both wells.

The Project Area is defined as all areas that may be impacted directly or indirectly by the proposed Project. It encompasses the geographic extent of environmental changes (i.e. the physical, chemical and biotic effects) that will result directly and indirectly from the Project.



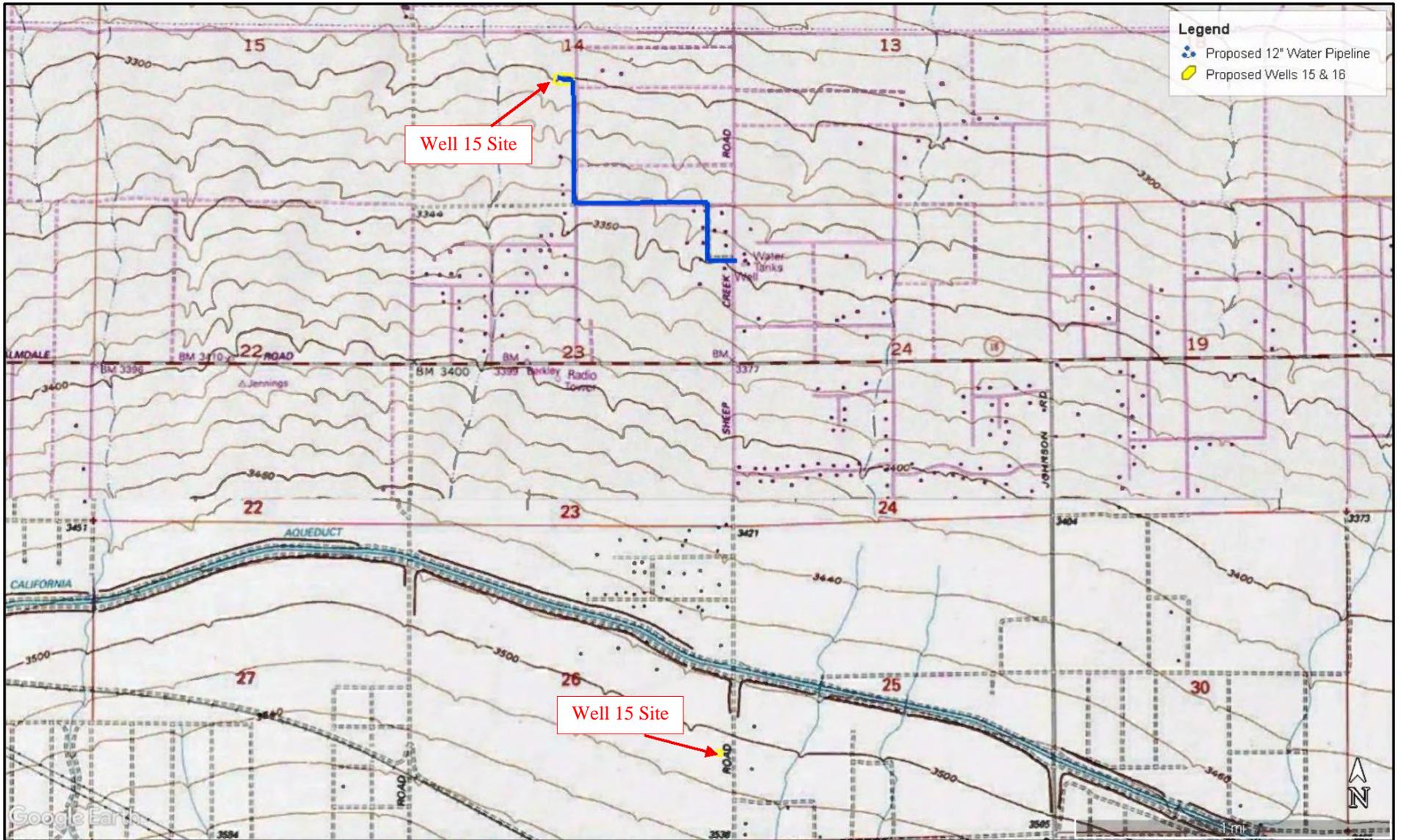
SOURCE: Google Earth

FIGURE 2

JACOBS Regional Location
 PPH-116 Phelan Piñon Hills CSD Project

2022 Tom Dodson & Associates
 PPH-116 Phelan Piñon Hills CSD
 Amended BRA/JD





SOURCE: Google Earth and USGS

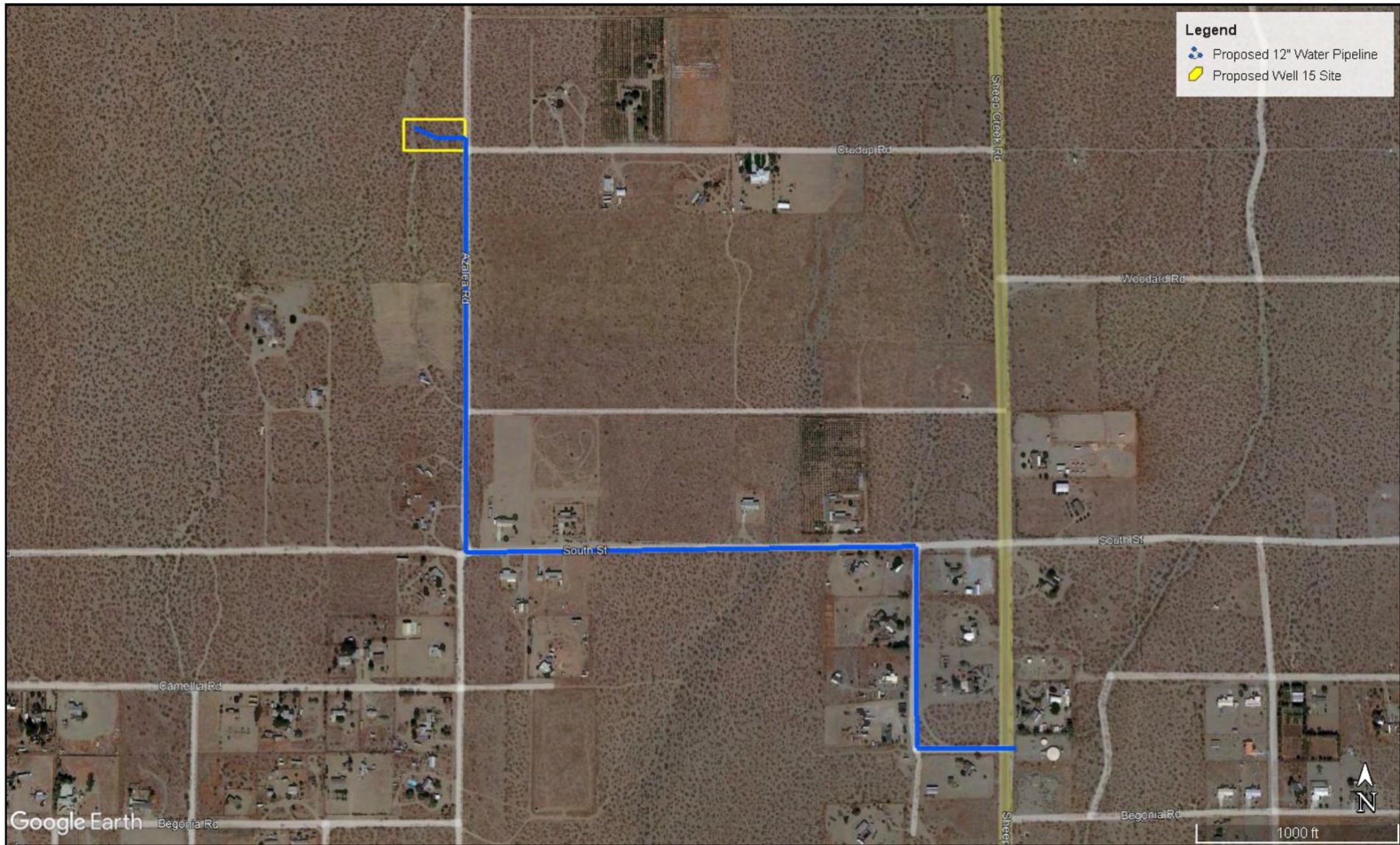
FIGURE 3



Topographic Map of Project Area
PPH-116 Phelan Piñon Hills CSD Project



2022 Tom Dodson & Associates
PPH-116 Phelan Piñon Hills CSD
Amended BRA/JD



SOURCE: Google Earth

FIGURE 4a

JACOBS

Aerial Photo of Well 15 Project Area
 PPH-116 Phelan Piñon Hills CSD Project

2022 Tom Dodson & Associates
 PPH-116 Phelan Piñon Hills CSD
 Amended BRA/JD

JACOBS



SOURCE: Google Earth

FIGURE 4b

JACOBS

Aerial Photo of Well 16 Project Area
 PPH-116 Phelan Piñon Hills CSD Project

2022 Tom Dodson & Associates
 PPH-116 Phelan Piñon Hills CSD
 Amended BRA/JD

JACOBS

1.3 Environmental Setting

The Project Area is in the southwestern portion of the Mojave Desert, west of the Mojave River and north of the San Gabriel Mountains. The Project Area is subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum temperatures peak at 98.1 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 29.2° F in January. Average annual precipitation is greatest from November through March and reaches a peak in February (1.05 inches). Precipitation is lowest in the month of June (0.04 inches). Annual total precipitation averages 5.52 inches.

The topography of the Project Area is flat and the elevation within the proposed Project Area ranges from approximately 3,300 feet above mean sea level (amsl) near the Well 15 site, to 3,520 feet amsl near the proposed Well 16 site.

Hydrologically, the Project Area is situated within an unnamed Hydrologic Sub-Area (HSA 628.10). This HSA comprises a 106,382-acre drainage area, within the larger Mojave Watershed (HUC 18090208). The Mojave River is the major hydrogeomorphic feature within the Mojave Watershed.

Soils within the Project Area are comprised of Cajon sand, 2 to 9 percent slopes. This soil type consists of sand and gravelly sand comprised of alluvium derived from mixed sources. Cajon sand, 2 to 9 percent slopes soils are somewhat excessively drained with a low runoff class.

Land use within the Project Area and surrounding vicinity consists of rural residential development and open space. Habitat within the undeveloped portions of the Project Area consists of *Larrea tridentata* Shrubland Alliance (creosote bush scrub). Please refer to the attached Site Photographs at the end of this document for representative photos of the existing conditions within the Project Area at the time of survey.

2 Assessment Methodology

2.1 Biological Resources Assessment

Data regarding biological resources in the Project Area were obtained through literature review and field investigation. Prior to performing the surveys, available databases and documentation relevant to the Project Area were reviewed for documented occurrences of sensitive species in the Project vicinity (approximately 3 miles). The USFWS threatened and endangered species occurrence data overlay and the most recent versions of the California Natural Diversity Database (CNDDDB; *Rarefind 5*) and California Native Plant Society Electronic Inventory (CNPSEI) databases were searched for sensitive species data in the *Shadow Mountains SE* and *Phelan* USGS 7.5-Minute Series Quadrangles. These databases contain records of reported occurrences of state and federally listed species or otherwise sensitive species and habitats that may occur within the vicinity of the Project site (approximately 3 miles). Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

Biological Resources Assessment

Jacobs biological field technician Daniel Smith conducted a biological resources assessment of the Project Area on January 5 and 6, of 2022. The BRA survey area encompassed 100 percent of the entire proposed impact area, as well as an approximately 500-foot buffer area where feasible and appropriate. 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 survey was to identify potential habitat for special status wildlife within the Project Area.

Protocol-level Desert Tortoise Survey

Desert tortoise surveys were conducted in accordance with the protocols described in the October 8, 2019 version of the USFWS “Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (*Gopherus agassizii*)” and the 2009 USFWS “Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*).” The survey was conducted in accordance with the USFWS survey protocol for Small Project Surveys (i.e. < 200 hectares [500 acres]). Per the USFWS, “For smaller projects, the number of tortoises affected is likely to be too small for statistical treatment; the goal with surveying these areas is to determine whether they are likely to be present and to determine any areas of concentrated use” (2019). In accordance with the USFWS protocols, 100 percent visual coverage of the survey area was achieved by walking 10-meter (30-foot) wide belt transects over the entire Project site, to provide sufficient coverage to find signs of desert tortoise use (e.g., scat, burrows, carcasses, courtship rings, drinking depressions, etc. in addition to live tortoises). The transect routes were calculated and uploaded to Google Earth Pro, which was used to accurately navigate the transects. Site photographs were taken during the field survey to catalog representative habitat (See attached Site Photos).

Mohave Ground Squirrel Habitat Suitability Assessment

The Mohave ground squirrel habitat assessment included a pedestrian field assessment, review of reported occurrences of the Mohave ground squirrel in the region (CNDDDB 2022), and adherence to CDFW's criteria for assessing potential impacts to the Mohave ground squirrel. The literature review included a review of the Mohave ground squirrel's current known geographic range and population distributions, as well as a review of the most current habitat suitability modeling available. The habitat suitability criteria questions considered were as follows:

1. *Is the site within the range of the Mohave ground squirrel?*
2. *Is there native desert scrub habitat with a relatively diverse shrub component?*
3. *Is the site surrounded by development and therefore isolated from potentially occupied habitat?*

Reference materials used to determine the site's proximity to the historic and current Mohave ground squirrel range and known population distributions included "A Conservation Strategy for the Mohave Ground Squirrel (*Xerospermophilus mohavensis*)" (CDFW 2019), Leitner's 2015 "Current status of the Mohave ground squirrel (*Xerospermophilus mohavensis*): A five-year update (2008–2012)," the Desert Renewable Energy Conservation Plan (DRECP) Mohave ground squirrel "Habitat Intactness" and "Species Distribution" models, as well as the Maxent Probability of Occurrence model for estimating the range of the Mohave ground squirrel. The CNDDDB (2022) BIOS Viewer was used to determine the site's proximity to documented Mohave ground squirrel occurrences. Additionally, general floristic surveys were conducted within the Project site to assess the plant communities and species composition within the shrub layer, relative to known Mohave ground squirrel forage plants.

2.2 Jurisdictional Delineation

On January 5, 2022, Mr. Smith also evaluated the Project Area for the presence of riverine/riparian/wetland habitat and jurisdictional waters, i.e. Waters of the U.S. (WOTUS), as regulated by the USACE and RWQCB, and/or jurisdictional streambed and associated riparian habitat as regulated by the CDFW.

Prior to the field visit, aerial photographs of the Project Area were viewed and compared with the surrounding USGS 7.5-Minute Topographic Quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The USFWS National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" Google Earth Pro data layer were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) Web Soil Survey was reviewed for soil types found within the Project Area to identify the soil series in the area and to check these soils to determine whether they are regionally identified as hydric soils. Upstream and downstream connectivity of waterways (if present) were reviewed on Google Earth Pro aerial photographs and topographic maps to determine jurisdictional status. The lateral extent of potential USACE jurisdiction was measured at the Ordinary High Watermark (OHWM) in accordance with regulations set forth in 33CFR part 328 and the USACE guidance documents listed below:

- *USACE Corps of Engineers Wetlands Delineation Manual, Wetlands Research Program Technical Report Y-87-1 (on-line edition), January 1987 - Final Report.*
- *USACE Jurisdictional Determination Form Instructional Guidebook (JD Form Guidebook), May 30, 2007.*
- *USACE A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (A Delineation Manual), August 2008.*
- *USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), September 2008.*
- *USACE Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Minimum Standards), January 2016.*

Evaluation of CDFW jurisdiction followed guidance in the FGC and *A Review of Stream Processes and Forms in Dryland Watersheds* (CDFW 2010). Specifically, CDFW jurisdiction would occur where a stream has a definite course showing evidence of where waters rise to their highest level and to the extent of associated riparian vegetation.

3 Results

3.1 Existing Biological and Physical Conditions

The Project Area consists of disturbed desert scrub plant communities surrounded by undeveloped land and existing rural residential development (Figures 4a & 4b). Disturbances within and immediately adjacent the proposed impact area include previous clearing/grading, unpaved roads, private residences, and an archery range adjacent the proposed Well 16 site.

3.1.1 Habitat

Habitat within and adjacent the proposed Project Area consists of *Larrea tridentata* Shrubland Alliance (creosote bush scrub). This habitat is dominated by creosote bush, with white bursage (*Ambrosia dumosa*), cheesebush (*A. salsola*), and allscale (*Atriplex polycarpa*) present in the shrub layer as well. Additionally, there are several Joshua trees (*Yucca brevifolia*) present in the immediate vicinity of the proposed Well 16 site. The proposed 12-inch water pipeline connecting Well 15 to existing District facilities southwest of the proposed Well 15 site is entirely within existing unpaved roads surrounded by adjacent creosote bush scrub and rural residential development. The proposed Well 15 site is within creosote bush scrub habitat. The proposed Well 16 site is within heavily disturbed creosote bush scrub habitat.

3.1.2 Wildlife

Amphibians and Reptiles

No amphibian species were observed or otherwise detected within the Project Area. The only reptiles observed within the Project Area was Great Basin whiptail (*Aspidoscellis tigris tigris*) and western side-blotched lizard (*Uta stansburiana elegans*). Other common herp species expected to occur within the Project Area include western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), red racer (*Coluber flagellum piceus*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*), long-nosed leopard lizard (*Gambelia wislizenii*), California kingsnake (*Lampropeltis californiae*), southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*) and yellow-backed spiny lizard (*Sceloporus uniformis*).

Birds

Birds were the most observed wildlife group during survey and species observed or otherwise detected in the Project Area during the reconnaissance-level survey included:

- California quail (*Callipepla californica*)
- common raven (*Corvus corax*)
- American kestrel (*Falco sparverius*)
- house finch (*Haemorhous mexicanus*)
- Say's phoebe (*Sayornis saya*)
- yellow-rumped warbler (*Setophaga coronata*)
- European starling (*Sturnus vulgaris*)
- white-crowned sparrow (*Zonotrichia leucophrys*)

Mammals

Identification of mammals within the Project Area was generally determined by physical evidence rather than direct visual identification. This is because 1) many of the mammal species that potentially occur onsite are nocturnal and would not have been active during the survey and 2) no mammal trapping was

performed. Mammal species observed or otherwise detected during the reconnaissance-level survey included white-tailed antelope squirrel (*Ammospermophilus leucurus*), black-tailed jackrabbit (*Lepus californicus*) and desert cottontail (*Sylvilagus audubonii*). Other common species expected to occur within the Project Area include coyote (*Canis latrans*), Merriams' kangaroo rat, (*Dipodomys merriami*), striped skunk (*Mephitis mephitis*) and California ground squirrel (*Otospermophilus beecheyi*).

3.2 Special Status Species and Habitats

Per the CNDDDB, CNPSEI, and other relevant literature and databases, nine sensitive species (two plant species, seven animal species) have been documented in the *Shadow Mountains SE* and *Phelan* USGS 7.5-Minute Series Quadrangles. This list of sensitive species includes any state and/or federally listed threatened or endangered species, California Fully Protected species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

Of the nine special status species identified by the database queries as potentially occurring within the Project vicinity, the following two are state and/or federally listed as threatened or endangered:

- Mojave desert tortoise (*Gopherus agassizii*)
- Mohave ground squirrel (*Xerospermophilus mohavensis*)

Although not a state or federally listed species, the burrowing owl (*Athene cunicularia*) is a CDFW SSC and is considered particularly sensitive species within the region. Therefore, this species will also be included in the discussion below.

An analysis of the likelihood for occurrence of all CNDDDB sensitive species documented in the *Shadow Mountains SE* and *Phelan* quads is provided in Table 1. This analysis considers species' range as well as documentation within the vicinity of the Project Area and includes the habitat requirements for each species and the potential for their occurrence on site, based on required habitat elements and range relative to the current site conditions.

3.2.1 Special Status Species

Mojave Desert Tortoise – Threatened (Federal/State)

The Mojave desert tortoise is a state and federally listed threatened species. The species had experienced significant population declines throughout much of its range prior to becoming listed as threatened under the federal ESA in 1990. The Mojave desert tortoise has continued to decline throughout its range due to threats that include habitat loss, degradation and fragmentation, domestic grazing, predation, collections, and increased mortality rates. The Mojave desert tortoise is primarily found in creosote bush scrub and creosote bush scrub alliances, but is also occurs in other desert scrub habitats including succulent scrub, cheesebush scrub, blackbush scrub, hop-sage scrub, shadscale scrub, microphyll woodland, Joshua tree woodland and Mojave saltbush-allscale scrub plant communities. Desert tortoise primarily forage on annual forbs, but also perennials (e.g., cacti and grasses). They prefer surfaces covered with sand and fine gravel versus coarse gravel, pebbles, and desert pavement. Friable soil is important for digging burrows. Desert tortoise are most often found on level or sloped ground where the substrate is firm but not too rocky. Tortoise burrows are typically found at the base of shrubs, in the sides of washes and in hillsides. Because a single tortoise may have many burrows distributed throughout its home range, it is not possible to predict exact numbers of individuals on a site based upon burrow numbers.

Findings: According to the USFWS desert tortoise Critical Habitat overlay, the Project site is not within any USFWS designated desert tortoise Critical Habitat. However, some of the creosote bush scrub habitat within and adjacent the Project Area is suitable for desert tortoise. Therefore, focused protocol-level desert tortoise surveys were conducted by Jacobs biologists in January 2022, in accordance with the USFWS survey protocols listed in Section 2.1 of this document. All areas within and adjacent the proposed Project impact area were surveyed to 100 percent visual coverage, wherever potentially suitable desert tortoise habitat was present (i.e. creosote bush scrub habitat).

The result of the protocol desert tortoise survey was that no evidence of desert tortoise presence was found in the survey area. No desert tortoise individuals or sign including desert tortoise burrows, scat, carcasses or other sign were observed. Therefore, Mojave desert tortoise are considered absent from the Project Area at the time of survey and the Project is not likely to adversely affect this species.

Mohave Ground Squirrel – Threatened (State)

The Mohave ground squirrel is a State listed threatened species. This small, grayish, diurnal ground squirrel is endemic to 2 million hectares in the western Mojave Desert. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. Mohave ground squirrel forage on leaves and seeds and aestivate/hibernate for long periods of the year. Plants documented as forage for this species include: fiddleneck (*Amsinckia tessellata*), allscale (*Atriplex canescens* and *A. polycarpa*), desert holly (*A. hymenelytra*), coreopsis (*Coreopsis* sp.), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), wolfberry (*Lycium andersonii*), Joshua tree (*Yucca brevifolia*) and the seeds of Joshua tree. It is suspected that Mohave ground squirrel forage on the plant species with the highest water content available at the time.

Mohave ground squirrel populations have declined significantly throughout the species range since around 1980 and population distribution throughout its range is patchy, even within suitable habitat (CDFW 2019). Primary threats to Mohave ground squirrel populations include range contraction, habitat loss, degradation and fragmentation, climate change including increased severity and persistence of drought, and invasive species (CDFW 2019).

Findings: Although a focused Mohave ground squirrel trapping survey was not performed, Jacobs conducted a Mohave ground squirrel habitat suitability assessment of the proposed Project site and adjacent habitat. Although some Mohave ground squirrel forage plant species (*Atriplex polycarpa* and *Yucca brevifolia*) are present within the Project Area, these species are scarce on site and Mohave ground squirrel forage potential is limited in the Project Area.

The Project site falls just within the historic range of the Mohave ground squirrel but is outside of any currently extant Mohave ground squirrel population areas or population linkages (CDFW 2019). The Project site is located outside of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan and is approximately 20 miles south of the nearest known MGS population area (BLM 2005; CDFW 2019).

According to the CNDDDB (2022), the nearest documented Mohave ground squirrel occurrence (1972) is approximately 5.4 miles north of the proposed Well 15 site. However, extensive live-trapping and camera-trapping surveys were conducted within the southern portion of the Mohave ground squirrel range from 1998 to 2012 and very few animals were detected, despite the presence of suitable habitat, indicating that Mohave ground squirrel has been extirpated from much of the southern portion of its range (Leitner 2008 and 2015; CDFW 2019). Furthermore, the DRECP “Habitat Intactness” and “Species Distribution” models for this species indicate that there is no

predicted occupied habitat in the Project vicinity. Due to the reasons discussed in these findings, Mohave ground squirrel are not likely to occur within the Project Area and the Project is not likely to adversely affect this species.

Burrowing owl – SSC

The burrowing owl (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). 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.

BUOW have disappeared from significant portions of their range in the last 15 years and, overall, nearly 60 percent of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the State or federal ESA but is considered both a State and federal 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 FGC (FGC #3513 & #3503.5).

Findings: According to 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.” BUOW have not been documented in the *Shadow Mountains SE* or *Phelan* quads. The nearest documented BUOW occurrence (2006) is approximately 8 miles east of the proposed Well 16 site (CNDDDB 2022).

The habitat assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced approximately 30 feet apart to provide 100 percent visual coverage of the Project site, wherever potentially suitable desert tortoise habitat was present, including an approximately 500-foot buffer area around the Project site, where feasible and appropriate. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals or sign including castings, feathers or whitewash were observed. Furthermore, no appropriately sized mammal burrows or burrow surrogates were observed within the survey area. Therefore, BUOW are considered absent from the Project Area at the time of survey and the Project is not likely to adversely affect this species.

3.2.2 Special Status Habitats

The Project site is not within or adjacent any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species. Therefore, the Project will not result in any loss or adverse modification of USFWS designated Critical Habitat, or any other special status habitats.

3.3 Jurisdictional Delineation

The Project Area is situated within an unnamed Hydrologic Sub-Area (HSA 628.10). This HSA comprises a 106,382-acre drainage area, within the larger Mojave Watershed (HUC 18090208). This watershed encompasses an approximately 4,600-square-mile area north of the San Bernardino and San Gabriel

Mountains in the Mojave Desert, almost entirely within San Bernardino County, with the extreme western boundary overlapping into Los Angeles and Kern Counties. The Mojave Watershed is bound on the south by the Southern Mojave and Santa Ana watersheds, on the northeast by the Coyote-Cuddeback Lakes, Death Valley-Lower Amargosa, and Ivanpah-Pahrump Valleys watersheds, and on the west by the San Gabriel and Antelope-Fremont Valleys watersheds. The Mojave River is the major hydrogeomorphic feature of the Mojave Watershed. The Project Area is approximately 17 miles west of the Mojave River at its nearest point.

Waters of the U.S.

The USACE has authority to permit the discharge of dredged or fill material in WOTUS under Section 404 of the CWA. WOTUS are defined as:

“All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters” (Section 404 of the CWA; 33 CFR 328.3 (a).

Therefore, CWA jurisdiction exists over the following:

1. All traditional navigable waters (TNWs);
2. All wetlands adjacent to TNWs;
3. Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) i.e., tributaries that typically flow year-round or have continuous flow at least seasonally; and
4. Every water body determined to have a significant nexus with TNWs.

Additionally, areas meeting all three wetland parameters would be designated as USACE wetlands, if they are adjacent to jurisdictional WOTUS, or otherwise determined to have a significant nexus to a TNW.

There are no wetland or non-wetland WOTUS within the Project Area. There are two isolated, ephemeral drainage features that flow generally south to north adjacent the westernmost portions of the proposed Well 15 and Well 16 sites, respectively. However, neither of these drainages are a TNW or RPW, and neither has a “significant nexus” with a TNW. Therefore, neither drainage feature is a WOTUS. Furthermore, the Project has been designed to avoid all impacts to these water features (Figures 1a-1c & 5a-5b) and the Project will not result in any impacts (temporary or permanent) to jurisdictional waters subject to regulation by the USACE or RWQCB under Sections 404/401 of the CWA, respectively.

Waters of the State

The two ephemeral drainage features that flow adjacent the westernmost portions of the proposed Well 15 and Well 16 sites are subject to regulation by the CDFW under Section 1602 of the FGC, as well as by the RWQCB under the Porter Cologne Water Quality Control Act. Although these ephemeral drainage features consist mostly of unvegetated sandy river wash, they have an identifiable bed and bank, which defines the maximal extent of this feature. Therefore, these drainage features would be subject to regulation by the CDFW under Section 1602 of the FGC, as well as by the RWQCB under the Porter Cologne Water Quality Control Act. However, all Project related impacts (permanent and temporary) will be restricted to outside of the jurisdictional boundaries of these water features (Figures 1a-1c & 5a-5b). Therefore, the Project will not result in any impacts to “waters of the State.”



SOURCE: Google Earth

FIGURE 5a



Jurisdictional Features (“Waters of the State”)
 PPH-116 Phelan Piñon Hills CSD Project



SOURCE: Google Earth

FIGURE 5b



Jurisdictional Features (“Waters of the State”)
PPH-116 Phelan Piñon Hills CSD Project

4 Conclusions and Recommendations

4.1 Sensitive Biological Resources

A BRA survey was conducted by Jacobs in January 2022 to identify potential habitat for special status plants and wildlife within the Project Area. No state and/or federally listed threatened or endangered species or other special status species were observed within the Project Area during survey and none are expected to occur.

Mojave Desert Tortoise

Although the creosote bush scrub and creosote bush scrub habitat within the Project Area is suitable for the federally listed as endangered Mojave desert tortoise, a protocol-level desert tortoise survey was conducted within the Project Area by Jacobs biologists in January 2022 and the result of the survey was negative for this species. No desert tortoise individuals or sign including desert tortoise burrows, scat, carcasses or other sign were observed during survey and Mojave desert tortoise are considered absent from the Project Area at the time of survey. Although the Project is not likely to adversely affect this species, there is still a low potential for this species to occur in the Project Area and the following precautionary avoidance measures are recommended to ensure the Project does not result in any impacts to Mojave desert tortoise:

- A qualified biologist shall develop a Worker Environmental Awareness Program (WEAP) that would include information on general and special status species within the Project Area, identification of these species and their habitats, techniques being implemented during construction to avoid impacts to species, consequences of killing or injuring an individual of a listed species, and reporting procedures when encountering listed or sensitive species. All construction crews, foremen, and other Project personnel potentially working on site should attend this education program prior to the first day of work.
- Preconstruction surveys for desert tortoise should be conducted no more than 14 days prior to new ground disturbance within each phase of development to verify that Mojave desert tortoise remain absent from the Project Area.
- A qualified biological monitor should be present during all ground disturbing activities (clearing, grubbing and grading) to ensure that construction related activities do not impact any sensitive wildlife that may wander onto the site during construction.

Mohave Ground Squirrel

Based on the habitat conditions and existing disturbances within the Project site and surrounding area, as well as the proximity of the Project Area relative to the current known population distributions of Mohave ground squirrel, this species is not likely to occur within the Project Area and the Project is not likely to adversely affect this species. No additional avoidance, minimization or mitigation measures beyond those to those already recommended for Mojave desert tortoise (above) are warranted or recommended.

Burrowing Owl

A BUOW habitat suitability assessment was conducted by Jacobs biologists in January 2022 that included 100 percent visual coverage of the Project site, wherever potentially suitable desert tortoise habitat was present, including an approximately 500-foot buffer area around the Project site, where feasible and

appropriate. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals, appropriately sized mammal burrows, burrow surrogates, or sign including castings, feathers or whitewash were observed and BUOW are considered absent from the Project Area at the time of survey. Although the Project is not likely to adversely affect this species, there is still a low potential for this species to occur in the Project Area and the following precautionary avoidance measures are recommended to ensure the Project does not result in any impacts to BUOW:

- BUOW would be included as one of the species covered in the WEAP that all construction crews, foremen, and other Project personnel potentially working on site should attend prior to the first day of work.
- Preconstruction surveys for BUOW should be conducted no more than 14 days prior to new ground disturbance within each phase of development to verify that BUOW remain absent from the Project Area.

Joshua Trees

The Joshua tree is a Candidate Species for listing as endangered under the CESA. As such, Joshua trees are protected from take by the CDFW under interim protection status while the CDFW reviews the listing petition for this species. There are several Joshua trees within the immediate vicinity of the proposed Well 16 site. Therefore, all Project-related activities must avoid any impacts to Joshua trees.

Nesting Birds

There is habitat within the Project Area that is suitable to support nesting birds. Most native bird species are protected from unlawful take by the MBTA (Appendix A). In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA (USFWS 2018).

However, the State of California provides additional protection for native bird species and their nests in the FGC (Appendix A). Bird nesting protections in the FGC include the following (Sections 3503, 3503.5, 3511, 3513 and 3800):

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully Protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.

- Section 3800 prohibits the take of any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1st through August 31st. However, if all work cannot be conducted outside of nesting season, the following is recommended:

- To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist should conduct pre-construction Nesting Bird Surveys (NBS) prior to Project-related disturbance to suitable nesting areas to identify any active nests. If no active nests are found, no further action would be required. If an active nest is found, the biologist should set appropriate no-work buffers around the nest which would be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nest(s) and buffer zones should be field checked weekly by a qualified biological monitor. The approved no-work buffer zone should be clearly marked in the field, within which no disturbance activity should commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

4.2 Jurisdictional Waters

The two ephemeral drainage features that flow adjacent the westernmost portions of the proposed Well 15 and Well 16 sites (Figures 1a-1c & 5a-5b) are subject to regulation by the CDFW under Section 1602 of the FGC and by the RWQCB under the Porter Cologne Water Quality Control Act. Therefore, any proposed permanent or temporary impacts to these features would require a “Lake or Streambed Alteration Agreement” from the CDFW, as well as a permit from the RWQCB for “Discharges of Dredged or Fill Material to Waters of the State”. Additionally, an Approved Jurisdictional Determination (AJD) Form would need to be submitted to the USACE for concurrence with the determination that these features are not WOTUS. However, the proposed Project will be designed to completely avoid impacting these ephemeral waters (Figures 1a-1c & 5a-5b). All Project related impacts (permanent and temporary) will be restricted to outside the jurisdictional boundaries of these features, and the Project will not result in any impacts (permanent or temporary) to jurisdictional “waters of the State.” Therefore, no FGC Section 1602 or Porter Cologne Water Quality Control Act permitting will be required and an AJD is not necessary.

5 References

- Calflora: Information on California plants for education, research and conservation. [web application]. 2020. Berkeley, California: The Calflora Database [a non-profit organization]. Available at: <http://www.calflora.org/>. (Accessed: October 7, 2020).
- California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.
- California Department of Fish and Game. 1995. Staff report on burrowing owl mitigation. Memo from C.F. Raysbrook, Interim Director to Biologist, Environmental Services Division, Department of Fish and Game. Sacramento, CA.
- California Department of Fish and Game (CDFG). 2010. A Review of Stream Processes and Forms in Dryland Watersheds. Prepared by Kris Vyverberg, Senior Engineering Geologist, Conservation Engineering. December 2010.
- California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. March 7, 2012.
- California Department of Fish and Wildlife (CDFW). 2019. A Conservation Strategy for the Mohave Ground Squirrel (*Xerospermophilus mohavensis*). Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171301&inline>.
- California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California [online edition, v8-03 0.45]. Available at: <http://www.rareplants.cnps.org>. (Accessed: October 7, 2020).
- California Natural Diversity Database (CNDDDB). 2020. *RareFind 5* [Internet]. California Department of Fish and Wildlife, Version 5.2.14. Available at: <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>. (Accessed: October 7, 2020).
- DataBasin. 2013a. Mohave ground squirrel - Habitat Intactness, DRECP. Conservation Biology Institute. Available at: <https://databasin.org/datasets/140b02d096d74afca5f95e419b66924b>. (Accessed: October 7, 2020).
- DataBasin. 2013b. Mohave ground squirrel - Species Distribution Model Map, DRECP. Conservation Biology Institute. Available at: <https://databasin.org/maps/a266192c77e54579bf35d01c64225f88>. (Accessed: October 7, 2020).
- Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
- Goldwasser, S. 1981. Habitat requirements of the Least Bell's Vireo. Calif. Dept. Fish & Game, Nongame Wildlife Investigations Rep. 81.09, Proj. E-W4, Job IV-38.1. Nongame Bird and Mammal Sec. Rep. 81.09.
- Inman RD, Esque TC, Nussear KE, Leitner P, Matocq MD, Weisberg PJ, Dilts TE, Vandergast AG. 2013. Is there room for all of us? Renewable energy and *Xerospermophilus mohavensis*. *Endang Species Res* 20:1-18. Available at: <https://databasin.org/datasets/063de529c9dd4635bb9f019cd0c0ca2a>.
- Jepson Flora Project (eds.) 2020, *Jepson eFlora*. Available at: <http://ucjeps.berkeley.edu/eflora/>. (Accessed: October 7, 2020).
- Leitner, P. 2008. Current status of the Mohave ground squirrel. *Transactions of the Western Section of the Wildlife Society* 44: 11–29.
- Leitner, P. 2015. Current status of the Mohave ground squirrel (*Xerospermophilus mohavensis*): A five-year update

- (2008–2012). Endangered Species Recovery Program, California State University, Stanislaus, One University Circle, Turlock, California 95382. Published in *Western Wildlife* 2: 9–22.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings*. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Natural Resources Conservation Service (NRCS). 2020. Web Soil Survey. Map Unit Descriptions. San Bernardino County Area, California. Available at: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. (Accessed: October 7, 2020).
- Sawyer, John O., Keeler-Wolf, Todd, and Evens, Julie M. 2009. A manual of California vegetation. Second Edition. California Native Plant Society, Sacramento, California, USA. 1,300 pages.
- Sogge, M.K., Ahlers, Darrell, and Sferra, S.J., 2010, A natural history summary and survey protocol for the Southwestern Willow Flycatcher: U.S. Geological Survey Techniques and Methods 2A-10, 38 p.
- U.S. Army Corps of Engineers (USACE). 2001. USACE Minimum Standards for Acceptance of Preliminary Wetlands Delineations, November 30, 2001 (Minimum Standards).
- U.S. Army Corps of Engineers (USACE). 2007. Jurisdictional Determination Form Instructional Guidebook (JD Form Guidebook). May 30.
- U.S. Army Corps of Engineers (USACE). 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (A Delineation Manual). August 2008.
- U.S. Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). September 2008.
- U.S. Army Corps of Engineers (USACE). 2016. Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Minimum Standards). January 2016.
- U.S. Bureau of Land Management (BLM). 1980. The California Desert Conservation Area Plan. U.S. Bureau of Land Management, Riverside, California. 173 pp.
- U.S. Bureau of Land Management (BLM) and California Department of Fish and Game (CDFG). 1988. A Sikes Act Management Plan for the Desert Tortoise Research Natural Area and Area of Critical Environmental Concern. U.S. Bureau of Land Management, Ridgecrest, California. 43 pp. + unpaginated appendices.
- U.S. Bureau of Land Management (BLM). 1989. Map produced by BLM for the California Desert Conservation Area, dated January 1989, showing desert tortoise Category I, 2, and 3 Habitats in California. Riverside, CA.
- U.S. Bureau of Land Management (BLM). 2005. Final Environmental Impact Report and Statement for the West Mojave Plan, a Habitat Conservation Plan and California Desert Conservation Area Plan Amendment. Moreno Valley, CA.
- U.S. Department of the Interior (DOI). 2017. Memorandum to the Secretary, Deputy Secretary, Assistant Secretary for Land and Minerals Management and Assistant Secretary for Fish and Wildlife and Parks from the Principal Deputy Solicitor Exercising the Authority of the Solicitor Pursuant to Secretary's Order 3345, Subject: The Migratory Bird Treaty Act Does Not Prohibit Incidental Take. M-37050.
- U.S. Fish and Wildlife Service (USFWS). 2018. Memorandum to the Service Directorate from the Principal Deputy Director, Subject: Guidance on the recent M-Opinion affecting the Migratory Bird Treaty Act.
- U.S. Fish and Wildlife Service (USFWS). National Wetlands Inventory. Website: <http://wetlands.fws.gov>. (Accessed:

October 7, 2020).

- U.S. Fish and Wildlife Service (USFWS). 1994. The desert tortoise (Mojave population) recovery plan. U.S. Fish and Wildlife Service, Region 1, Lead Region, Portland, Oregon. 73 pp. + appendices.
- U.S. Fish and Wildlife Service 1994. Final Determination of Critical Habitat for the Least Bell's Vireo (*Vireo bellii pusillus*); Final Rule. 59 FR 4845.
- U.S. Fish and Wildlife Service 1998. Draft recovery plan for the least Bell's vireo. U.S. Fish and Wildlife Office. April 8 3 pp.
- U.S. Fish and Wildlife Service 2005. Final Determination of Critical Habitat for the Southwestern Willow Flycatcher (*Empidonax traillii extimus*); Final Rule. 70 FR 60885 61009.
- U.S. Fish and Wildlife Service (USFWS). 2008. Field survey protocol for any nonfederal action that may occur within the range of the desert tortoise. Ventura, CA.
- U.S. Fish and Wildlife Service (USFWS). 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, California.
- U.S. Fish and Wildlife Service (USFWS). 2010. Pre-Project Field Survey Protocol for Potential Desert Tortoise Habitats. Available at: https://www.fws.gov/carlsbad/PalmSprings/DesertTortoise/DT%20Pre-Project%20Survey%20Protocol_2010%20Field%20Season.pdf.
- U.S. Fish and Wildlife Service (USFWS). 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 222 pp.
- U.S. Fish and Wildlife Service (USFWS). 2019. Preparing for Any Action That May Occur Within the Range of The Mojave Desert Tortoise (*Gopherus agassizii*). Available at: https://www.fws.gov/nevada/desert_tortoise/documents/manuals/MojaveDesertTortoisePre-projectSurveyProtocol_2019_v2.pdf.
- U.S. Fish and Wildlife Service (USFWS). Information for Planning and Consultation (IPaC). Website: <https://ecos.fws.gov/ipac/>. (Accessed: October 7, 2020).
- Western Regional Climate Center. Period of Record Monthly Climate Summary for Victorville Pump Pt, California (049325). Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9325>. (Accessed: October 7, 2020).

**Table 1:
CNDDDB Species
Occurrence Potential**

Table 1. CNDDDB Species and Habitats Documented Within the *Shadow Mountain SE* and *Phelan* USGS 7.5-minute Quadrangles

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Bombus crotchii</i>	Crotch bumble bee	None/ None	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	The food plant genera for this species are absent from the Project Area. Occurrence potential within the Project area is low .
<i>Canbya candida</i>	white pygmy-poppy	None/ None	G3G4; S3S4; CNPS: 4.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Gravelly, sandy, granitic places. 600-1460 m.	The only documented occurrence (1986) for this species within the CNDDDB query for the <i>Shadow Mountain SE</i> and <i>Phelan</i> quads is approximately 4.5 miles SE of the Project Area. Occurrence potential on site is low .
<i>Eumops perotis californicus</i>	western mastiff bat	None/ None	G4G5T4; S3S4; CDFW: SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	There are no suitable roosting sites for this species within the Project Area. Occurrence potential on site is low .
<i>Gopherus agassizii</i>	desert tortoise	Threatened/ Threatened	G3; S2S3	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.	There is some suitable habitat for this species within the Project Area and this species has been documented approximately 1.8 miles SW of the proposed Well 15 site. However, desert tortoise surveys conducted on site and adjacent in 2022 were negative for this species. Therefore, Mojave desert tortoise is considered absent from the site at the time of survey. Occurrence potential on site is low .
<i>Juniperella mirabilis</i>	juniper metallic wood-boring beetle	None/ None	G1; S1	Larvae develop in juniper in Santa Rosa Mts. in Southern California.	There are no juniper plant hosts within the Project Area. Occurrence potential on site is low .
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	None/ None	G5T3; S3; CNPS: 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy soil or coarse, granitic loam. 425-2015 m.	This species is absent from the Project Area.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Phrynosoma blainvillii</i>	coast horned lizard	None/ None	G3G4; S3S4; CDFW: SSC	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.	Although there is some suitable habitat for this species within the Project Area, the nearest documented occurrence for this species is a historical occurrence (1949) from approx. 1.6 miles SW of the proposed Well 16 site. The Project site is likely outside of the current range distribution for this species. Occurrence potential on site is low .
<i>Toxostoma lecontei</i>	Le Conte's thrasher	None/ None	G4; S3; CDFW: SSC	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.	There is suitable habitat for this species within the Project Area and this species has been documented within 4 miles of the Project site. Occurrence potential on site is moderate – high .
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	None/ Threatened	G2G3; S2S3	Open desert scrub, alkali scrub and Joshua tree woodland. Also feeds in annual grasslands. Restricted to Mojave Desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Although there is some marginally suitable habitat for this species within the Project Area, the Project site is approx. 20 miles outside (S) of the current known MGS population areas and population linkages. Furthermore, the DRECP “Habitat Intactness” and “Species Distribution” models for this species indicate that there is no predicted occupied habitat in the Project vicinity. Occurrence potential on site is low .

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected 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: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

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)

**SITE
PHOTOS**



Photo 1. Looking west at the proposed Well 15 site from Azalea Road.



Photo 2. Looking south along the proposed 12" water pipeline alignment within Azalea Road from the proposed Well 15 site.



Photo 3. Looking west at the proposed Well 16 site from the east side of the site.



Photo 4. Photo 3. Looking north at the proposed Well 16 site from the south side of the site.

**Appendix A:
Regulatory Framework**

REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

The purpose of the Clean Water Act (CWA) of 1977 is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “waters of the United States” without a permit from the United States Army Corps of Engineers (USACE). The definition of waters of the United States includes rivers, streams, estuaries, territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3 7b). The U.S. Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

Federal Endangered Species Act (ESA)

The federal Endangered Species Act (ESA) of 1973 protects plants and wildlife that are listed by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) as endangered or threatened. Section 9 of the ESA (USA) prohibits the taking of endangered wildlife, where taking is defined as any effort to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the action will not jeopardize the continued existence of the species. The ESA specifies that the USFWS designate habitat for a species at the time of its listing in which are found the physical or biological features “essential to the conservation of the species,” or which may require “special Management consideration or protection...” (16 USC § 1533[a][3].2; 16 USC § 1532[a]). This designated Critical Habitat is then afforded the same protection under the ESA as individuals of the species itself, requiring issuance of an Incidental Take Permit prior to any activity that results in “the destruction or adverse modification of habitat determined to be critical” (16 USC § 1536[a][2]).

Interagency Consultation and Biological Assessments

Section 7 of ESA provides a means for authorizing the “take” of threatened or endangered species by federal agencies, and applies to actions that are conducted, permitted, or funded by a federal agency. The statute requires federal agencies to consult with the USFWS or National Marine Fisheries Service (NMFS), as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. If a Proposed Project “may affect” a listed species or destroy or modify critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of

the potential effect.

Habitat Conservation Plans

Section 10 of the federal ESA requires the acquisition of an Incidental Take Permit (ITP) from the USFWS by non-federal landowners for activities that might incidentally harm (or “take”) endangered or threatened wildlife on their land. To obtain a permit, an applicant must develop a Habitat Conservation Plan that is designed to offset any harmful impacts the proposed activity might have on the species.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661 to 667e et seq.) applies to any federal Project where any body of water is impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate state wildlife agency.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (The Eagle Act) (1940), amended in 1962, was originally implemented for the protection of bald eagles (*Haliaeetus leucocephalus*). In 1962, Congress amended the Eagle Act to cover golden eagles (*Aquila chrysaetos*), a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. This act makes it illegal to import, export, take (molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof. The golden eagle, however, is accorded somewhat lighter protection under the Eagle Act than that of the bald eagle.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 implements international treaties between the United States and other nations created to protect migratory birds, any of their parts, eggs, and nests from activities, such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredated birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (CFGC).

However, on December 22, 2017 the U.S. Department of the Interior (DOI) issued a memorandum concluding that MBTA’s prohibitions on take apply “[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs” (DOI 2017). Therefore, take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. Then, on April 11, 2018, the USFWS issued a guidance memorandum that provided further clarification on their interpretation:

“We interpret the M-Opinion to mean that the MBTA’s prohibitions on take apply when the purpose of an action is to take migratory birds, their eggs, or their nests. Conversely, the take of birds, eggs or nests occurring as the result of an activity, the purpose of which is not to take birds, eggs or nests, is not prohibited by the MBTA” (USFWS 2018).

Therefore, the MBTA is currently interpreted to prohibit the take of birds, nests or eggs when the *purpose*

or *intent* of the action is to take birds, eggs or nests, not when the take of birds, eggs or nests is incidental to but not the intended purpose of an otherwise lawful action.

Executive Orders (EO)

Invasive Species – EO 13112 (1999): Issued on February 3, 1999, promotes the prevention and introduction of invasive species and provides for their control and minimizes the economic, ecological, and human health impacts that invasive species cause through the creation of the Invasive Species Council and Invasive Species Management Plan.

Migratory Bird – EO 13186 (2001): Issued on January 10, 2001, promotes the conservation of migratory birds and their habitats and directs federal agencies to implement the Migratory Bird Treaty Act. Protection and Enhancement of Environmental Quality—EO 11514 (1970a), issued on March 5, 1970, supports the purpose and policies of the National Environmental Policy Act (NEPA) and directs federal agencies to take measures to meet national environmental goals.

Migratory Bird Treaty Reform Act

The Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108-447) amends the Migratory Bird Treaty Act (16 U.S.C. Sections 703 to 712) such that nonnative birds or birds that have been introduced by humans to the United States or its territories are excluded from protection under the Act. It defines a native migratory bird as a species present in the United States and its territories as a result of natural biological or ecological processes. This list excluded two additional species commonly observed in the United States, the rock pigeon (*Columba livia*) and domestic goose (*Anser domesticus*).

Birds of Conservation Concern

Birds of Conservation Concern (BCC) is a USFWS list of bird species identified to have the highest conservation priority, and with the potential for becoming candidates for listing as federally threatened or endangered. The chief legal authority for BCC is the Fish and Wildlife Conservation Act of 1980 (FWCA). Other authorities include the FESA, the Fish and Wildlife Act of 1956, and the Department of the Interior U.S Code (16 U.S.C. § 701). The 1988 amendment to the FWCA (Public Law 100-653, Title VIII) requires the Secretary of the Interior, through the USFWS, to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973” (USFWS, 2008a).

State Regulations

California Fish and Game Code Sections 1600 through 1606 of the CFGC

This section requires that a Streambed Alteration Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the Department and the applicant is the Streambed Alteration Agreement. Often, Projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

California Endangered Species Act

The California Endangered Species Act (CESA) (Sections 2050 to 2085) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats by protecting “all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation.” Animal species are listed by the CDFW as threatened or endangered, and plants are listed as rare, threatened, or endangered. However, only those plant species listed as threatened or endangered receive protection under the California ESA.

CESA mandates that state agencies do not approve a Project that would jeopardize the continued existence of these species if reasonable and prudent alternatives are available that would avoid a jeopardy finding. There are no state agency consultation procedures under the California ESA. For Projects that would affect a species that is federally, and state listed, compliance with ESA satisfies the California ESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with the California ESA under Section 2080.1. For Projects that would result in take of a species that is state listed only, the Project sponsor must apply for a take permit, in accordance with Section 2081(b).

Fully Protected Species

Four sections of the California Fish and Game Code (CFGF) list 37 fully protected species (CFGF Sections 3511, 4700, 5050, and 5515). These sections prohibit take or possession "at any time" of the species listed, with few exceptions, and state that "no provision of this code or any other law will be construed to authorize the issuance of permits or licenses to ‘take’ the species,” and that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession.

Bird Nesting Protections

Bird nesting protections (Sections 3503, 3503.5, 3511, 3513 and 3800) in the CFGF include the following:

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.
- Section 3800 prohibits the take of any any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird)

Native Plant Protection Act

The Native Plant Protect Act (NPPA) (1977) (CFGF Sections 1900-1913) was created with the intent to “preserve, protect, and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. CESA (CFGF 2050-2116) provided further protection

for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

APPENDIX 3

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT
WELLS NO. 15 AND NO. 16 DEVELOPMENT PROJECT

Phelan Piñon Hills Community Services District
San Bernardino County, California

For Submittal to:

Phelan Piñon Hills Community Service District
4176 Warbler Road
Phelan, CA 92371

Prepared for:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

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

Bai “Tom” Tang, Principal Investigator
Michael Hogan, Principal Investigator

February 9, 2022
CRM TECH Contract No. 3770

Title: Historical/Archaeological Resources Survey Report: Wells No. 15 and No. 16 Development Project, Phelan Piñon Hills Community Services District, San Bernardino County, California

Author(s): Bai “Tom” Tang, Principal Investigator/Historian
Deirdre Encarnación, Archaeologist/Report Writer
Hunter O’Donnell, Archaeologist

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

Date: February 9, 2022

For Submittal to: Phelan Piñon Hills Community Services District
4176 Warbler Road
Phelan, CA 92371
(760) 868-1212

Prepared for: Tom Dodson & Associates
2150 N. Arrowhead Avenue
San Bernardino, CA 92405
(909) 882-3612

USGS Quadrangle: Shadow Mountains SE, Calif., 7.5’ quadrangle (Sections 14 and 23, Township 5 North Range 7 West, San Bernardino Baseline and Meridian)

Project Size: Approximately one linear mile of pipeline right-of-way and two well sites

Keywords: Southern Mojave Desert; Phase I historical/archaeological resources survey; no “historical resources” under CEQA

MANAGEMENT SUMMARY

Between August 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study for the Phelan Piñon Hills Community Services District' (PPHCSD) proposed Wells No. 15 and No. 16 Development Project near the unincorporated community of Phelan, San Bernardino County, California. The subject of the study consists of two well installation sites and approximately one linear mile of pipeline right-of-way lying within Sections 14, 23, and 26, T5N R7W, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey Shadow Mountains SE, California, 7.5' quadrangle.

The study is part of the environmental review process for the well and pipeline installations during the proposed project, which is designed to assist in meeting current and future water demand as well as minimize Chromium-6 concentrations in the PPHCSD's water supply. As the lead agency for the project, the PPHCSD required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of this study is to provide the PPHCSD with the necessary information and analysis to determine whether the project would cause a substantial adverse change to any "historical resources," as defined by CEQA, that may exist in or near the project area.

In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey. Throughout the course of these research procedures, no potential "historical resources" were encountered within or adjacent to the project area. Although one of the roads along the pipeline alignment, namely South Street, is known to have been present since the 1930s, with the others dating to the 1960s-1990s era, these non-descript dirt roads, as well-maintained working components of the modern infrastructure, do not demonstrate any distinctively historical characteristics, nor did the background research yield any evidence of potential significance. As such, they are not considered potential "historical resources" and require no further study.

Based on these findings, and pursuant to PRC §21084.1, CRM TECH recommends to the PPHCSD a determination of *No Impact* regarding "historical resources." No further cultural resources investigation is recommended for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

TABLE OF CONTENTS

MANAGEMENT SUMMARY i
INTRODUCTION 1
SETTING 5
 Current Natural Setting 5
 Cultural Setting 5
 Prehistoric Context..... 5
 Ethnohistoric Context 7
 Historic Context 8
RESEARCH METHODS 9
 Records Search..... 9
 Sacred Lands File Search 9
 Historical Research 9
 Field Survey 9
RESULTS AND FINDINGS 10
 Records Search..... 10
 Sacred Lands File Search 10
 Historical Research 10
 Field Survey 12
DISCUSSION 12
CONCLUSION AND RECOMMENDATIONS 13
REFERENCES 13
APPENDIX 1: Personnel Qualifications 15
APPENDIX 2: Summary of Cultural Resources Records Search Results 18
APPENDIX 3: Native American Sacred Lands File Search Results..... 24

LIST OF FIGURES

Figure 1. Project vicinity..... 1
Figure 2. Project location..... 2
Figure 3. Northern portion of the project area 3
Figure 4. Southern portion of the project area 4
Figure 4. Typical landscapes in the project area..... 6
Figure 6. Previous cultural resources studies in the scope of the records search 11

INTRODUCTION

Between August 2021 and February 2022, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources study for the Phelan Piñon Hills Community Services District' (PPHCSD) proposed Wells No. 15 and No. 16 Development Project near the unincorporated community of Phelan, San Bernardino County, California (Fig. 1). The subject of the study consists of two well installation sites and approximately one linear mile of pipeline right-of-way lying within Sections 14, 23, and 26, T5N R7W, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey (USGS) Shadow Mountains SE and Phelan, California, 7.5' quadrangles (Fig. 2).

The northern portion of the non-contiguous project area comprises the site of Well No. 15 to the northwest of the intersection of Crudup Road and Azalea Road and the pipeline alignment, which begins at the well site and runs south along Azalea Road, east along South Road, south again along Soldea Road, and finally east along Hatillo Road to Sheep Creek Road, terminating at an existing PPHCSD reservoir at 14425 Sheep Creek Road (Fig. 3). The southern portion of the project area comprises solely the site of Well No. 16 to the northwest of the intersection of Sheep Creek Road and Cayucos Drive (Fig. 4).

The study is part of the environmental review process for the well and pipeline installations during the proposed project, which is designed to assist in meeting current and future water demand as well as minimize Chromium-6 concentrations in the PPHCSD's water supply. As the lead agency for the project, the PPHCSD required the study in compliance with the California Environmental Quality

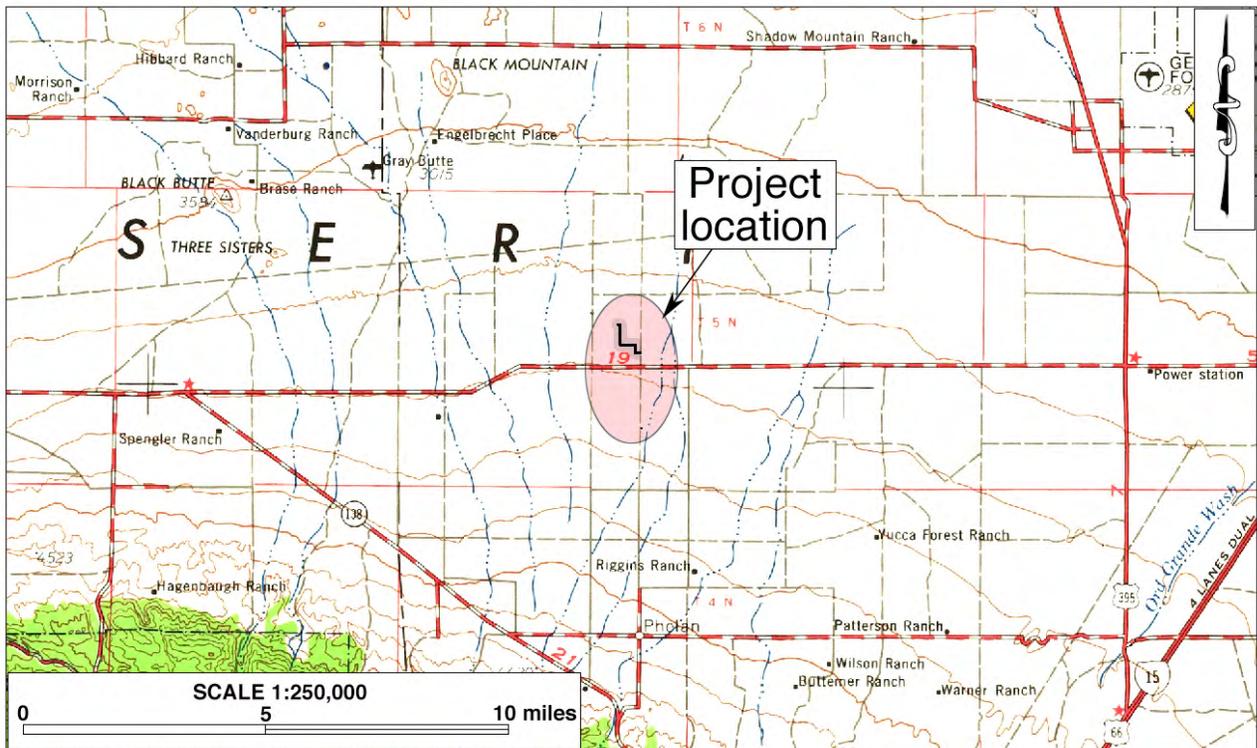


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

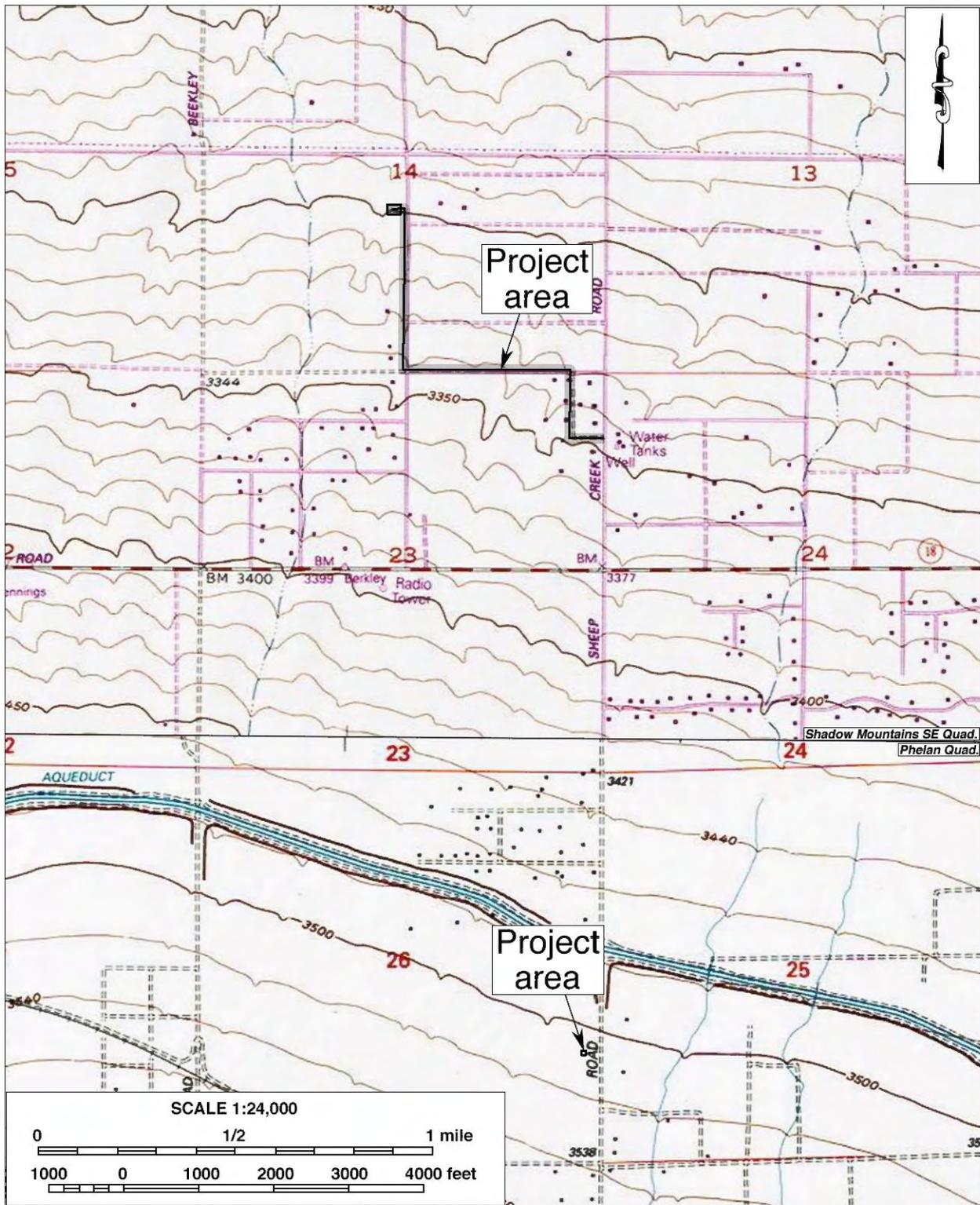


Figure 2. Project location. (Based on USGS Shadow Mountains SE and Phelan, Calif., 7.5' quadrangles [USGS 1993; 1996])

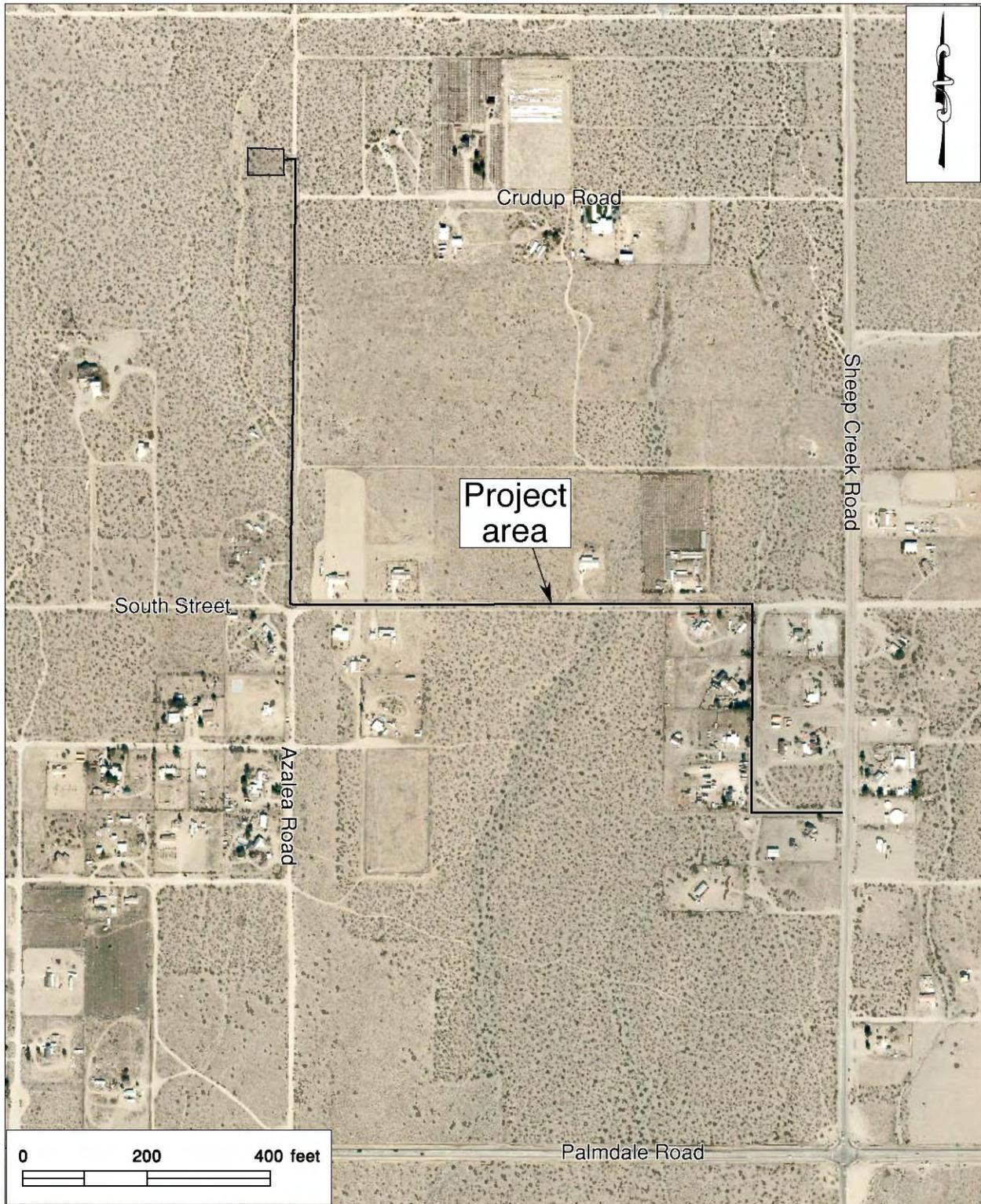


Figure 3. Northern portion of the project area.

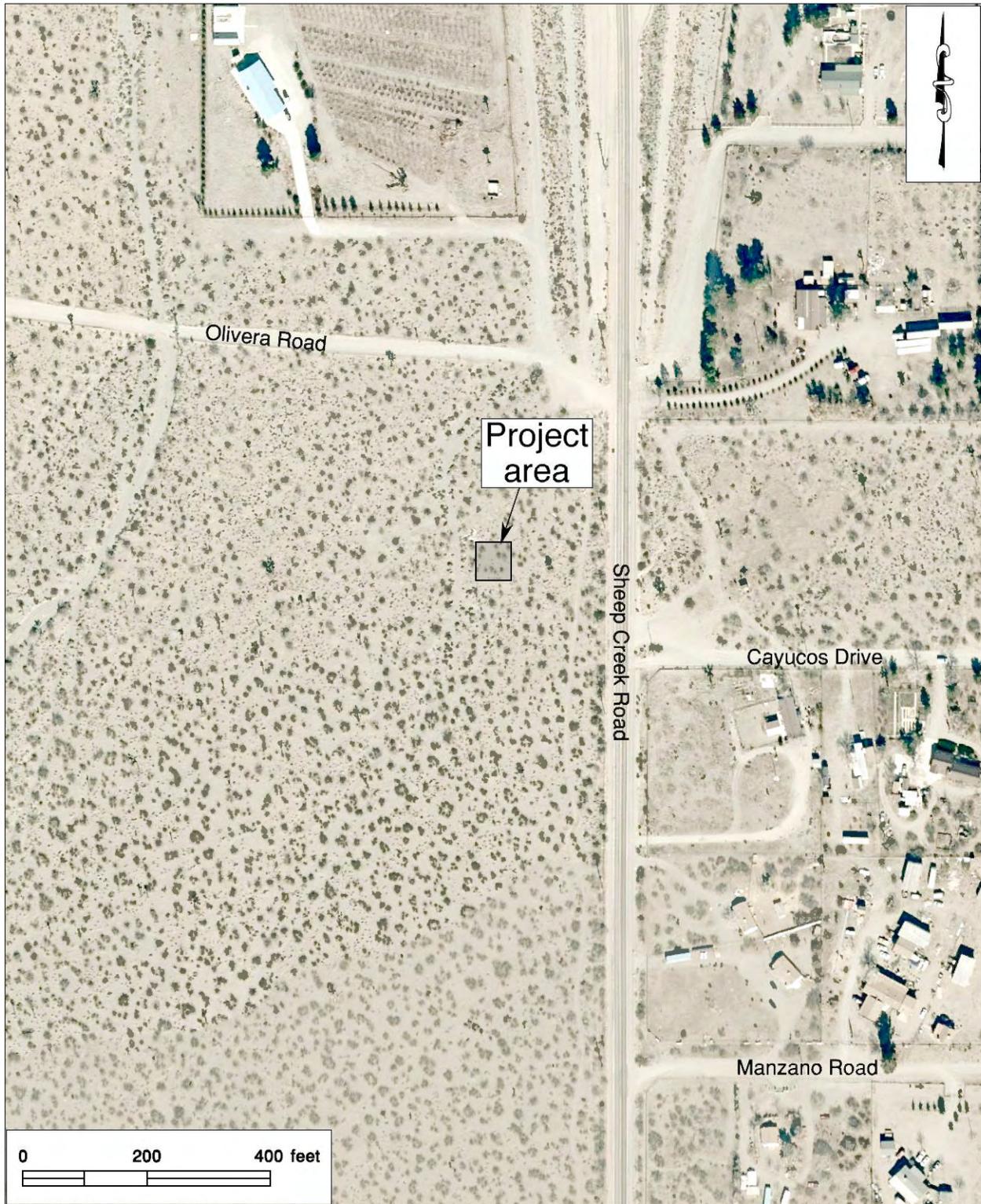


Figure 4. Southern portion of the project area.

Act (CEQA; PRC §21000, et seq.). The purpose of this study is to provide the PPHCSD with the necessary information and analysis to determine whether the project would cause a substantial adverse change to any “historical resources,” as defined by CEQA, that may exist in or near the project area.

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

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, separating 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 project area is situated in a sparsely populated rural residential area, surrounded mostly by undeveloped desert land crisscrossed with unpaved roads (Figs. 3-5). Geographically, it lies across a gently sloping alluvial plain, at elevations ranging around 3,305 to 3,360 feet above mean sea level. The terrain is relatively level with a slight incline towards the southwest. The site of Well No. 15 remains in a relatively natural state, while the ground surface at the site of Well No. 16 appears to have been disturbed by off-road vehicle use and waste dumping. Vegetation observed in the vicinity includes Joshua trees, creosote bush, and other small grasses and shrubs, both native and naturalized (Fig. 5).

CULTURAL SETTING

Prehistoric Context

In order to understand the progress of Native American cultures prior to European contact, archaeologists have devised chronological frameworks on the basis of artifacts and site types that date back some 12,000 years. Currently, the chronology most frequently applied in the Mojave Desert divides the region’s prehistory into five periods marked by changes in archaeological remains, reflecting different ways in which Native peoples adapted to their surroundings. According to Warren (1984) and Warren and Crabtree (1986), the five periods are as follows: the Lake Mojave Period, 12,000 years to 7,000 years ago; the Pinto Period, 7,000 years to 4,000 years ago; the Gypsum Period, 4,000 years to 1,500 years ago; the Saratoga Springs Period, 1,500 years to 800 years ago; and the Protohistoric Period, 800 years ago to European contact.



Figure 5. Typical landscapes in the project area. *Clockwise from upper left*: site of Well No. 15, view to the west; site of Well No. 16, view to the southwest; pipeline route along South Street, view to the west; pipeline route along Soldea Road, view to the south. (Photographs taken on November 12, 2021)

More recently, Hall (2000) presented a slightly different chronology for the region, also with five periods: Lake Mojave (ca. 8000-5500 B.C.), Pinto (ca. 5500-2500 B.C.), Newberry (ca. 1500 B.C.-500 A.D.), Saratoga (ca. 500-1200 A.D.), and Tecopa (ca. 1200-1770s A.D.). According to Hall (*ibid.*:14), small mobile groups of hunters and gatherers inhabited the Mojave Desert during the Lake Mojave sequence. Their material culture is represented by the Great Basin Stemmed points and flaked stone crescents. These small, highly mobile groups continued to inhabit the region during the Pinto Period, which saw an increased reliance on ground foods, small and large game animals, and the collection of vegetal resources, suggesting that “subsistence patterns were those of broad-based foragers” (*ibid.*:15). Artifact types found in association with this period include the Pinto points and *Olivella* sp. spire-lopped beads.

Distinct cultural changes occurred during the Newberry Period, in comparison to the earlier periods, including “geographically expansive land-use pattern...involving small residential groups moving between select localities,” long-distance trade, and diffusion of trait characteristics (Hall 2000:16). Typical artifacts from this period are the Elko and Gypsum Contracting Stem points and Split Oval beads. The two ensuing periods, Saratoga and Tecopa, are characterized by seasonal group settlements near accessible food resources and the intensification of the exploitation of plant foods, as evidenced by groundstone artifacts (*ibid.*:16).

Hall (2000:16) states that “late prehistoric foraging patterns were more restricted in geographic routine and range, a consequence of increasing population density” and other variables. Saratoga Period artifact types include Rose Spring and Eastgate points as well as Anasazi grayware pottery. Artifacts from the Tecopa Period include Desert Side-notched and Cottonwood Triangular points, buffware and brownware pottery, and beads of the Thin Lipped, Tiny Saucer, Cupped, Cylinder, steatite, and glass types (*ibid.*).

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. Prior to European contact, Serrano subsistence was defined by the surrounding landscape and primarily based on the gathering of wild and cultivated foods and hunting, exploiting nearly all of the resources available. They settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains.

Loosely organized into exogamous clans led by hereditary heads, the clans were in turn affiliated with one of two exogamous moieties, the Wildcat (*Tukutam*) or the Coyote (*Wahiiam*). The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit. The core of the unit was the patrilineage, although women retained their own lineage names after marriage. There was no pan-tribal political union among the clans.

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

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was minimal 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

The historical/archaeological resources records search service for this study was provided by the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) on November 10, 2021. Located on the campus of California State University, Fullerton, the SCCIC is the State of California's official cultural resource records repository for the County of San Bernardino. During the records search, SCCIC staff examined the center's digital maps, records, and databases for previously identified cultural resources and existing cultural resources reports within a half-mile radius of the project area. Due to facility closure during the COVID-19 pandemic, records that had not been digitized were unavailable to SCCIC staff, and the results of the most recent studies have not been processed. Therefore, SCCIC cautions that the records search results may be incomplete (see App. 2).

SACRED LANDS FILE SEARCH

On August 30, 2021, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. The NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code §21074, and is tasked with identifying and cataloging properties of Native American cultural value, including places of special religious, spiritual, or social significance and known graves and cemeteries throughout the state. The response from the NAHC is summarized below and attached to this report in Appendix 3.

HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/historian Bai "Tom" Tang. Sources consulted during the research included published literature in local history, historic maps of the Phelan area, and aerial/satellite photographs of the project vicinity. Among the maps consulted for this study were U.S. General Land Office (GLO) land survey plat maps dated 1856 and USGS topographic maps dated 1937-1996, which are accessible at the websites of the U.S. Bureau of Land Management and the USGS. The aerial and satellite images, taken in 1952-2020, are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On November 12, 2021, CRM TECH archaeologist Hunter O'Donnell carried out the intensive-level, on-foot field survey. The well sites were surveyed by walking a series of parallel east-west transects spaced 10 meters (approximately 33 feet) apart, while the pipeline right-of-way was surveyed along two parallel transects placed on either side of the project centerline. In this way, the ground surface in the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older). Ground visibility was good to excellent (90-95%) due to the relatively sparse vegetative cover (Fig. 4).

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, the project area has not been involved in any previous cultural resource studies (Fig. 5), and no cultural resources have been recorded within or adjacent to project boundaries. Within the half-mile scope of the records search, three previous studies have been reported to the SCCIC (Fig. 5), and four historical/archaeological sites have been recorded previously, all of them from the historic period.

As Table 1 shows, the four sites include two refuse deposits and two linear features. One of the refuse deposits consisted of a roadside scatter of five metal cans, while the other was a denser and more diverse scatter of roadside discards. The two linear features represented State Route 18 (Palmdale Road in the Phelan area) and the 98-mile-long East Branch of the California Aqueduct, along various associated features. None of these previously recorded sites was found within or immediately adjacent to the project area. Therefore, none require further consideration during this study.

Site No.	Recorded by/Date	Description
36-012189	Various 2005-2017	State Route 18
36-021351	Various 2008-2018	California Aqueduct, East Branch; associated branches, roads, and bridges
36-023969	Trampier 2011; Moslak and Bouscaren 2014	Historic-period can scatter
36-023979	Trampier 2011; Moslak and Bouscaren 2014	Historic-period refuse scatter

SACRED LANDS FILE SEARCH

In response to CRM TECH's inquiry, the NAHC reports in a letter dated October 4, 2021, that the Sacred Lands File identified no Native American cultural resources in the project vicinity. Noting that the absence of specific information does not necessarily preclude the presence of cultural resources, however, the NAHC recommended that local Native American groups be consulted for further information and provided a referral list of ten individuals associated with six local Native American groups who may have knowledge of such resources. The NAHC's reply is attached to this report in Appendix 3 for reference by the PPHCSD in future government-to-government consultations with the pertinent tribal groups, if necessary.

HISTORICAL RESEARCH

Historical sources consulted during this study indicate that both of the well sites in the project area remained vacant and undeveloped throughout the historic period, but all of the roads containing the pipeline right-of-way may be historical in origin. While no human-made features of any kind were observed in the project vicinity in the 1850s, by the 1930s the forerunner of present-day South Street was in place along its current alignment, along with nearby Sheep Creek Road (GLO 1856; USGS 1937; 1942; NETR Online 1952). The other three roads along the pipeline route, Azalea Road, Soldea Road, and Hatillo Road, came into being in the 1960s-1990s era, although an earlier road

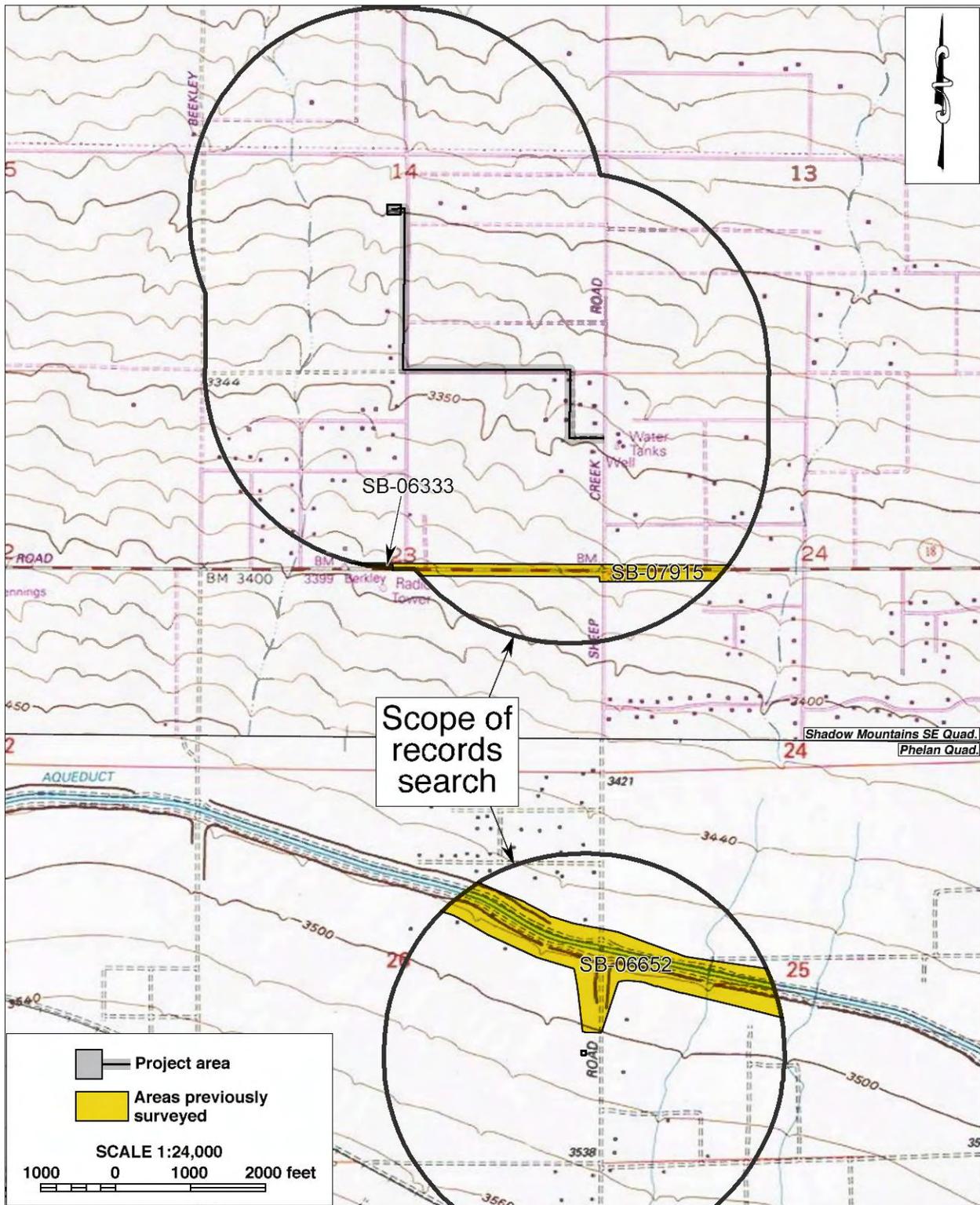


Figure 6. Previous cultural resources studies in the scope of the records search. Location of historical/archaeological resources are not shown as a protective measure.

following an alignment similar to this segment of Azalea Road was noted during the 1930s (NETR Online 1952-1994; USGS 1937-1956). Residential development in the project vicinity began in the 1950s-1960s but accelerated greatly after the 1960s (NETR Online 1952-1994). To this day, however, no evidence of any settlement or development activities have been observed at either of the two well sites (NETR Online 1952-2018; Google Earth 1994-2020).

FIELD SURVEY

The field survey encountered no potentially significant cultural resources within or adjacent to the project boundaries. Although one of the roads along the pipeline alignment, namely South Street, is known to have been present since the 1930s, with the others dating to the 1960s-1990s era, these non-descript dirt roads, as well-maintained working components of the modern infrastructure, do not demonstrate any distinctively historical characteristics, nor did the background research yield any evidence of potential significance. As such, they are not considered potential “historical resources” and require no further study.

No other features or artifacts of prehistoric or historical origin were found during the field survey. Scattered refuse were noted over much of the ground surface at the site of Well No. 16, including domestic, automotive, construction, and landscaping wastes, but all of the items are clearly modern in age, and none of them demonstrate any historical or archaeological interest.

DISCUSSION

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.” According to PRC §5020.1(j), “‘historical resource’ includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

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

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

In summary of the research results outlined above, no potential “historical resources” were previously identified within or adjacent to the project area, and none were encountered during this survey. In addition, the Native American Sacred Lands File did not indicate any properties of traditional cultural value in the project vicinity. Based on these findings, and in light of the criteria listed above, the present study concludes that no “historical resources” exist within or adjacent to the project area.

CONCLUSION AND RECOMMENDATIONS

Based on the information and analysis outlined above, this study concludes that no “historical resources,” as defined by the pertinent statutory and regulatory provisions, are present within the project area. Pursuant to PRC §21084.1, CRM TECH presents the following recommendations to the PPHCSD:

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

REFERENCES

- Bean, Lowell John, and Charles R. Smith
1978 Serrano. In Robert F. Heizer (ed.): *Handbook of North American Indians*, Vol. 8: *California*; pp. 570-574. Smithsonian Institution, Washington, D.C.
- Beck, Warren A., and Ynez D. Haase
1974 *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.
- City of Victorville
n.d. City History. <http://www.ci.victorville.ca.us/Site/AboutVictorville.aspx?id=64>.
- GLO (General Land Office, U.S. Department of the Interior)
1856 Plat Map: Township No. 5 North Range No. 7 West, SBBM; surveyed in 1853-1855.
- Google Earth
1994-2020 Aerial photographs of the project vicinity; taken in 1994, 2003, 2005, 2006, 2009, 2013, 2015-2018, and 2020. Available through the Google Earth software.
- Gudde, Erwin G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*; fourth edition, revised and enlarged by William Bright. University of California Press, Berkeley.
- Hall, M.C.
2000 Archaeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms,

- California (Volume I). Report prepared by the Archaeological Research Unit, University of California, Riverside, for the United States Marine Corps.
- Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.
- McGinnis, Myra
1988 *The Hesperia Story: Indian Territory to Cityhood*. Myra McGinnis, Hesperia, California.
- NETR (Nationwide Environmental Title Research) Online
1952-2018 Aerial photographs of the project vicinity; taken in 1952, 1954, 1968, 1994, 2005, 2009, 2010, 2012, 2014, 2016 and 2018. <http://www.historicaerials.com>.
- NPS (National Park Service, U.S. Department of the Interior)
2001 *National Historic Trail Feasibility Study and Environmental Assessment: Old Spanish Trail, New Mexico, Colorado, Utah, Arizona, Nevada, California*. National Park Service, U.S. Department of the Interior, Washington, D.C.
- Peirson, Erma
1970 *The Mojave River and Its Valley*. The Arthur H. Clarke Company, Glendale.
- Strong, William Duncan
1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology 26. Reprinted by Malki Museum Press, Banning, California, 1972.
- USGS (United States Geological Survey, U.S. Department of the Interior)
1937 Map: Shadow Mountains, Calif. (15', 1:62,500); surveyed in 1930-1937.
1942 Map: San Antonio, Calif. (15', 1:62,500); aerial photographs taken in 1941, field-checked in 1942.
1955 Map: Shadow Mountains SE, Calif. (7.5', 1:24,000); aerial photographs taken in 1954, field-checked in 1956.
1956 Map: Phelan, Calif. (7.5', 1:24,000); aerial photographs taken in 1952, field-checked in 1956.
1969 Map: San Bernardino, Calif. (120'x60', 1:250,000); 1958 edition revised.
1993 Map: Shadow Mountains SE, Calif. (7.5', 1:24,000); 1955 edition photorevised in 1993.
1996 Map: Phelan, Calif. (7.5', 1:24,000); aerial photographs taken in 1994.
- Warren, Claude N.
1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.
- Warren, Claude N., and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In Warren L. D'Azevedo (ed.): *Handbook of North American Indians*, Vol. 11: *Great Basin*; pp. 183-193. Smithsonian Institution, Washington, D.C.
- Warren, Elizabeth von Till
2004 The Old Spanish National Historic Trail. <http://oldspanishtrail.org/our-history>.

**APPENDIX 1:
PERSONNEL QUALIFICATIONS**

**PRINCIPAL INVESTIGATOR/HISTORIAN
Bai “Tom” Tang, M.A.**

Education

- 1988-1993 Graduate Program in Public History/Historic Preservation, University of California, 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, University of California, Riverside.
- 1990 Intern Researcher, California State Office of Historic Preservation, Sacramento.
- 1990-1992 Teaching Assistant, History of Modern World, University of California, Riverside.
- 1988-1993 Research Assistant, American Social History, University of California, Riverside.
- 1985-1988 Research Assistant, Modern Chinese History, Yale University.
- 1985-1986 Teaching Assistant, Modern Chinese History, Yale University.
- 1982-1985 Lecturer, History, Xi’an Foreign Languages Institute, Xi’an, China.

Cultural Resources Management Reports

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

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

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

- 1991 Ph.D., Anthropology, University of California, Riverside.
1981 B.S., Anthropology, University of California, Riverside; with honors.
1980-1981 Education Abroad Program, Lima, Peru.
- 2002 “Section 106—National Historic Preservation Act: Federal Law at the Local Level,”
UCLA Extension Course #888.
2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,
Historical Archaeologist.
2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the
Association of Environmental Professionals.
1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998 Assistant Research Anthropologist, University of California, Riverside.
1992-1995 Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C.
Riverside, Chapman University, and San Bernardino Valley College.
1991-1992 Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998 Project Director, Field Director, Crew Chief, and Archaeological Technician for
various southern California cultural resources management firms.

Research Interests

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

Cultural Resources Management Reports

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

Memberships

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

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

Education

- 2003 M.A., Anthropology, San Diego State University, California.
2000 B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
2021 Certificate of Specialization, Kumeyaay Studies, Cuyamaca College.

Professional Experience

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

Memberships

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

PROJECT ARCHAEOLOGIST
Hunter C. O'Donnell, B.A.

Education

- 2016- M.A. Program, Applied Archaeology, California State University, San Bernardino.
2015 B.A. (*cum laude*), Anthropology, California State University, San Bernardino.
2012 A.A., Social and Behavioral Sciences, Mt. San Antonio College, Walnut, California.
2011 A.A., Natural Sciences and Mathematics, Mt. San Antonio College, Walnut, California.

Professional Experience

- 2017- Project Archaeologist, CRM TECH, Colton, California.
2016-2018 Graduate Research Assistant, Applied Archaeology, California State University, San Bernardino.
2016-2017 Cultural Intern, Cultural Department, Pechanga Band of Luiseño Indians, Temecula, California.
2015 Archaeological Intern, U.S. Bureau of Land Management, Barstow, California.
2015 Peer Research Consultant: African Archaeology, California State University, San Bernardino.

APPENDIX 2

**SUMMARY OF CULTURAL RESOURCES
RECORDS SEARCH RESULTS**

South Central Coastal Information Center

California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542

sccic@fullerton.edu

California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

11/10/2021

Records Search File No.: 22860.9015

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

Re: Record Search Results for 3770 Phelan Pipes

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Shadow Mountains SE and Phelan, CA USGS 7.5' quadrangle(s). Due to the COVID-19 emergency, we have implemented new records search protocols, which limits the deliverables available to you at this time. **WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME.** Please see the attached document on COVID-19 Emergency Protocols for what data is available and for future instructions on how to submit a records search request during the course of this crisis. If your selections on your data request form are in conflict with this document, we reserve the right to default to emergency protocols and provide you with what we stated on this document. You may receive more than you asked for or less than you wanted. The following reflects the results of the records search for the project area and a ½-mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: custom GIS maps shape files hand-drawn maps

Resources within project area: 0	None
Resources within ½-mile radius: 4	SEE ATTACHED MAP or LIST
Reports within project area: 0	None
Reports within ½-mile radius: 3	SEE ATTACHED MAP or LIST

Resource Database Printout (list): enclosed not requested nothing listed
Resource Database Printout (details): enclosed not requested nothing listed
Resource Digital Database (spreadsheet): enclosed not requested nothing listed
Report Database Printout (list): enclosed not requested nothing listed
Report Database Printout (details): enclosed not requested nothing listed
Report Digital Database (spreadsheet): enclosed not requested nothing listed
Resource Record Copies: enclosed not requested nothing listed
Report Copies: enclosed not requested nothing listed

- OHP Built Environment Resources Directory (BERD) 2019:** available online; please go to https://ohp.parks.ca.gov/?page_id=30338
- Archaeo Determinations of Eligibility 2012:** enclosed not requested nothing listed
- Historical Maps:** not available at SCCIC; please go to <https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02>
- Ethnographic Information:** not available at SCCIC
- Historical Literature:** not available at SCCIC
- GLO and/or Rancho Plat Maps:** not available at SCCIC
- Caltrans Bridge Survey:** not available at SCCIC; please go to <http://www.dot.ca.gov/hq/structur/strmaint/historic.htm>
- Shipwreck Inventory:** not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp
- Soil Survey Maps: (see below)** not available at SCCIC; please go to <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the [California Historical Resources Information System](#),

Isabela Kott
Assistant Coordinator, GIS Program Specialist

Enclosures:

(X) Covid-19 Emergency Protocols for San Bernardino County Records Searches – 2 pages

(X) Custom Maps – 1 page

(X) Resource Digital Database (spreadsheet) – 4 lines

(X) Report Digital Database (spreadsheet) – 3 lines

(X) Resource Record Copies – (list) 126 pages

Emergency Protocols for San Bernardino County Records Searches

These instructions are for qualified consultants with a valid Access and Use Agreement.

WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME. WE ARE NOT PROVIDING SHAPEFILE DATA FOR SAN BERNARDINO COUNTY; YOU WILL ONLY RECEIVE A CUSTOM DIGITAL MAP.

We can only provide you information that is already in digital format; therefore, your record search may or may not be complete. Some records are only available in paper formats and so may not be available at this time. This also means that there may be data missing from the database bibliographies; locations of resource and report boundaries may be missing or mis-mapped on our digital maps; and that no pdf of a resource or report is available or may be incomplete.

As for the GIS mapped data, bibliographic databases, and pdfs of records and reports; not all the data in our digital archive for San Bernardino County was processed by SCCIC, therefore, we cannot vouch for its accuracy. Accuracy checking and back-filling of missing information is an on-going process under normal working conditions and cannot be conducted under the emergency protocols.

This is an extraordinary and unprecedented situation. Your options will be limited so that we can help as many of you as possible in the shortest amount of time. You may not get everything you want and/or you may get more than you want. We appreciate your patience and resilience.

Please send in your request via email using the data request form along with the associated shape files and pdf map of the project area. If you have multiple SBCO jobs for processing, you may not get them all back at the same time. Use this data request form:

<http://web.sonoma.edu/nwic/docs/CHRISDataRequestForm.pdf>

Please make your selections on the data request form based on the following instructions.

1. Keep your search radius as tight as possible, but we understand if you have a requirement. The wider the search radius, the higher the cost. You are welcome to request a Project area only search, but please make it clear on the request form that that is what you are seeking.

2. You will get custom maps of resource locations for the project area and the radius that you choose. We will only be providing maps of report locations for the project area and up to a ¼-mile radius. If you need bibliographic information for more than ¼-mile radius – you will be charged for all report map features within your selected search radius. You can opt out of having us create custom maps but you still pay for the map features in the project area or the selected search radius if you want the associated bibliographic information or pdfs of resources or reports.
3. You can request copies of site records and reports if they are digitally available.
4. You will also get the bibliographies (List, Details, Spreadsheet) that you choose for resources and reports. Because the bibliographic database is not yet complete, you will only get what is available at the time of your records search.
5. If you request more than what we are offering here, we may provide it if it is available or we reserve the right to default to these instructions. If you want copies of resources and reports that are not available digitally at the time of the search, you can send us a separate request for processing when we are allowed to return to the office. Fees will apply.
6. **You will need to search the OHP BERD yourself for your project area and your search radius.** This replaces the old OHP HPD. It is available online at the OHP website.
7. You can go online to find historic maps, so we are not providing them at this time.
8. Your packet will be sent to you electronically via Dropbox. We use 7-zip to password protect the files so you will need both on your computers. We email you the password. If you can't use Dropbox for some reason, then you will need to provide us with your Fed ex account number and we will ship you a disc with the results. As a last resort, we will ship on a disc via the USPS. You may be billed for our shipping and handling costs.
9. We will be billing you at the staff rate of \$150 per hour and you will be charged for all resources and reports according to the "custom map charges", even if you don't get a custom or hand-drawn map. You will also be billed 0.15 per pdf page, as usual. Quad fees will apply if your research includes more than 2 quads. The fee structure for custom maps was designed to mimic the cost of doing the search by hand so the fees are comparable.
10. **A copy of the digital fee structure is available on the Office of Historic Preservation website under the CHRIS tab. If the digital fee structure is new to you or you don't understand it; please ask questions before we process your request, not after. Thank you.**

APPENDIX 3

**NATIVE AMERICAN SACRED LANDS FILE
SEARCH RESULTS**

NATIVE AMERICAN HERITAGE COMMISSION

October 4, 2021

Nina Gallardo
CRM TECHVia Email to: ngallardo@crmtech.us**Re: Proposed PPH-116 Project, San Bernardino County**

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

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

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

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

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

CHAIRPERSON
Laura Miranda
LuiseñoVICE CHAIRPERSON
Reginald Pagaling
ChumashSECRETARY
Merri Lopez-Keifer
LuiseñoPARLIAMENTARIAN
Russell Attebery
KarukCOMMISSIONER
William Mungary
Paiute/White Mountain
ApacheCOMMISSIONER
Julie Tumamait-
Stenslie
ChumashCOMMISSIONER
[Vacant]COMMISSIONER
[Vacant]COMMISSIONER
[Vacant]EXECUTIVE SECRETARY
Christina Snider
Pomo**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contact List
San Bernardino County
10/4/2021**

Morongo Band of Mission Indians

Ann Brierty, THPO
12700 Pumarra Road
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Cahuilla
Serrano

Morongo Band of Mission Indians

Robert Martin, Chairperson
12700 Pumarra Road
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Cahuilla
Serrano

Quechan Tribe of the Fort Yuma Reservation

Jill McCormick, Historic
Preservation Officer
P.O. Box 1899
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan

Quechan Tribe of the Fort Yuma Reservation

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

Quechan

San Fernando Band of Mission Indians

Donna Yocum, Chairperson
P.O. Box 221838
Newhall, CA, 91322
Phone: (503) 539 - 0933
Fax: (503) 574-3308
ddyocum@comcast.net

Kitanemuk
Vanyume
Tataviam

San Manuel Band of Mission Indians

Jessica Mauck, Director of
Cultural Resources
26569 Community Center Drive
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Serrano

Serrano Nation of Mission Indians

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

Serrano

Serrano Nation of Mission Indians

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

Serrano

Twenty-Nine Palms Band of Mission Indians

Anthony Madrigal, Tribal Historic
Preservation Officer
46-200 Harrison Place
Coachella, CA, 92236
Phone: (760) 775 - 3259
amadrigal@29palmsbomi-nsn.gov

Chemehuevi

Twenty-Nine Palms Band of Mission Indians

Darrell Mike, Chairperson
46-200 Harrison Place
Coachella, CA, 92236
Phone: (760) 863 - 2444
Fax: (760) 863-2449
29chairman@29palmsbomi-nsn.gov

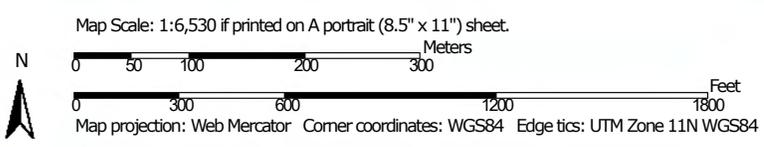
Chemehuevi

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed PPH-116 Project, San Bernardino County.

APPENDIX 4

Soil Map—San Bernardino County, California, Mojave River Area
(PPH-116 (2))



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area

Survey Area Data: Version 12, May 27, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

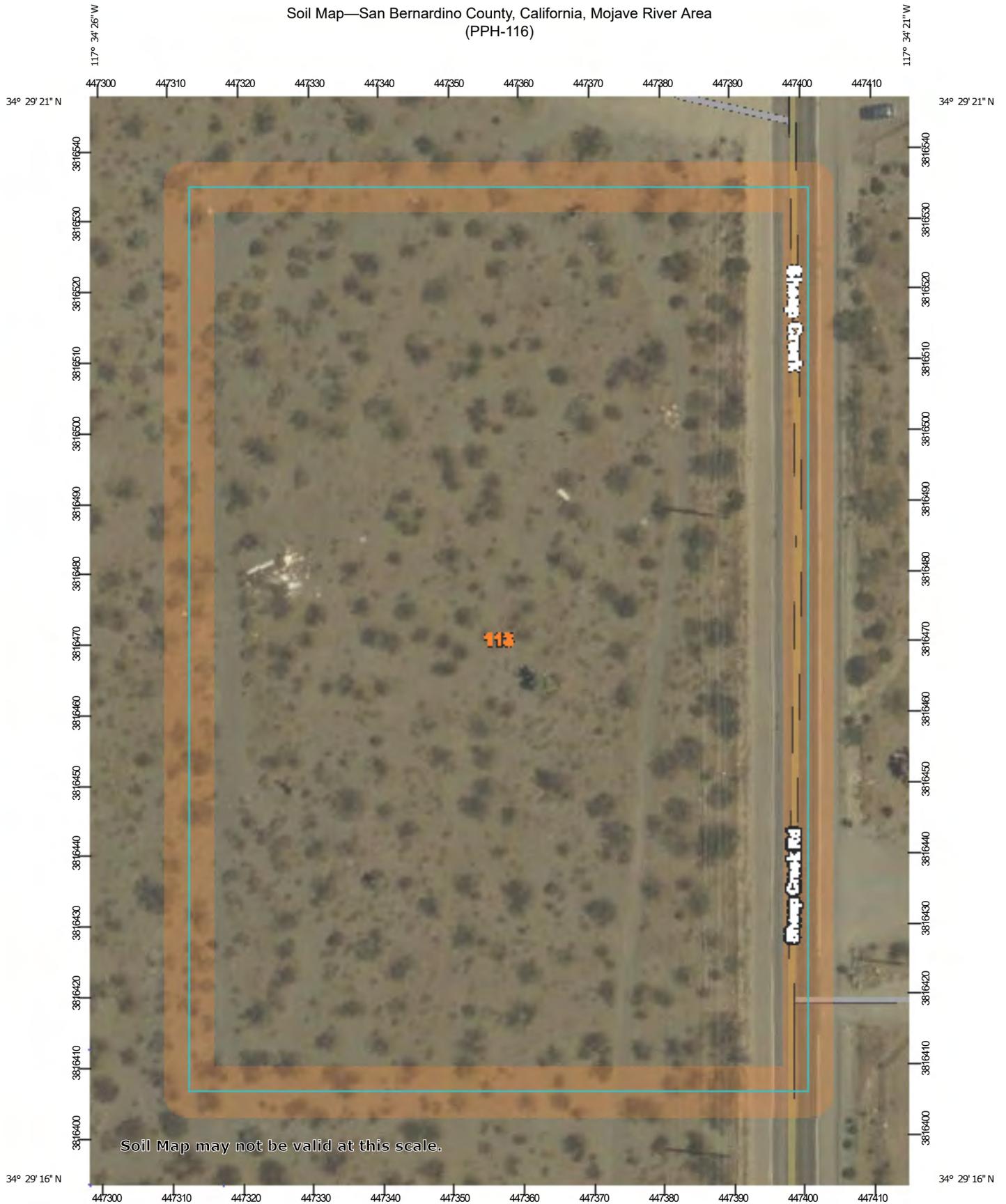
Date(s) aerial images were photographed: Jun 26, 2019—Jul 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

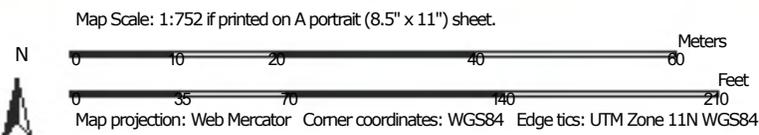
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	14.6	78.5%
144	MANET COARSE SAND, 2 TO 5 PERCENT SLOPES	4.0	21.5%
Totals for Area of Interest		18.6	100.0%

Soil Map—San Bernardino County, California, Mojave River Area
(PPH-116)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 12, May 27, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 26, 2019—Jul 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	2.8	100.0%
Totals for Area of Interest		2.8	100.0%