

INITIAL STUDY

FOR THE

EAST VALLEY WATER DISTRICT

WELL NO. 129 PROJECT

Prepared for:

East Valley Water District
31111 Greenspot Road
Highland, CA 92346
(909) 888-8986

Prepared by:

Tom Dodson & Associates
2150 N. Arrowhead Avenue
San Bernardino, California 92405
(909) 882-3612

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LIST OF ABBREVIATIONS AND ACROYNMS

°F	Fahrenheit
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACOE	Army Corps of Engineers
AF	acre feet
AF	Acre Feet
AFY	acre feet per year
AKA	also known as
amsl	above mean sea level
AMTP	Archaeological Monitoring and Treatment Plan
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BACMs	Best Available Control Measures
bgs	below ground surface
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BUOW	Burrowing Owl
C&D	construction and demolition
C ₂ Cl ₄	perchloroethylene
C ₂ H ₄ O	acetaldehyde
C ₄ H ₆	1,3-butadiene
C ₆ H ₆	benzene
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAR	California Climate Action Registry
CDFW	California Department of Fish and Wildlife
CE	State Candidate Endangered
CEQA	California Environmental Quality Act
CH ₂ O	formaldehyde
CH ₄	methane
CHRIS	California Historical Resources Information System
CNEL	Community Noise Equivalent Level

CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	carbon dioxide
COA	Conditions of Approval
COCs	constituents of concern
Cr(VI)	hexavalent chromium
CRECs	Controlled Recognized Environmental Condition
CRHR	California Register of Historical Resources
CRMP	Cultural Resource Management Plan
CWA	Clean Water Act
CY	cubic yard
dB	decibel
dba	A-weighted decibel
DDW	Division of Drinking Water
DOI	Department of Interior
DPM	diesel particulate matter
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Orders
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EVWD	East Valley Water District
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FGC	Fish & Game Code
FHSZ	Fire Hazard Severity Zone
FT	Federal Threatened
FTA	Federal Transit Association
GCC	Global Climate Change
GHG	Greenhouse Gas
gpm	gallons per minute
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
HFCs	hydrofluorocarbons
hp	horse power
HSC	Health and Safety Code
in/sec	inches per second
km	kilometers
kWh	kilowatt hour
lbs./day	Pounds Per Day
Leq	equivalent continuous sound level
LRA	Local Responsibility Area
LRA	Local Responsibility Area
LSA	Lake or Streambed Alteration

LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
MBMI	Morongo Band of Mission Indians
MBTA	Migratory Bird Treaty Act
MCL	maximum contamination level
MLD	Most Likely Descendant
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MT	Metric Ton
MTCO ₂ e/yr	Metric Tons of CO ₂ equivalent per year
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NBP	Nesting Bird Plan
No.	Number
NO ₂ or NO _x	Nitrogen Dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
O ₃	Ozone
Pb	Lead
PCE	Primary Constituent Elements
PEIR	Program EIR
PFCs	perfluorocarbons
PM 10	Fine Particulate Matter
PM 2.5	Fine Particulate Matter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resource Code
R	Refrigerants
RECs	Recognized Environmental Condition
RMS	root mean square
RMU	Regional Mixed Use
ROG	reactive organic gases
ROW	Rights-of-Way
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SBB	San Bernardino Basin
SBBA	San Bernardino Basin Area
SBCFD	San Bernardino County Fire Department
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District

SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SE	State Endangered
SF ₆	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SGMP	Sustainable Groundwater Management Plan
SIP	State Implementation Plan
SLF	Sacred Lands File
SO ₂	Sulfur Dioxide
SOI	Secretary of Interior
SRA 34	SCAQMD Central San Bernardino Valley monitoring station
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	<i>Toxic Air Contaminants</i>
TCR	Tribal Cultural Resources
THPO	Tribal Historic Preservation Officer
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
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
vph	vehicles per hour
WOTUS	Waters of the United States
WQMP	Water Quality Management Plan
YSMN	Yuhaaviatam of San Manuel Nation

ENVIRONMENTAL CHECKLIST

INTRODUCTION

1. Project Title: East Valley Water District Well 129 Project
2. Lead Agency Name: East Valley Water District
Address: 31111 Greenspot Road, Highland, CA 92346
3. Contact Person: Nathan Carlson
Phone Number: (909) 888-8986
4. Project Location: The East Valley Water District (EVWD or District) service area is located in southern California within southwestern San Bernardino County. The District's service area is shown on Figure 1. The project will occur within the eastern part of the District's service area. The potential well site is located northwest of the intersection of Calle Del Rio St. and Vista Clara St., just south of Oak Creek in the City of Highland (refer to the regional and site aerial maps provided as Figures 2 and 3). The project is located within the USGS Topo 7.5-minute map for Redlands, CA, and is located in Section 1, Township 1 South and Range 3 West, San Bernardino Meridian. The approximate GPS coordinates of the project site are 34.112523°, -117.139739°.
5. Project Sponsor Name: East Valley Water District
Address: 31111 Greenspot Road, Highland, CA 92346
6. General Plan Designation: Low Density Residential
7. Zoning: R-1 10,000
8. Project Description:

Project Description

Introduction

East Valley Water District (EVWD or the District) was formed in 1954 for providing water service to residents of its service area. EVWD's service area encompasses an area of approximately 30 square miles along the foothills of the San Bernardino Mountains and includes the City of Highland, some eastern parts of the City of San Bernardino, the San Manuel Band of Mission Indians, and some unincorporated parts of San Bernardino County. EVWD currently provides water and wastewater services to a total population of approximately 104,000 residents within its service area.

EVWD secures its water supply from a network of groundwater production wells and surface water derived from the Santa Ana River and State Water Project. With groundwater production

rights of 14,217 acre feet per year (AFY), as a non-plaintiff party to the 1969 Western Judgement¹, EVWD has the flexibility to increase groundwater pumping to meet water supply demands. Between 2013 and 2022, EVWD utilized 15-16 wells for its groundwater production with the annual production ranging from 12,702 to 18,289 AFY during this period.

It is normal for the production capacity of a groundwater well to decline over time. More often, this phenomenon is related to the physical plugging of the aquifer sediments, gravel pack materials², and the well screen openings. The lifespan of a well, operated for municipal drinking water purposes ranges from about 50 to 100 years.³ Currently, eight of EVWD's 15 active production wells are aged ranging 51 to 94 years. Thus, to ensure its annual pumping rights and water demands continue to be met, EVWD proposes to install the proposed Well No. 129.

Project Description

The District seeks to install a new well, which would aid the District in meeting current and future demand. Well No. 129 is proposed to be located within a less than one acre portion of an approximately 2.37-acre parcel (Assessor's Parcel Numbers [APN] 121-038-110) northwest of the intersection of Calle Del Rio Street and Vista Clara Street, south of Oak Creek in the City of Highland (refer to the site plan provided as Figure 3). The District owns APN 121-038-110, which presently contains two 3-million gallon (MG) steel water storage reservoirs. The site is referred to as EVWD Plant No. 129.

The site would include the following features: the new well (wellhead); an 8" diameter pipeline connecting to the District's booster pump station onsite; a 4' diameter reinforced concrete pipe (RCP) that extends 2' above grade and 16" RCP drain line; chlorine and orthophosphate dosing systems; a 55' x 20' Concrete Masonry Unit (CMU) block building with a standing seam metal roof enclosing the wellhead, discharge header, PTW header, electrical equipment, and chemical facilities. It is assumed that minor grading will be required to construct the structure.

The District anticipates that the new well will be drilled utilizing the reverse circulation rotary drilling method to about 550 feet below ground surface (bgs), based on the depth of the District's nearby well. The objective for the well is to generate 25 to 150 acre-feet of potable groundwater on a monthly basis. The District anticipates that the water quality of the water extracted by the new Well No. 129 would be similar to Well No. 142, which does experience elevated levels of combined uranium and gross alpha particle activities. The new well will require installation of a line shaft vertical pump and would connect to the exiting booster pump station onsite. This would be sufficient to carry water from the proposed new well to customers.

Access to the proposed project site is provided from the intersection of Calle Del Rio Street and Vista Clara Street, at which the gated Plant No. 129 can be accessed (refer to Figure 3). Stormwater is removed from the project site via sheet flow into an onsite catch basin which conveys the water within a 24" RCP to an offsite San Bernardino County Flood Control District facility.

Environmental Setting

¹ Western Municipal Water District of Riverside County et al. vs. East San Bernardino County Water District et al. Case No. 78426.

² This only applies if the well was drilled by a rotary method.

³ This assumes that the well was drilled, constructed, and developed using modern industry standards and methods, the well structure consists of steel materials, and routine maintenance was performed by the owner.

The proposed project is located at the foothills of the San Bernardino Mountains, within San Bernardino County, with only one small residential subdivision separating the project site from the San Bernardino Mountain foothills. The proposed project site is in the Upper Santa Anna River Watershed. The project site currently contains EVWD's Plant No. 129, which consists of two 3-MG water storage reservoirs, and a booster pump station. The site has been entirely developed and is covered with asphalt excepting the areas on the northwestern, northern, and eastern site boundaries, which contain trees and managed vegetation. The ground surface of the proposed project site ranges in elevation from between about 1,531 to 1,562 feet above mean sea level (amsl). The site slopes gently along the project's eastern boundary, as the adjacent residences are at a slightly higher elevation than the project site.

The project area lies in the geographically based ecological classification known as the Inland Valleys – Level IV ecoregion, of the Southern California/Northern Baja Coast – Level III ecoregion. The goal of regional ecological classifications is to reduce variability based on spatial covariance in climate, geology, topography, climax vegetation, hydrology, and soils. The Inland Valleys ecoregion is a heavily urbanized ecoregion that historically consisted of the alluvial fans and basin floors immediately south of the San Gabriel and San Bernardino Mountains.

Construction Scenario

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

- The bucket auger drill rig will come onsite and drill and install a permanent steel conductor casing and cement sanitary seal.
- The reverse circulation rotary drill rig will mobilize to the site and set up, including temporary 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.
- Ream the pilot borehole to target depth.
- Construct the well.
- Conduct initial well development by airlift and swab.
- Demobilize the drill rig and mobilize the test pump.
- Conduct final development by surging and pumping.
- Conduct pumping tests and water quality sampling.
- Temporarily cap the well and demobilize remaining drilling equipment.
- Award a contractor to install permanent pump and motor system.
- Construct well building, discharge appurtenances, electrical, etc.
- Connect well to the District's potable water Distribution System.

It is anticipated that about five persons will be at the Well No. 129 site at any one time to support drilling the well: three drillers, the hydrogeologist inspector, and a foreman. Trips to complete the well will include a few days each to mobilize and demobilize sound walls, a drill rig, pipe trailer, generator, mud tanks, mobile field office/storage unit, water storage tanks, and a well development rig. Other short-term trips during the work will include deliveries of concrete, well casing and materials to fill the annular space within the well borehole. Daily trips to complete the well will include 1 roundtrip per day for the drillers, hydrogeologist, and foreman. Work shall be performed on a 24-hour basis during some phases of the project, including drilling the pilot borehole, conducting isolated aquifer zone testing, reaming the pilot borehole, constructing the

well, and performing a constant rate pumping test (surrounding housing to be notified in advance). The durations of these activities are estimated to range from 1 day to 2 weeks. The instantaneous yield of the new well is estimated to be up to 1,000 gpm. Assuming the groundwater quality is potable (see the discussion under Hydrology and Water Quality), the new well will be connected to the District’s distribution system.

The new well would connect to the District’s distribution system via a connection onsite. The new well will be outfitted with a vertical turbine pump that will be located above ground and placed in an enclosed structure designed to attenuate noise.

Ground disturbance emissions assume roughly 0.2 acre of land would be actively excavated on a given day. It is anticipated that installation of connecting pipeline 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 compacter 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 the new well would not require any shifts or employees as each District well is monitored and controlled remotely. The new production well would require up to 1.1 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 (sodium hypochlorite 12.5%) for disinfection and orthophosphate as a corrosion inhibitor for existing copper lines within the District’s distribution system east of Boulder Avenue.

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

The triangular parcel within which the project is proposed, as stated above under “Environmental Setting,” is located in the City of Highland adjacent to a utility corridor.

**Table 1
EXISTING LAND USE AND LAND USE ZONING DISTRICTS**

Location	Existing Land Use	Land Use Zoning District
Project Site	EVWD Plant No. 129	Low Density (LD) Residential
North	Oak Creek (channel) and Single-family residential	Low Density (LD) Residential
South	Single-family residential	Low Density (LD) Residential
East	Single-family residential	Low Density (LD) Residential
West	Open Space Corridor and Oak Creek (channel)	Park (PK)

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 a new well to the District'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 the new well.

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?

AB 52 Consultation was initiated on May 1, 2024 with the three tribes that requested consultation with EVWD: Yuhaaviatam of San Manuel Nation, Gabrieleño Band of Mission Indians – Kizh Nation, and Morongo Band of Mission Indians. One tribe responded to the District's AB 52 consultation notification: the Yuhaaviatam of San Manuel Nation (YSMN). YSMN responded that the proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. However, due to the nature and location of the proposed project, and given the Tribe's Cultural Resource Management (CRM) Department's present state of knowledge, YSMN does not have any concerns with the project's implementation, but requested the implementation of standard mitigation measures intended to protect tribal cultural resources.

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 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 type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities / Service Systems | <input checked="" 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

July 30, 2024
Date


Lead Agency (signature)

8-21-24
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 Environmental Impact Report (EIR) is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 Impact* – The proposed project would install a new well , which would aid the District in meeting current and future demand in the District’s service area. The site would include the following features: the new well (wellhead); connecting pipeline; chlorine and orthophosphate dosing systems; a 55’ x 20’ CMU block building enclosing the wellhead, and associated appurtenances. The well would be installed within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. As a result of the fully modified state of the existing site, the site does not contain 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 dominant landscape within the project area is residential in nature, with residences located to the north, east, and south of the project site, and a utility easement forming the diagonal northwestern site boundary. The project footprint is located about 1,000 feet mile south of the foothills of the San Bernardino Mountains, which add to the background viewsheds. The Highland General Plan EIR identified the San Bernardino Mountains as the city’s most prominent visual feature. However, pristine views of the San Gabriel Mountains in the vicinity of and internal to the project site do not exist as a result of existing development.

The presence of construction equipment and related construction materials would be visible from public vantage points, such as open space areas, sidewalks, and streets, but it would not adversely affect any scenic views or vistas. Construction of the proposed well would not permanently affect views or scenic vistas due to the small size and low profile of the construction site. Thus, impacts would be less than significant. Once constructed, the proposed well would occupy a footprint anticipated to be less than a 55’ x 20’. The well would be enclosed in a small CMU structure, which is designed to minimize noise from the pumps required to operate a well. As such, it is anticipated that the well would have a small footprint, and would be low profile. Given that the project would not degrade views to nearby scenic vistas as a result of the fact that the well would be low profile

with a small footprint, and as a result of the fact that the well and associated appurtenances would be installed within EVWD's existing Plant No. 129, which contains similar water-related infrastructure to that which is proposed as part of this project, the project would not substantially alter the views in the project footprint in the long-term. Thus, implementation of the proposed Well No. 129 Project is not expected to cause any substantial adverse effects on any important scenic vistas. No impacts are anticipated and no mitigation is required.

- b. *Less Than Significant Impact* – The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs. The proposed project is located northwest of the intersection of Calle Del Rio St. and Vista Clara St. According to the Scenic Routes & Highways Map provided as **Figure I-1**, the proposed project is not located adjacent to a scenic highway. Thus, the proposed well installation would not impact a scenic highway because none are located in close proximity to the proposed project. No historic buildings are located within the project site would be disturbed as part of the proposed project. No rock outcroppings exist within the District's Plant No. 129 site, and therefore none would be impacted by the proposed project. As stated under issue I(a), above, the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station, within which no trees would be impacted as part of the project construction. No other scenic resources have been identified on the site. Therefore, the project would have a less than significant potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- c. *No Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station, that is located in an urban/suburban area. Construction activities would require the use of construction equipment and storage of materials at the project site. Excavated areas, stockpiled soils and other materials generated during construction would present negative visual elements to the existing landscape. However, these effects would be nominal because the well would be installed in a developed area with sufficient vacant area to temporarily store construction equipment and materials, and the effects would be temporary for only the nominal duration of construction, and therefore not substantially affect the existing visual character of the surrounding area. Furthermore, there are no regulations governing scenic quality within the City of Highland Zoning Code that would apply to the development of the proposed well, particularly in light of California Government Code Section 53091, which renders infrastructure projects, such as that which is proposed under the Program, land use and zoning independent. Impacts would be less than significant.

Once constructed, the proposed well would occupy a footprint anticipated to be about 55' x 20' within the project site; therefore, it is anticipated that the proposed well would have a small footprint and be low profile. As stated above, there are no regulations governing scenic quality within the City of Highland Zoning Code that would apply to the development of the proposed ancillary facilities, particularly in light of California Government Code Section 53091. As compliance with the zoning is not required for water facilities such as the proposed well, no conflict with the sections of the zoning code governing scenic quality would exist. Thus, no impacts under this issue are anticipated from either construction or operation of the proposed well.

- d. *Less Than Significant With Mitigation Incorporated* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. Lighting at the well site will be installed as needed for safety. The surrounding land uses within the project footprint consist mainly of residential uses surrounding the Plant No. 129 site in three directions, with

residents directly adjacent to the property line of Plant No. 129 to the east and south. 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. The existing site lighting will remain in place, and minor additional lighting would be outfitted on the exterior of the structure that encloses the well, with interior lighting anticipated to be installed as well. As this exterior lighting is anticipated to be utilize low watt bulbs, and will be directed downwards similar to that existing exterior lighting at Plant No 129, new exterior lighting is not anticipated to create a new source of lighting or glare that would be obtrusive at adjacent sensitive receptors. Lighting will be required during the 24-hour drilling phase of the well construction. In order to ensure that impacts to this issue area remain less than significant, the following mitigation measure will be implemented.

AES-1 Night lighting will be located and shielded so as to avoid creating a nuisance to nearby residents. Light generated during activities taking place at night shall not spill off the well site onto adjacent occupied structures.

With the implementation of Mitigation Measure **(MM) AES-1**, lighting and glare impacts will be less than significant.

	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 project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The Well No. 129 Project is located in an area that does not support agricultural uses. Neither the project site nor the adjacent and surrounding properties are designated for agricultural use; no agricultural activities exist in the immediate vicinity of the project area; and there is no potential for impact to any agricultural uses or values as a result of project implementation. According to the San Bernardino Countywide Plan Agricultural Resources Map (**Figure II-1**), the proposed project has not been designated for agricultural use; no prime farmland, unique farmland, or farmland of statewide importance exists

within the vicinity of the proposed project. 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 the project footprint or on adjacent properties. The proposed well is located within the following land use designation: Low Density Residential. The proposed well is located within the R-1 10,000 zoning classification within the City of Highland. 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 project site is in an urbanized area surrounded by residential housing. The proposed well is located within the following land use designation: Low Density Residential. The proposed well is located within the R-1 10,000 zoning classification within the City of Highland. Neither the land use designation nor zoning classification supports forest land or timberland uses or designations. No potential exists for a conflict between the proposed project and forest/timberland zoning. No mitigation is required.
- d. *No Impact* – There are no forest lands within the project area, which is because the project area is urbanized and removed from nearby mountains, where much of the area’s forestland is located. No potential for loss of forest land would occur if the project is implemented. No mitigation is required.
- e. *No Impact* – Because the project footprint and surrounding area do not support either agricultural or forestry uses and, furthermore, because the project footprint 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 following technical study: *East Valley Water District Air Quality & Greenhouse Gas Assessment* prepared by Urban Crossroads dated May 28, 2024. This technical study is provided as Appendix 1 to this document.

Background

The project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of South Coast Air Quality Management District (SCAQMD). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As stated, the project site is located within the SCAB, a 6,745-square-mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward as far as the Palo Verde Valley.

Climate

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to mid 60s (degrees Fahrenheit [°F]). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO₂) to sulfates (SO₄) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_x) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

Criteria Pollutants

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O₃) (precursor emissions include NO_x and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Riverside County portion of the SCAB is designated as a nonattainment area for the federal O₃ and PM_{2.5} standards and is also a nonattainment area for the state standards for O₃, PM₁₀, and PM_{2.5}.

Toxic Air Contaminants (TAC) Trend

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the Ambient and Emission Trends of Toxic Air Contaminants in California journal article which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C₆H₆), and 1,3-butadiene (C₄H₆); those that are derived from stationary sources: perchloroethylene (C₂Cl₄) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH₂O) and acetaldehyde (C₂H₄O).⁴ The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors." These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the localized significance threshold (LST) Methodology, the nearest land use where an individual could remain for 24 hours to the project site has been used to determine construction and operational air quality impacts for emissions of PM₁₀ and PM_{2.5}, since PM₁₀ and PM_{2.5} thresholds are based on a 24-hour averaging time.

Receptors in the project study area are described below. All distances are measured from the project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the project site. Receptors in the project study area are shown on **Figure III-1** under the Localized Construction Emissions section later in the report.

- Receptor R1 represents the existing residence at 7804 Calle Del Rio Street, approximately 45 feet southwest of the project site.
- Receptor R2 represents the existing residence at 7811 Calle Del Rio Street, approximately 98 feet south of the project site.
- Receptor R3 represents the existing residence at 7814 Santa Angela Street, approximately 207 feet southeast of the project site.
- Receptor R4 represents the existing residence at 30463 McLean Street, approximately 226 feet northeast of the project site.

⁴ It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

Applicable Regulatory Requirements

SCAQMD Rules that are currently applicable during construction activity for this project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings).

SCAQMD Rule 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. This rule is intended to reduce PM₁₀ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM₁₀ suppression techniques are summarized below.

- Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

Methodology

In May 2024, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod Version 2022.1.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this project to determine construction and operational air quality and greenhouse gas emissions.

Air Quality Regional Emissions Thresholds

The SCAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table III-1. The SCAQMD’s CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

**Table III-1
MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS**

Pollutant	Construction	Operations
NO _x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM ₁₀	150 lbs./day	150 lbs./day
PM _{2.5}	55 lbs./day	55 lbs./day
SO _x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day

lbs./day – Pounds Per Day

Air Quality Localized Emissions Thresholds

For this project, the appropriate area for the LST analysis is the SCAQMD Central San Bernardino Valley monitoring station (SRA 34). LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. The SCAQMD’s screening look-up tables are utilized in determining localized impacts. It should be noted that since the look-up tables identify thresholds at only 1 acre, 2 acres, and 5 acres, linear regression has been utilized to determine localized significance thresholds. Consistent with SCAQMD guidance, the thresholds presented in Table III-2 were calculated by interpolating the threshold values for the project’s disturbed acreage.

It should be noted that though the project is less than 1 acre in size, the acreage disturbed is based on the equipment list and days during each phase of construction according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are summarized in the CalEEMod user’s guide, Appendix A: Calculation Details for CalEEMod. It should be noted that the disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Appendix A of the CalEEMod User Manual only identifies equipment-specific grading rates for Crawler Tractors, Graders, Rubber Tired Dozers, and Scrapers; therefore, Tractors/Loaders/Backhoes equipment that was included in the demolition, site preparation and grading phase was replaced with Crawler Tractors. The project’s construction activities could disturb a maximum of approximately 1 acre per day for well drilling, construction, development, testing, demolition, building construction, paving, 3.5 acres per day for site preparation, and 3 acres per day for grading activities. Any other construction phases of development would result in lesser emissions and consequently lesser impacts than what is disclosed herein. As such, Table III-2 presents thresholds for localized construction and operational emissions.

**Table III-2
MAXIMUM DAILY LOCALIZED EMISSIONS THRESHOLDS**

Source	Activity	Emissions (lbs./day)			
		VOC	NOX	PM ₁₀	PM _{2.5}
Construction	Well Drilling, Construction, Development, Testing	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
	Demolition	220 lbs./day	1,359 lbs./day	11 lbs./day	6 lbs./day
	Site Preparation	203 lbs./day	1,230 lbs./day	9 lbs./day	5 lbs./day
	Grading	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
	Building Construction	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
	Paving	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
Operations	-	118 lbs./day	667 lbs./day	1 lbs./day	1 lbs./day

¹Source of LSTs is provided on page 14 of 32.

Impact Analysis

- a. *Less Than Significant Impact* – The project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to

meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In December 2022, the SCAQMD released the Final 2022 AQMP (2022 AQMP). The 2022 AQMP continues to evaluate current integrated strategies and control measures to meet the CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2016 AQMP, the 2022 AQMP incorporates scientific and technological information and planning assumptions, including the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements. The project's consistency with the AQMP will be determined using the 2022 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the 1993 CEQA Handbook. These indicators are discussed below.

The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that under this criterion refer to are the CAAQS and National Ambient Air Quality Standards (NAAQS). CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded. As evaluated, the project's regional and localized construction and operational-source emissions would not exceed applicable regional significance thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the project is determined to be consistent with the first criterion.

The project will not exceed the assumptions in the AQMP based on the years of project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the City of Highland General Plan is considered to be consistent with the AQMP.

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such,

when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

The City of Highland General Plan designates the project site as "Low Density Residential." This designation limits land uses to single-family detached residential, and mobile homes, subject to applicable General Plan policies and ordinance provisions of the City of Highland. As previously stated, the proposed project includes the initiative to drill and construct a new groundwater production well. Although this finding is inconsistent with the current zoning designation, it should be noted that the site currently functions as a water storage facility. The proposed project aims to install a new groundwater well rather than introduce a use that is more intensive than the current operations on site. Furthermore, the project, as evaluated herein would not exceed the regional or localized air quality significance thresholds.

On the basis of the preceding discussion, the project is determined to be consistent with the AQMP and a less than significant impact is expected.

- b. *Less Than Significant Impact* – 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 emissions at the project site. Long-term emissions generated by future operation of the proposed well would be through a demand for energy to operate and through project related traffic.

Construction Emissions

In May 2024 the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of CalEEMod2022.1.1.

Construction Activities

Construction activities associated with the project would result in emissions of VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}. Construction-related emissions are expected from the following activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Demolition Activities

Removal of existing asphalt will be required to construct the 40' x 20' well building, resulting in approximately 91 tons of demolished material.

Grading Activities

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The project is expected to balance and will not require import/export.

On-Road Trips

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. Worker and hauling trips are based on CalEEMod defaults.

Construction Duration

For purposes of analysis, construction of project is expected to commence in September 2024 and would last through August 2025. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.⁵ The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

Construction Equipment

Equipment modeled is based on CalEEMod defaults and consultation with EVWD. Consistent with industry standards and typical construction practices, each piece of equipment will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

Regional Construction Emissions Summary

The estimated maximum daily construction emissions are summarized on Table III-3, and as shown, the project construction-source emissions would not exceed SCAQMD regional thresholds. Thus, through compliance with mandatory Rule 403, the project would result in a less than significant impact associated with construction activities. Detailed Construction model outputs are presented in Attachment A to Appendix 1.

**Table III-3
REGIONAL CONSTRUCTION EMISSIONS SUMMARY**

Source	Emissions (lbs./day)					
	VOC	NOX	CO	SOX	PM10	PM2.5
Summer						
2024	1.11	9.08	14.20	0.02	0.64	0.41
2025	4.13	37.50	33.80	0.06	7.82	4.52
Winter						
2024	1.10	9.10	13.80	0.02	0.64	0.41
2025	1.01	8.50	13.60	0.02	0.57	0.34
Maximum Daily Emissions	4.13	37.50	33.80	0.06	7.82	4.52
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

¹PM10 and PM2.5 source emissions reflect 3x daily watering per SCAQMD Rule 403 for fugitive dust.

Regional Operational Emissions

Long-term air quality impacts occur from mobile source emissions generated from project-related traffic and from stationary source emissions generated from natural gas. The proposed project primarily involves construction activity. For on-going operations, mobile emissions would be generated by the motor vehicles traveling to and from the project sites during on-going maintenance. However, the project would generate a nominal number of traffic trips for periodic maintenance and inspections and would not result in any substantive new long-term emissions sources. As this project

⁵ As shown in the CalEEMod User’s Guide Version 2022.1.1, Section 4.3 “Off-Road Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

involves the operations of a well which is expected to produce 967-acre feet per year (314,889,124 gallons per year) it is assumed that consumer products would not be used.

All operational equipment associated with the project would be electrically powered and would not directly generate local air emissions. It is our understanding that the proposed project will include the use of a 350-horsepower pump.

Stationary area source emissions are typically generated by the consumption of natural gas for space and water heating devices and the use of consumer products. Stationary energy emissions would result from energy consumption associated with the proposed project. However, the proposed project may include the use of an emergency diesel generator supplying power to the treatment plant in case of emergency. If a backup generator were installed, the lead agency would be required to obtain the applicable permits from SCAQMD for operation of such equipment. The SCAQMD is responsible for issuing permits for the operation of stationary sources to reduce air pollution, and to attain and maintain NAAQS and CAAQS within the SCAB. The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment. A backup generator would be used only in emergency situations and for routine testing and maintenance purposes. Based on guidance from SCAQMD, the backup generator would operate for a maximum of 200 hours annually or approximately 0.5 hours per day. Emissions associated with the backup generator are summarized on Table III-4, as shown, emissions from the backup generator would not contribute a substantial amount of emissions capable of exceeding SCAQMD thresholds. As project operations would not exceed SCAQMD thresholds, the project would not violate an air quality standard or contribute to an existing violation. Therefore, project operations would not result in a cumulatively considerable net increase of any criteria pollutant and impacts would be less than significant. Detailed model outputs for the backup diesel generator emissions calculations are presented in Attachment A of Appendix 1.

Emissions associated with the pump are summarized in Table III-4. Project operational-source emissions would not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant, a less than significant impact would occur for project-related operational-source emissions and no mitigation is required.

**Table III-4
TOTAL PROJECT REGIONAL OPERATIONAL EMISSIONS**

Source	Emissions (lbs./day)					
	VOC	NOX	CO	SOX	PM10	PM2.5
Summer						
Stationary Source	0.01	0.04	0.04	0.00	0.00	0.00
Total Maximum Daily Emissions	0.01	0.04	0.04	0.00	0.00	0.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Winter						
Stationary Source	0.01	0.04	0.04	0.00	0.00	0.00
Total Maximum Daily Emissions	0.01	0.04	0.04	0.00	0.00	0.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Conclusion

The City of Highland General Plan designates the project site as "Low Density Residential." This designation limits land uses to single-family detached residential, and mobile homes, subject to applicable General Plan policies and ordinance provisions of the City of Highland. As previously stated, the proposed project includes the initiative to drill and construct a new groundwater production well. Although this finding is inconsistent with the current zoning designation, it should be noted that the site currently functions as a water storage facility. The proposed project aims to install a new groundwater well rather than introduce a use that is more intensive than the current water operations on the Plant No. 129 site. Furthermore, the project, as evaluated herein, would not exceed the regional or localized air quality significance thresholds. The CAAQS designate the project site as nonattainment for O₃, PM₁₀, and PM_{2.5} while the NAAQS designates the project site as nonattainment for O₃ and PM_{2.5}.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. In this report the SCAQMD clearly states (Page D-3):

"...the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts: The project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts: The project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, the proposed project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

- c. *Less Than Significant Impact* – The potential impact of project-generated air pollutant emissions at sensitive receptors has also been considered.

Localized Construction Emissions

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-46. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. It should be noted that SCAQMD also states that projects that are statutorily or categorically exempt under CEQA would not be subject to LST analyses. As such, although not required for this project, LST analysis is presented to further underscore that there are in fact no significant impacts associated with the project.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the project's potential to cause an individual or cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the project site has been used to determine localized construction and operational air quality impacts for emissions of PM₁₀ and PM_{2.5} (since PM₁₀ and PM_{2.5} thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM₁₀ and PM_{2.5} is location R1 existing residence at 7804 Calley Del Rio Street, approximately 45 feet (14 meters) southwest of the project site. Receptors in the project study area shown on **Figure III-1**. It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.*" As such, for evaluation of localized PM₁₀ and PM_{2.5}, a 25-meter distance will be used.

As previously stated, and consistent with LST Methodology, the nearest industrial/commercial use to the project site is used to determine construction and operational LST air impacts for emissions of NO_x and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assume that an individual could be present at these sites for periods of one to 8 hours. As there are no industrial/commercial uses located at a closer distance than the residential homes that are located adjacent to the project site, the same 25-meter distance will be used for evaluation of localized impacts of NO_x and CO.

Table III-5 identifies the localized impacts at the nearest receptor location in the vicinity of the project. Outputs from the model runs for construction LSTs are provided in Attachment A to Appendix 1. As shown in Table III-5, emissions resulting from the project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant. Thus, a less than significant impact would occur for localized project-related construction-source emissions and no mitigation is required.

⁶ The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

**Table III-5
PROJECT LOCALIZED CONSTRUCTION IMPACTS**

On-Site Emissions	Emissions (lbs./day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Well Drilling, Construction, Development, Testing				
Maximum Daily Emissions	8.99	12.50	0.37	0.34
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO
Demolition				
Maximum Daily Emissions	22.20	19.90	1.55	0.94
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO
Site Preparation				
Maximum Daily Emissions	37.50	32.40	7.59	4.47
SCAQMD Localized Threshold	220	1,359	11	6
Threshold Exceeded?	NO	NO	NO	NO
Grading				
Maximum Daily Emissions	29.70	28.30	3.62	2.09
SCAQMD Localized Threshold	203	1,230	9	5
Threshold Exceeded?	NO	NO	NO	NO
Building Construction				
Maximum Daily Emissions	11.30	14.10	0.47	0.43
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO
Paving				
Maximum Daily Emissions	7.45	9.98	0.35	0.32
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO

Results of the LST analysis indicate that the project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during project construction.

Localized Operational Emissions

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). As previously discussed, the project would generate a nominal number of traffic trips in the context of on-going maintenance resulting in a negligible amount of new mobile source emissions. The proposed project will include the use of a pump and an emergency generator. Localized emissions are summarized in Table III-6.

**Table III-6
PROJECT LOCALIZED OPERATIONAL IMPACTS**

On-Site Emissions	Emissions (lbs./day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	0.04	0.04	0.00	0.00
SCAQMD Localized Threshold	118	667	1	1
Threshold Exceeded?	NO	NO	NO	NO

Additionally, the project will not exceed the SCAQMD localized significance thresholds during operational activity. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of project operations.

CO "Hot Spot" Analysis

As discussed below, the project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table III-7.

**Table III-7
CO MODEL RESULTS**

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. In contrast, an adverse CO concentration, known as a "hot spot," would occur

if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact. Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table III-8. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).

**Table III-8
CO MODEL RESULTS**

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

- 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 contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed project’s (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed project construction and operations would be less than significant and 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 *"Biological Resources Assessment for West Valley Water District's Proposed Well No. 129 Project"* (BRA) prepared by HDR dated July 10, 2024 and provided as Appendix 2.

General Site Conditions

The project area lies in the geographically based ecological classification known as the Inland Valleys – Level IV ecoregion, of the Southern California/Northern Baja Coast – Level III ecoregion. The goal of regional ecological classifications is to reduce variability based on spatial covariance in climate, geology, topography, climax vegetation, hydrology, and soils. The Inland Valleys ecoregion is a heavily urbanized ecoregion that historically consisted of the alluvial fans and basin floors immediately south of the San Gabriel and San Bernardino Mountains.

The proposed project is located at the foothills of the San Bernardino Mountains, within San Bernardino County, with only one small residential subdivision separating the project site from the San Bernardino Mountain foothills. The proposed project site is in the Upper Santa Ana River Watershed. The project site currently contains EVWD's Plant No. 129, which consists of two 3-MG water storage reservoirs, and a booster pump station. The site has been entirely developed and is covered with asphalt excepting the areas

on the northwestern, northern, and eastern site boundaries, which contain trees and managed vegetation. The ground surface of the proposed project site ranges in elevation from between about 1,527 to 1,558 feet amsl. The site slopes gently along the project's eastern boundary, as the adjacent residences are at a slightly higher elevation than the project site.

The project site supports one (1) plant community: non-native grassland. In addition, the site supports two (2) land cover types that would be classified as disturbed and developed. The majority of the project site supports non-native grassland that occurs in varying densities throughout the site, except on the paved and dirt roads that intersect the site. This plant community is dominated by non-native grasses such as common Mediterranean grass (*Schismus barbatus*) and oats (*Avena* spp.) and supports primarily weedy/early successional species.

The Project survey site is disturbed land completely fenced and developed with access roads, existing reservoir, and operation/maintenance facilities and equipment. There is no extant native habitat occurring on the site. The surrounding areas support a mixed shrub community typical of the area and generally characterized by native shrub vegetation with some disturbance from off-highway vehicles and the dumping of trash, and transient encampments. Dominant species are creosote bush (*Larrea tridentata*), burrobush (*Franseria dumosa*), rabbit brush (*Chrysothamnus depressus*), indian rice grass (*Oryzopsis hymenoides*) and Russian thistle (*Salsola* sp.). Annuals observed during the survey included fiddleneck (*Amsinckia* sp.), brome (*Bromus* sp.), filaree Storksbill (*Erodium* sp.), and schismus (*Schismus barbatus*). Human disturbances associated with the surrounding developments.

The project area does not support any native habitats. The site has been cleared of vegetation, and only scattered individuals of annual species occurs in the proposed construction area.

Special-Status Plants

According to the CNDDDB, 6 sensitive species (2 plant species, 4 animal species) have been documented in the Redlands, USGS 7.5-Minute Series Quadrangle. This list of sensitive species includes any state and/or federally listed threatened or endangered species, or candidates, California Fully Protected species, California Department of Fish and Wildlife (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.

Only one state candidate species has been documented within the Redlands quad. There are no known occurrences within 3 miles of the proposed reservoir site.

The federal iPAC report identifies the potential for 4 listed or candidate species however non-are mapped within 13 miles of the site.

Special-Status Wildlife

No state and/or federally listed threatened or endangered species, or other sensitive species were observed within the Development Area during the reconnaissance-level field survey. An analysis of the likelihood for occurrence of all CNDDDB sensitive species documented in the Redlands, quad is provided in Appendix A. This analysis considers species' range as well as documentation within the vicinity of the Subject Parcel 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 condition.

The Development Area does not have any native or natural habitats, further the project will be located in an asphalt parking lot.

Special-Status Habitats

The Subject Parcel does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species. The nearest Critical Habitat unit is greater than 3 miles northwest of the Subject Parcel.

The Development Area will not result in any loss or adverse modification of USFWS designated Critical Habitat, or any other special status habitats.

Jurisdictional Waters

The Subject Parcel is within the Santa Ana River Hydrologic Area . The Santa Ana River is the largest river entirely within Southern California in the United States. It rises in the San Bernardino Mountains and flows for most of its length through San Bernardino and Riverside counties, before cutting through the northern Santa Ana Mountains via Santa Ana Canyon and flowing southwest through urban Orange County to drain into the Pacific Ocean. The Santa Ana River is 96 miles (154 kilometers [km]) long, and its drainage basin is 2,650 square miles (6,900 km²) in size.

No jurisdictional drainage and/or wetland features were observed on the project site during the field investigation. Further no blue-line streams have been recorded on the project site. Therefore, development of the project will not result in impacts to Corps, Regional Board, or CDFW jurisdiction and regulatory approvals will not be required.

Conclusion

Based literature review and field survey, and existing site conditions discussed in this report, implementation of the project is not expected to have significant impacts on federally or State listed species known to occur in the general vicinity of the project site. Additionally, the project will have no effect on designated Critical Habitat, since there is no federal nexus, or regional wildlife corridors/linkages because none exist within the area. No jurisdictional drainage and/or wetland features were observed on the project site during the field investigation. No further surveys are recommended. With completion of the recommendations provided below, no impacts to year-round, seasonal, or special-status avian residents or special-status species will occur from implementation of the proposed project.

Impact Analysis

- a. *Less Than Significant Impact* – Implementation of the project has no potential for a significant adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. The project site is vacant and no longer supports any native habitat, and because the site has been fully disturbed, there are no sensitive habitats that could support special status species located within the Project footprint. The BRA provided as Appendix 2 to this Initial Study determined that the project site does not contain suitable habitat for the following species with a potential to occur in the project area:
- Marsh Sanward (*Arenaria Paludicola*) Federally Endangered (FE)/State Endangered (SE)
 - Nevin's barberry (*Berberis nevinii*) FE/SE
 - Crotch bumble bee State Candidate Endangered (CE)
 - salt marsh bird's-beak (*Chloropyron maritimum ssp. Maritimum*) FE/SE
 - western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) Federal Threatened (FT)/SE
 - San Bernardino kangaroo rat (*Dipodomys merriami parvus*) FE/SE
 - Stephens' kangaroo rat (*Dipodomys stephensi*) FE/SE
 - southwestern willow flycatcher (*Empidonax traillii extimus*) FE/SE
 - Santa Ana River woollystar (*Eriastrum densifolium ssp. Sanctorum*) FE/SE
 - Steelhead - (*Oncorhynchus mykiss irideus*) (southern California DPS pop. 10) FE/CE
 - Coastal California gnatcatcher (*Polioptila californica californica*) FT
 - southern mountain yellow-legged frog (*Rana muscosa*) FE/SE

- western spadefoot (*Spea hammondi*) Federal Proposed Endangered
- least Bell's vireo (*Vireo bellii pusillus*)

No State- and/or federally listed threatened or endangered species, or other sensitive species were observed on site during the field survey. Given that no State- and/or federally-listed threatened or endangered species, or other sensitive species are anticipated to occur within the project site based on the results of the BRA, the proposed project would have a less than significant potential to have a substantial adverse effect on any 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 has a no potential to 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. The project footprint does not contain suitable habitat for any of the sensitive species with a potential to occur in the project APE, and it does not contain any known riparian habitat or any other sensitive natural community identified by any agency. Therefore, there is a less than significant potential for implementation of this project to 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.
- c. *No Impact* – According to the data gathered by HDR in the BRA, no federally protected wetlands occur within the project footprint. HDR assessed the project area of potential effect (APE) for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland waters of the United States (WOTUS) or waters of the State potentially subject to regulation by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of the Fish and Game Code (FGC), respectively. Therefore, the project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required. Therefore, implementation of the proposed project will have no potential to impact any federally protected wetlands through direct removal, filling, hydrological interruption, or other means. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – Based on the field survey of the project site, the project will not substantially interfere with or impede the use of native nursery sites. Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet still inadequate for others. Wildlife corridors are features that allow for the dispersal, seasonal migration, breeding, and foraging of a variety of wildlife species. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

According to the San Bernardino County General Plan, the project site is not mapped as occurring within or adjacent to any Major Open Space Areas. Furthermore, the proposed project would be installed within an existing facility that is fenced, and therefore does not currently serve as a wildlife corridor. Additionally, there are no riparian corridors, creeks, or useful patches of steppingstone habitat (natural areas) within or connecting the project site to these, or any other, identified wildlife corridors or linkages. As a result, implementation of the proposed project will not disrupt or have any adverse effects on any migratory corridors or linkages in the surrounding area.

The State protects all migratory and nesting native birds. Several bird species were identified as potentially occurring in the project area, and the proposed project site contains suitable habitat for nesting birds within the site. To avoid impacting nesting birds as required by the Federal MBTA and California FGC, the following mitigation measure shall be implemented:

BIO-1 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* – Based on the field survey, there are no species that are specifically protected by a local policy or ordinance specific to the proposed project site. As no biological resources located within the project footprint are protected under local policies or ordinances, impacts under this issue are considered less than significant.
- f. *No Impact* – Please refer to the discussion under response IV(a) above. The project is not located in 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: The following information is provided based on the "*Cultural Resources Assessment for the East Valley Water District Well 129 Project*" that was prepared by Michelle Hart of Mojave Archaeological Consulting. The report is dated January 2024 and is provided as Appendix 3 to this Initial Study. The following information is abstracted from this report. It provides an overview and findings regarding the cultural resources found within the project area.

Background

At the request of Tom Dodson and Associates, Mojave Archaeological Consulting, LLC, conducted a cultural resources investigation for the East Valley Water District's proposed Well 129 project, in the City of Highland, San Bernardino County, California. This report was prepared in accordance with the CEQA as part of the Initial Study for the project. Pursuant to the provisions of CEQA and state and local guidelines, the EVWD is the Lead Agency for the proposed project.

EVWD proposes to install Well 129 on an approximately 2.4 acre parcel (Assessor's Parcel Number [APN] 1210-381-10). The parcel currently contains two 3-million-gallon steel reservoirs, an associated booster station, and asphalt paved parking and work areas surrounded by block walls, chain link fencing, and an access gate. The project site is located northeast of the intersection of Calle Del Rio Street and Vista Clara Street, in the City of Highland, on the USGS 7.5-minute map for Redlands, CA, within Section 1 of Township 1 South Range 3 West.

This report describes the methods and results of the cultural resources investigation of the project area, which included a records search and literature review, a Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC), and a pedestrian survey. The purpose of the investigation was to provide the East Valley Water District with the information and analysis necessary to determine the potential for the proposed project to impact "historical resources" and "archaeological resources" under CEQA.

The records search performed by the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS), included a 0.5-mile-wide buffer (study area), and indicated twenty-four previous cultural resource investigations and seven cultural resources are documented within the 0.5-mile study area. Of the previous investigations, one covered a portion of the project site (Mckenna et al. 1992). No cultural resources have been previously documented within the 2.4-acre project site.

The SLF search with the NAHC was completed with negative results. A copy of the NAHC's response letter and a list of Native American tribes who may also have knowledge of the project area are provided as an appendix to the Cultural Report (Appendix 3). Compliance with tribal notification and consultation under

AB 52 has been conducted by EVWD. AB 52 Consultation was initiated on May 1, 2024 with the three tribes that requested consultation with EVWD: Yuhaaviatam of San Manuel Nation, Gabrieleño Band of Mission Indians – Kizh Nation, and Morongo Band of Mission Indians. The Yuhaaviatam of San Manuel Nation responded by requesting consultation on the proposed project, and requested the incorporation of several mitigation measures designed to minimize impacts to both cultural and tribal cultural resources.

Due the age of any applicable previous cultural resource investigations, Mojave Archaeological Consulting conducted a site visit and survey of the 2.4-acre project site on 16 May 2024. The visit confirmed the level of previous disturbance and development of the site. Based on historic research, the site once contained an orchard, and historic irrigation features and historic refuse have been previously recorded outside of the project site, but within the surrounding area. The historic orchard rows were removed in approximately 1995, when the site was cleared and graded for the installation of the reservoir tanks, a booster station structure, and asphalt paved parking and work areas. The periphery of the site is surrounded by block walls, chain link fencing, and an access gate.

Few areas of visible ground surface remain with the exception of several feet of earthen berm on the northern periphery of the site bounding an adjacent flood control channel and approximately 0.7-acres on the eastern side of the site which consists of steep slope with irrigated vegetation and what appears to be non-native topsoil. The unpaved areas of the site were visually inspected to confirm levels of prior disturbance and to assess the potential for buried cultural deposits.

The project site is located on land that was used historically for agricultural purposes. No traces of historic orchard trees, historic irrigation systems, or any historic debris remain on the site. Oak creek, immediately to the north of the parcel, was utilized as an irrigation ditch during historic periods but the natural creek channel and subsequent irrigation ditch have been heavily modified through time for flood control purposes, altering both the natural and historic corridor of the creek/irrigation ditch any characteristic features. The entirety of the project site is heavily disturbed through decades of use including historic agricultural production, followed by subsequent grading, cut and fill, and contouring using heavy equipment in the 1990's, and the installation of the present water pumping and storage facility. Because of this, there is little to no potential for any intact or substantial buried cultural resources to remain at the project site.

Considering these findings, Mojave Archaeological Consulting recommends to the East Valley Water District that the proposed project will have no impact on historical or archaeological resources. No further cultural resources work is recommended necessary for the proposed project activities. However, in the unlikely event that archaeological materials are encountered during ground disturbance for project activities, all work should be halted in the vicinity of the discovery until a qualified archaeologist can assess the significance and integrity of the find. If intact and significant archaeological remains are encountered, the impacts of the project should be mitigated appropriately. Any such discoveries, and subsequent evaluation and treatment, should be documented in a cultural resources report, which would be submitted to the SCCIC for archival purposes. Additionally, Health and Safety Code Section 7050.5, *CEQA Statute & Guidelines* Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the event of an accidental discovery of human remains. Finally, as progress plans are finalized, if the project area is expanded to include areas not covered by this survey or other recent cultural resource investigations, additional cultural resource studies may be required.

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" (Public Resource Code [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, no archaeological or historical isolates 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 buried cultural materials are discovered during any earth-moving operations associated with the project, the following mitigation measure shall be implemented:

CUL-1 Should any cultural resources be encountered during construction of these facilities, ground disturbing 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. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Additionally, the Yuhaaviatam of San Manuel Nation (YSMN) have requested the following cultural mitigation measures to be implemented to minimize impacts to cultural resources, as follows:

CUL-2 In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within MM TCR-1, regarding any pre-contact era finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.

CUL-3 If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within MM TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.

With 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* – As noted in the discussion above, no available information suggests that human remains may occur within the 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 Health and Safety Code (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. Additionally, the YSMN have requested the following mitigation measure to that would minimize potential impacts related to human remains and funerary objects as follows:

CUL-4 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.

As such, the potential for discovery and treatment of human remains will be reduced to a less than significant level through compliance with existing laws and through the implementation of mitigation.

	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&b. *Less Than Significant Impact* – 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 to about 5 persons at a given time during construction with no new employees anticipated to be required once construction has concluded. The project would require ground disturbance in paved and undeveloped areas in places where trenching is required to install piping. To minimize energy costs of construction debris management, laws are in place that require diversion of all material subject to recycling. During construction, the proposed project will utilize construction equipment that is CARB approved, minimizing emissions generated and electricity required to the extent feasible. This would prevent a significant impact during construction due to wasteful, inefficient, or unnecessary consumption of energy resources, and would also conform to the CARB regulations regarding energy efficiency.

The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. No new employees are anticipated to be required in support of the project once the well is in operation. The project will be supplied power from Southern California Edison (SCE). Additionally, 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. 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 (CBC) 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 substantial 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.

- 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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. i. Ground Rupture

Less Than Significant With Mitigation Incorporated – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The project footprint is located in the City of Highland. The nearest Alquist-Priolo fault zones are the San Andreas Fault located less than one hundred feet to the north of the project site; the fault zones are depicted on **Figure VII-1**, the San Bernardino Countywide Plan Earthquake Fault Zones Map. The fault zones are within close proximity to the project site. While the well itself can be installed safely and without risk of seismic hazard, including fault rupture that would directly or indirectly cause

potential substantial adverse effects, including the risk of loss, injury, or death, the structure that will enclose the well could experience failure as a result of the project site's proximity to the San Andreas Fault. Therefore, mitigation would be required to minimize impacts under this issue to a less than significant level through ensuring that well enclosure is analyzed thoroughly through a site specific geotechnical report with specific design recommendations.

GEO-1: Prior to construction of the well enclosure, a design-level geotechnical investigation, including collection of site specific subsurface data if appropriate, shall be completed. The geotechnical evaluation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, subsidence, and landslide potential. The geotechnical investigation shall recommend site specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of the proposed project.

The design and construction of wells is controlled by both state and local design construction standards. Compliance with these standards and requirements of the City is mandatory and considered adequate mitigation for potential impacts associated with the well development, but **MM GEO-1** is required to ensure that the well enclosure would be installed in a manner that would minimize hazards related to earthquake fault rupture. Therefore, the potential for this project to expose people or property to the hazard of earthquake fault rupture is considered less than significant through the implementation of mitigation.

ii. Strong Seismic Ground Shaking

Less Than Significant Impact – As stated in the discussion above, the San Andreas Fault runs through the San Bernardino Mountains through the northern portion of the City of Highland, and as with much of southern California, the proposed well and well enclosure will be subject to strong seismic ground shaking impacts should any major earthquakes occur in the future, particularly due to the site's location adjacent to the San Andreas Fault Alquist Priolo Fault Zone, as shown in **Figure VII-1**. In the event of an earthquake in Southern California, some seismic ground shaking would likely be experienced in the project area sometime during the operational life of the proposed wells and monitoring devices. The proposed well would be installed and housed within a small structure. Ground shaking could result in structural damage to new well facilities, which in turn could affect operation of the proposed well. Therefore, structural and mechanical failure of facilities caused by seismic ground shaking could potentially threaten the safety of on-site workers.

The structural elements of facilities proposed under this Project Category would undergo appropriate design-level geotechnical evaluations prior to final design and construction as required to comply with the CBC. The geotechnical engineer, as a registered professional with the State of California, is required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care required for projects in the San Bernardino County area. The California Professional Engineers Act (Building and Professions Code Sections 6700-6799) and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers, Land Surveyors, and Geologists, provide the basis for regulating and enforcing engineering practice in California. Compliance with these construction and building safety design standards would reduce potential impacts associated with ground shaking to a level of less than significant. Thus, impacts under this issue are considered less than significant.

iii. Seismic-Related Ground Failure Including Liquefaction

Less Than Significant With Mitigation Incorporated – The three factors determining whether a site is likely to be subject to liquefaction include seismic shaking, type and consistency of earth materials, and groundwater level. Liquefaction of saturated cohesionless soils can be caused by strong ground motion resulting from earthquakes. Soil liquefaction is a phenomenon in which saturated, cohesionless soils lose their strength due to the build-up of excess pore water pressure during cyclic loading such as that induced by earthquakes. According to the map prepared for the County of San Bernardino Countywide Plan Liquefaction & Landslides Map (**Figure VII-2**), the project site is located in an area known to be highly susceptible to liquefaction. The proposed wells located on or in soils with a moderate to high potential for liquefaction could experience damage or failure as a result of liquefaction. Therefore, adverse effects involving liquefaction would be potentially significant. As such, the implementation of **MM GEO-1** would be required to minimize impacts under this issue to a less than significant level through ensuring that the proposed project is analyzed thoroughly through a site specific geotechnical report with specific design recommendations. The implementation of **MM GEO-1** would reduce the potential impacts from liquefaction hazards through a design level geotechnical investigation with implementation of specific design recommendations.

iv. Landslide

Less Than Significant Impact – Landslides in the project area are generally known to occur around the foothills of the San Bernardino Mountains. The proposed project footprint is located along the foothills of the San Bernardino Mountains, but the proposed project area is relatively flat, and generally is not located in an area that would be susceptible to landslide. According to the map prepared for the San Bernardino Countywide Plan Liquefaction & Landslides Map (**Figure VII-2**), the project site is not located in an area that is considered 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* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The proposed project would not result in substantial soil erosion or the loss of topsoil. However, the project may result in exposing some soil to erosion during site development activities before the well is drilled and completed. Due to the disturbed nature of the existing site and the flat topography, it is concluded that the potential for this project to cause substantial soil erosion is low. Development of the proposed wells would result in construction activities that would need to comply with SCAQMD Rule 403 for dust control that would ensure the prevention and/or management of wind erosion and subsequent topsoil loss. Compliance with SCAQMD Rule 403 would ensure that construction activities that generate wind-induced soil erosion are below significance thresholds as this is a requirement intended to prevent significant wind-induced soil erosion. As a mandatory requirement, mitigation is not required to ensure compliance with the above Rule. Implementation of BMPs through the mitigation measures provided below, in conjunction with **MM HYD-3** in the Hydrology and Water Quality section to control erosion is considered adequate to mitigate potential impacts associated with the water-related erosion of soil. Please refer to the detailed discussion and mitigation measures addressing wind-related soils erosion (fugitive dust) in the Air Quality section.

GEO-2 Excavated areas shall be backfilled and compacted such that erosion does not occur. Paved areas disturbed by this project shall be repaved in such a manner that roadways and other disturbed areas are returned to the pre-project conditions or better.

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 the site within which the pipelines are being installed.

GEO-4 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.

With implementation of the above mitigation measures, any impacts are considered less than significant. No further mitigation is necessary.

- c. *Less Than Significant With Mitigation Incorporated* – 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 soils underlying the project site are Hanford⁷ coarse sandy loam, 2 to 9 percent slopes and Psamments, Fluvents and Frequently flooded soils, with Psamments being the primary soil underlying the project footprint (Appendix 4). These series are well drained, and is in a negligible to low runoff class. Non-seismically induced geologic hazards such as landslides, subsidence, lateral spreading, settlement, and slope failure can be caused by unstable soils. Soil instability from landslides, subsidence, lateral spreading, settlement, and slope failure can cause collapse of structures. The proposed well may be installed within an area containing unstable soils, and as such, could experience damage or failure as a result. Additionally, subsidence and collapse could damage the proposed facilities and affect the safety of on-site or visiting employees. Therefore, adverse effects involving unstable soils would be potentially significant. As such, the implementation of **MM GEO-1** is required to minimize impacts under this issue to a less than significant level through ensuring that new wells are analyzed thoroughly through a site specific geotechnical report with specific design recommendations. The implementation of **MM GEO-1** would reduce the potential impacts related to unstable soils through a design level geotechnical investigation with implementation of specific design recommendations for implementation of the proposed Well No. 129 Project. Thus, impacts under this issue are considered less than significant through the implementation of mitigation.
- d. *Less Than Significant With Mitigation Incorporated* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The project site is generally flat. As stated above, the USDA Web Soil Survey indicates that the majority of the project APE is underlain by Hanford coarse sandy loam and Psamments, Fluvents and Frequently flooded soils, with Psamments being the primary soil underlying the project footprint. These soil types are not 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 soils are well drained and are not considered expansive. Expansive soils are typically in the clay soil family, which are not known to occur within the project footprint. However, the specific soil properties of a site can vary on a small scale, and may include undetermined areas that exhibit expansive properties. Thus, as the proposed project soils have not yet been tested, there is a potential that such facilities could be installed within a site containing expansive soils. Therefore, adverse effects involving expansive soils would be potentially significant. As such, implementation of **MM GEO-1** is necessary to reduce the potential impacts related to expansive soils through a design level geotechnical investigation with implementation of specific design recommendations. Thus, mitigation is required

⁷ USDA, 1999. Tujunga Series. https://soilseries.sc.egov.usda.gov/OSD_Docs/H/HANFORD.html (accessed 05/04/24)

to minimize impacts under this issue to a less than significant level through ensuring that the well site is analyzed thoroughly through a site-specific geotechnical report with specific design recommendations.

- e. *No Impact* – The proposed project proponent is EVWD, and the overall purpose of the proposed project is to expand EVWD's water system to accommodate future demand by development in the project area. No septic systems or alternative wastewater disposal systems are proposed as part of the project. Thus, no impacts related to the use of septic tanks or alternative water disposal systems will occur.
- f. *Less Than Significant With Mitigation Incorporated* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The potential for discovering paleontological resources during development of the project is considered moderate given that the San Bernardino Countywide Plan Program Environmental Impact Report (PEIR) indicates that the project site is located within low-to-high sensitivity for paleontological resources. However, as the proposed project has already been developed with excavation occurring in order to install the existing onsite piping, it is not anticipated that unique geologic features would 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, the following contingency measure shall be implemented:

GEO-5 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 following technical study: *East Valley Water District Air Quality & Greenhouse Gas Assessment* prepared by Urban Crossroads dated May 28, 2024. This technical study is provided as Appendix 1 to this document.

Climate Change Setting

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth’s atmosphere, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, CH₄, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth’s atmosphere, but prevent radioactive heat from escaping, thus warming the earth’s atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth’s average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth’s atmosphere is considered to be the cause for the observed increase in the earth’s temperature.

For the purposes of this analysis, emissions of CO₂, CH₄, and N₂O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources

are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

Standards of Significance

According to the *CEQA Guidelines* Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

- **Threshold 1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- **Threshold 2:** Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." For establishing significance thresholds, the Office of Planning and Research's amendments to the *CEQA Guidelines* Section 15064.7(c) state "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, ". . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards."

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Establishment of Significance Thresholds

Based on the foregoing guidance, the East Valley Water District has elected to rely on compliance with a local air district threshold in the determination of significance of project-related GHG emissions. Specifically, the District has selected the interim 3,000 Metric Tons of CO₂ equivalent per year (MTCO₂e/yr). threshold recommended by SCAQMD staff for residential and commercial sector projects against which to compare project-related GHG emissions.

The 3,000 MTCO₂e/yr. threshold is based on a 90 percent emission "capture" rate methodology. Prior to its use by the SCAQMD, the 90 percent emissions capture approach was one of the options suggested by the California Air Pollution Control Officers Association (CAPCOA) in their CEQA & Climate Change white paper (2008). A 90 percent emission capture rate means that unmitigated GHG emissions from the top 90

percent of all GHG-producing projects within a geographic area – the SCAB in this instance – would be subject to a detailed analysis of potential environmental impacts from GHG emissions, while the bottom 10 percent of all GHG-producing projects would be excluded from detailed analysis. A GHG significance threshold based on a 90 percent emission capture rate is appropriate to address the long-term adverse impacts associated with global climate change because medium and large projects will be required to implement measures to reduce GHG emissions, while small projects, which are generally infill development projects that are not the focus of the State’s GHG reduction targets, are allowed to proceed. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial proportion of future development projects and demonstrate that cumulative emissions reductions are being achieved while setting the emission threshold high enough to exclude small projects that will, in aggregate, contribute approximate 1 percent of projected statewide GHG emissions in the Year 2050.

In setting the threshold at 3,000 MTCO₂e/yr., SCAQMD researched a database of projects kept by the Governor’s Office of Planning and Research (OPR). That database contained 798 projects, 87 of which were removed because they were very large projects and/or outliers that would skew emissions values too high, leaving 711 as the sample population to use in determining the 90th percentile capture rate. The SCAQMD analysis of the 711 projects within the sample population combined commercial, residential, and mixed-use projects. It should be noted that the sample of projects included warehouses and other light industrial land uses but did not include industrial processes (i.e., oil refineries, heavy manufacturing, electric generating stations, mining operations, etc.). Emissions from each of these projects were calculated by SCAQMD to provide a consistent method of emissions calculations across the sample population and from projects within the sample population. In calculating the emissions, the SCAQMD analysis determined that the 90th percentile ranged between 2,983 to 3,143 MTCO₂e/yr. The SCAQMD set their significance threshold at the low-end value of the range when rounded to the nearest hundred tons of emissions (i.e., 3,000 MTCO₂e/yr.) to define small projects that are considered less than significant and do not need to provide further analysis.

The District understands that the 3,000 MTCO₂e/yr. threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 MTCO₂e/yr. threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest of which occurred in 2010). SCAQMD has not withdrawn its support of the interim threshold and all documentation supporting the interim threshold remains on the SCAQMD website on a page that provides guidance to CEQA practitioners for air quality analysis (and where all SCAQMD significance thresholds for regional and local criteria pollutants and toxic air contaminants also are listed). Further, as stated by SCAQMD, this threshold “uses the Executive Order S-3-05 goal [80 percent below 1990 levels by 2050] as the basis for deriving the screening level” and, thus, remains valid for use in 2022. Lastly, this threshold has been used for hundreds, if not thousands of GHG analyses performed for projects located within the SCAQMD jurisdiction.

Thus, for purposes of analysis in this analysis, if project-related GHG emissions do not exceed the 3,000 MTCO₂e/yr. threshold, then project-related GHG emissions would clearly have a less-than-significant impact pursuant to Threshold GHG-1. On the other hand, if project-related GHG emissions exceed 3,000 MTCO₂e/yr., the project would be considered a substantial source of GHG emissions.

Impact Analysis

- a. *Less Than Significant Impact* – The estimated GHG emissions for the project land use are summarized on Table VIII-1. The estimated GHG emission include emissions from CO₂, CH₄, N₂O, and Refrigerants (R). As shown on Table VIII-1, the project would generate a total of approximately 1,046.97 MTCO₂e/yr. Detailed operation model outputs for the proposed project are presented in Attachment A of Appendix 1.

The project is assumed to require less than one year for construction. During project construction, the CalEEMod2022.1 computer model predicts that the construction activities will generate the annual CO₂ emissions identified in Table VIII-1.

**Table VIII-1
TOTAL PROJECT GHG EMISSIONS**

Source	Emission (lbs./day)				
	CO ₂	CH ₄	N ₂ O	R	Total CO ₂ e
Annual construction-related emissions amortized over 30 years	8.35	3.33E-04	0.00	1.33E-03	8.36
Energy	268.00	0.03	0.00	0.00	269.00
Water	439.00	10.30	0.25	0.00	769.00
Stationary	0.61	0.00	0.00	0.00	0.61
Total CO₂e (All Sources)	1,046.97				

A numerical threshold for determining the significance of GHG emissions in the SCAB has not been established by the SCAQMD for projects where it is not the lead agency. As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, the District has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90% of emissions from future development. The latest threshold developed by SCAQMD using this method is 3,000 MTCO₂e/yr. for all project.

The project would result in approximately a net 1,046.97 MTCO₂e/yr.; the proposed project would not exceed the SCAQMD's numeric threshold of 3,000 MTCO₂e/yr. Thus, the project would result in a less than significant impact with respect to GHG emissions.

- b. *Less Than Significant Impact* – Pursuant to 15604.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions.

Construction

40% below 1990 levels by 2030

By using newer and electrified construction equipment as it is phased in pursuant to requirements under AB 197 and similar laws, policies and programs, the project will be aligned with applicable plans and policies and would, therefore, not otherwise conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

This is consistent with SB 32's goal of reducing statewide emissions of greenhouse gases by 40% below 1990 levels by 2030.

85% below 1990 levels by 2045 / 2050

While construction activities associated with the implementation of the project would result in emissions of CO₂ and CH₄ (see previous section regarding threshold 1, most of the emissions will come from the burning of fossil fuel in construction equipment. These emissions from construction equipment will decrease even more as emissions technology improves in the next 20 years. Additionally, it is likely that diesel equipment will be cleaner and more efficient, powered by renewable diesel, and/or phased out due to local Climate Action Plans and state requirements (such by AB 197) by 2045. Newer electrified construction equipment will also become more broadly available, further decreasing construction emissions.

This is consistent with AB 1279's goal of reducing emissions to 85% below 1990 levels and carbon neutrality by 2045 and, by extension, Executive Order S-03-05's goal of reducing emissions to 80% below 1990 levels by 2050.

Operations

40% below 1990 levels by 2030

Operational emissions are powered primarily by electricity, so the project's GHG emissions will decline as renewable and carbon neutral energy sources make up a larger and larger percentage of power on the grid in compliance with state's plans, policies, and regulations.

This is consistent with SB 32's goal of reducing statewide emissions of greenhouse gases by 40% below 1990 levels by 2030.

85% below 1990 levels by 2045 / 2050

Operational emissions are powered primarily by electricity, so the project's GHG emissions will decline as renewable and carbon neutral energy sources make up a larger and larger percentage of power on the grid in compliance with state's plans, policies, and regulations.

Finally, the implementation of the project will increase local water supplies, thereby avoiding the need to import water from remote sources. By reducing the demand for importing water, which is energy intensive and generates GHG emissions, the project will offset GHG emissions that would otherwise have occurred absent implementation of the project.

This is consistent with AB 1279's goal of reducing emissions to 85% below 1990 levels and carbon neutrality by 2045 and, by extension, Executive Order S-03-05's goal of reducing emissions to 80% below 1990 levels by 2050. This is also consistent with CARB's 2022 Scoping Plan goals and objectives, which are based on compliance with AB 1279.

Conclusion

Results of the assessment indicate that the project is not anticipated to result in a significant impact during construction or operational activities associated with air quality and GHG.

	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. 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 well is anticipated to require treatment prior to connecting to the District’s existing distribution system. It is anticipated that the well would store chemicals required for the treating of water extracted from the well. Chemicals used in the water production process will be chlorine (sodium hypochlorite 12.5%) for disinfection and orthophosphate as a corrosion inhibitor for existing copper lines within the District’s distribution system east of Boulder Avenue. It is unknown at this time if additional treatment will be required for the well to meet the standards of the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW). The District will comply with state and standards for handling this material. If any other constituents of concern (COCs) are found in the groundwater extracted by the

proposed well, the District will implement the appropriate treatment method. If water quality is degraded it must be blended to a level below Maximum Contaminant Levels (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. 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* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. 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 spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility.

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. Therefore, through the implementation of mitigation, potentially substantial adverse environmental impacts from accidental releases associated with installation of the proposed well can be reduced to a less than significant level.

- c. *Less Than Significant Impact* – The project site is not located within one quarter mile of a school; the nearest school is Cram Elementary School, located a little over a mile northwest of the project site at 29700 Water St, Highland, CA 92346. The proposed project is not anticipated to emit hazardous emissions or handle large quantities of hazardous materials or substances that would cause a significant impact to a local school. Furthermore, the District will develop further safety standards and operational procedures and continue to enforce existing safety standards and

operational procedures for safe transport and use of its operational and maintenance materials that are potentially hazardous. As such, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during construction or operation in a quantity that would pose any danger to people adjacent to, or in the general vicinity of, the project site. Therefore, the impacts of the proposed project to this issue area would be considered less than significant.

- d. *Less Than Significant Impact* – The proposed project would not be located on a site that is 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 proposed well would be near to or impact a site known to have hazardous materials or a site under remediation for hazardous materials or associated issues. A review of the California State Water Resources Control Board GeoTracker database indicates that no open hazardous materials cleanup sites are located within a 2,500-foot radius of the proposed well development site (**Figure IX-1**). There are no nearby open or closed Leaking Underground Storage Tank (LUST) Cleanup sites. Therefore, the proposed project is not forecast to result in a significant hazard to the public or the environment associated with this issue area. No mitigation is required.
- e. *No Impact* – The project site is located at a great distance from any nearby airport. As shown on the Airport Safety & Planning Areas map prepared for the San Bernardino Countywide Plan (**Figure IX-2**), the proposed project is not located within an Airport Safety Review Area for either the Redlands Airport or the San Bernardino International Airport. Therefore, there is no potential safety hazard for people residing or working in the project area as a result of proximity to a public airport or private airstrip. No mitigation is required.
- f. *Less Than Significant Impact* – The proposed well would be confined to the Plant No. 129 site, with no planned encroachment onto the adjacent roadways because the pipelines that connect to the District's water distribution system are already connected to the piping interior to the Plant No. 129 site. The installation of the new well, associated appurtenances, and connecting piping will require no work within the adjacent roadways, nor will it require work within any of the roadways identified as emergency evacuation routes (refer to San Bernardino Countywide Plan Evacuation Route Map (**Figure IX-3**)). Due to its location and point of access, there will be no potential to interfere with an emergency response or evacuation plan during construction. At no time during construction of Well No. 129 will any access to or along these roads be restricted. For additional information, please refer to the Transportation/Traffic Section of this document, Section XVII. Therefore, the proposed project is not forecast to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts under this issue are considered less than significant.
- g. *Less Than Significant With Mitigation Incorporated* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. 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 at a distance of about 900 feet from the San Bernardino Mountain foothills, but the project is still located within a very high fire hazard severity zone (**Figure IX-4**). The proposed project footprint is located within a Local Responsibility Area (LRA). However, the project will not construct any habitable structures, only the enclosure for the proposed well, which would be similar to the enclosure for the proposed booster pump station that presently exists at the Plant No. 129 site. The proposed well would function to pump and distribute water throughout the EVWD service area, and would not be constructed of

flammable materials or involve any spark-producing activities, or human occupancy. Operational impacts of the proposed well would be less than significant with no mitigation.

The use of spark-producing construction machinery within a fire risk area could create hazardous fire conditions and expose people or structures to wildfire risks. Based on past experience with wildfires in the area, the Valley Region does not experience the same level of wildfire hazards as do the mountain areas where fuel loads are greater, and as such, this part of the project area can be successfully evacuated and life preserved, even if property is damaged. The implementation of **MM HAZ-2** would require the preparation of a fire management plan/fuel modification plan for the proposed well, and it would identify comprehensive strategies to reduce fire potential during construction and over long-term operation. Therefore, potential significant impacts due to installation of proposed well infrastructure would be reduced to less than significant level with implementation of **MM HAZ-2**.

HAZ-2 Prior to construction, fire hazard reduction measures shall be incorporated into a fire management/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the District and CAL FIRE for review and comment, where appropriate, and approved prior to construction and implemented once approved. The fire management plan shall also include sufficient defensible space or other measures at a facility site located in a high or very high FHSZ to minimize fire damage to a level acceptable to the District over the long term.

Therefore, though the proposed project is located within an area considered susceptible to wildfire hazards, with the implementation of **MM HAZ-2**, the proposed project would have a less than significant expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

	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 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 type="checkbox"/>	<input checked="" 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* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The project 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, EVWD 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 Santa Ana River Watershed. The Santa Ana 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 the well test program can proceed, sampling

must be completed to ensure that maximum contaminant levels (MCLs) of all pollutants are not exceeded in the groundwater brought to the surface and discharged. If water quality 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 prior to discharge, including sediment or other material.

The proposed project may result in some soil erosion during drilling and construction activities. Due to the disturbed nature of the project site, and the flat topography of each site, it is concluded that the potential for this project to cause substantial soil erosion, and subsequent water quality impacts, is low. Due to the small size of the area that would be disturbed as part of construction of the proposed project (less than one acre), a Storm Water Pollution Prevention Plan (SWPPP) is not required. However, the District shall implement Best Management Practices (BMPs) during construction, which will be enforced by the following mitigation measure:

HYD-2 The District shall require that the construction contractor to implement specific 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. These practices shall include a 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 by the District include the following:

- ***The use of silt fences or coir rolls;***
- ***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 measures, as well as **MMs HAZ-1** and **HYD-3** 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 deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a substantial lowering of the local groundwater table level (e.g., the

production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The proposed well would extract water from the San Bernardino Basin (SBB) portion of the Upper Santa Ana Valley Basin. The San Bernardino Basin (SBB), labeled the "San Bernardino Basin Area" in the Judgment, was adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The Western Judgment calculated the natural safe yield of the SBB to be 232,100 AFY for all extractions, including surface water diversions and groundwater pumping. Surface water is diverted from Mill Creek, Lytle Creek, and the Santa Ana River.

EVWD's water supply consists primarily of groundwater from wells in the western portion of the service area. These wells, in the San Bernardino Basin (SBB), supply approximately 80% of the total water supply. In addition to groundwater, EVWD provides treated surface water from the Santa Ana River and the State Water Project. EVWD produced 15,169 acre feet (AF) of groundwater from the SBB in 2020, and estimates that groundwater will make up 10,257 AF of its supply in 2025, and up to 12,035 AF in 2045, with alternative sources of supply making the difference to meet the District's demand. Refer to the 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan.⁸ Between 2013 and 2022, EVWD utilized 15-16 wells for its groundwater production with the annual production ranging from 12,702 to 18,289 AFY during this period. To ensure its annual pumping rights and water demands continue to be met, EVWD proposes to install the proposed Well No. 129. As the proposed well would enable pumping within EVWD's pumping rights, it is not anticipated that the proposed well would substantially decrease groundwater supplies in the SBB.

The well is 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-3 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 implementation of the above mitigation measure, the potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin would be reduced to less than significant. No additional mitigation is required.

c.

(i-iii) *Less Than Significant With Mitigation Incorporated* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. 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

⁸ San Bernardino Valley Municipal Water District, 2021. 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan. <https://www.sbvwd.org/our-projects/upper-santa-ana-integrated-regional-water-management-plan/> (accessed 05/08/24)

which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

The proposed project will be implemented within a site containing existing facilities in support of EVWD's Plant No. 129, and therefore would be located within a fully developed site. Once the proposed 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 site will require minimal grading, demolition of existing concrete, and excavation to install connecting piping in the small area in which the well 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 temporarily or permanently disturbed as a result of the well development and associated piping installation. Furthermore, because the development of the well would alter the site only minimally, the project would not substantially increase the amount of surface runoff, such that flooding on- or off-site would occur.

The District will implement 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 potential pollution from construction activities in the vicinity of the selected project site. These measures, such as 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 **MMs HAZ-1**, and **HYD-3** in conjunction with **MM HYD-4** 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-4 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 well and associated pipeline, and to control urban runoff after the Project is constructed and the well (if approved for operation post well testing) is in operation.

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

c.

- (iv). *No Impact* – According to the County of San Bernardino General Plan 100-Year Floodplain Map (**Figure X-1**), the proposed project is not located in a 100-year or 500-year flood hazard area. Development of the well at this site, which, as previously stated would only require minimal ground disturbance, and furthermore, the site would be returned to its similar condition to that which exists at present (i.e. impervious surfaces where the well will be installed), and therefore would not impede or redirect flows. The location is outside of roadways, and drainage will be managed within the site. Therefore, 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 impede or redirect flows. No impacts are anticipated under this issue. No mitigation is required.

- d. *Less Than Significant Impact* – As stated above under issue X(c[iv]), the proposed project is located within Zone X and is therefore not delineated as being within a Federal Emergency Management Agency (FEMA) Department of Water Resources (DWR) flood plain (**Figure X-2**). The project site is not located near any large bodies of water, so impacts associated with seiche or tsunami cannot occur. Mudflow typically occurs on hillsides and the proposed project is not located on a hillside or in an area exposed to significant mudflow. The project is not located within a flood hazard zone, and based on the BMPs required to ensure that any hazardous materials are handled according to State and District standards, it is not anticipated that a release of pollutants would occur at the project site. 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* – The project site is located in the Upper Santa Ana Valley Basin, SBB, which has been designated very low priority by the Sustainable Groundwater Management Act (SGMA). The project is located in the Upper Santa Ana River Watershed. The SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins and requires GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California. The 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.”⁹ The SBB was adjudicated under the Western Judgment, which generally provides for the following:
- A determination of safe yield of the San Bernardino Basin Area (SBBA),
 - Establishment 64,872 acre-feet rights that can be extracted from the SBBA by plaintiff parties. This is equal to 27.95 percent of safe yield,
 - An obligation of San Bernardino Valley Municipal Water District (Valley District) to replenish any extractions from SBBA by non-plaintiffs in aggregate in excess of 167,228 acre-feet(equal to 72.05 percent of safe yield),
 - An obligation of Western to replenish the Colton and Riverside Basins if extractions for use in Riverside County in aggregate exceed certain specific amounts, and
 - An obligation of Valley District to replenish the Colton and Riverside basins if water levels are lower than certain specific water level elevations in specified wells.¹⁰

As previously stated, between 2013 and 2022, EVWD utilized 15-16 wells for its groundwater production with the annual production ranging from 12,702 to 18,289 AFY during this period. To ensure its annual pumping rights and water demands continue to be met, EVWD proposes to install the proposed Well No. 129. As the proposed well would enable pumping within EVWD’s pumping rights, and given that EVWD must comply with the Western Judgment, the proposed installation of an extraction well within the SBB would not result in a conflict with the SGMA. Thus, 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. Furthermore, by controlling water quality during construction and operations through implementation of both short- and long-term best management practices at the site, no

⁹ California Department of Water Resources (DWR), 2024. Sustainable Groundwater Management Act (SGMA) <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management> (accessed 02/12/24)

¹⁰ Valley District, 2021. 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan. <https://www.sbvwd.org/~documents/route%3A/download/3811/> (accessed 05/09/24)

potential for conflict or obstruction of the Regional Board’s water quality control plan has been identified. Impacts are less than significant.

	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* – The Well No. 129 Project footprint is located within the City of Highland. The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. There are no features of the well or project as a whole that would create a barrier or physically divide an established community, particularly given that well would be integrated into the landscape unobtrusively within existing infrastructure owned and operated by EVWD. 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 well would be located within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. 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 City of Highland 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 type="checkbox"/>	<input checked="" 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&b. *No Impact* – The well would be located within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station. The Well No. 129 Project footprint is located within the City of Highland. The project is located in a residential area within the eastern portion of the City of Highland’s boundaries, north of the Santa Ana River and its associated open space, along with EVWD facilities located to the southeast of the project site. The San Bernardino Countywide Plan Mineral Resource Zones map indicates that the proposed project is located within the MRZ-3 zone—a moderate potential or possible location for mineral resources to occur—for aggregate resources (**Figure XII-1**). Additionally, the proposed project is not within an area designated by the State Mining and Geology Board in 1987 or 2013 as a Regional Significant Construction Aggregate Resource Areas in the San Bernardino Production-Consumption Region. Given that the proposed project is not located on a delineated state or regionally significant site, and that no mineral extraction currently occurs or is known to have ever occurred on the property, it is anticipated that the additional development of the Plant No. 129 site would not result in in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. No impacts are anticipated 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
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 checked="" type="checkbox"/>	<input 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: The following information utilized in this section was obtained from the technical study "East Valley Water District Well No. 129 Noise Assessment" (NA) prepared by Urban Crossroads dated July 11, 2024, and provided as Appendix 5 to this document.

Background

Noise is generally described as unwanted sound. The proposed project would install a new well, associated appurtenances, and connecting piping within the District's existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station, and would be installed within the City of Highland.

Receiver Locations

To assess the potential for construction noise impacts, four receiver locations were identified as representative locations for analysis. Sensitive uses or receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land.

To describe the potential off-site Project noise levels, receiver locations in the vicinity of the Project site were identified, as shown on **Figure XIII-1**. The selection of receiver locations is based on Federal Highway Administration (FHWA) guidelines and is consistent with additional guidance provided by Caltrans and the Federal Transit Authority (FTA). Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Since the exact location of the drilling activity is not known, distances are measured in a straight line from the Project boundary to each receiver location.

Noise Prediction Model

To fully describe the construction noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

The drilling rig noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. The local topography of each site out to each receiver location based on lidar data. The model does not account for any existing structures or other manmade obstacles. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for predominately hard site conditions.

City of Highland Property Line Noise Standards

To analyze noise impacts originating from a designated fixed location or private property such as the Project, stationary-source (operational) noise levels such as the expected [Category], as well as noise from construction activities are typically evaluated against standards established under the City’s Municipal Code. However, the currently adopted City of Highland Municipal Code included in Appendix 3.1 does not identify any quantifiable exterior noise level standards for non-transportation (stationary) noise sources. However, Table 7.2 in the City of Highland General Plan Noise Element provides exterior noise standards (City of Highland, March 2006), as shown in Exhibit D. While Exhibit D indicates the noise levels are based on dBA CNEL, however, they are also provided based on the daytime and nighttime periods. Since CNEL levels are based on 24-hour noise levels, the noise level limits are assumed to be intended as hourly noise level limits, i.e., dBA L_{eq} .

**Table XIII-1
CITY OF HIGHLAND EXTERIOR NOISE STANDARDS**

<i>Type of Land Use</i>	<i>Time Interval</i>	<i>CNEL (dBA)</i>
Residential	10:00 p.m. – 7:00 a.m.	55
	7:00 a.m. – 10:00 p.m.	60
Agricultural/Equestrian	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Commercial	10:00 p.m. – 7:00 a.m.	65
	7:00 a.m. – 10:00 p.m.	70
Manufacturing or Industrial	Any Time	75
Open Space	Any Time	75

Source: Chapter 8.50, Noise Control, City of Highland Municipal Code.

City of Highland General Plan Noise Element.

Construction Noise Sources

Using reference construction equipment noise levels level measurements and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the equipment with the highest reference noise level operating continuously over a 24-hour period.

Drill rigs have several substantial noise sources, each with its own characteristics. The main sources of noise are the generator set, the compressor, the mud pump, and the top drive of the drill rig. Pumps/compressors and generator noise sources were placed five feet above ground level, and the drill rig top drive was placed fourteen feet above ground level. Drill rig and associated equipment noise levels were developed from a noise survey conducted by Behrens and Associates, Inc. of three different drill rig systems in 2006. Each of the drill rigs was rated at 1,000 horsepower and was capable of drilling depths ranging from 12,000 to 15,000 feet. The surveyed drill rigs are similar in capability to the drill rig proposed for the Project. Based on peak noise levels provided by the survey, reference noise levels with a uniform distance of 50 feet were calculated and are provided in Table XIII-2.

**Table XIII-2
CONSTRUCTION REFERENCE NOISE LEVELS**

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Highest Reference Noise Level (dBA Leq)
Borehole Drilling	Drill Rig Top Drive	82	87.6
	Compressors/Pumps	80	
	Generators	85	

¹ Behrens and Associates, Inc., 2006

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The Well No. 129 Project footprint is located within the City of Highland and will occur within a vacant site set in a residential area. However, once installed, the well would be enclosed, and would generate only minimal operational noise. Furthermore, all associated pipelines would be located underground. The background noise in the vicinity of the project is relatively low, as the project is in a residential area, with some vacant land in the vicinity.

Short Term Construction Noise

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise levels with all equipment operating simultaneously were completed. As shown in Table XIII-3, the unabated construction noise levels for activities at Location 1 are expected to range from 59.2 to 74.5 dBA L_{eq} at the nearest residential uses. Appendix B includes the unabated typical construction CadnaA noise model calculations.

As shown in Table XIII-3, the unabated construction noise levels for drilling activities are expected to exceed applicable standards at R1 through R3 and at R11 through R14. Therefore, various mitigation strategies were evaluated to reduce drilling noise levels to acceptable levels. The first option was to install temporary barriers around the drilling activity. However, even with 24-foot-high barriers surrounding the activity the Project would not comply with the City of Highland noise level limits at R-1 through R-3. Therefore, relocating equipment within the site, shielding of specific equipment, as well as various barrier height were evaluated.

**Table XIII-3
UNABATED DRILLING EQUIPMENT NOISE LEVEL SUMMARY**

Receiver Location ¹	Project Construction Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Threshold Exceeded?	
	Daytime	Nighttime	Daytime	Nighttime		
R01	74.5	74.5	60	55	Yes	Yes
R02	70.5	70.5	60	55	Yes	Yes
R03	61.5	61.5	60	55	Yes	Yes
R04	59.2	59.2	60	55	No	Yes
R05	46.3	46.3	60	55	No	No
R06	46.5	46.5	60	55	No	No
R07	46.6	46.6	60	55	No	No
R08	45.8	45.8	60	55	No	No

Receiver Location ¹	Project Construction Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Threshold Exceeded?	
	Daytime	Nighttime	Daytime	Nighttime		
R09	47.9	47.9	60	55	No	No
R10	52.0	52.0	60	55	No	No
R11	60.4	60.4	60	55	Yes	Yes
R12	64.4	64.4	60	55	Yes	Yes
R13	57.9	57.9	60	55	No	Yes
R14	55.2	55.2	60	55	No	Yes

¹ Noise receiver locations are shown in **Figure XIII-1**.

² Highest construction noise level operating at the Project site boundary to nearby receiver locations.

³ City of Highland Municipal Code, Section 30-469.

Based on the modeling, the following abatement measures would allow the Project to comply with the City of Highland daytime and nighttime noise level standards (refer to **Figure XIII-2**):

- a sound blanket barrier on three sides (southwest, southeast, and northeast) of the drill rig mast,
- a 15-foot-high barrier should be erected along the southwestern boundary,
- a minimum 12-foot-high barrier along the southwest boundary,
- a minimum height of 10-foot-high barrier should be erected along the northeastern and northwestern boundaries, and
- the generator and compressor should be placed near the existing tanks and as far away from the properties to the southeast as possible, and a 12-foot-high barrier should be erected on three sides (northwest, southwest, and southeast) of the generator and compressor.

**Table XIII-4
ABATED DRILLING EQUIPMENT NOISE LEVEL SUMMARY**

Receiver Location ¹	Project Construction Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Threshold Exceeded?	
	Daytime	Nighttime	Daytime	Nighttime		
R01	54.7	54.7	60	55	No	No
R02	53.8	53.8	60	55	No	No
R03	48.9	48.9	60	55	No	No
R04	44.6	44.6	60	55	No	No
R05	43.5	43.5	60	55	No	No
R06	43.5	43.5	60	55	No	No
R07	43.8	43.8	60	55	No	No
R08	42.8	42.8	60	55	No	No
R09	41.1	41.1	60	55	No	No
R10	41.9	41.9	60	55	No	No
R11	47.8	47.8	60	55	No	No
R12	49.2	49.2	60	55	No	No
R13	45.1	45.1	60	55	No	No
R14	42.9	42.9	60	55	No	No

¹ Noise receiver locations are shown in **Figure XIII-1**.

² Highest construction noise level operating at the Project site boundary to nearby receiver locations.

³ City of Highland Municipal Code, Section 30-469.

To comply with the City of Highland the City of Highland noise standards during daytime and nighttime hours, the following mitigation measure is required:

NOI-1 To comply with the City of Highland noise standards during daytime and nighttime hours, noise barriers with a minimum height of 15 feet shall be erected along the southwestern boundary, a sound blanket barrier on three sides (southwest, southeast, and northeast) of the drill rig mast, a 15-foot-high barrier should be erected along the southwestern boundary, a minimum 12-foot high barrier along the southwest boundary, and a minimum height of 10-foot-high barrier should be erected along the northeastern and northwestern boundary. Additionally, the generator and compressor shall be placed near the existing tanks and as far away from the properties to the southeast as possible, and a 12-foot-high barrier should be erected on three sides (northwest, southwest, and southeast) of the generator and compressor. An effective barrier requires a weight of at least 2 pounds per square foot of face area with no decorative cutouts, perforations, or line-of-sight openings between shielded areas and the source. Examples of temporary barrier material includes 5/8 inch plywood, 5/8 inch oriented-strand board, or sound blankets capable of providing a minimum sound transmission loss (STC) of 27 or a Noise Reduction Coefficient (NRC) of 0.85. Refer to Figure XIII-2.

This Noise Assessment demonstrates that the drill rig noise levels associated with East Valley Water District Well No. 129 Project can satisfy the City of Highland exterior noise level standards at all nearby receiver locations with the use of barriers shielding the receivers to the east and south of the Project site. Unabated noise levels at R3 would not exceed the City of Highland noise level standards and would not require a barrier along the northwest side of the Project site. Therefore, with the implementation of the identified noise abatement measures shown on **Figure XIII-2**, the construction noise levels would comply with the City of Highland noise level limits during daytime and nighttime hours and impacts would be less than significant.

Long-Term Operational Noise

Well pump noise would be minimized through the project design, which includes housing the well in a structure to reduce operational noise levels to a less than significant impact, should the noise levels from the well pump exceed City of Highland standards. The connecting pipelines will not generate any noise once constructed.

Conclusion

Therefore, through the implementation of the mitigation measures identified above, neither operation or construction of the proposed project would violate City of Highland noise standards outlined in the City's Municipal Code. Impacts under this issue are considered less than significant with mitigation incorporated.

- b. *Less Than Significant With Mitigation Incorporated* – 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 City, 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-5, 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-6 summarizes the minimum distances at which vibration generated by construction equipment would attenuate to less than significant levels at various receivers. Construction activities utilizing equipment at the minimum distances shown in Table XIII-6 would have a less than significant construction vibration impact.

**Table XIII-5
VIBRATION LEVELS MEASURED DURING CONSTRUCTION ACTIVITIES**

Equipment	PPV at 25 feet (in/sec)	VdB at 25 feet
Drill Rig ¹	0.089	87
Loaded Truck	0.076	83

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 04/03/24).

**Table XIII-6
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
Loaded Truck	20	10	10	35
Drill Rig ⁵	20	15	15	55

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 because the well will not be installed along the property line, it will be installed at a greater distance from the residences than shown on **Figure XIII-3** (the drill will be greater than 55 feet from the nearest sensitive receptor, and loaded trucks will operate 35 feet from the nearest sensitive receptor, per **MM NOI-2**, below). 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, it is not anticipated that vibration from either construction or operation activities would reach any nearby residences.

NOI-2 The well shall be drilled at a distance of 55' or greater from the nearest sensitive receptor, shown on Figure XIII-3. Loaded trucks delivering materials to the site and hauling materials away shall be operated at a distance at or greater than 35' or greater from the nearest sensitive receptor, shown on Figure XIII-3, for the duration of construction.

The project does not include any facilities that would result in substantial operational vibration, such as heavy truck deliveries, or use of equipment that generates substantial vibration, and therefore no operational vibration impacts are anticipated to occur that would be perceptible at the nearest sensitive receptor. Thus, through the implementation of **MM NOI-2**, above, vibration impacts associated with the project would be less than significant with mitigation.

- c. *No Impact* – The project site is located at a great distance from any nearby airport. As shown on the Airport Safety & Planning Areas map prepared for the San Bernardino Countywide Plan (**Figure IX-2**), the proposed project is not located within an Airport Safety Review Area for either the Redlands Airport or the San Bernardino International Airport, and therefore is not located within the noise contours for the Airport. Therefore, there is no potential for the project to expose people residing or working in the project area to excessive noise levels as a result of proximity to a public airport or private airstrip. 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). The project is considered a vital infrastructure project because it would install a new well, associated appurtenances, and connecting piping, and would be installed within the City of Highland. The proposed project will require a temporary work force; however, this is short-term and with a maximum of about 5 employees will not induce substantial population growth. Furthermore, according to the Southern California Association of Governments (SCAG), the total population of City of Highland was 55,211 persons.¹¹ The SCAG Connect SoCal Demographics and Growth Forecast¹² notes that the City of Highland is anticipated to grow to 68,900 residents by 2045. This indicates that the City has room for population growth in the future. As such, given that no additional employees will be required once the well is in operation, the proposed project would have a less than significant potential to induce substantial population growth in an area, either directly or indirectly. No mitigation is required.
- b. *No Impact* – The proposed Well No. 129 Project will occur within the existing Plant No. 129 site, which contains no housing or persons therein. No housing is proposed as part of the project and no housing exists and no persons reside within the project footprint. Therefore, implementation of the project as a whole will not displace any existing housing or displace a substantial number of people that would necessitate the construction of replacement housing elsewhere. No impacts will occur as a result of project implementation. No mitigation is required.

¹¹ SCAG, 2021. Local Profiles Spreadsheet. https://scag.ca.gov/sites/main/files/file-attachments/2021_local_profiles_dataset.xlsx?1661892901 (accessed 05/09/24)

¹² SCAG, 2020. Demographics and Growth Forecast. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?16060011299 (accessed 05/09/24)

	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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. The CAL FIRE provides fire protection and emergency medical services to the Highland community through a cooperative agreement that provides for Cal Fire employees to staff City-owned facilities and apparatus. The City has three fire stations: Station 541 located at 26974 Base Line; Station 542 located at 29507 Base Line; and Station 543 is located at 7469 Sterling Avenue. Station 542 is located about a couple of miles to the northwest of the project site. The proposed project may require the use of chemicals such as sodium hypochlorite and orthophosphate at the well site. 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 structure proposed—a structure to enclose the well at the well site—would not present a substantial fire hazard because the materials used to construct the enclosure are considered fire-resistant. Further, during construction, the use of spark-producing construction machinery within a fire risk area could create hazardous fire conditions and expose people or structures to wildfire risks. The implementation of **MM HAZ-2** would require the preparation of a fire management plan/fuel modification plan for the proposed well, and it would identify comprehensive strategies to reduce fire potential during construction and over long-term operation. Therefore, potential significant impacts on fire protection services would be reduced to less than significant level with implementation of **MM HAZ-2**.

HAZ-2 *Prior to construction, fire hazard reduction measures shall be incorporated into a fire management/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped*

with a spark arrestor in good working order. During the construction of the project, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the District and CAL FIRE for review and comment, where appropriate, and approved prior to construction and implemented once approved. The fire management plan shall also include sufficient defensible space or other measures at a facility site located in a high or very high FHSZ to minimize fire damage to a level acceptable to the District over the long term.

Thus, with compliance to Federal, State, and local standards, and with the implementation of **MM HAZ-2**, 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 proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. The San Bernardino County Sheriff Department provides police protection services to the Highland community. The Sheriff’s Department has one patrol station in the City of Highland, located at 26985 East Baseline, Highland, California 92346. The Sheriff Station is located about 6 miles to the west of the proposed project site. The station is currently staffed with 34 sworn officers (which includes 1 Captain, 1 Lieutenant, 6 Sergeants, 3 Detectives and 23 patrol deputies), as well as 9 non-sworn civilian employees (which includes 1 secretary, 4 clerical personnel, and 4 Sheriff’s Service Specialists). The project is located within existing patrol routes. The project is not anticipated to generate growth within the project area that would create a new demand for police protection because no additional employees will be required once the well is installed and is in operation. The construction of the well will require only a temporary work force. The proposed project will not include the kind of use that would likely attract criminal activity, except for random trespass and theft; however, construction equipment will be stored in such a manner that public will not have access to it, and once in operation, the project will be consistent with that which exists at present at Plant No. 129, which is fenced to prevent public from accessing the site. Thus, due to the type of project proposed, no new or expanded police or sheriff facilities would need to be constructed as a result of the project. Therefore, impacts to police protection resources from implementation of the proposed project are considered less than significant; no mitigation measures are required.
- c. *Less Than Significant Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. The proposed project is located within the Redlands Unified School District, which consists of 26 schools. The nearest school is Cram Elementary School, located a little over a mile northwest of the project site at 29700 Water Street, Highland CA 92346. As discussed under Chapter XIV, Population and Housing, above, the project would not induce population growth within the City, as it will neither construct housing, nor result in a growth in employment opportunities within the area. Because the project would install new infrastructure through the development of a new well, and would not develop any facilities that are commercial, residential, or industrial in nature, the proposed project is not required to pay any fees to offset impacts to school facilities. Thus, the proposed project will not generate an increase in elementary, middle, or high school population. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.

- d. *No Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. Because the project would develop infrastructure through the installation of a new well and would not develop any facilities that are commercial, residential, or industrial in nature, the proposed project is not required to pay any fees to offset impacts to park facilities. As stated in the preceding sections, the proposed project is not anticipated to create a substantial increase in population because it does require additional EVWD staff to operate this new well. Implementation of the proposed project will not impact any current or planned park use, as it will be constructed within a site that has not been designated for nor developed as a park use. Thus, implementation of the proposed project would not cause a substantial adverse physical impact to any parks within the City. No impacts are anticipated, and no mitigation is required.
- e. *No Impact* – Other public facilities include library and general municipal services. The City of Highland has one public library, the Highland Branch of the San Bernardino County Library, which is a Library and Environmental Learning Center located at 7863 Central Avenue. The Highland Branch Library serves residents in the City and in the neighboring City of San Bernardino. Funding for the library services comes from the City’s Development Impact Fee fund collected from other projects and a variety of state and federal grants. Since the project will not directly induce substantial population growth, it is not forecast that the use of such facilities will increase as a result of the proposed project. As a result, the implementation of the project will not 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 public services to include other public facilities. Thus, no impacts are anticipated 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
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* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. 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. Therefore, this project will not result in an increase in the demand for parks and other recreational facilities and implementation of the proposed project would not increase the use of any parks within the area, nor would it result in the physical deterioration of other surrounding facilities. No impacts are anticipated. No mitigation is required.

- b. *No Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. 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 the District’s existing Plant No. 129 site, which is not designated for recreational use and does not contain recreational uses at present. Furthermore, the proposed project is not forecast to induce substantial population growth as the well will operate without daily in-person supervision; visits will occur by 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. The proposed well would be confined to the project site, with no encroachment onto the adjacent sidewalk to connect to existing District water distribution pipelines as shown on Figure 4. At no time during the installation of the well will adjacent roadways be closed. During construction, an estimated 10-15 roundtrips from construction workers per day will occur to install the proposed new well. An average of 15 roundtrips per day would occur to support construction efforts (i.e., delivery or removal of construction materials). No new roads are required to construct or operate this project. No temporary roadway closures will be required. Given the temporary nature of the construction proposed, 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. Thus, the installation of the proposed Well No. 129 Project would not have any potential to reduce the capacity of the adjacent roadways. Once constructed, no traffic would be generated by this project other than visits to the well by EVWD personnel to inspect and maintain facilities where necessary, resulting in minimal vehicle miles traveled once the well is in operation. Implementation of the project has the potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Thus, the proposed project would result in a less than significant impact pertaining to the circulation system, particularly given that impacts to transit, bicycle, and pedestrian facilities will be temporary, and will not permanently disrupt circulation thereof.

- b. *Less Than Significant Impact* – The proposed project would install a new well, associated appurtenances, and connecting piping within the District’s existing Plant No. 129 site, which is fully developed with two 3-MG water storage reservoirs, and a booster pump station within the City of Highland. The proposed project will require minimal vehicle miles traveled to accomplish once constructed. In the short term, construction of the proposed well would result in the generation of an average of about 15 roundtrips per day on the adjacent roadways by construction personnel and trucks removing any excavated materials on site. The vehicle miles traveled in these instances would likely average less than 80 miles round trip. The number of temporary truck trips will be minimized by using 15 cubic yard material haulers instead of smaller 10 cubic yard trucks to haul material onto and off of the site. Additionally, the same trucks that haul material onto the site would also carry material off of the site. 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.

Once constructed, no daily traffic would be generated by this project other than visits to the well by EVWD personnel to inspect and maintain facilities when necessary, resulting in minimal vehicle miles traveled once the well is in operation. 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 below the recommended screening threshold. Thus, development of the Well No. 129 Project is not anticipated to result in a 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. *No Impact* – The proposed project would not substantially increase hazards due to a design feature or incompatible uses. The construction of the proposed well would occur at one location at the within Plant No. 129, which contains existing water infrastructure features supporting EVWD's water distribution systems. With the exception of the aforementioned trip generation during the construction phase, the proposed project will not impact any adjacent roadways. The construction would take approximately 9 months. The suburban residential roadways along which the project would be installed—Calle Del Rio Street and Vista Clara Street—may experience a temporary increase in traffic from construction workers during construction. As stated under issue XVII(a) above, the project will not modify or change any paved roadways so it would not increase any hazards due to design features or incompatible use 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 well is operational, roadway traffic in the area will return to its original condition. Thus, there would be no potential for an increase in hazards due to design features or incompatible use. No impacts are anticipated under this issue and no mitigation is required.
- d. *No Impact* – Please refer to the discussion under issue XVII(a) above. The proposed project will not require the closure of any lanes on the major roadways in the vicinity of the project site (Greenspot Road). No impacts are expected on Calle Del Rio Street and Vista Clara Street since these are suburban roadways. During construction, a potential exists for short-term hazards and constraints on both normal and emergency access within the affected area, especially during well construction requires the highest number of employees. There are no evacuation routes located within the project footprint, and the installation of the proposed well would not hinder emergency access to the site during either operations or construction. Adequate emergency access is available via Calle Del Rio Street and Vista Clara Street throughout construction. Therefore, the project will have no impacts on emergency access and no 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).

a&b. *Less Than Significant With Mitigation Incorporated* – The District has been contacted by three California tribes: Yuhaaviatam of San Manuel Nation, Morongo Band of Mission Indians, Gabrieleño Band of Mission Indians – Kizh Nation. AB 52 was initiated with the three tribes on May 1, 2024. One tribe responded to the District’s AB 52 consultation notification: the YSMN. YSMN responded that the proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe. However, due to the nature and location of the proposed project, and given the Tribe’s CRM Department’s present state of knowledge, YSMN does not have any concerns with the project’s

implementation. As a result, YSMN requests that the following mitigation measures shall be implemented to protect such resources:

TCR-1 *The Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN) shall be contacted, as detailed in MM CUL-2, of any pre-contact era cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the project, should YSMN elect to place a monitor on-site..*

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

YSMN also requested that **MM CUL-2, CUL-3, and CUL-4** provided in Subsection V, Cultural Resources be implemented to protect cultural and tribal cultural resources. Ultimately, given the feedback that has been provided by YSMN during the AB 52 consultation process, implementation of the proposed project can be implemented without the potential for significant impacts to occur through the implementation of **MMs CUL-1 through CUL-4**, and **MMs TCR-1 through TCR-2**. Thus, the project has a less than significant potential to 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 either **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 **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.

	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 EVWD 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 Bunker Hill Subbasin. The amount of water the District plans to extract from the Basin is minimal compared to the overall amount of water extracted the Bunker Hill Subbasin. The proposed new well is forecast to increase groundwater extraction by an estimated 1,600 AFY. This is anticipated to fall within EVWD’s water rights, and EVWD must comply with the 1961 Decree in operating the proposed well. As such, though the project would install a well 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 a well 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 the well site. The proposed project site has already been developed with EVWD’s existing Plant No. 129 facilities, and already contains existing stormwater infrastructure. 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 the site, 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 a new well, associated appurtenances, well housing, and connecting piping. The new well and connection pipelines will require electricity to operate the well pump. The project site 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. 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 new well 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 new well would not require installation of wireless internet service or phone service because the site is already connected through existing telecommunication connections. Therefore, the project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunication facilities. No impacts are anticipated.

- b. *Less Than Significant Impact* – Please refer to issue X(b), Hydrology and Water Quality, above. The proposed project will develop a well to supply water to the District’s service area. EVWD’s water supply consists primarily of groundwater from wells in the western portion of the service area. These wells, in the SBB, supply approximately 80% of the total water supply. In addition to groundwater, EVWD provides treated surface water from the Santa Ana River and the State Water Project. EVWD produced 15,169 AF of groundwater from the SBB in 2020, and estimates that groundwater will make up 10,257 AF of its supply in 2025, and up to 12,035 AF in 2045, with alternative sources of supply making the difference to meet the District’s demand. Refer to the 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan.¹³ Between 2013 and 2022, EVWD utilized 15-16 wells for its groundwater production with the annual production ranging from 12,702 to 18,289 AFY during this period. To ensure its annual pumping rights and water demands continue to be met, EVWD proposes to install the proposed Well No. 129. As the proposed well would enable pumping within EVWD’s pumping rights, it is anticipated that there will be available water supply within the SBB to support the District’s new well pumping operations. Therefore, the proposed project is anticipated to have sufficient water supplies available to serve the project and reasonably

¹³ San Bernardino Valley Municipal Water District, 2021. 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan. <https://www.sbvwd.org/our-projects/upper-santa-ana-integrated-regional-water-management-plan/> (accessed 05/08/24)

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 well, the project will not generate a substantial amount of solid wastes and will not adversely affect the existing solid waste disposal system. Any construction and demolition (C&D) waste will be recycled to the maximum extent feasible and any residual materials will be delivered to one of several C&D disposal sites in the area surrounding the project site. Many of these C&D materials can be reused or recycled, thus prolonging our supply of natural resources and potentially saving money in the process.

In accordance with CALGreen Code 5.408.4, 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing must be reused or recycled. As this is a mandatory requirement, no mitigation is required to ensure compliance by EVWD for this project.

Because of increased construction recycling efforts resulting from CalGreen and other regulations, opportunities for construction recycling are becoming easier to find, such as one in Highland that accepts a wide range of construction and demolition debris materials: Asphalt, Concrete, Brick, Concrete with Rebar, Mixed Loads, Rock, Roof Tile, Cardboard, Wood, Metals, Dirt, and Appliances. There are additional facilities that accept C&D materials located in the surrounding areas¹⁴ including facilities in Mira Loma and Rialto.

The facilities that accept C&D materials, combined with the landfills in the surrounding area, have adequate capacity to serve the proposed project. Solid waste will be disposed of in accordance with existing regulations at an existing licensed landfill. The project will not conflict with any state, federal, or local regulations regarding solid waste.

The San Bernardino Countywide Plan identifies landfills that serve the planning area. The San Timoteo Sanitary Landfill and Mid-Valley Sanitary Landfill serve the project area. The San Timoteo Sanitary Landfill has a maximum permitted daily capacity of 2,000 tons per day, with a permitted capacity of 20,400,000 cubic yards (CY), with 11,402,000 CY of capacity remaining. The Mid-Valley Sanitary Landfill has a maximum permitted daily capacity of 7,500 tons per day, with a permitted capacity of 101,300,000 CY, with 67,520,000 CY of capacity remaining. The County anticipates an increase in solid waste generation of 5,979,355 pounds per day at Build-Out of the Countywide Plan.

The above landfills permit thousands of tons of waste per day, which is beyond what the expected amount of waste would be generated by the proposed transmission main during construction. Furthermore, the proposed project is not anticipated to generate any operational waste as the project will install the transmission main below ground. As such, the proposed project would comply with all federal, State, and local statutes related to solid waste disposal.

¹⁴ San Bernardino County, 2021. The County of San Bernardino County Construction & Demolition Waste Recycling Guide. <https://www.sbcounty.gov/uploads/DPW/docs/RecyclingGuide-2021.pdf> (accessed 02/15/24)

Any hazardous materials collected within the project footprint during either construction or operation of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider. Therefore, the project is expected to comply with all regulations related to solid waste under federal, state, and local statutes. The project is expected to comply with all regulations related to solid waste under federal, state, and local statutes and be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs. No mitigation is necessary.

	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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project site is an area susceptible to wildland fires, and is located within an area delineated as a Very High FHSZ in a Local Responsibility Area (LRA) shown on **Figure IX-4**. As stated under Section XVII, Transportation under issue (d), the proposed project is not located along an emergency route, nor would implementation of the project impede emergency response from accessing the site or surrounding area. As stated under issue XVIII(c), the proposed project would install a well that would occur within an already developed site containing water facilities. The proposed well would be confined to the Plant No. 129 site, with no planned encroachment onto the adjacent roadways because the pipelines that connect to the District’s water distribution system are already connected to the piping interior to the Plant No. 129 site. The installation of the new well, associated appurtenances, and connecting piping will require no work within the adjacent roadways, nor will it require work within any of the roadways identified as emergency evacuation routes (refer to San Bernardino Countywide Plan Evacuation Route Map (**Figure IX-3**)). Due to its location and point of access, there will be no potential to interfere with an emergency response or evacuation plan during construction. At no time during construction of Well No. 129 will any access to or along these roads be restricted. Therefore, the proposed project is not forecast to impair an adopted emergency response plan or emergency evacuation plan. Impacts under this issue are considered less than significant and no mitigation is required.

Operation and maintenance of the proposed well would be anticipated to be provided by the District personnel. 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 the well, and this substance is considered a potentially hazardous substance. The District will comply with state and standards for handling this material. 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. As a result, operation of the proposed well would have a less than significant potential to impair an adopted emergency response plan or emergency evacuation plan with the implementation of mitigation.

- b. *Less Than Significant Impact* – The proposed project is located within the existing developed Plant No. 129 site, which has been modified to be flat with the exception of slopes along the northern and eastern boundaries of the site. The proposed project would install a small structure, but this structure would not place people on the project site for long periods of time or pose a significant threat to people or property from wildfire risk. The site is located has been cleared of vegetation. Because the proposed project is a water infrastructure project, as it would develop a well, and because the provision of water supply is considered a benefit to the prevention of the spreading of wildfire in high risk areas, it is not anticipated that development at this site would expose occupants to pollutant concentrations from a wildfire. Therefore, given that the proposed project does not contain any human occupancy (residential) structures leaving personnel onsite for long periods of time beyond for necessary maintenance, it is not anticipated that the project would exacerbate fire risks thereby exposing project occupants to pollutant concentrations from a wildfire or uncontrolled spread of wildfire. Impacts under this issue are considered less than significant and no mitigation is required.
- c. *Less Than Significant With Mitigation Incorporated* – The project will install a new well and associated infrastructure within the existing developed Plant No. 129 site. The site contains minimal vegetation where it occurs on the project site, which could exacerbate fire risk during construction at this site located within a VHFHSZ in an LRA. The proposed project does not include any new uses, such as power lines, that would have a potential to result in random fire risk under accidental circumstances (such as a downed wire, etc.). However, during construction, because the proposed project is located within a High Hazard Severity Zone in an SRA, construction may exacerbate fire risk temporarily. As such, the proposed project requires the following mitigation measure, which would minimize fire risk during activities that would utilize electric equipment by requiring construction crews to carry fire prevention equipment during activities involving electrical equipment.

WF-1 During site clearing within the project site when any electrical construction equipment is in use, the construction crew shall have fire prevention equipment (such as fire extinguishers, emergency sand bags, etc.) to put out any accidental fires that could result from the use of construction/maintenance equipment.

Furthermore, as identified under issue IX(g), based on past experience with wildfires in the area, the Valley Region does not experience the same level of wildfire hazards as do the mountain areas where fuel loads are greater, and as such, this part of the project area can be successfully evacuated and life preserved, even if property is damaged. The implementation of **MM HAZ-2** would require the preparation of a fire management plan/fuel modification plan for the proposed well, and it would identify comprehensive strategies to reduce fire potential during construction and over long-term operation. Therefore, potential significant impacts due to installation of proposed well infrastructure would be reduced to less than significant level with implementation of **MM HAZ-2**.

HAZ-2 Prior to construction, fire hazard reduction measures shall be incorporated into a fire management/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped

with a spark arrestor in good working order. During the construction of the project, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the District and CAL FIRE for review and comment, where appropriate, and approved prior to construction and implemented once approved. The fire management plan shall also include sufficient defensible space or other measures at a facility site located in a high or very high FHSZ to minimize fire damage to a level acceptable to the District over the long term.

The proposed project would not result in any ongoing impacts to the environment that would exacerbate fire risk as the proposed project would not be manned, and would increase water supply availability; however, **MM HAZ-2** would apply to operations and would ensure that fire hazard reduction measures are employed to further minimize operational wildfire hazards. Therefore, with the implementation of **MMs WF-1 and HAZ-2** above, the project would not have a significant potential to exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Impacts under this issue are considered less than significant.

- d. *Less Than Significant Impact* – The proposed project is located within the existing developed Plant No. 129 site, which has been modified to be flat with the exception of slopes along the northern and eastern boundaries of the site. The discussion under Section VII, Geology and Soils, concluded that the project would not have a significant potential to experience landslides or slope instability, particularly given that this project area has not been delineated as containing potential for landslides or slope instability by the San Bernardino Countywide Plan. The proposed project is located not located in an area that has been historically subject to flooding. Furthermore, the project does not propose any human occupancy (residential) structures leaving personnel onsite for long periods of time beyond for necessary maintenance and thus the exposure of persons to such an event is minimal. As stated under the Hydrology Subchapter, flood risks at the project site are minimal, and therefore downslope flooding is not anticipated to occur as a result of post-fire slope instability or drainage changes. As such, the development of the Well No. 129 Project at this site is anticipated to have a less than significant potential to 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.

	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 potentially significant 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 in 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 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 requires mitigation to prevent significant impacts from occurring as a result of implementation of the project, including mitigation to protect nesting birds. Based on the historic disturbance of the site, and its current disturbed condition, the potential for impacting cultural resources is low. Based on the past disturbance of the project footprint, it has been determined that no cultural resources of importance are anticipated to occur within the pipeline alignment, so it is not anticipated that any resources could be affected by the project because no cultural resources exist. However, because it is not known what could be unearthed upon any excavation activities, contingency mitigation measures are provided to ensure that, in the unlikely event that any resources are found, they are protected from any potential significant adverse impacts. Please see biological and cultural sections of this Initial Study.

b. *Less Than Significant With Mitigation Incorporated* – Based on the analysis in this Initial Study, the proposed Well No. 129 Project has the potential to cause impacts that are individually or cumulatively

considerable. While there may be cumulatively significant impacts under various issues discussed in this Initial Study as a result of cumulative projects, the proposed project's contribution to such impacts would not be cumulatively considerable. Furthermore, the provision of additional water transmission main is generally viewed as a benefit to the community. The issues of Aesthetics, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Tribal Cultural Resources, and Wildfire require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, less than significant impacts.

- c. *Less Than Significant With Mitigation Incorporated* – The project will achieve long-term community goals by providing additional water supply, which would serve existing, planned, and future uses within EVWD's service area. 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 Geology and Soils, Hazards and Hazardous Materials, Noise, and Wildfire 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 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, Air Quality, Energy, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Population/Housing, Public Services, Recreation, Transportation, and Utilities and Service Systems. The issues of Aesthetics, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Tribal Cultural Resources, and Wildfire 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 and will be implemented by the District.

Based on the findings in this Initial Study, EVWD proposes to adopt a Mitigated Negative Declaration (MND) for the East Valley Water District Well No. 129 Project. A Notice of Intent (NOI) to Adopt an MND will be issued for this project by the District. The Initial Study and NOI will be circulated for 30 days of public comment because this project does involve state agencies as either a responsible or trustee agency. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed and considered by the District. EVWD will hold a future hearing for project adoption at their offices, the date for which has not yet been schedule. If you or your agency comments on the MND/NOI for this project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

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 3129; *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 Night lighting will be located and shielded so as to avoid creating a nuisance to nearby residents. Light generated during activities taking place at night shall not spill off the well site onto adjacent occupied structures.

Biological Resources

- BIO-1 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 these facilities, ground disturbing 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. 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 In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within MM TCR-1, regarding any pre-contact era finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.
- CUL-3 If significant pre-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within MM TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.
- CUL-4 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 Prior to construction of the well enclosure, a design-level geotechnical investigation, including collection of site specific subsurface data if appropriate, shall be completed. The geotechnical evaluation shall identify all potential seismic hazards including fault rupture, and characterize the soil profiles, including liquefaction potential, expansive soil potential, subsidence, and landslide potential. The geotechnical investigation shall recommend site specific design criteria to mitigate for seismic and non-seismic hazards, such as special foundations and structural setbacks, and these recommendations shall be incorporated into the design of the proposed project.
- GEO-2 Excavated areas shall be backfilled and compacted such that erosion does not occur. Paved areas disturbed by this project shall be repaved in such a manner that roadways and other disturbed areas are returned to the pre-project conditions or better.
- 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 the site within which the pipelines are being installed.
- GEO-4 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-5 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 spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility.
- HAZ-2 Prior to construction, fire hazard reduction measures shall be incorporated into a fire management/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the District and CAL FIRE for review and comment, where appropriate, and approved prior to construction and implemented once approved. The fire management plan shall also include sufficient

defensible space or other measures at a facility site located in a high or very high FHSZ to minimize fire damage to a level acceptable to the District over the long term.

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 prior to discharge, including sediment or other material.
- HYD-2 The District shall require that the construction contractor to implement specific 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. These practices shall include a 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 by the District include the following:
- The use of silt fences or coir rolls;
 - 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-3 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-4 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 well and associated pipeline, and to control urban runoff after the Project is constructed and the well (if approved for operation post well testing) is in operation.

Noise

- NOI-1 To comply with the City of Highland noise standards during daytime and nighttime hours, noise barriers with a minimum height of 15 feet shall be erected along the southwestern boundary, a sound blanket barrier on three sides (southwest, southeast, and northeast) of the drill rig mast, a 15-foot-high barrier should be erected along the southwestern boundary, a minimum 12-foot high barrier along the southwest boundary, and a minimum height of 10-foot-high barrier should be erected along the northeastern and northwestern boundary. Additionally, the generator and compressor shall be placed near the existing tanks and as far away from the properties to the southeast as possible, and a 12-foot-high barrier should be erected on three sides (northwest, southwest, and southeast) of the generator and compressor. An effective barrier requires a weight of at least 2 pounds per square foot of face area with no decorative cutouts, perforations, or line-of-sight openings between shielded areas and the source. Examples of temporary barrier material

includes 5/8 inch plywood, 5/8 inch oriented-strand board, or sound blankets capable of providing a minimum sound transmission loss (STC) of 27 or a Noise Reduction Coefficient (NRC) of 0.85. Refer to Figure XIII-2.

- NOI-2 The well shall be drilled at a distance of 55' or greater from the nearest sensitive receptor, shown on Figure XIII-3. Loaded trucks delivering materials to the site and hauling materials away shall be operated at a distance at or greater than 35' or greater from the nearest sensitive receptor, shown on Figure XIII-3, for the duration of construction.

Tribal Cultural Resources

- TCR-1 The Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN) shall be contacted, as detailed in MM CUL-2, of any pre-contact era cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN for the remainder of the project, should YSMN elect to place a monitor on-site..
- TCR-2 Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to YSMN. The Lead Agency shall, in good faith, consult with YSMN throughout the life of the project.

Wildfire

- WF-1 During site clearing within the project site when any electrical construction equipment is in use, the construction crew shall have fire prevention equipment (such as fire extinguishers, emergency sand bags, etc.) to put out any accidental fires that could result from the use of construction/maintenance equipment.

REFERENCES

- CAL FIRE, 2024. State Responsibility Area Fire Hazard Severity Zones. <https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008> (accessed 07/11/24)
- California Department of Conservation, 2024. Alquist-Priolo Earthquake Fault Zones map
- California Department of Conservation, 2024. California Geological Survey <https://www.conservation.ca.gov/cgs/>. (accessed 07/11/24)
- California Department of Conservation, 2024. Important Farmland Finder Map. <https://maps.conservation.ca.gov/DLRP/CIFF/> (accessed 07/11/24)
- California Department of Toxic Substances Control, 2024. EnviroStor <https://www.envirostor.dtsc.ca.gov/public/> (accessed 07/11/24)
- California Department of Water Resources (DWR), 2024. Sustainable Groundwater Management Act (SGMA) <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management> (accessed 02/12/24)
- California Department of Water Resources, 2024. Sustainable Groundwater Management Act (SGMA) <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management> (accessed 05/17/24)
- California Office of Planning and Research, 2023. General Plan Guidelines, Appendix D: Noise Element Guidelines, Land Use Compatibility for Community Noise Exposure,
- California State Water Resources Control Board, 2024. GeoTracker <https://geotracker.waterboards.ca.gov/> (accessed 07/11/24)
- Federal Transit Authority (FTA), 2020. Noise and Vibration Impact Assessment Manual https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf (accessed 07/11/24)
- HDR, 2024. "Biological Resources Assessment for East Valley Water District's Proposed Well No. 129 Project" Appendix 2.
- City of Highland, March 2006. *General Plan*
- Mojave Archaeological Consulting, 2024. "Cultural Resources Assessment for the East Valley Water District Well 129 Project" Appendix 3
- San Bernardino County, 2020. *San Bernardino Countywide Plan, Final Environmental Impact Report*. <https://countywideplan.com/resources/document-download/> (accessed 02/13/24)
- San Bernardino County, 2020. San Bernardino Countywide Plan.
- San Bernardino County, 2021. The County of San Bernardino County Construction & Demolition Waste Recycling Guide. <https://www.sbcounty.gov/uploads/DPW/docs/RecyclingGuide-2021.pdf> (accessed 02/15/24)

- San Bernardino County, October 2020. *San Bernardino Countywide Plan*.
<https://countywideplan.com/resources/document-download/> (accessed 02/13/24)
- San Bernardino Valley Municipal Water District, 2021. 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan.
https://www.sbmwd.org/DocumentCenter/View/7864/2020-IRUWMP-Executive-Summary_FINAL?bidId= and https://www.sbmwd.org/DocumentCenter/View/7859/Part-2-Chapter-8_SBMWD_2020-UWMP-Chapter_Final?bidId= (accessed 05/03/24)
- SCAG, 2020. Demographics and Growth Forecast. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?16060011299 (accessed 05/09/24)
- SCAG, 2021. Local Profiles Spreadsheet. https://scag.ca.gov/sites/main/files/file-attachments/2021_local_profiles_dataset.xlsx?1661892901 (accessed 05/09/24)
- Urban Crossroads, 2024. *East Valley Water District Well No. 129 Air Quality and Greenhouse Gas Assessment* (Appendix 1)
- Urban Crossroads, 2024. *East Valley Water District Well No. 129 Noise Assessment*. March 29, 2024
Appendix 6
- USDA, 1999. Tujunga Series. https://soilseries.sc.egov.usda.gov/OSD_Docs/H/HANFORD.html (accessed 05/04/24)
- Valley District, 2021. 2020 Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan. <https://www.sbvwd.org/~documents/route%3A/download/3811/> (accessed 05/09/24)

FIGURES

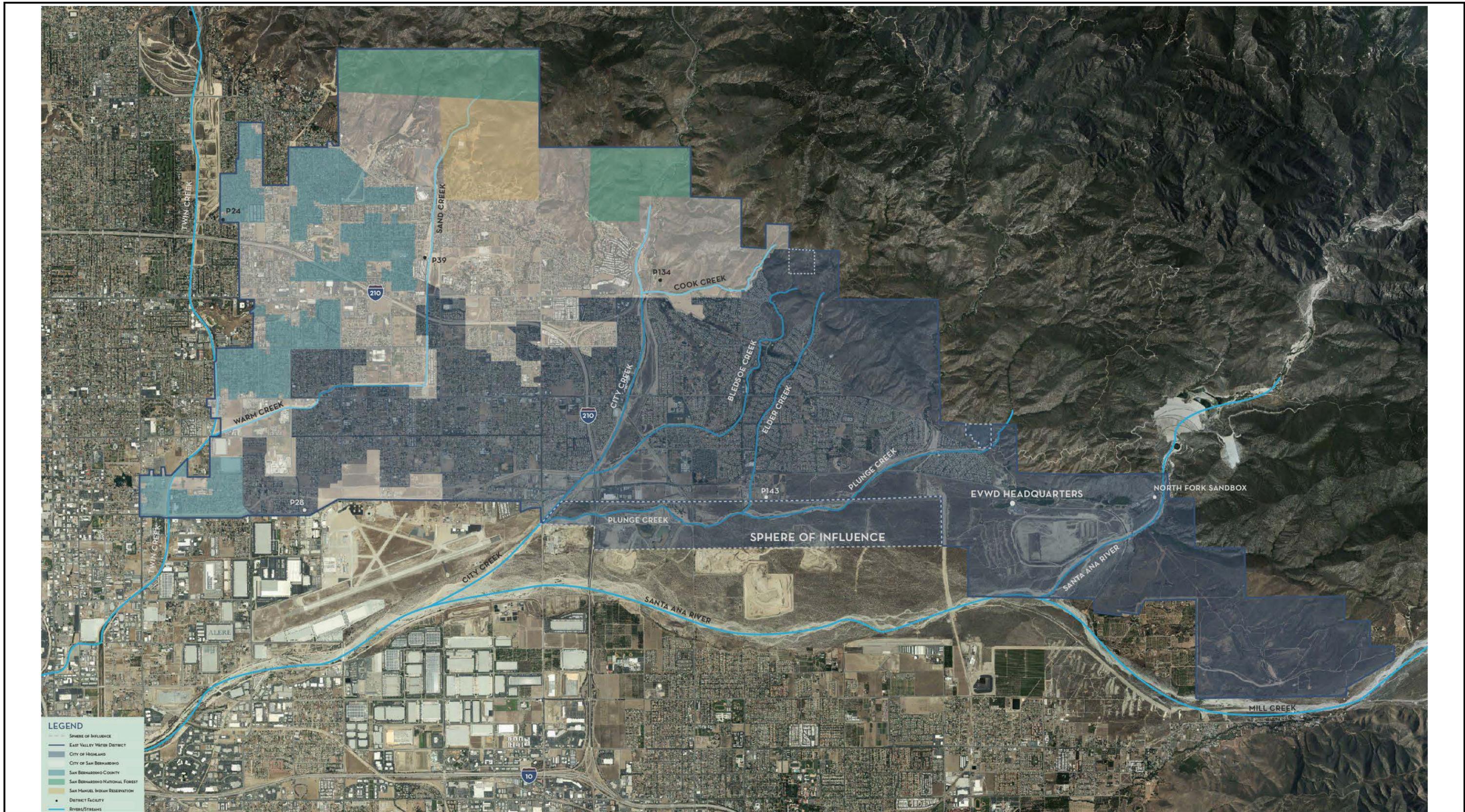


FIGURE 1

EVWD Well 129 Project

Regional Location

Legend

-  EVWD Well 129 Project Site
-  Feature 1

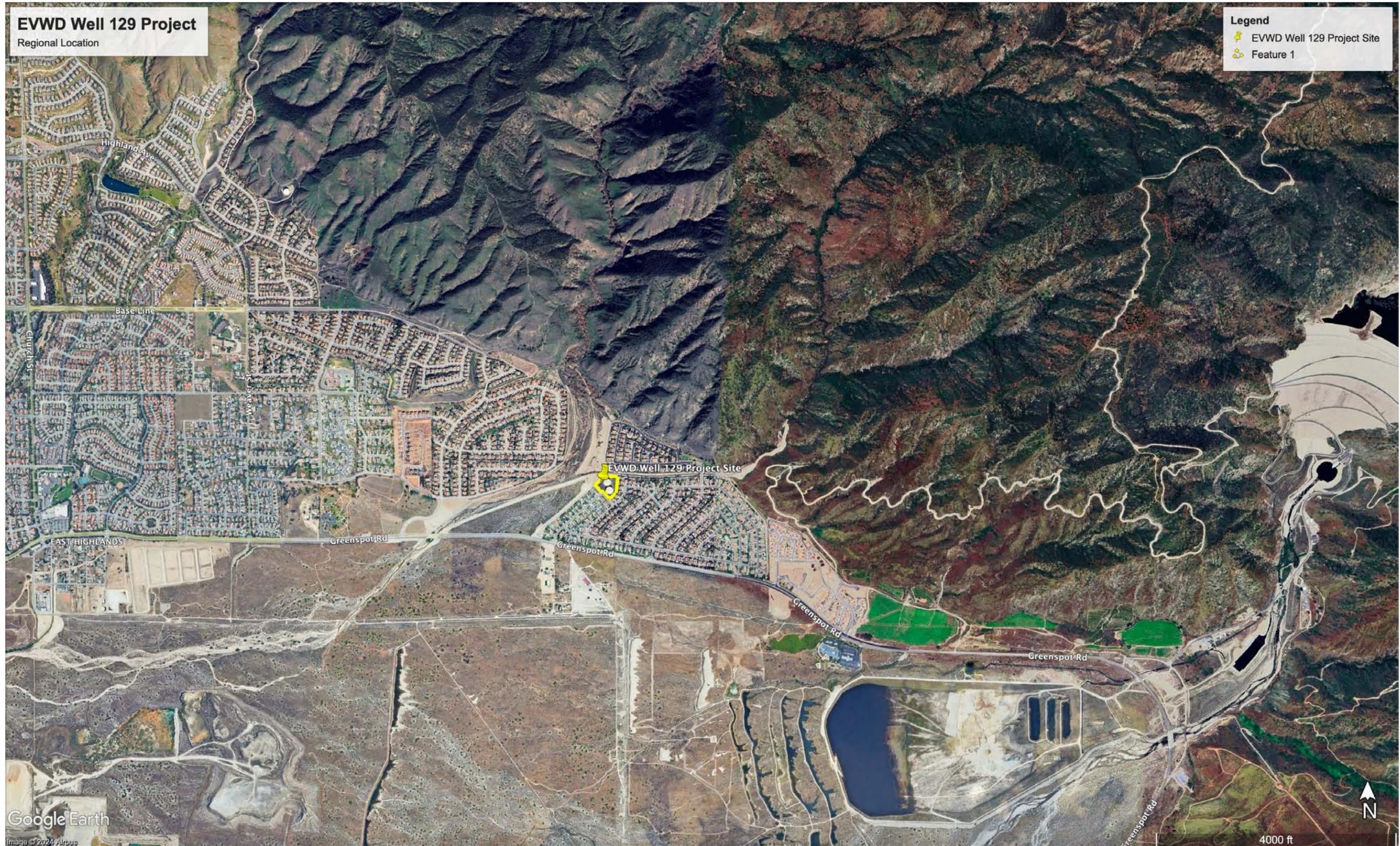
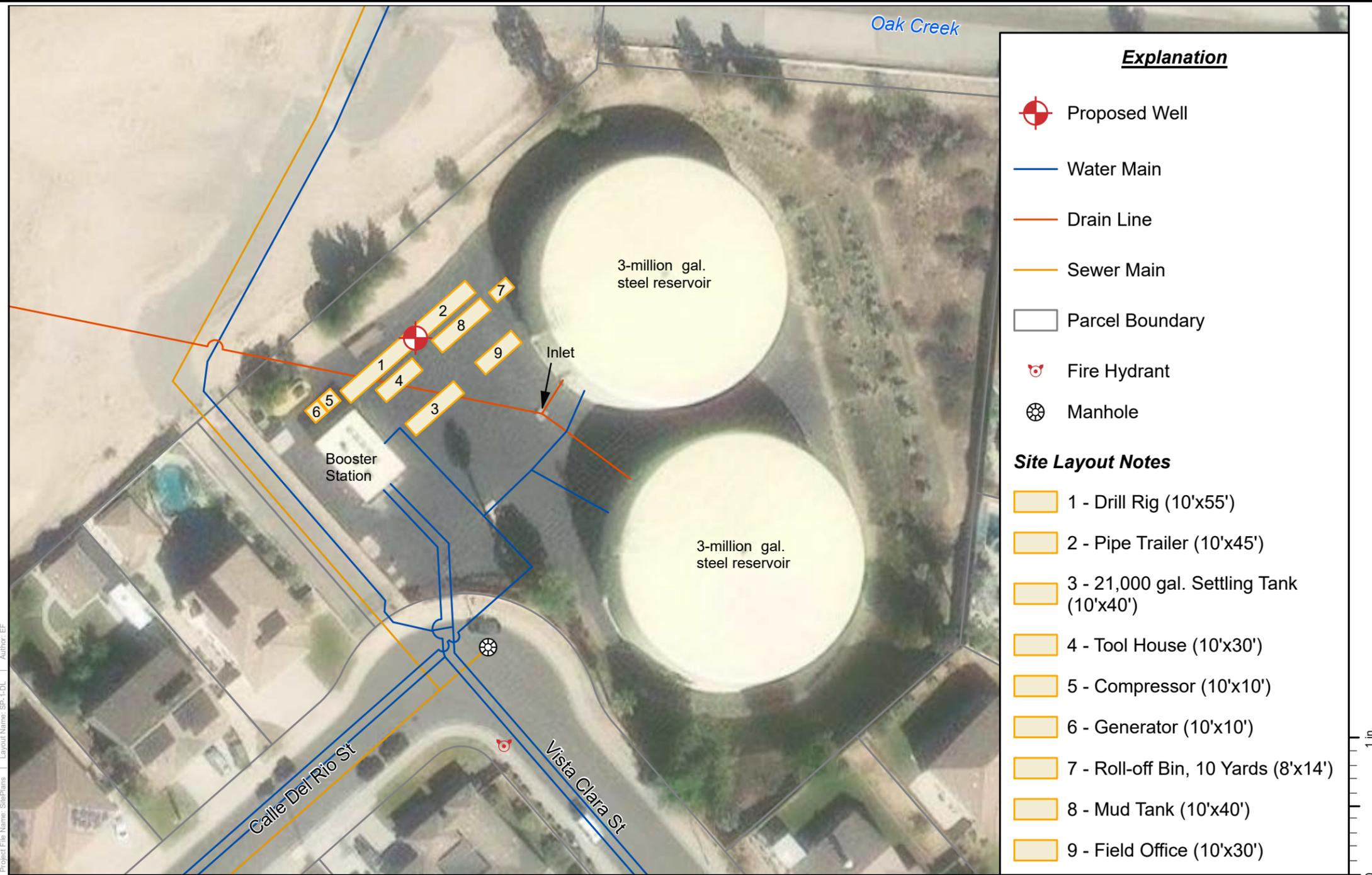


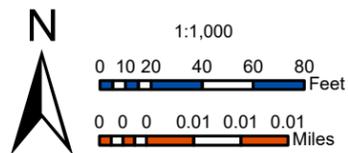
FIGURE 2



FIGURE 3



Prepared by:



References/Notes:

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
 Projection: Mercator Auxiliary Sphere
 Datum: WGS 1984

Prepared for:

**EAST VALLEY
 WATER DISTRICT**

Well Site

**Project Description for the EVWD
 Well No. 129 Project**

Legend [X]

- Community Planning Area
 - Community Planning Area
- County Scenic Route
 - County Scenic Route
 - County Scenic Route & Designated State Scenic Hwy
 - County Scenic Route & Eligible State Scenic Hwy
- State Scenic Highway
 - State Scenic Highway
- County Region
 - County Region
- City/Town
 - City/Town
- Unincorporated SOI
 - Unincorporated SOI

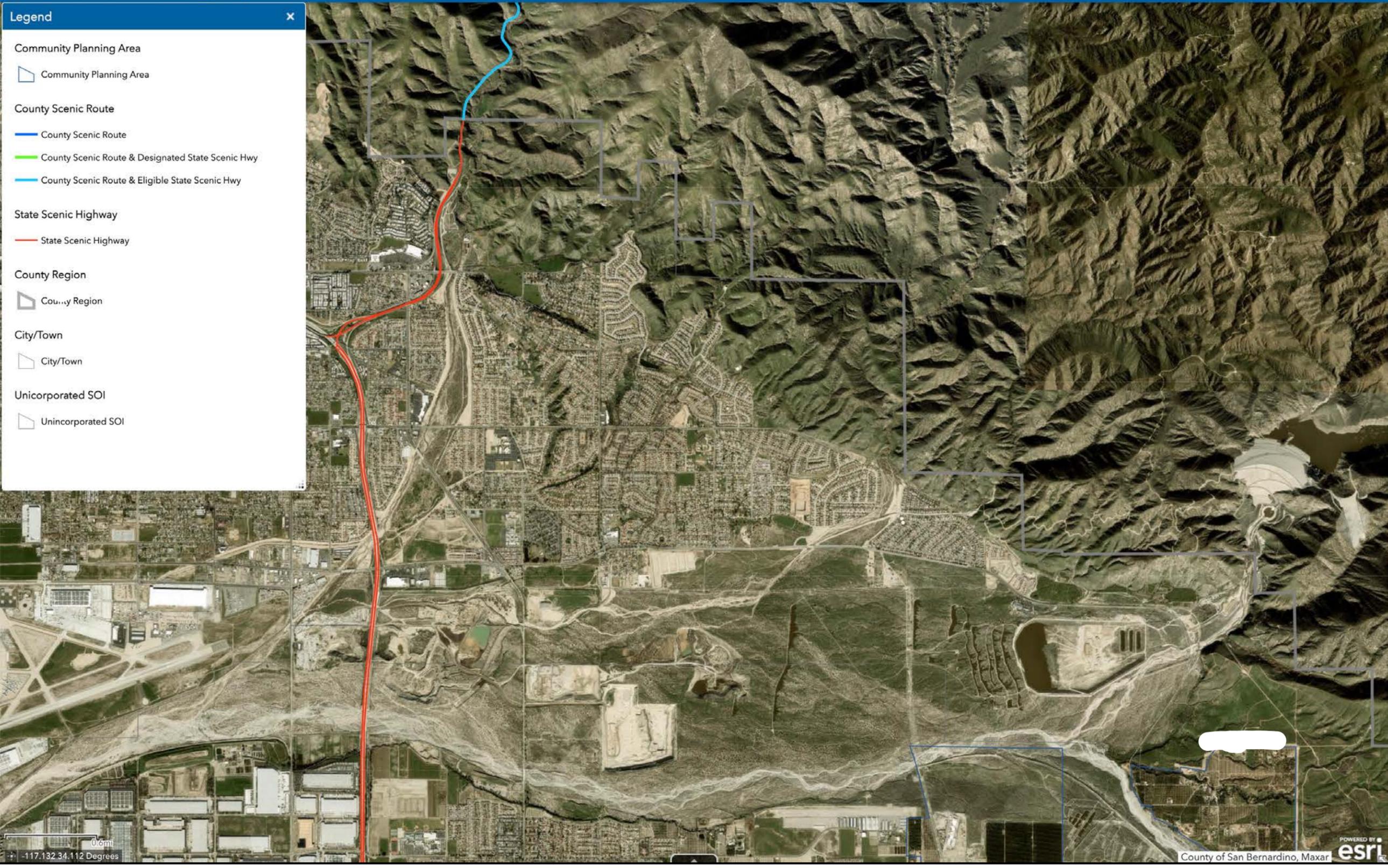


FIGURE I-1

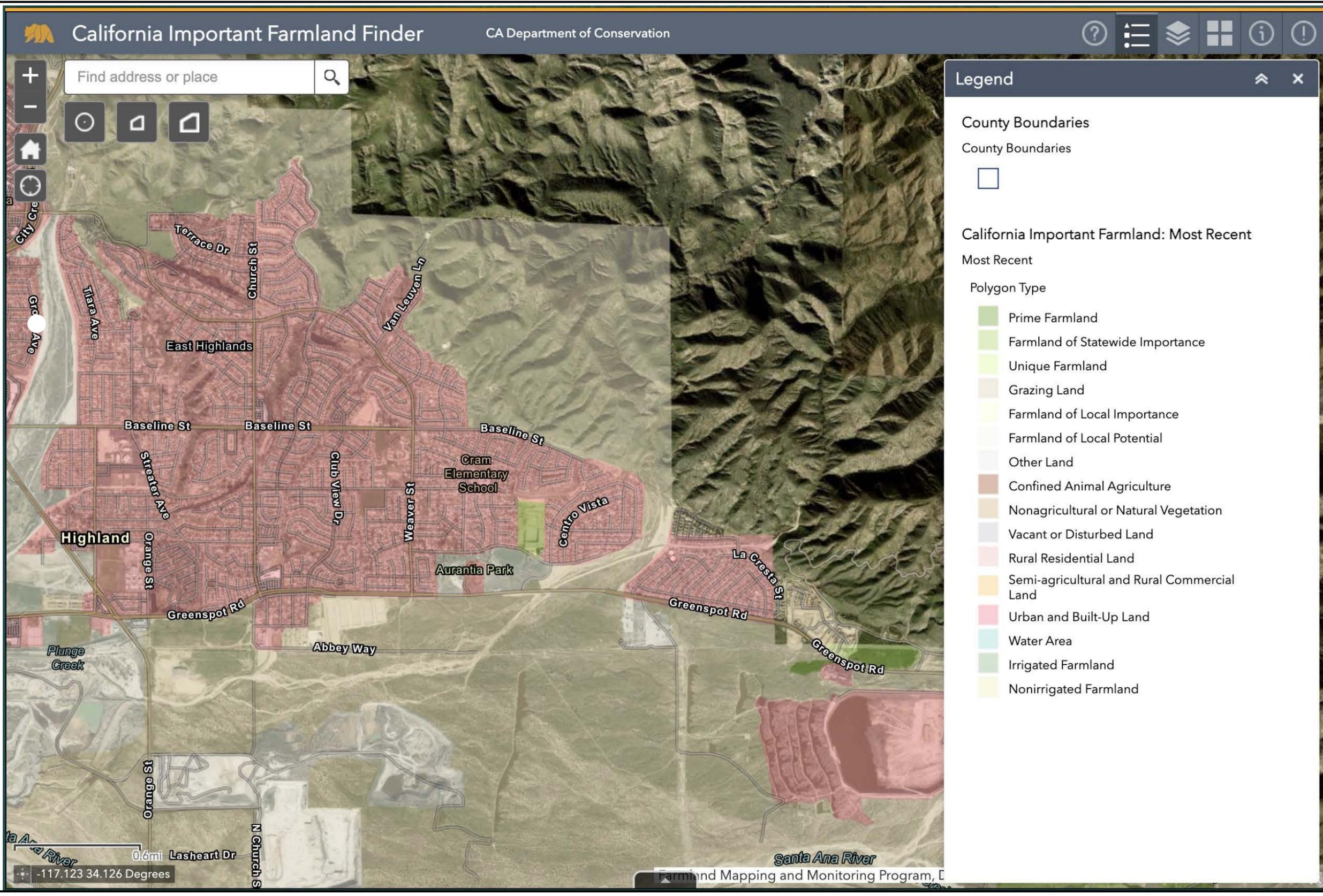


FIGURE II-2



LEGEND:

-  Site Boundary
-  Receptor Locations
-  Distance from receptor to Project site boundary (in feet)

FIGURE III-1

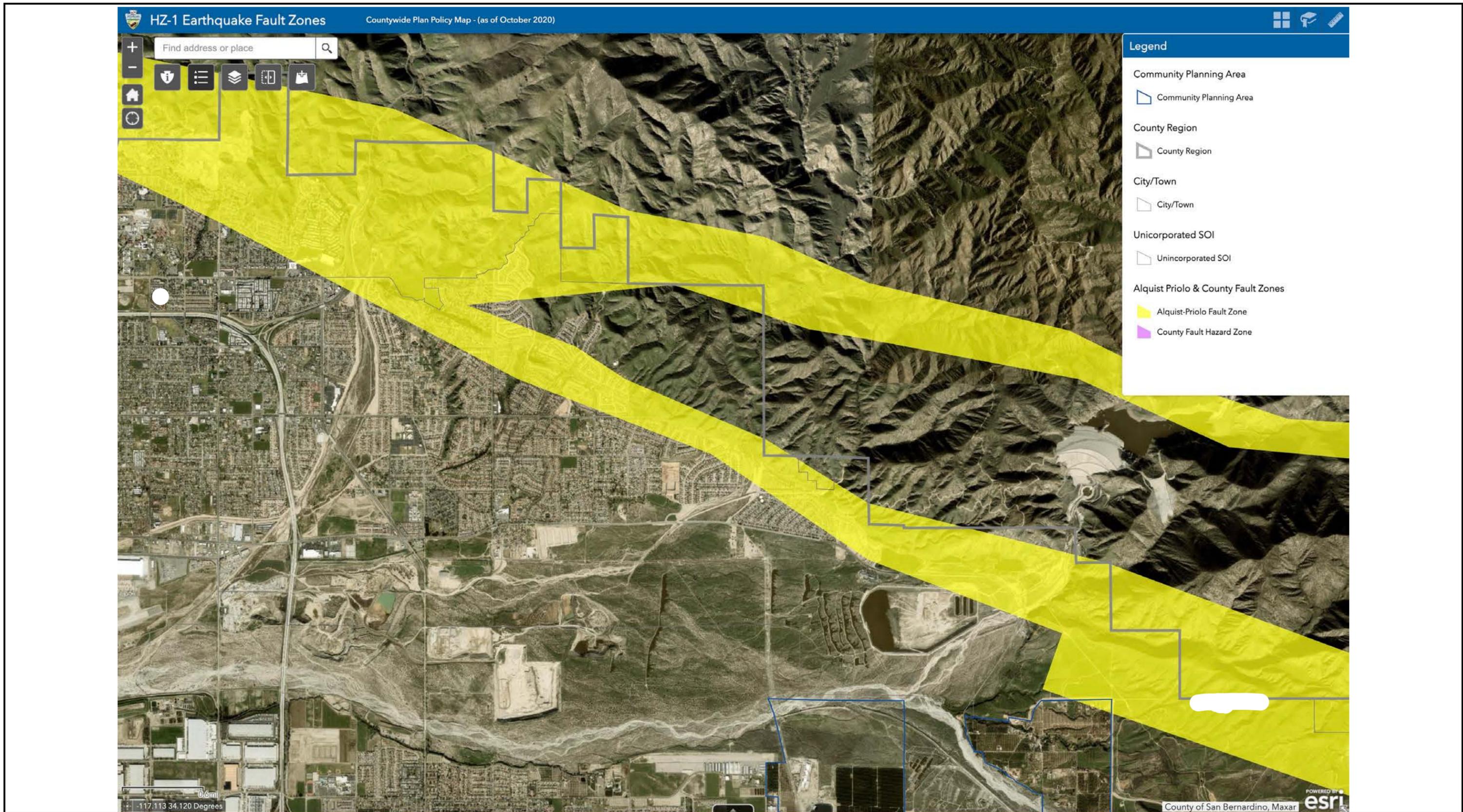


FIGURE VII-1

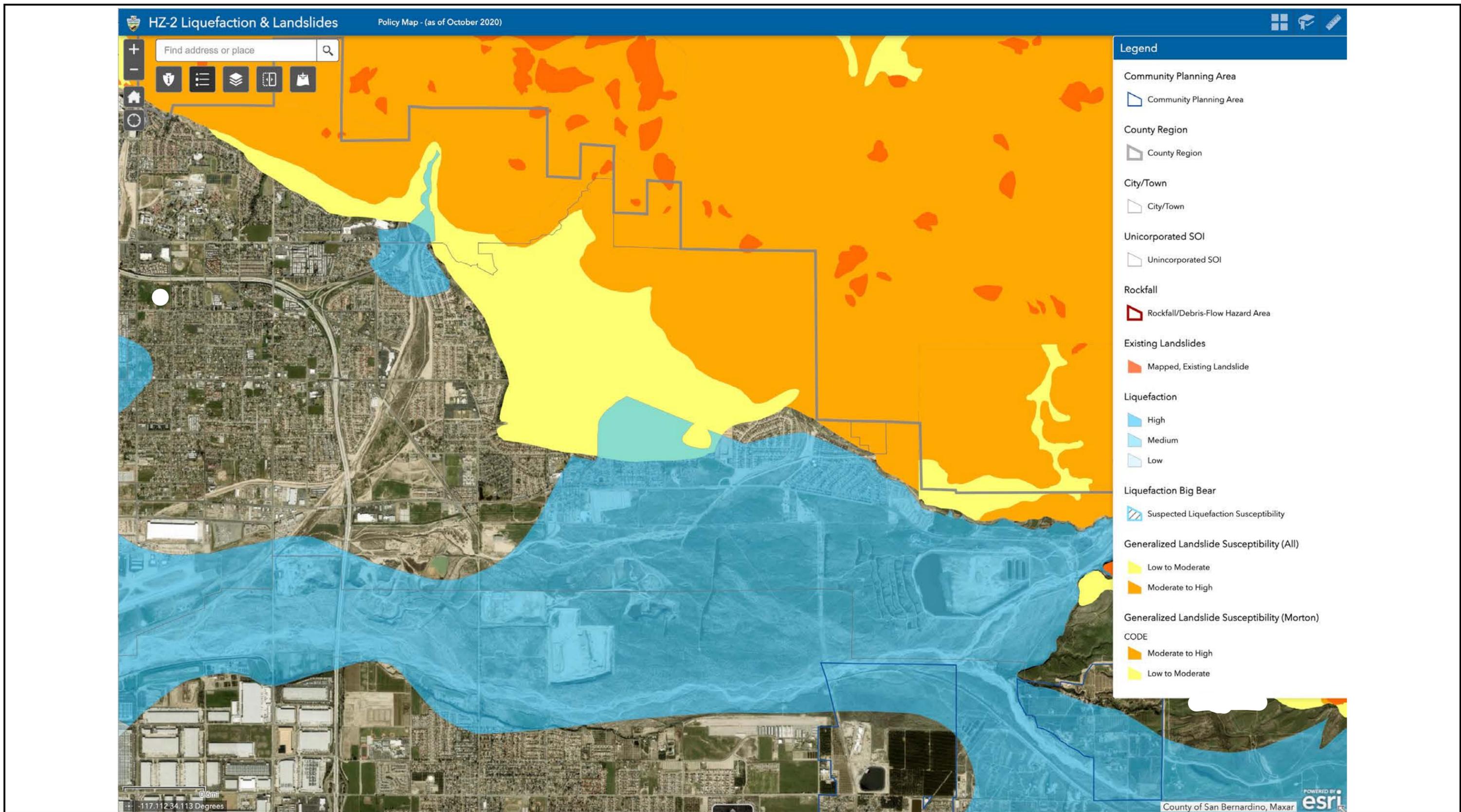
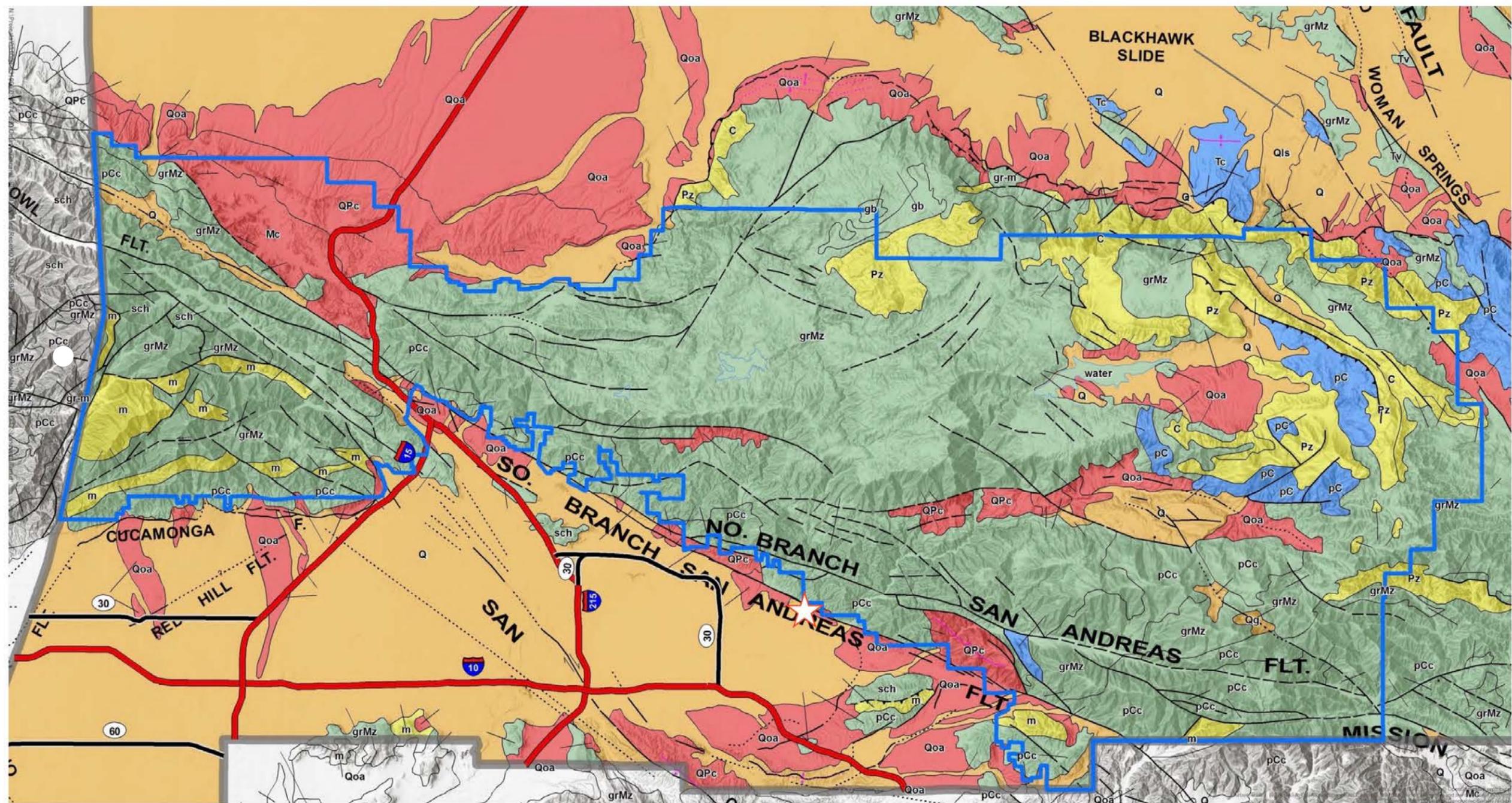


FIGURE VII-2



Legend	
Mountains Region	bedding
Geologic Sensitivity	scratch boundary
Varies	water boundary
None	contact, certain
High	fault, approx. located
Low-to-High	fault, certain
Low	fault, concealed
	fault, concealed, queried
	normal fault, certain
	normal fault, approx. located
	normal fault, concealed
	Interstate
	State Highway
	thrust fault, certain
	thrust fault, approx. located
	dextral fault, certain
	sinistral fault, approx. located
	thrust fault, certain (2)



0 1 2 3 4 Miles
 Date: 10/24/2018 Created by PlaceWorks | Source: SWCA Environmental Consultants, 2018

Environmental Analysis
 Fig. 5.5-2 Paleontological Sensitivity - Mountain Region

DRAFT **SAN BERNARDINO COUNTY**
COUNTYWIDE PLAN
 Environmental Impact Report

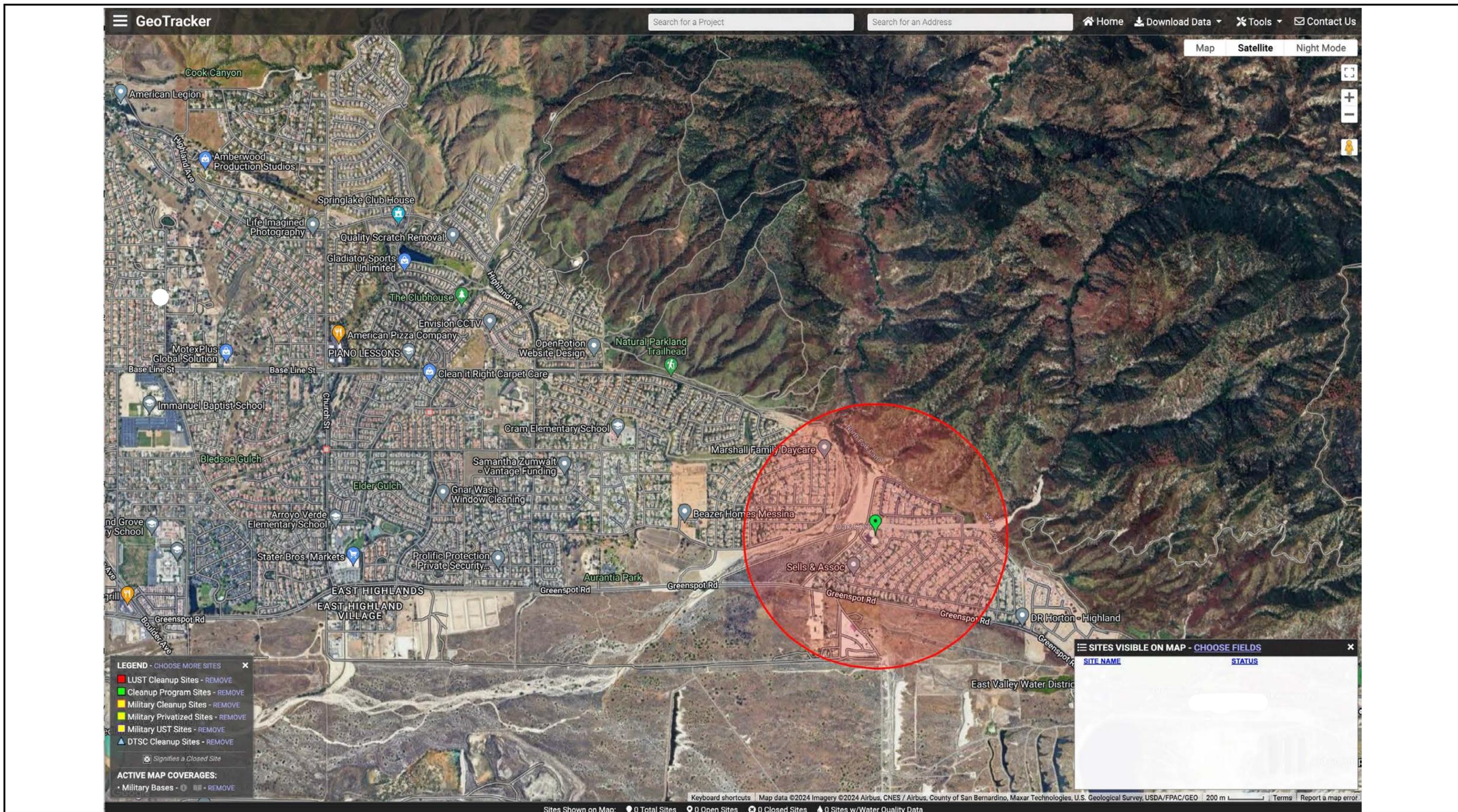


FIGURE IX-1

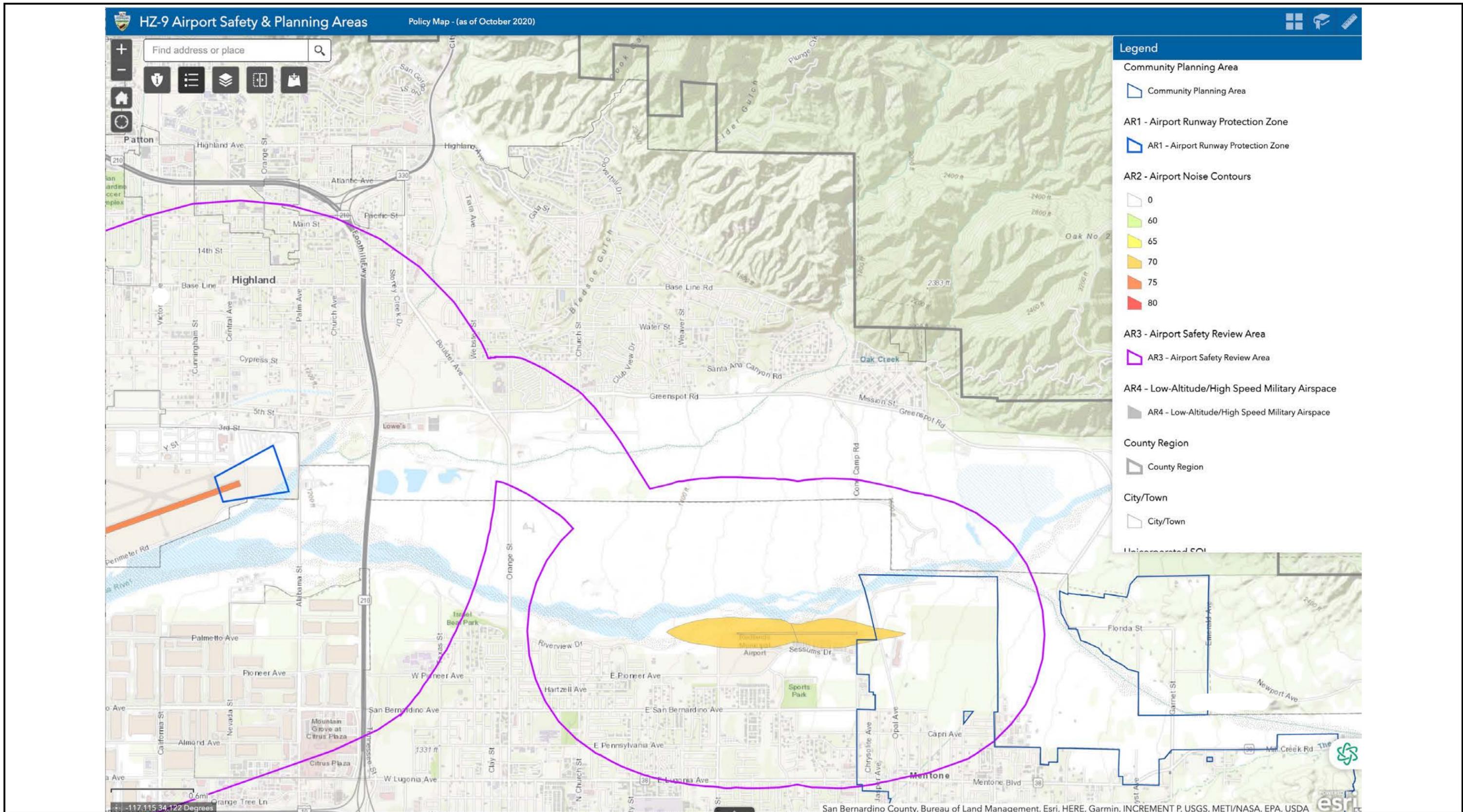


FIGURE IX-2

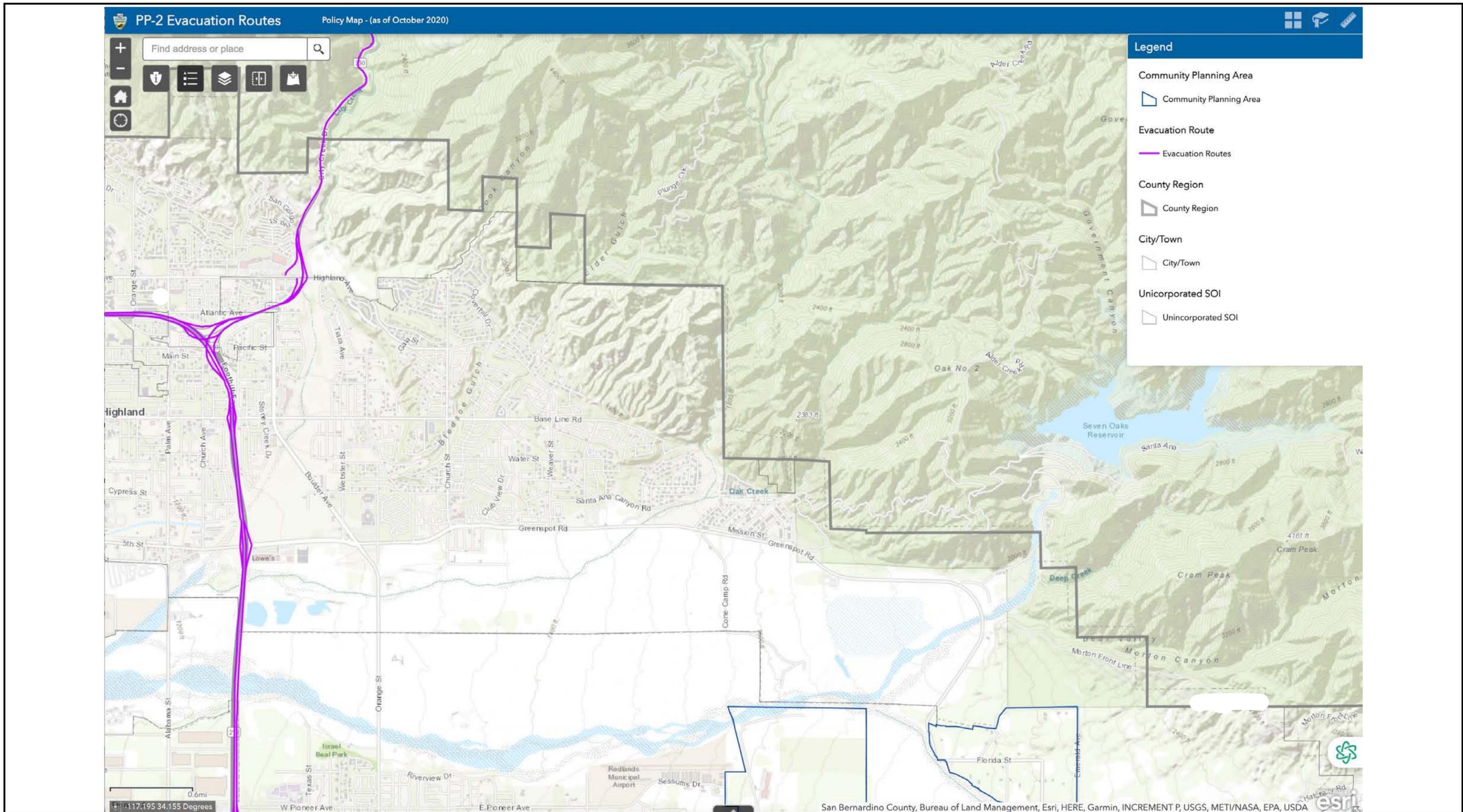


FIGURE IX-3

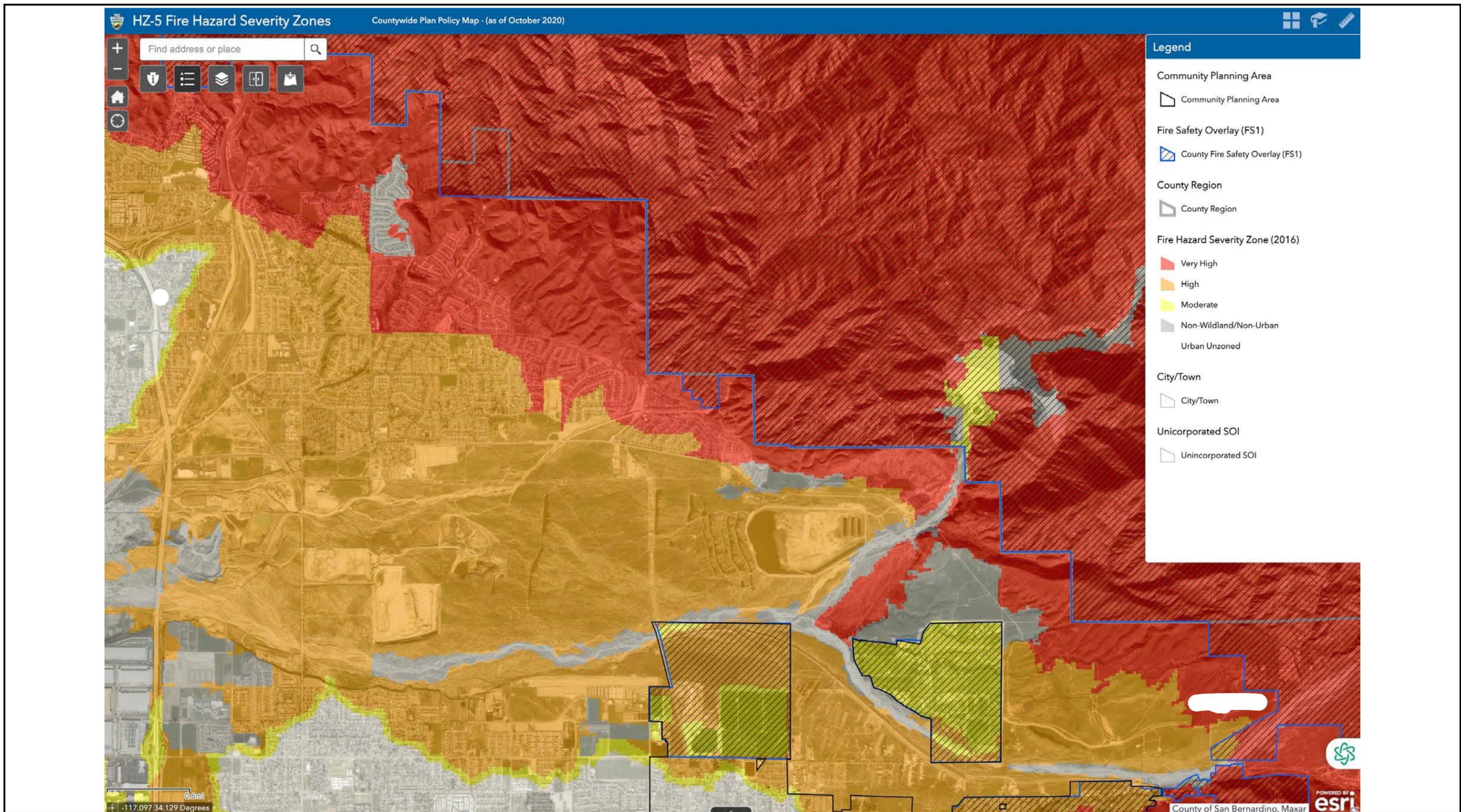


FIGURE IX-4

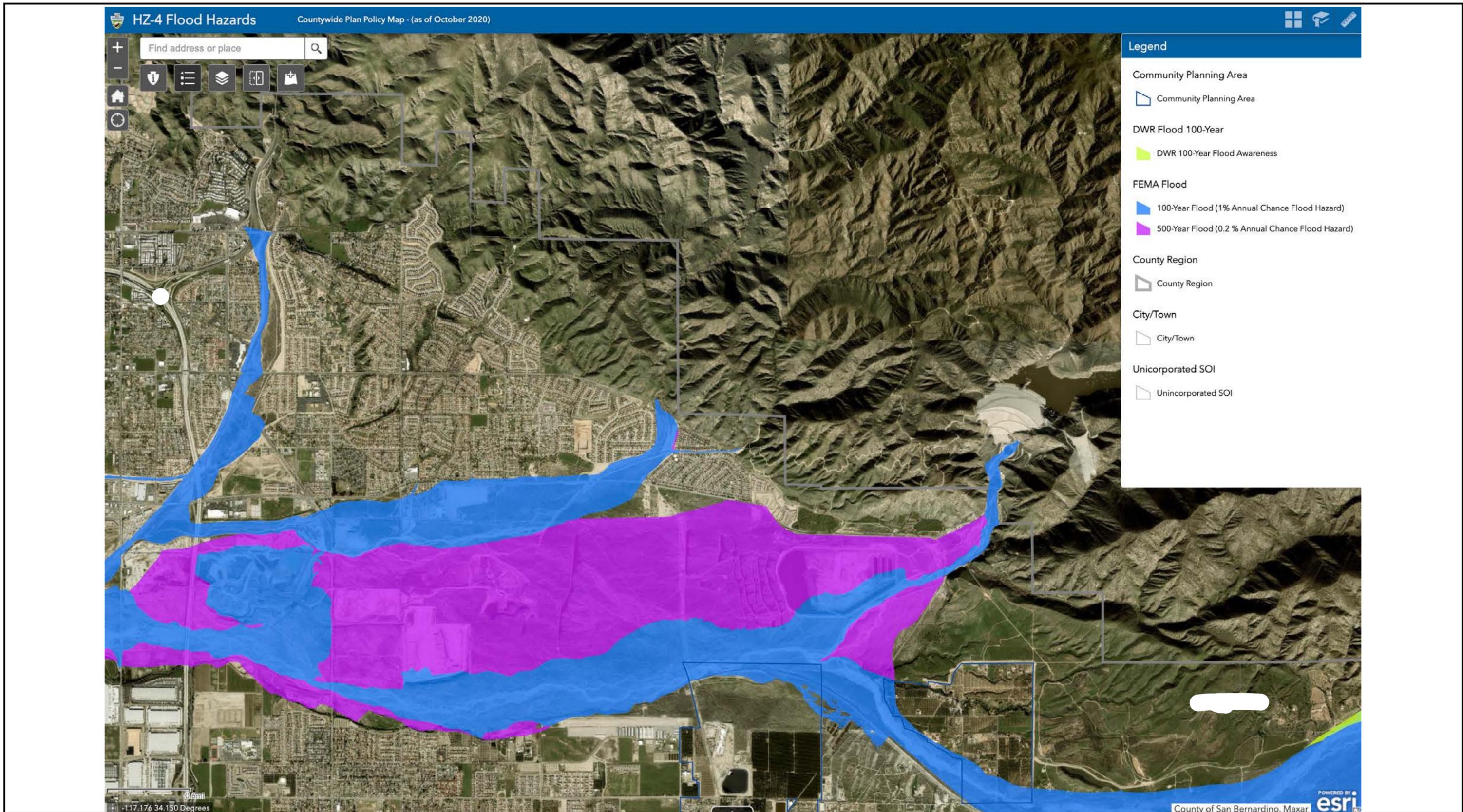


FIGURE X-1

National Flood Hazard Layer FIRMette



117°8'40"W 34°6'59"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/8/2024 at 8:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FIGURE X-2



FIGURE XII-1



LEGEND:

- Receiver Locations
- Construction Activity

FIGURE XIII-1



LEGEND:



- | | | | | | | | | | |
|--|---------------|--|------------|--|--------------|--|----------------------------|--|-----------------------|
| | Drill Rig | | Tool Room | | Roll-Off Bin | | 10' High Temporary Barrier | | Sound Blanket Barrier |
| | Pipe Trailer | | Compressor | | Mud Tank | | 12' High Temporary Barrier | | |
| | Settling Tank | | Generator | | Field Office | | 15' High Temporary Barrier | | |

FIGURE XIII-2



FIGURE XIII-3

APPENDIX 1

DATE: May 24, 2024
TO: Kaitlyn Dodson-Hamilton, Tom Dodson & Associates
FROM: Haseeb Qureshi
Alyssa Barnett
JOB NO: 16049-03 AQ & GHG Assessment

EAST VALLEY WATER DISTRICT AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Kaitlyn Dodson-Hamilton

Urban Crossroads, Inc. is pleased to provide the following Air Quality & Greenhouse Gas Assessment for the East Valley Water District (**Project**), which is located in the City of Highland.

PROJECT OVERVIEW

The East Valley Water District (EVWD) is undertaking a significant initiative to drill and construct a new groundwater production well within its Foothill Pressure Zone, referred to as EVWD Well 129 and as shown on Exhibit 1.

SUMMARY OF FINDINGS

Results of the assessment indicate that the Project would result in a less than significant with respect to air quality and greenhouse gases.

PROJECT AIR QUALITY IMPACTS

AIR QUALITY SETTING

SOUTH COAST AIR BASIN (SCAB)

The Project site is located in the SCAB within the jurisdiction of South Coast Air Quality Management District (SCAQMD) (1). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As stated, the Project site is located within the SCAB, a 6,745-square-mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

Regional Climate

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to mid 60s (degrees Fahrenheit [°F]). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO₂) to sulfates (SO₄) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_x) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

Wind Patterns and Project Location

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

Criteria Pollutants

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O₃) (precursor emissions include NO_x and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Riverside County portion of the SCAB is designated as a nonattainment area for the federal O₃ and PM_{2.5} standards and is also a nonattainment area for the state standards for O₃, PM₁₀, and PM_{2.5}.

Toxic Air Contaminants (TAC) Trend

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the Ambient and Emission Trends of Toxic Air Contaminants in California journal article (2) which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C₆H₆), and 1,3-butadiene (C₄H₆); those that are derived from stationary sources: perchloroethylene (C₂Cl₄) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH₂O) and acetaldehyde (C₂H₄O).¹ The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as “sensitive receptors.” These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the localized significance threshold (LST) Methodology, the nearest land use where an individual could remain for 24 hours to the Project site has been used to determine construction and operational air quality impacts for emissions of PM₁₀ and PM_{2.5}, since PM₁₀ and PM_{2.5} thresholds are based on a 24-hour averaging time.

Receptors in the Project study area are described below. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade,

¹ It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

whichever is closer to the Project site. Receptors in the Project study area are shown on Exhibit 2 under the Localized Construction Emissions section later in the report.

- Receptor R1 represents the existing residence at 7804 Calle Del Rio Street, approximately 45 feet southwest of the Project site.
- Receptor R2 represents the existing residence at 7811 Calle Del Rio Street, approximately 98 feet south of the Project site.
- Receptor R3 represents the existing residence at 7814 Santa Angela Street, approximately 207 feet southeast of the Project site.
- Receptor R4 represents the existing residence at 30463 McLean Street, approximately 226 feet northeast of the Project site.

REGULATORY BACKGROUND

FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the national ambient air quality standards (NAAQS) for O₃, CO, NO_x, SO₂, PM₁₀, and lead (Pb) (3). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (4). The CAA also mandates that each state submit and implement state implementation plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (5) (6). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O₃, NO₂, SO₂, PM₁₀, CO, PM_{2.5}, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O₃ and to adopt a NAAQS for PM_{2.5}.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_x. NO_x is a collective term that includes all forms of NO_x which are emitted as byproducts of the combustion process.

CALIFORNIA REGULATIONS

CARB

The CARB, which became part of the California EPA (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the California ambient air quality standards (CAAQS) for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO₄, visibility, hydrogen sulfide (H₂S), and vinyl chloride (C₂H₃Cl). However, at this time, H₂S and C₂H₃Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (7) (8).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROG_s, NO_x, CO and PM₁₀. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (9). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

APPLICABLE REGULATORY REQUIREMENTS

SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings) (10) (11).

SCAQMD Rule 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. This rule is intended to reduce PM₁₀ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM₁₀ suppression techniques are summarized below.

- Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

METHODOLOGY

In May 2024, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod Version 2022.1.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (12). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality and greenhouse gas emissions.

Standards of Significance

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the California Environmental Quality Act Guidelines (*CEQA Guidelines*) (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (13):

- **Threshold 1:** Conflict with or obstruct implementation of the applicable air quality plan.
- **Threshold 2:** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

- **Threshold 3:** Expose sensitive receptors to substantial pollutant concentrations.
- **Threshold 4:** Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

AIR QUALITY REGIONAL EMISSIONS THRESHOLDS

The SCAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table 1 (14). The SCAQMD's CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction	Operations
NO _x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM ₁₀	150 lbs./day	150 lbs./day
PM _{2.5}	55 lbs./day	55 lbs./day
SO _x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day

lbs./day – Pounds Per Day

AIR QUALITY LOCALIZED EMISSIONS THRESHOLDS

For this Project, the appropriate SRA for the LST analysis is the SCAQMD Central San Bernardino Valley monitoring station (SRA 34). LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. The SCAQMD's screening look-up tables are utilized in determining localized impacts. It should be noted that since the look-up tables identify thresholds at only 1 acre, 2 acres, and 5 acres, linear regression has been utilized to determine localized significance thresholds. Consistent with SCAQMD guidance, the thresholds presented in Table 2 were calculated by interpolating the threshold values for the Project's disturbed acreage.

It should be noted that though the Project is less than 1 acre in size, the acres disturbed is based on the equipment list and days during each phase of construction according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are summarized in the CalEEMod user's guide, Appendix A: Calculation Details for CalEEMod (15). It should be noted that the disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Appendix A of the CalEEMod User Manual only identifies equipment-specific grading rates for Crawler Tractors, Graders, Rubber Tired Dozers, and Scrapers; therefore, Tractors/Loaders/Backhoes equipment that was included in the demolition, site preparation and grading phase was replaced with Crawler Tractors. The Project's construction

activities could disturb a maximum of approximately 1 acre per day for well drilling, construction, development, testing, demolition, building construction, paving, 3.5 acres per day for site preparation, and 3 acres per day for grading activities. Any other construction phases of development would result in lesser emissions and consequently lesser impacts than what is disclosed herein. As such, Table 2 presents thresholds for localized construction and operational emissions.

TABLE 2: MAXIMUM DAILY LOCALIZED EMISSIONS THRESHOLDS

Source	Activity	Emissions (lbs./day)			
		VOC	NOX	PM ₁₀	PM _{2.5}
Construction	Well Drilling, Construction, Development, Testing	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
	Demolition	220 lbs./day	1,359 lbs./day	11 lbs./day	6 lbs./day
	Site Preparation	203 lbs./day	1,230 lbs./day	9 lbs./day	5 lbs./day
	Grading	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
	Building Construction	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
	Paving	118 lbs./day	667 lbs./day	4 lbs./day	3 lbs./day
Operations	-	118 lbs./day	667 lbs./day	1 lbs./day	1 lbs./day

¹Source of LSTs is provided on page 14 of 32.

CONSTRUCTION ACTIVITIES

Construction activities associated with the Project would result in emissions of VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}. Construction-related emissions are expected from the following activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

DEMOLITION ACTIVITIES

Removal of existing asphalt will be required to construct the 40' x 20' well building, resulting in approximately 91 tons of demolished material.

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions.” Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The Project is expected to balance and will not require import/export.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. Worker and hauling trips are based on CalEEMod defaults.

CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in September 2024 and would last through August 2025. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.² The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (16).

CONSTRUCTION EQUIPMENT

Equipment modeled is based on CalEEMod defaults and consultation with the Project Applicant. Consistent with industry standards and typical construction practices, each piece of equipment will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

REGIONAL CONSTRUCTION EMISSIONS SUMMARY

The estimated maximum daily construction emissions are summarized on Table 3, and as shown, the Project construction-source emissions would not exceed SCAQMD regional thresholds. Thus, the Project would result in a less than significant impact associated with construction activities. Detailed Construction model outputs are presented in Attachment A.

² As shown in the CalEEMod User’s Guide Version 2022.1.1, Section 4.3 “Off-Road Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3: REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Source	Emissions (lbs./day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
2024	1.11	9.08	14.20	0.02	0.64	0.41
2025	4.13	37.50	33.80	0.06	7.82	4.52
Winter						
2024	1.10	9.10	13.80	0.02	0.64	0.41
2025	1.01	8.50	13.60	0.02	0.57	0.34
Maximum Daily Emissions	4.13	37.50	33.80	0.06	7.82	4.52
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

¹PM₁₀ and PM_{2.5} source emissions reflect 3x daily watering per SCAQMD Rule 403 for fugitive dust.

REGIONAL OPERATIONAL EMISSIONS

Long-term air quality impacts occur from mobile source emission generated from Project-related traffic and from stationary source emissions generated from natural gas. The proposed Project primarily involves construction activity. For on-going operations, mobile emissions would be generated by the motor vehicles traveling to and from the Project sites during on-going maintenance. However, the project would generate a nominal number of traffic trips for periodic maintenance and inspections and would not result in any substantive new long-term emissions sources. As this Project involves the operations of a well which is expected to produce 967-acre feet per year (314,889,124 gallons per year) it is assumed that consumer products would not be used.

All operational equipment associated with the Project would be electrically powered and would not directly generate air emissions. It is our understanding that the proposed Project will include the use of a 350-horsepower pump.

Stationary area source emissions are typically generated by the consumption of natural gas for space and water heating devices and the use of consumer products. Stationary energy emissions would result from energy consumption associated with the proposed Project. However, the proposed Project may include the use of an emergency diesel generator supplying power to the treatment plant in case of emergency. If a backup generator were installed, the lead agency would be required to obtain the applicable permits from SCAQMD for operation of such equipment. The SCAQMD is responsible for issuing permits for the operation of stationary sources to reduce air pollution, and to attain and maintain NAAQS and CAAQS within the SCAB. The Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment. A backup generator would be used only in emergency situations and for routine testing and maintenance purposes. Based on guidance from SCAQMD, the backup generator would operate for a maximum of 200 hours annually or approximately 0.5 hours per

day. Emissions associated with the backup generator are summarized on Table 4, as shown, emissions from the backup generator would not contribute a substantial amount of emissions capable of exceeding SCAQMD thresholds. As Project operations would not exceed SCAQMD thresholds, the Project would not violate an air quality standard or contribute to an existing violation. Therefore, Project operations would not result in a cumulatively considerable net increase of any criteria pollutant and impacts would be less than significant. Detailed model outputs for the backup diesel generator emissions calculations are presented in Attachment A.

Emissions associated with the pump are summarized in Table 4. Project operational-source emissions would not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant, a less than significant impact would occur for Project-related operational-source emissions and no mitigation is required.

TABLE 4: TOTAL PROJECT REGIONAL OPERATIONAL EMISSIONS

Source	Emissions (lbs./day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer						
Stationary Source	0.01	0.04	0.04	0.00	0.00	0.00
Total Maximum Daily Emissions	0.01	0.04	0.04	0.00	0.00	0.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Winter						
Stationary Source	0.01	0.04	0.04	0.00	0.00	0.00
Total Maximum Daily Emissions	0.01	0.04	0.04	0.00	0.00	0.00
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

LOCALIZED CONSTRUCTION EMISSIONS

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (17). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-43. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the

³ The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

most stringent applicable federal or state ambient air quality standard at the sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. It should be noted that SCAQMD also states that Projects that are statutorily or categorically exempt under CEQA would not be subject to LST analyses. As such, although not required for this Project, LST analysis is presented to further underscore that there are in fact no significant impacts associated with the Project.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual or cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM₁₀ and PM_{2.5} (since PM₁₀ and PM_{2.5} thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM₁₀ and PM_{2.5} is location R1 existing residence at 7804 Calley Del Rio Street, approximately 45 feet (14 meters) southwest of the Project site. Receptors in the Project study area shown on Exhibit 2. It should be noted that the *LST Methodology* explicitly states that *"It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters (17)."* As such, for evaluation of localized PM₁₀ and PM_{2.5}, a 25-meter distance will be used.

As previously stated, and consistent with LST Methodology, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_x and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assume that an individual could be present at these sites for periods of one to 8 hours. As there are no industrial/commercial uses located at a closer distance than the residential homes that are located adjacent to the Project site, the same 25-meter distance will be used for evaluation of localized impacts of NO_x and CO.

EXHIBIT 2: SENSITIVE RECEPTOR LOCATIONS

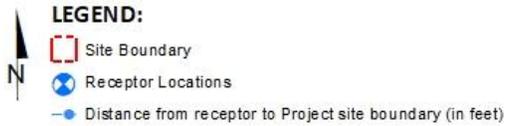


Table 5 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Outputs from the model runs for construction LSTs are provided in Attachment A. As shown in Table 5, emissions resulting from the Project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant. Thus, a less than significant impact would occur for localized Project-related construction-source emissions and no mitigation is required.

TABLE 5: PROJECT LOCALIZED CONSTRUCTION IMPACTS

On-Site Emissions	Emissions (lbs./day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Well Drilling, Construction, Development, Testing				
Maximum Daily Emissions	8.99	12.50	0.37	0.34
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO
Demolition				
Maximum Daily Emissions	22.20	19.90	1.55	0.94
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO
Site Preparation				
Maximum Daily Emissions	37.50	32.40	7.59	4.47
SCAQMD Localized Threshold	220	1,359	11	6
Threshold Exceeded?	NO	NO	NO	NO
Grading				
Maximum Daily Emissions	29.70	28.30	3.62	2.09
SCAQMD Localized Threshold	203	1,230	9	5
Threshold Exceeded?	NO	NO	NO	NO
Building Construction				
Maximum Daily Emissions	11.30	14.10	0.47	0.43
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO
Paving				
Maximum Daily Emissions	7.45	9.98	0.35	0.32
SCAQMD Localized Threshold	118	667	4	3
Threshold Exceeded?	NO	NO	NO	NO

LOCALIZED OPERATIONAL EMISSIONS

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed Project if the project includes stationary sources or attracts

mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). As previously discussed, the Project would generate a nominal number of traffic trips in the context of on-going maintenance resulting in a negligible amount of new mobile source emissions. The proposed Project will include the use of a pump and an emergency generator. Localized emissions are summarized in Table 6.

TABLE 6: PROJECT LOCALIZED OPERATIONAL IMPACTS

On-Site Emissions	Emissions (lbs./day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	0.04	0.04	0.00	0.00
SCAQMD Localized Threshold	118	667	1	1
Threshold Exceeded?	NO	NO	NO	NO

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In December 2022, the SCAQMD released the Final 2022 AQMP (2022 AQMP). The 2022 AQMP continues to evaluate current integrated strategies and control measures to meet the CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (18). Similar to the 2016 AQMP, the 2022 AQMP incorporates scientific and technological information and planning assumptions, including the 2020-2045 RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (19). The Project's consistency with the AQMP will be determined using the 2022 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the 1993 CEQA Handbook (20). These indicators are discussed below.

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that under this criterion refer to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded. As evaluated, the Project's regional and localized construction and operational-source emissions would not exceed applicable regional significance thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Highland General Plan is considered to be consistent with the AQMP.

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such, when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

The City of Highland General Plan designates the Project site as "Low Density Residential." This designation limits land uses to single-family detached residential, and mobile homes, subject to applicable General Plan policies and ordinance provisions of the City of Highland. As previously stated, the proposed Project includes the initiative to drill and construct a new groundwater production well. Although this finding is inconsistent with the current zoning designation, it should be noted that the site currently functions as a water storage facility. The proposed Project aims to install a new groundwater well rather than introduce a use that is more intensive than the current operations on site. Furthermore, the Project, as evaluated herein would not exceed the regional or localized air quality significance thresholds.

On the basis of the preceding discussion, the Project is determined to be consistent with the AQMP and a less than significant impact is expected.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?

The City of Highland General Plan designates the Project site as “Low Density Residential.” This designation limits land uses to single-family detached residential, and mobile homes, subject to applicable General Plan policies and ordinance provisions of the City of Highland. As previously stated, the proposed Project includes the initiative to drill and construct a new groundwater production well. Although this finding is inconsistent with the current zoning designation, it should be noted that the site currently functions as a water storage facility. The proposed Project aims to install a new groundwater well rather than introduce a use that is more intensive than the current operations on site. Furthermore, the Project, as evaluated herein would not exceed the regional or localized air quality significance thresholds. The CAAQS designate the Project site as nonattainment for O₃, PM₁₀, and PM_{2.5} while the NAAQS designates the Project site as nonattainment for O₃ and PM_{2.5}.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (21). In this report the SCAQMD clearly states (Page D-3):

“...the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, the proposed Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 3

Would the expose sensitive receptors to substantial pollutant concentrations?

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Additionally, the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

CO “HOT SPOT” ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or “hot spots.” Further, detailed modeling of Project-specific CO “hot spots” is not needed to reach this conclusion. An adverse CO concentration, known as a “hot spot,” would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO “hot spot” analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This “hot spot” analysis did not predict any violation of CO standards, as shown on Table 7.

TABLE 7: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (22). In contrast, an adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (23). Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 8. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (24). The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).

TABLE 8: CO MODEL RESULTS

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

AIR QUALITY IMPACTS - CONSISTENCY WITH THRESHOLD NO. 4

Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants

- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (25).

PROJECT GHG ANALYSIS

CLIMATE CHANGE SETTING

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, CH₄, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These particular gases are

important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

For the purposes of this analysis, emissions of CO₂, CH₄, and N₂O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

REGULATORY SETTING

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill (AB) 32

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. GHGs, as defined under AB 32, include CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

“Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an

increase in the incidences of infectious diseases, asthma, and other human health-related problems.”

CARB approved the 1990 GHG emissions level of 427 million metric ton of CO₂ equivalent per year (MMTCO₂e) on December 6, 2007 (26). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a “business as usual” (BAU) scenario were estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations (27). At that level, a 28.4% reduction was required to achieve the 427 MMTCO₂e 1990 inventory. In October 2010, CARB prepared an updated BAU 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 MMTCO₂e. Therefore, under the updated forecast, a 21.7% reduction from BAU is required to achieve 1990 levels (28).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012 (29). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 MMTCO₂e (AB 32 2020 target)
- 2000: 463 MMTCO₂e (an average 8% reduction needed to achieve 1990 base)
- 2010: 450 MMTCO₂e (an average 5% reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4% and the latest reduction from 2020 BAU is 21.7%.

- 2020: 545 MMTCO₂e BAU (an average 21.7% reduction from BAU needed to achieve 1990 base)

Senate Bill (SB) 32

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (30).

AB 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and

the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Executive Order B-55-18 and SB 100

Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Title 24 California Code of Regulations (CCR)

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, industrial, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that was effective on January 1, 2023⁴. As construction of the Project is anticipated to be completed in 2024, the Project would be required to comply with the Title 24 standards in place at that time.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

⁴ The 2022 California Green Building Standard Code will be published July 1, 2022.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
 - Residential and commercial land use: 3,000 metric ton of CO₂ equivalent (MTCO₂e/yr.)
 - Industrial land use: 10,000 MTCO₂e/yr.
 - Based on land use type: residential: 3,500 MTCO₂e/yr.; commercial: 1,400 MTCO₂e/yr.; or mixed use: 3,000 MTCO₂e/yr.
- Tier 4 has the following options:
 - Option 1: Reduce Business-as-Usual (BAU) emissions by a certain percentage; this percentage is currently undefined.
 - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
 - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO₂e per SP per year for projects and 6.6 MTCO₂e per SP per year for plans;
 - Option 3, 2035 target: 3.0 MTCO₂e per SP per year for projects and 4.1 MTCO₂e per SP per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO₂ concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the Project would include stationary sources of

emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, Southern California (SoCal) Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

GHG IMPACTS

Standards of Significance

According to the *CEQA Guidelines* Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

- **Threshold 1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- **Threshold 2:** Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a “threshold of significance.” For establishing significance thresholds, the Office of Planning and Research’s amendments to the *CEQA Guidelines* Section 15064.7(c) state “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

CEQA Guidelines Section 15064.4(a) further states, “. . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards.”

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Discussion on Establishment of Significance Thresholds

Based on the foregoing guidance, the City of Highland has elected to rely on compliance with a local air district threshold in the determination of significance of Project-related GHG emissions. Specifically, the City has selected the interim 3,000 MTCO₂e/yr. threshold recommended by SCAQMD staff for residential and commercial sector projects against which to compare Project-related GHG emissions.

The 3,000 MTCO₂e/yr. threshold is based on a 90 percent emission "capture" rate methodology. Prior to its use by the SCAQMD, the 90 percent emissions capture approach was one of the options suggested by the California Air Pollution Control Officers Association (CAPCOA) in their CEQA & Climate Change white paper (2008). A 90 percent emission capture rate means that unmitigated GHG emissions from the top 90 percent of all GHG-producing projects within a geographic area – the SCAB in this instance – would be subject to a detailed analysis of potential environmental impacts from GHG emissions, while the bottom 10 percent of all GHG-producing projects would be excluded from detailed analysis. A GHG significance threshold based on a 90 percent emission capture rate is appropriate to address the long-term adverse impacts associated with global climate change because medium and large projects will be required to implement measures to reduce GHG emissions, while small projects, which are generally infill development projects that are not the focus of the State's GHG reduction targets, are allowed to proceed. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial proportion of future development projects and demonstrate that cumulative emissions reductions are being achieved while setting the emission threshold high enough to exclude small projects that will, in aggregate, contribute approximate 1 percent of projected statewide GHG emissions in the Year 2050 (31).

In setting the threshold at 3,000 MTCO₂e/yr., SCAQMD researched a database of projects kept by the Governor's Office of Planning and Research (OPR). That database contained 798 projects, 87 of which were removed because they were very large projects and/or outliers that would skew emissions values too high, leaving 711 as the sample population to use in determining the 90th

percentile capture rate. The SCAQMD analysis of the 711 projects within the sample population combined commercial, residential, and mixed-use projects. It should be noted that the sample of projects included warehouses and other light industrial land uses but did not include industrial processes (i.e., oil refineries, heavy manufacturing, electric generating stations, mining operations, etc.). Emissions from each of these projects were calculated by SCAQMD to provide a consistent method of emissions calculations across the sample population and from projects within the sample population. In calculating the emissions, the SCAQMD analysis determined that the 90th percentile ranged between 2,983 to 3,143 MTCO₂e/yr. The SCAQMD set their significance threshold at the low-end value of the range when rounded to the nearest hundred tons of emissions (i.e., 3,000 MTCO₂e/yr.) to define small projects that are considered less than significant and do not need to provide further analysis.

The City understands that the 3,000 MTCO₂e/yr. threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 MTCO₂e/yr. threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest of which occurred in 2010). SCAQMD has not withdrawn its support of the interim threshold and all documentation supporting the interim threshold remains on the SCAQMD website on a page that provides guidance to CEQA practitioners for air quality analysis (and where all SCAQMD significance thresholds for regional and local criteria pollutants and toxic air contaminants also are listed). Further, as stated by SCAQMD, this threshold “uses the Executive Order S-3-05 goal [80 percent below 1990 levels by 2050] as the basis for deriving the screening level” and, thus, remains valid for use in 2022 (31). Lastly, this threshold has been used for hundreds, if not thousands of GHG analyses performed for projects located within the SCAQMD jurisdiction.

Thus, for purposes of analysis in this analysis, if Project-related GHG emissions do not exceed the 3,000 MTCO₂e/yr. threshold, then Project-related GHG emissions would clearly have a less-than-significant impact pursuant to Threshold GHG-1. On the other hand, if Project-related GHG emissions exceed 3,000 MTCO₂e/yr., the Project would be considered a substantial source of GHG emissions.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

Would the Project have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment?

PROJECT GHG EMISSIONS

The estimated GHG emissions for the Project land use are summarized on Table 9. The estimated GHG emission include emissions from Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), and Refrigerants (R). As shown on Table 9, the Project would generate a total of approximately 1,046.97 MTCO₂e/yr. Detailed operation model outputs for the proposed Project are presented in Attachment A.

TABLE 9: TOTAL PROJECT GHG EMISSIONS

Source	Emission (lbs./day)				Total CO ₂ e
	CO ₂	CH ₄	N ₂ O	R	
Annual construction-related emissions amortized over 30 years	8.35	3.33E-04	0.00	1.33E-03	8.36
Energy	268.00	0.03	0.00	0.00	269.00
Water	439.00	10.30	0.25	0.00	769.00
Stationary	0.61	0.00	0.00	0.00	0.61
Total CO₂e (All Sources)	1,046.97				

A numerical threshold for determining the significance of GHG emissions in the SCAB has not been established by the SCAQMD for Projects where it is not the lead agency. As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, the City has opted to use a non-zero threshold approach based on Approach 2 of the handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90% of emissions from future development. The latest threshold developed by SCAQMD using this method is 3,000 MTCO₂e/yr. for all projects (32).

The Project would result in approximately a net 1,046.97 MTCO₂e/yr.; the proposed Project would not exceed the SCAQMD's numeric threshold of 3,000 MTCO₂e/yr. Thus, the Project would result in a less than significant impact with respect to GHG emissions.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

Would the Project have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Pursuant to 15604.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (33).

CONSTRUCTION

40% below 1990 levels by 2030

By using newer and electrified construction equipment as it is phased in pursuant to requirements under AB 197 and similar law, policies and programs, the Project will be aligned with applicable plans and policies and would, therefore, not otherwise conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

This is consistent with SB 32's goal of reducing statewide emissions of greenhouse gases by 40% below 1990 levels by 2030.

85% below 1990 levels by 2045 / 2050

While construction activities associated with the implementation of the Project would result in emissions of CO₂ and CH₄ (see previous section regarding threshold 1, most of the emissions will come from the burning of fossil fuel in construction equipment. These emissions from construction equipment will decrease even more as emissions technology improves in the next 20 years. Additionally, it is likely that diesel equipment will be cleaner and more efficient, powered by renewable diesel, and/or phased out due to local Climate Action Plans and state requirements (such by AB 197) by 2045. Newer electrified construction equipment will also become more broadly available, further decreasing construction emissions.

This is consistent with AB 1279's goal of reducing emissions to 85% below 1990 levels and carbon neutrality by 2045 and, by extension, Executive Order S-03-05's goal of reducing emissions to 80% below 1990 levels by 2050.

OPERATIONS

40% below 1990 levels by 2030

Operational emissions are powered primarily by electricity, so the Project's GHG emissions will decline as renewable and carbon neutral energy sources make up a larger and larger percentage of power on the grid in compliance with state's plans, policies, and regulations.

This is consistent with SB 32's goal of reducing statewide emissions of greenhouse gases by 40% below 1990 levels by 2030.

85% below 1990 levels by 2045 / 2050

Operational emissions are powered primarily by electricity, so the Project's GHG emissions will decline as renewable and carbon neutral energy sources make up a larger and larger percentage of power on the grid in compliance with state's plans, policies, and regulations.

Finally, the implementation of the Project will increase local water supplies, thereby avoiding the need to import water from remote sources. By reducing the demand for importing water, which is energy intensive and generates GHG emissions, the Project will offset GHG emissions that would otherwise have occurred absent implementation of the Project.

This is consistent with AB 1279's goal of reducing emissions to 85% below 1990 levels and carbon neutrality by 2045 and, by extension, Executive Order S-03-05's goal of reducing emissions to 80% below 1990 levels by 2050. This is also consistent with CARB's 2022 Scoping Plan goals and objectives, which are based on compliance with AB 1279.

CONCLUSION

Results of the assessment indicate that the Project is not anticipated to result in a significant impact during construction or operational activities associated with air quality and GHG.

Add contact info consistent with other memos?

If you have any questions or comments, I can be reached at hqureshi@urbanxroads.com.

REFERENCES

1. **South Coast Air Quality Management District.** Southern California Air Basins. [Online] <https://www.arb.ca.gov/msprog/onroad/porttruck/maps/scabc7map.pdf>.
2. **Ralph Propper, Patrick Wong, Son Bui, Jeff Austin, William Vance, Alvaro Alvarado, Bart Croes, and Dongmin Luo.** Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. 2015.
3. **United States Environmental Protection Agency.** National Ambient Air Quality Standards (NAAQS). [Online] 1990. <https://www.epa.gov/environmental-topics/air-topics>.
4. **Environmental Protection Agency.** Air Pollution and the Clean Air Act. [Online] <http://www.epa.gov/air/caa/>.
5. **1990 Clean Air Act Amendment Summary: Title I.** [Online] <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-i>.
6. **United States Environmental Protection Agency.** 1990 Clean Air Act Amendment Summary: Title II. [Online] <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-ii>.
7. **Air Resources Board.** California Ambient Air Quality Standards (CAAQS). [Online] 2009. [Cited: April 16, 2018.] <http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>.
8. **Environmental Protection Agency.** National Ambient Air Quality Standards (NAAQS). [Online] 1990. <https://www.epa.gov/environmental-topics/air-topics>.
9. **Southern California Association of Governments.** 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. [Online] April 2016. <http://scagrtpscscs.net/Documents/2016/final/f2016RTPSCS.pdf>.
10. **South Coast Air Quality Management District.** RULE 403. FUGITIVE DUST. [Online] <https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4>.
11. —. **RULE 1113. Architectural Coatings.** [Online] <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf>.
12. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] May 2022. www.caleemod.com.
13. **State of California.** *2020 CEQA California Environmental Quality Act*. 2020.
14. **South Coast Air Quality Management District (SCAQMD).** SCAQMD Air Quality Significance Thresholds. [Online] <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.
15. **California Air Pollution Control Officers Association (CAPCOA).** Appendix A: Calculation Details for CalEEMod. *CalEEMod*. [Online] http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6.
16. **State of California.** *2020 CEQA California Environmental Quality Act*. 2020.

17. South Coast Air Quality Management District. *Localized Significance Thresholds Methodology*. s.l. : South Coast Air Quality Management District, 2003.
18. —. Final 2016 Air Quality Management Plan (AQMP). [Online] March 2017. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=11>.
19. Southern California Association of Governments. 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy. [Online] September 2020. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176.
20. South Coast Air Quality Management District. *CEQA Air Quality Handbook (1993)*. 1993.
21. Goss, Tracy A and Kroeger, Amy. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. http://www.aqmd.gov/rules/ciwig/final_white_paper.pdf.
22. South Coast Air Quality Management District. 2003 Air Quality Management Plan. [Online] 2003. <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp>.
23. Bay Area Air Quality Management District. [Online] <http://www.baaqmd.gov/>.
24. South Coast Air Quality Management District. 2003 Air Quality Management Plan. [Online] 2003. <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp>.
25. —. RULE 402 NUISANCE. [Online] <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf>.
26. California Air Resources Board. GHG 1990 Emissions Level & 2020 Limit. *California Air Resources Board*. [Online] <https://ww2.arb.ca.gov/ghg-2020-limit>.
27. —. *Climate Change Draft Scoping Plan*. 2008.
28. —. STATUS OF SCOPING PLAN RECOMMENDED MEASURES. [Online] [Cited: September 19, 2019.] https://ww3.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf.
29. —. *First Update to the Climate Change Scoping Plan*. 2014.
30. California Legislative Information. Senate Bill No. 32. [Online] September 8, 2016. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.
31. South Coast Air Quality Management District. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*. Diamond Bar : s.n., 2008.
32. —. Interim CEQA GHG Threshold for Stationary Sources, Rules and Plans. [Online] December 5, 2008. <http://www.aqmd.gov/docs/default->

source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf.

33. Association of Environmental Professionals. *2018 CEQA California Environmental Quality Act*. 2018.

ATTACHMENT A
CALEEMOD PROPOSED PROJECT EMISSIONS MODEL OUTPUTS

East Valley Water District Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	East Valley Water District
Construction Start Date	9/16/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	11.2
Location	7804 Calle Del Rio St, Highland, CA 92346, USA
County	San Bernardino-South Coast
City	Highland
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5168
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
------------------	------	------	-------------	-----------------------	------------------------	--------------------------------	------------	-------------

Other Asphalt Surfaces	0.63	Acre	0.63	0.00	0.00	—	—	—
Unrefrigerated Warehouse-No Rail	0.80	1000sqft	0.02	800	0.00	—	—	Well Building

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.91	4.13	37.5	33.8	0.06	1.93	5.89	7.82	1.78	2.74	4.52	—	6,881	6,881	0.28	0.17	2.47	6,908
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.31	1.10	9.10	13.8	0.02	0.37	0.26	0.64	0.34	0.06	0.41	—	2,114	2,114	0.09	0.02	0.03	2,123
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.63	0.53	4.62	6.37	0.01	0.18	0.18	0.36	0.17	0.06	0.23	—	1,067	1,067	0.04	0.01	0.14	1,071
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.10	0.84	1.16	< 0.005	0.03	0.03	0.07	0.03	0.01	0.04	—	177	177	0.01	< 0.005	0.02	177

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.31	1.11	9.08	14.2	0.02	0.37	0.26	0.64	0.34	0.06	0.41	—	2,138	2,138	0.09	0.02	1.15	2,149
2025	4.91	4.13	37.5	33.8	0.06	1.93	5.89	7.82	1.78	2.74	4.52	—	6,881	6,881	0.28	0.17	2.47	6,908
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.31	1.10	9.10	13.8	0.02	0.37	0.26	0.64	0.34	0.06	0.41	—	2,114	2,114	0.09	0.02	0.03	2,123
2025	1.20	1.01	8.50	13.6	0.02	0.31	0.26	0.57	0.28	0.06	0.34	—	2,109	2,109	0.09	0.02	0.03	2,119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.27	0.23	1.91	2.90	< 0.005	0.08	0.05	0.13	0.07	0.01	0.08	—	443	443	0.02	0.01	0.10	446
2025	0.63	0.53	4.62	6.37	0.01	0.18	0.18	0.36	0.17	0.06	0.23	—	1,067	1,067	0.04	0.01	0.14	1,071
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.05	0.04	0.35	0.53	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.02	—	73.4	73.4	< 0.005	< 0.005	0.02	73.8
2025	0.11	0.10	0.84	1.16	< 0.005	0.03	0.03	0.07	0.03	0.01	0.04	—	177	177	0.01	< 0.005	0.02	177

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	603	3,667	4,271	62.2	1.51	0.00	6,277
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	603	3,667	4,271	62.2	1.51	0.00	6,277

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	603	3,667	4,271	62.2	1.51	0.00	6,277
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	99.9	607	707	10.3	0.25	0.00	1,039

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,616	1,616	0.15	0.02	—	1,625
Water	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Off-Road	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
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.69	3.69	< 0.005	< 0.005	0.00	3.71
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	603	3,667	4,271	62.2	1.51	0.00	6,277
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,616	1,616	0.15	0.02	—	1,625
Water	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648

Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Off-Road	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
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.69	3.69	< 0.005	< 0.005	0.00	3.71
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	603	3,667	4,271	62.2	1.51	0.00	6,277
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,616	1,616	0.15	0.02	—	1,625
Water	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Off-Road	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
Stationary	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.68	3.68	< 0.005	< 0.005	0.00	3.69
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	603	3,667	4,271	62.2	1.51	0.00	6,277
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	268	268	0.03	< 0.005	—	269
Water	—	—	—	—	—	—	—	—	—	—	—	99.9	339	439	10.3	0.25	—	769
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Off-Road	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
Stationary	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.61	0.61	< 0.005	< 0.005	0.00	0.61
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	99.9	607	707	10.3	0.25	0.00	1,039

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.63	0.63	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.11	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	18.8	18.8	< 0.005	< 0.005	—	18.8
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.11	3.11	< 0.005	< 0.005	—	3.12
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	1.17	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	211	211	0.01	0.01	0.78	215
Vendor	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	0.00
Hauling	0.10	0.02	0.95	0.54	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	795	795	0.08	0.13	1.69	838
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.09
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.36	4.36	< 0.005	< 0.005	< 0.005	4.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.76

3.3. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.82	4.05	37.5	32.4	0.05	1.93	—	1.93	1.78	—	1.78	—	5,528	5,528	0.22	0.04	—	5,547

Dust From Material Movement:	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.51	0.44	< 0.005	0.03	—	0.03	0.02	—	0.02	—	75.7	75.7	< 0.005	< 0.005	—	76.0
Dust From Material Movement:	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Dust From Material Movement:	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.36	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	247	247	0.01	0.01	0.91	250
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.14	3.14	< 0.005	< 0.005	0.01	3.19
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.52	0.52	< 0.005	< 0.005	< 0.005	0.53
Vendor	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	0.00
Hauling	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	0.00

3.5. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	2.39	2.39	—	0.95	0.95	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Dust From Material Movement:	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.99	5.99	< 0.005	< 0.005	—	6.01
Dust From Material Movement:	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.56	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	282	282	0.01	0.01	1.05	286
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.44	1.44	< 0.005	< 0.005	< 0.005	1.46
Vendor	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	0.00

Hauling	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.24	
Vendor	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	0.00	
Hauling	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	0.00	

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.45	1.21	11.3	14.1	0.03	0.47	—	0.47	0.43	—	0.43	—	2,630	2,630	0.11	0.02	—	2,639
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.39	1.74	< 0.005	0.06	—	0.06	0.05	—	0.05	—	324	324	0.01	< 0.005	—	325
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	53.7	53.7	< 0.005	< 0.005	—	53.9
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	0.02	4.81
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.05	4.05	< 0.005	< 0.005	0.01	4.25
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.52
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09
Hauling	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	0.00

3.9. Paving (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.28	8.28	< 0.005	< 0.005	—	8.31	
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	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	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.37	1.37	< 0.005	< 0.005	—	1.38	
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	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	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.08	0.07	0.07	1.17	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	211	211	0.01	0.01	0.78	215	
Vendor	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	0.00	
Hauling	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	0.00	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.09	
Vendor	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	0.00	

Hauling	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18	
Vendor	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	0.00	
Hauling	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	0.00	

3.11. Well Drilling, Construction, Development, Testing (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	1.00	8.99	12.5	0.02	0.37	—	0.37	0.34	—	0.34	—	1,850	1,850	0.08	0.02	—	1,856
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	1.00	8.99	12.5	0.02	0.37	—	0.37	0.34	—	0.34	—	1,850	1,850	0.08	0.02	—	1,856
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.88	2.62	< 0.005	0.08	—	0.08	0.07	—	0.07	—	387	387	0.02	< 0.005	—	389
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.04	0.34	0.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.1	64.1	< 0.005	< 0.005	—	64.4
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	1.69	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	288	288	0.01	0.01	1.15	292
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.11	1.28	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	264	264	0.01	0.01	0.03	267
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.28	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	56.0	56.0	< 0.005	< 0.005	0.10	56.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.28	9.28	< 0.005	< 0.005	0.02	9.41
Vendor	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	0.00
Hauling	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	0.00

3.13. Well Drilling, Construction, Development, Testing (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.92	8.41	12.4	0.02	0.31	—	0.31	0.28	—	0.28	—	1,851	1,851	0.08	0.02	—	1,857
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	0.92	8.41	12.4	0.02	0.31	—	0.31	0.28	—	0.28	—	1,851	1,851	0.08	0.02	—	1,857
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.35	3.48	0.01	0.09	—	0.09	0.08	—	0.08	—	518	518	0.02	< 0.005	—	520
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.63	< 0.005	0.02	—	0.02	0.01	—	0.01	—	85.8	85.8	< 0.005	< 0.005	—	86.0
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.09	1.56	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	282	282	0.01	0.01	1.05	286
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.10	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	258	258	0.01	0.01	0.03	262
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.35	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.3	73.3	< 0.005	< 0.005	0.13	74.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.1	12.1	< 0.005	< 0.005	0.02	12.3
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	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	0.00

Unrefrige Warehouse-No Rail	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	0.00	0.00
Total	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	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	0.00	0.00
Unrefrige rated Warehouse-No Rail	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	0.00	0.00
Total	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	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	0.00	0.00
Unrefrige rated Warehouse-No Rail	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	0.00	0.00
Total	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	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
undefined	—	—	—	—	—	—	—	—	—	—	—	—	1,616	1,616	0.15	0.02	—	1,625
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,616	1,616	0.15	0.02	—	1,625
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
undefined	—	—	—	—	—	—	—	—	—	—	—	—	1,616	1,616	0.15	0.02	—	1,625
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,616	1,616	0.15	0.02	—	1,625
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
undefined	—	—	—	—	—	—	—	—	—	—	—	—	268	268	0.03	< 0.005	—	269
Total	—	—	—	—	—	—	—	—	—	—	—	—	268	268	0.03	< 0.005	—	269

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	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

Unrefrigerated Warehouse-No Rail	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	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
Unrefrigerated Warehouse-No Rail	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Unrefrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648
Total	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648
Total	—	—	—	—	—	—	—	—	—	—	—	603	2,047	2,651	62.1	1.49	—	4,648
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	99.9	339	439	10.3	0.25	—	769
Total	—	—	—	—	—	—	—	—	—	—	—	99.9	339	439	10.3	0.25	—	769

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00	

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pumps	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
Total	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pumps	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pumps	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
Total	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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.69	3.69	< 0.005	< 0.005	0.00	3.71
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.69	3.69	< 0.005	< 0.005	0.00	3.71
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.69	3.69	< 0.005	< 0.005	0.00	3.71
Total	0.01	0.01	0.04	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	3.69	3.69	< 0.005	< 0.005	0.00	3.71
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergen Generator	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.61	0.61	< 0.005	< 0.005	0.00	0.61
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	0.61	0.61	< 0.005	< 0.005	0.00	0.61

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipme nt Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetatio n	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	5/24/2025	5/27/2025	5.00	2.00	—
Site Preparation	Site Preparation	5/28/2025	6/3/2025	5.00	5.00	—
Grading	Grading	6/4/2025	6/5/2025	5.00	2.00	—
Building Construction	Building Construction	6/6/2025	8/7/2025	5.00	45.0	—
Paving	Paving	8/8/2025	8/11/2025	5.00	2.00	—
Well Drilling, Construction, Development, Testing	Trenching	9/16/2024	5/23/2025	5.00	180	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Well Drilling, Construction, Development, Testing	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Well Drilling, Construction, Development, Testing	Forklifts	Diesel	Average	1.00	10.0	82.0	0.20
Well Drilling, Construction, Development, Testing	Generator Sets	Diesel	Average	1.00	10.0	14.0	0.74
Well Drilling, Construction, Development, Testing	Air Compressors	Diesel	Average	1.00	10.0	37.0	0.48
Well Drilling, Construction, Development, Testing	Tractors/Loaders/Backhoes	Diesel	Average	2.00	10.0	84.0	0.37
Well Drilling, Construction, Development, Testing	Welders	Diesel	Average	2.00	2.00	46.0	0.45

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
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Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	11.5	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.34	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.13	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Well Drilling, Construction, Development, Testing	—	—	—	—

Well Drilling, Construction, Development, Testing	Worker	20.0	18.5	LDA,LDT1,LDT2
Well Drilling, Construction, Development, Testing	Vendor	—	10.2	HHDT,MHDT
Well Drilling, Construction, Development, Testing	Hauling	0.00	20.0	HHDT
Well Drilling, Construction, Development, Testing	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	91.0	—
Site Preparation	—	—	17.5	0.00	—
Grading	—	—	6.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.63

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
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Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	0.63	100%
Unrefrigerated Warehouse-No Rail	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,200	400	1,651

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	0.00

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00
Unrefrigerated Warehouse-No Rail	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00
Unrefrigerated Warehouse-No Rail	314,889,124	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—
Unrefrigerated Warehouse-No Rail	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Pumps	Electric	Average	1.00	24.0	350	0.74

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.55	200	8.00	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.8	annual days of extreme heat

Extreme Precipitation	4.35	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	24.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

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

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

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

6.3. Adjusted Climate Risk Scores

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

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

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	100
AQ-PM	53.1
AQ-DPM	20.0
Drinking Water	85.2
Lead Risk Housing	1.49
Pesticides	65.6

Toxic Releases	39.4
Traffic	12.6
Effect Indicators	—
CleanUp Sites	40.8
Groundwater	0.00
Haz Waste Facilities/Generators	35.6
Impaired Water Bodies	33.2
Solid Waste	0.00
Sensitive Population	—
Asthma	61.5
Cardio-vascular	77.6
Low Birth Weights	59.3
Socioeconomic Factor Indicators	—
Education	8.99
Housing	14.7
Linguistic	17.3
Poverty	6.73
Unemployment	78.3

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	76.41473117
Employed	79.81521879
Median HI	79.66123444
Education	—

Bachelor's or higher	62.03002695
High school enrollment	100
Preschool enrollment	21.73745669
Transportation	—
Auto Access	96.70216861
Active commuting	3.721288336
Social	—
2-parent households	68.31772103
Voting	80.48248428
Neighborhood	—
Alcohol availability	76.9665084
Park access	35.82702425
Retail density	12.48556397
Supermarket access	33.02964199
Tree canopy	13.92275119
Housing	—
Homeownership	92.2751187
Housing habitability	53.70204029
Low-inc homeowner severe housing cost burden	81.45771847
Low-inc renter severe housing cost burden	0.51328115
Uncrowded housing	76.50455537
Health Outcomes	—
Insured adults	85.66662389
Arthritis	0.0
Asthma ER Admissions	27.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0

Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	76.7
Cognitively Disabled	29.3
Physically Disabled	94.1
Heart Attack ER Admissions	24.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	45.3
SLR Inundation Area	0.0
Children	79.8
Elderly	81.3
English Speaking	58.4
Foreign-born	17.5
Outdoor Workers	47.5
Climate Change Adaptive Capacity	—

Impervious Surface Cover	71.1
Traffic Density	13.5
Traffic Access	23.0
Other Indices	—
Hardship	27.1
Other Decision Support	—
2016 Voting	84.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	43.0
Healthy Places Index Score for Project Location (b)	71.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
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Construction: Construction Phases	Construction schedule based on consultation with the Applicant
Construction: Off-Road Equipment	Construction equipment based on consultation with the Applicant
Operations: Vehicle Data	Project not anticipated to generate substantive amount of trips
Operations: Landscape Equipment	Project does not anticipate landscaping
Operations: Energy Use	Building use is to house a well. As such, the CalEEMod defaults for the land use modeled are not appropriate
Operations: Water and Waste Water	Based on information provided by Applicant the average water use for a well is 967 AFY (314,889,124 GPY)
Operations: Solid Waste	Building use is to house a well. As such, the CalEEMod defaults for the land use modeled are not appropriate
Operations: Consumer Products	Building use is to house a well. As such, the CalEEMod defaults for the land use modeled are not appropriate
Operations: Off-Road Equipment	Based on similar projects

APPENDIX 2

Biological Resources Assessment, Jurisdictional Delineation

For

EAST VALLEY WATER DISTRICT WELL NO. 129 PROJECT

Enter Project Location

July 10, 2024



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- Figure 1 - Regional Location map
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Table 1. CNDDDB Species and Habitats Documented Within the *Redlands* USGS 7.5-Minute Quadrangle

Appendix A. Site Photos

Appendix B. Regulatory Framework

Appendix C CNDDDB List

Appendix D iPAC Report

Executive Summary

HDR, Inc. was retained by Tom Dodson and Associates to conduct a Biological Resources Assessment, Jurisdictional Delineation for a proposed East Valley Water District's (District) proposed installation of a new water well. The new well is designated Well No. 129 and will be located within a less than one acre portion of an existing approximately 2.37-acre reservoir site within the City of Highland, San Bernardino County, California. The site is located north/northwest of the intersection of Calle Del Rio Street and Vista Clara Street, south of Oak Creek in the City of Highland. The project is mapped within the USGS Topo 7.5-minute map "Redlands", in Section 1, Township 1 South and Range 3 West, San Bernardino Meridian. The approximate GPS coordinates of the project site are 34.112523°, -117.139739°.

In June 2024, HDR's biologists conducted a Biological Resources Assessment survey to address potential effects of the proposed reservoir construction on designated Critical Habitats and/or special status species. The results of the Biological Resources Assessment are intended to provide sufficient baseline information to the District and, if required, to City and/or County planning officials as well as any potentially interested federal and state regulatory agencies to determine if the proposed project is likely to result in any adverse effects to sensitive biological resources and, if necessary, to identify mitigation measures to offset those effects.

Data regarding biological resources in the proposed project vicinity were obtained through literature review and field investigation. Available databases and documentation relevant to the Development Area were reviewed for documented occurrences of sensitive species that could potentially occur in the Development Area vicinity, including the U.S. Fish and Wildlife Service designated Critical Habitat online mapper and Information for Planning and Consultation System, as well as the most recent versions of the California Natural Diversity Database (CNDDDB) and California Native Plant Society Electronic Inventory.

The result of the field survey was that no state or federally listed species were identified within the Development Area and the Development Area is not within or adjacent any federal Critical Habitat. The entire reservoir site is approximately 2.26 acres and is hardscaped, developed, and completely fenced. The entire work area occurs within this fenced area and encompasses less than one acre. No modifications to the existing the existing 3-million-gallon reservoirs is proposed. The fenced area is unvegetated and disturbed. Small area with sparse non-native plant species occurs on the sloped area and along the fence line to the east away from the proposed well site. See Figure 3 for Areal Site View, and Site photographs.

The database searches identified:

- Marsh Sanward (*Arenaria Paludicola*) FE/SE
- Nevin's barberry (*Berberis nevinii*) FE/SE
- Crotch bumble bee (State Candidate Endangered)
- salt marsh bird's-beak (*Chloropyron maritimum* ssp. *Maritimum*) FE/SE
- western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) FT/SE
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*) FE/SE
- Stephens' kangaroo rat (*Dipodomys stephensi*) FE/SE
- southwestern willow flycatcher (*Empidonax traillii extimus*) FE/SE
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *Sanctorum*) FE/SE
- steelhead - (*Oncorhynchus mykiss irideus*) (southern California DPS pop. 10) FE/CE
- coastal California gnatcatcher (*Polioptila californica californica*) FT
- southern mountain yellow-legged frog (*Rana muscosa*) FE/SE
- western spadefoot (*Spea hammondi*) Federal Proposed Endangered
- least Bell's vireo (*Vireo bellii pusillus*)

There is no suitable habitat within the project site for any of these species. Further the site does not occur with Designated Critical Habitat. Therefore, "take" authorization for Proposed project area will not be required.

The Site was also assessed for the presence of state and/or federal jurisdictional waters that may potentially be impacted by the Development Area. The jurisdictional waters assessment was conducted in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual, Jurisdictional Determination using the Instructional Guidebook, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and the Environmental Protection Agency and the Department of the Army's "2023 Amended Rule: Definition of 'Waters of the United States,'" effective September 8, 2023. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland jurisdictional waters within the Subject Parcel. Therefore, the proposed project will not impact any jurisdictional waters of the United States or State Waters. No state or federal jurisdictional waters permitting will be required under current regulations.

This report describes biological resources, identifies state and/or federally listed species with potential to occur on site, presents representative site photographs. According to protocol and standard practices, the results of the Biological Resource Assessment will remain valid for the period of one year (February 2025), after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of special status species and to verify environmental conditions on site. Regardless of survey results and conclusions given herein, if any state or federally listed species are found on site during Development Area-related work activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions.

1. Introduction

The Proposed 1.5-million-gallon (MG) reservoir at the existing Reservoir 6A site. Therefore, on behalf of Tom Dodson and Associates (TDA) HDR, Inc. (HDR) has prepared this Biological Resources Assessment (BRA) report for the proposed reservoir construction. The BRA fieldwork was conducted by biologist Lisa Patterson in December 2023. The purpose of the BRA survey was to address potential effects of the proposed reservoir construction on 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/or the California Endangered Species Act (CESA), as well as any species otherwise 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).

In December 2023, HDR's biologists conducted a Biological Resources Assessment survey to address potential effects of the proposed reservoir construction on designated Critical Habitats and/or special status species. The results of the Biological Resources Assessment are intended to provide sufficient baseline information to the District and, if required, to City and/or County planning officials as well as any potentially interested federal and state regulatory agencies to determine if the proposed project is likely to result in any adverse effects to sensitive biological resources and, if necessary, to identify mitigation measures to offset those effects.

The reservoir construction area was assessed for sensitive species known to occur locally. 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 vicinity of the existing reservoir site, whose habitat requirements are present within or adjacent to the Development Area. Results of the Biological Resource Assessment are intended to provide sufficient baseline information to the Development Area Proponent and, if required, to City, County or other local government planning officials and federal and state regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if the Development Area is likely to result in any adverse effects on sensitive biological resources and to identify mitigation measures to offset those effects.

In addition to the BRA survey, the Development Area was assessed for the presence of state and/or federal jurisdictional waters 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 1600 of the California Fish and Game Code (FGC), respectively.

Data regarding biological resources in the Development Area vicinity were obtained through literature review and field investigation. Available databases and documentation relevant to the Development Area were reviewed for documented occurrences of sensitive species that could potentially occur in the Development Area vicinity, including the U.S. Fish and Wildlife Service designated Critical Habitat online mapper and Information for Planning and Consultation System, as well as the most recent versions of the California Natural Diversity Database (CNDDB).

1.1 Development Area Description

The District seeks to install a new well, which would aid the District in meeting current and future demand, and provide backup for an existing aging well (Well No. 142) in the District's service area. Well No. 129 is proposed to be located within a less than one acre portion of an approximately 2.37-acre parcel within the City of Highland (Assessor's Parcel Numbers [APN] 1210-381-10) a site north/northwest of the intersection of Calle Del Rio Street and Vista Clara Street, south of Oak Creek in the City of Highland (refer to the site plan provided as Figure 4). The District owns APN 1210-381-10, which presently contains two 3-million gallon (MG) steel water storage reservoirs. The site is referred to as EVWD Plant No. 129.

The site would include the following features: the new well (wellhead); an 8” diameter pipeline connecting to the District’s booster pump station onsite; a 4’ diameter reinforced concrete pipe (RCP) that extends 2’ above grade and 16” RCP drain line; chlorine and orthophosphate dosing systems; a 55’ x 20’ Concrete Masonry Unit (CMU) block building with a standing seam metal roof enclosing the wellhead, discharge header, pump-to-waste header, electrical equipment, and chemical facilities. It is assumed that minor grading will be required to construct the structure.

1.2 Environmental Setting

Reservoir 6A and the proposed Reservoir 6A-2 are in the western portion of the Mojave Desert, west side of the Mojave River at the base of the northern site of the transverse San Gabriel Mountain range. The Phelan-Piñon Hills 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 proposed project is located at the foothills of the San Bernardino Mountains, within San Bernardino County, with only one small residential subdivision separating the project site from the San Bernardino Mountain foothills. The proposed project site is in the Upper Santa Anna Valley. The project site currently contains EVWD’s Plant No. 129, which consists of two 3-MG water storage reservoirs, and a booster pump station. The site has been entirely developed and is covered with asphalt excepting the areas on the northwestern, northern, and eastern site boundaries, which contain trees and managed vegetation. The ground surface of the proposed project site ranges in elevation from between about 1,527 to 1,558 feet above mean sea level (amsl). The site slopes gently along the project’s eastern boundary, as the adjacent residences are at a slightly higher elevation than the project site.

1.2 Environmental Setting

The project area lies in the geographically based ecological classification known as the Inland Valleys – Level IV ecoregion, of the Southern California/Northern Baja Coast – Level III ecoregion. The goal of regional ecological classifications is to reduce variability based on spatial covariance in climate, geology, topography, climax vegetation, hydrology, and soils. The Inland Valleys ecoregion is a heavily urbanized ecoregion that historically consisted of the alluvial fans and basin floors immediately south of the San Gabriel and San Bernardino Mountains.

2. Assessment Methodology

2.1 Biological Resources Assessment

Data regarding biological resources in the Development Area vicinity were obtained through literature review, desktop evaluation and field investigation. Prior to performing the field survey, available databases, and documentation relevant to the Development Area were reviewed for documented occurrences of sensitive species that could potentially occur in the Development Area vicinity. The USFWS designated Critical Habitat online mapper, USFWS threatened and endangered species occurrence data overlay, and the most recent versions of the California Natural Diversity Database (CNDDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases were searched for sensitive species data in the *Redlands*, USGS 7.5-Minute Series Quadrangle. 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 Development Area site (approximately 3 miles). Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

2.1.1 Biological Resources Assessment Field Survey

Biologist Lisa Patterson conducted a biological resources assessment of the Development Area on December 5, 2023. The field survey and floristic botanical field survey consisted of a pedestrian survey that encompassed the entire Subject Parcel and immediate surrounding area where feasible and appropriate. Wildlife species were detected during field surveys by sight, calls, tracks, scat, and/or other sign. In addition to species observed, expected wildlife usage of the site was determined based on 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 that may occur within the Development Area vicinity.

2.2 Jurisdictional Delineation

On December 5, 2023, Ms. Patterson also evaluated the Subject Parcel 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 Development Area were viewed to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. Environmental Protection Agency (EPA) Water Program “Waters GeoViewer 2.0” and “Google Earth Pro” data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site, and to assess connectivity to a Traditionally Navigable Water or a Relatively Permanent Water. Similarly, the United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) “Web Soil Survey” was reviewed for soil types found within the Development Area to identify the soil series in the area and to check these soils to determine whether they are regionally identified as hydric soils. 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 Water Mark (OHWM) in accordance with regulations set forth in 33CFR part 328 and the USACE guidance documents listed below:

- 2.2.1 *USACE – Corps of Engineers Wetlands Delineation Manual, Wetlands Research Program Technical Report Y-87-1 (on-line edition), January 1987 - Final Report.*
- 2.2.2 *USACE – Jurisdictional Determination Form Instructional Guidebook (JD Form Guidebook), May 30, 2007.*

- 2.2.3 *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.*
- 2.2.4 *USACE – Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), September 2008.*
- 2.2.5 *USACE – Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Minimum Standards), January 2016.*
- 2.2.6 *The Environmental Protection Agency (EPA) and the Department of the Army’s “Amended 2023 WOTUS Rule: Definition of ‘Waters of the United States,’” September 1, 2020 effective September 8, 2023.*

2.3 Jurisdictional Waters of the US: Waters and Wetlands

To be considered a jurisdictional Waters of the United State under the CWA, Section 404 a feature must fall within one of the Categories below:

- (a)(1) Traditionally Navigable Waters
 - (i) Traditional Navigable Waters: Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
 - (ii) Territorial Seas
 - (iii) Interstate Waters
- (a)(2) Impoundments of Jurisdictional Waters
- (a)(3) Tributaries: Tributaries of waters identified in paragraph (a)(1) or (2) that are relatively permanent, standing, or continuously flowing bodies of water.
- (a)(4) Adjacent Wetlands: Wetlands adjacent to the following waters:
 - (i) Waters identified in Paragraphs (a)(1), (a)(2), or (a)(3) WOTUS and have a continuous surface connection to those waters.
- (a)(5) Additional Waters: Intrastate Lakes and ponds not identified in (a)(1) through (4).that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to waters identified in (a)(1) or (a)(3).

To be considered a *jurisdictional wetland* under the federal CWA, Section 404, an area must possess three (3) wetland characteristics: *hydrophytic vegetation*, *hydric soils*, and *wetland hydrology*, and be adjacent to an (a)(1), (2), or(3) Water as defined in the Amended Waters Rule.

► **Hydrophytic vegetation**: Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2018 National Wetland Plant Lists for the Arid West Region (USACE 2018). Each species on the lists is rated with a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW or FAC.

Table 1. Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

► **Hydric Soil:** Soil maps from the USDA-NRCS Web Soil Survey (USDA 2023) were reviewed for soil types found within the Development Area. Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. There are several indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans.

The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions

are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Munsell 2000). Soil pits are dug (when necessary) to an approximate depth of 16-20 inches to evaluate soil profiles for indications of anaerobic and redoximorphic (hydric) conditions in the subsurface.

► **Wetland Hydrology:** The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987 and USACE 2008).

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code 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 survey site is disturbed land completely fenced and developed with access roads, existing reservoir, and operation/maintenance facilities and equipment. There is no extant native habitat occurring on the site. The surrounding areas support a mixed shrub community typical of the area and generally characterized by native shrub vegetation with some disturbance from off-highway vehicles and the dumping of trash, and transient encampments. Dominant species are creosote bush (*Larrea tridentata*), burrobush (*Franseria dumosa*), rabbit brush (*Chrysothamnus depressus*), indian rice grass (*Oryzopsis hymenoides*) and Russian thistle (*Salsola* sp.). Annuals observed during the survey included fiddleneck (*Amsinckia* sp.), brome (*Bromus* sp.), filaree Storksbill (*Erodium* sp.), and schismus (*Schismus barbatus*). Human disturbances associated with the surrounding developments.

3.1.1 Habitat

The project area does not support any native habitats. The site has been cleared of vegetation, and only scattered individual of annual species occurs in the proposed construction area.

3.1.2 Wildlife

Amphibians and Reptiles

No amphibian species were observed or otherwise detected within the Subject Parcel during the reconnaissance-level survey and none are expected to occur, due to the dry, upland nature of the site and absence of nearby water sources. Reptile species observed within the Subject Parcel during the reconnaissance-level field survey include western side-blotched lizard (*Uta stansburiana elegans*).

Birds

Birds were the most observed wildlife group during survey and species observed or otherwise detected in the Development Area during the reconnaissance-level survey include: red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), and white-crowned sparrow (*Zonotrichia leucophrys*).

Mammals

Identification of mammals within the Subject Parcel 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 small mammal trapping was performed.

The only mammal species observed was California ground squirrel (*Otospermophilus beecheyi*).

Special Status Species and Habitats

According to the CNDDDB, 6 sensitive species (2 plant species, 4 animal species) have been documented in the *Redlands*, USGS 7.5-Minute Series Quadrangle. This list of sensitive species includes any state and/or federally listed threatened or endangered species, or candidates, 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.

Only one state candidate species documented within the *Redlands* quad. There are no known occurrences within 3 miles of the proposed reservoir site.

The federal iPAC report identifies the potential for 4 listed or candidate species however non-are mapped within 13 miles of the site.

3.1.3 Special Status Species

No state and/or federally listed threatened or endangered species, or other sensitive species were observed within the Development Area during the reconnaissance-level field survey. An analysis of the likelihood for occurrence of all CNDDDB sensitive species documented in the *Redlands*, quad is provided in Appendix A. This analysis considers species’ range as well as documentation within the vicinity of the Subject Parcel 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 condition.

Findings: The Development Area does not have any native or natural habitats, further the will site will located in an asphalt parking lot

Special Status Habitats

The Subject Parcel does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species. The nearest Critical Habitat unit is greater than 3 miles northwest of the Subject Parcel.

Findings: The Development Area will not result in any loss or adverse modification of USFWS designated Critical Habitat, or any other special status habitats.

3.2 Jurisdictional Delineation

The Subject Parcel is within the Santa Ana River Hydrologic Area . The Santa Ana River is the largest river entirely within Southern California in the United States.[4] It rises in the San Bernardino Mountains and flows for most of its length through San Bernardino and Riverside counties, before cutting through the northern Santa Ana Mountains via Santa Ana Canyon and flowing southwest through urban Orange County to drain into the Pacific Ocean. The Santa Ana River is 96 miles (154 km) long,[5] and its drainage basin is 2,650 square miles (6,900 km²) in size.

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 Categories:

(a)(1) Traditionally Navigable Waters

(i) Traditional Navigable Waters: Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

(ii) Territorial Seas

(iii) Interstate Waters

(a)(2) Impoundments of Jurisdictional Waters

(a)(3) Tributaries: Tributaries of waters identified in paragraph (a)(1) or (2) that are relatively permanent, standing, or continuously flowing bodies of water.

(a)(4) Adjacent Wetlands: Wetlands are areas meeting all three wetland parameters that are adjacent to jurisdictional (a)(1), (a)(2), or (a)(3) WOTUS and have a continuous surface connection to those waters.

(a)(5) Additional Waters: Intrastate Lakes and ponds not identified in (a)(1) through (4).that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to waters identified in (a)(1) or (a)(3).

There are no wetland or non-wetland WOTUS within site.

State Lake/Streambed

There are waters of the State within site.

4. Conclusions and Recommendations

4.1 Sensitive Biological Resources

A BRA survey of the Subject Parcel was conducted in December of 2023 to identify potential habitat for special status wildlife within the Development Area. No special status wildlife species, including any state and/or federally listed threatened or endangered species, were observed or otherwise detected within the Project Site during the reconnaissance-level assessment survey. There is no suitable habitat for desert tortoise, California Condor, southwestern pond turtle, Crotch’s bumble bee, or Monarch butterfly.

The reservoir site does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the Development Area will not result in any loss or adverse modification of Critical Habitat.

Nesting Birds

The habitat within the Development Area is suitable to support nesting birds. Most native bird species are protected from unlawful take by the MBTA (Appendix D). 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).

The State of California provides additional protection for native bird species and their nests in the FGC (Appendix D). 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 Development Area- 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 prior to Development Area-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

In addition to the BRA and focused botanical field survey, the Subject Parcel was also assessed for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are channels or ponded features within the reservoir site. Therefore, no permitting with the CDFW, RWQCB, or USACOE will be required.

5. References

Calflora: Information on California plants for education, research and conservation. [web application]. 2023.

[Berkeley, California: The Calflora Database](http://www.calflora.org/) [a non-profit organization]. Available at: <http://www.calflora.org/>; accessed 2 June 2023.

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 Native Plant Society, Rare Plant Program. 2023. [Inventory of Rare and Endangered Plants of California](http://www.rareplants.cnps.org) [online edition, v8-03 0.45]. Available at: <http://www.rareplants.cnps.org>; accessed 2 June 2023.

California Natural Diversity Database (CNDDDB). 2023. [RareFind 5 \[Internet\]. California Department of Fish and Wildlife](https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data), Version 5.2.14. Available at: <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>; accessed 2 June 2023.

County of Riverside, Environmental Programs Department. Revised August 17, 2006. Burrowing Owl Survey Instructions for Western Riverside Multiple Species Habitat Conservation Plan Area, March 29, 2006.

County of Riverside, Land Information System. APN 900-030-036 search for site-specific information and maps. Dudek & Associates, Inc. June 17, 2003. Riverside County Integrated Development Area. Final Western Riverside County

Multiple Species Habitat Conservation Plan. Volume I, The Plan, and II.

Dudek & Associates, Inc. June 17, 2003. Riverside County Integrated Development Area. Final Western Riverside County Multiple Species Habitat Conservation Plan. Volumes II-A through E, The Reference Document.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1,

U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Griffith, G.E., Omernik, J.M., Smith, D.W., Cook, T.D., Tallyn, E., Moseley, K., and Johnson, C.B., 2016, Ecoregions of [California \(poster\): U.S. Geological Survey](#) Open-File Report 2016–1021, with map, scale 1:1,100,000, <http://dx.doi.org/10.3133/ofr20161021>; accessed 2 June 2023.

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.

Jepson Flora Development Area (eds.) 2023, Jepson eFlora, <http://ucjeps.berkeley.edu/eflora/>; accessed 2 June 2023.

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

National [Wetlands Inventory \(NWI\)](#). 2023. [U.S. Fish and Wildlife Service Wetlands Mapper](#). Available online at: <https://www.fws.gov/wetlands/data/mapper.html>; accessed 2 June 2023.

Natural Resources Conservation Service (NRCS). 2023. [Web Soil Survey. Map Unit Descriptions](#). Riverside County Area, California. Available at: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>; accessed 2 June 2023.

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.

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. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers (USACE). 2014. 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. Fish and Wildlife Service (USFWS). 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 (USFWS). 1997. DRAFT Recovery Plan for the Stephen's Kangaroo Rat, April 1997.

U.S. Fish and Wildlife Service, Region 1.

U.S. Fish and Wildlife Service (USFWS). 1998. Draft recovery plan for the least Bell's vireo. U.S. Fish and Wildlife Office. April 8, 3 pp.

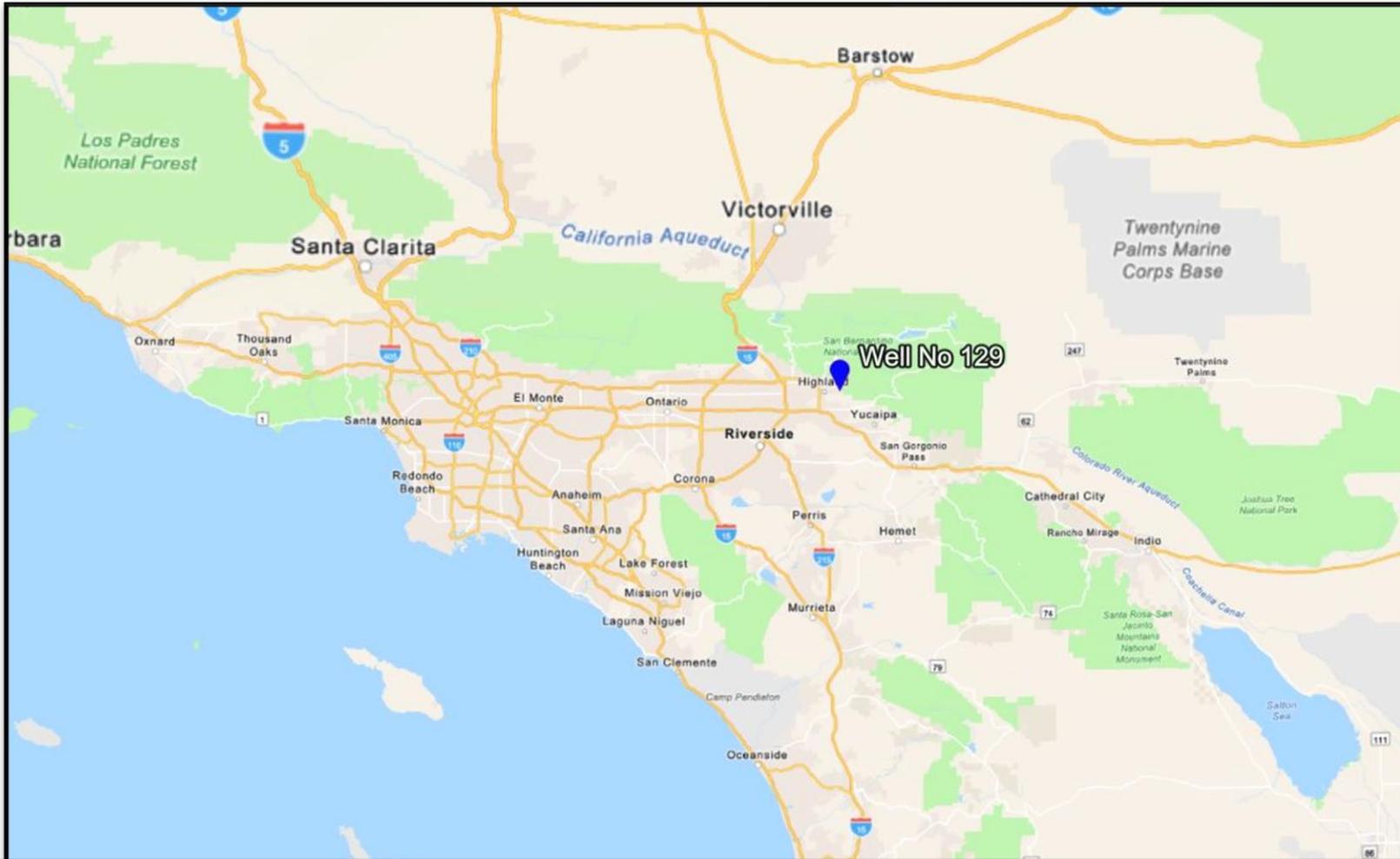
U.S. Fish and Wildlife Service (USFWS). 1999. Least Bell's Vireo Survey Guidelines. Issued by the Carlsbad Fish and Wildlife Office. April 8, 3 pp.

U.S. Fish and Wildlife Service (USFWS). 2003. Recovery Plan for the Quino Checkerspot Butterfly (*Euphydryas editha quino*). Portland, Oregon. x + 179 pp.

U.S. Fish and Wildlife Service (USFWS). 2013. *Allium munzii* (Munz's Onion) 5-Year Review: Summary and valuation. U.S. Fish and Wildlife Service Carlsbad Fish and Wildlife Office Carlsbad, CA.

Western Regional Climate Center. [Period of Record Monthly Climate Summary](https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0609) for Beaumont #2, California (040609). Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0609>; accessed 2 June 2023.

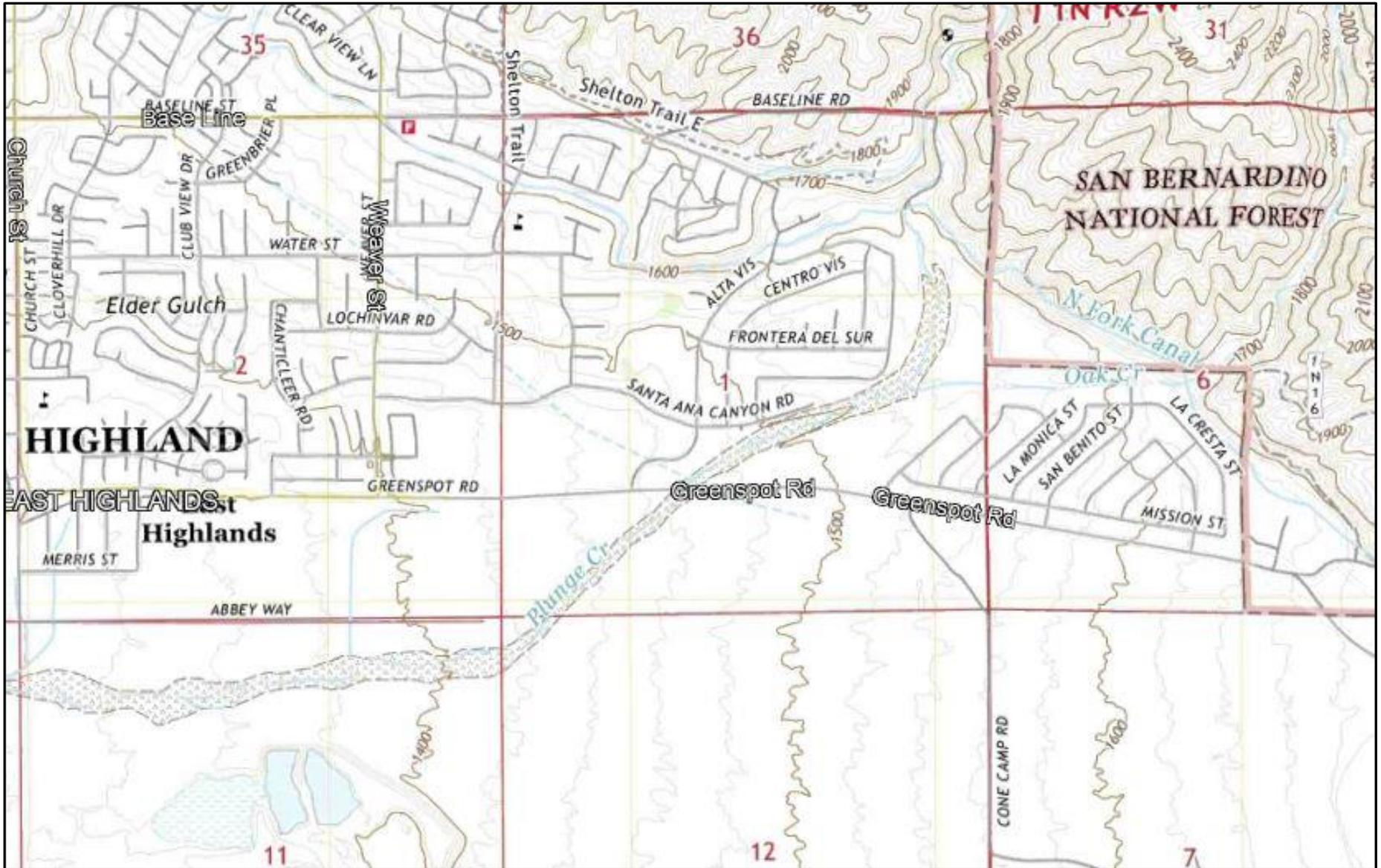
85 FR 22250. 2020. The Environmental Protection Agency (EPA) and the Department of the Army's "Navigable Waters Protection Rule: Definition of 'Waters of the United States,'" April 21, 2020 (effective June 22, 2020)



EMWD Well No 129

Figure 1

Regional Location Map

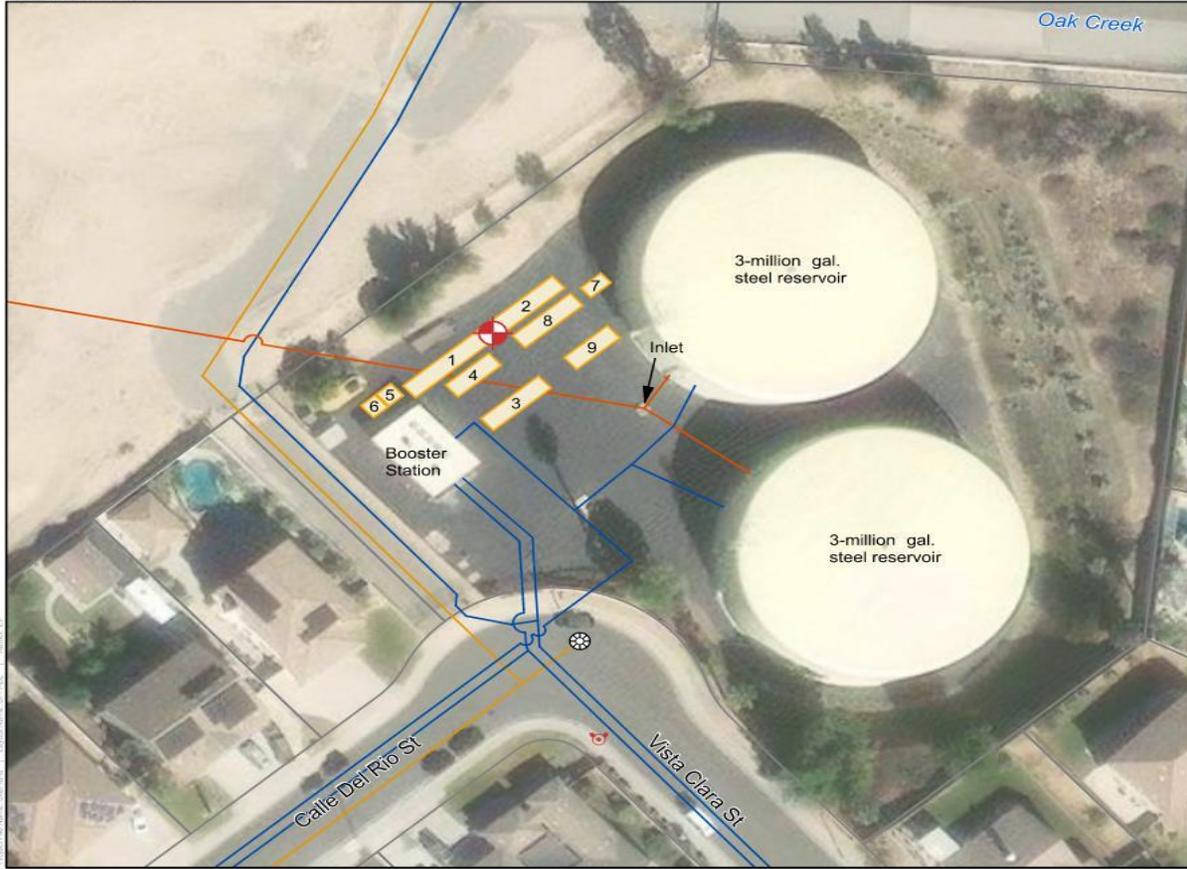


EMWD Well No. 129

Figure 2

Site Location Map

W:\GIS\EVWD\DCP\SitePlans.aprx



Explanation

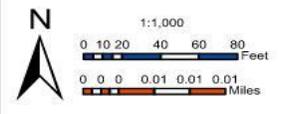
- Proposed Well
- Water
- Drain
- Sewer
- Parcel
- Fire Hydrant
- Manhole

Legend

- Work Area
- Reservoir Site

- Site Layout Notes**
- 1 - Drill Rig (10'x55')
 - 2 - Pipe Trailer (10'x45')
 - 3 - 21,000 gal. Settling Tank (10'x40')
 - 4 - Tool House (10'x30')
 - 5 - Compressor (10'x10')
 - 6 - Generator (10'x10')
 - 7 - Roll-off Bin, 10 Yards (8'x14')
 - 8 - Mud Tank (10'x40')
 - 9 - Field Office (10'x30')

Prepared by:



References/Notes:
 1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
 Projection: Mercator Auxiliary Sphere
 Datum: WGS 1984

Prepared for:

Figure 3
 Well Site
 Project Description for the EVWD
 Well No. 129 Project

EMWD Well No. 129

Figure 3
 Areal Map

**Appendix A. CNDDDB Species and Habitats Documented Within the *Redlands*,
USGS 7.5-Minute Quadrangle**

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle "Redlands"

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Accipiter cooperii</i>	Cooper's hawk	None	None	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	None	None	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Anniella stebbinsi</i>	Southern California legless lizard	None	None	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Antrozous pallidus</i>	pallid bat	None	None	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle "Redlands"					
Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Arenaria paludicola</i>	marsh sandwort	Endangered	Endangered	Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Arizona elegans occidentalis</i>	California glossy snake	None	None	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	None	None	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	None	None	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle “Redlands”

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Athene cunicularia</i>	burrowing owl	None	None	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Berberis nevini</i>	Nevin's barberry	Endangered	Endangered	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Bombus crotchii</i>	Crotch's bumble bee	None	Candidate Endangered	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	None	None	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle "Redlands"

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Centromadia pungens ssp. laevis</i>	smooth tarplant	None	None	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None	None	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego, Riverside, San Bernardino, and Los Angeles Counties, inclusive of Orange County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Chloropyron maritimum ssp. maritimum</i>	salt marsh bird's-beak	Endangered	Endangered	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Chorizanthe parryi var. parryi</i>	Parry's spineflower	None	None	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle “Redlands”

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Threatened	Endangered	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Crotalus ruber</i>	red-diamond rattlesnake	None	None	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Cuscuta obtusiflora var. glandulosa</i>	Peruvian dodder	None	None	Marshes and swamps (freshwater). Freshwater marsh. 15-280 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	Endangered	Endangered	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle "Redlands"

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	Threatened	Threatened	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Dodecahema leptoceras</i>	slender-horned spineflower	Endangered	Endangered	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Sandy soils. 200-765 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	Endangered	Endangered	Riparian woodlands in Southern California.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Eremophila alpestris actia</i>	California horned lark	None	None	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle “Redlands”

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Eriastrum densifolium</i> <i>ssp. sanctorum</i>	Santa Ana River woollystar	Endangered	Endangered	Coastal scrub, chaparral. In sandy soils on river floodplains or terraced fluvial deposits. 180-705 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Eugnosta busckana</i>	Busck's gallmoth	None	None	Coastal southern California. Tiny micro-moth (1 cm) with larva forming galls on host plant <i>Encelia californica</i> (California brittlebush). Adult flight period is during winter, generally from November to February, and have been reported at UV lights and porch lights.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Eumops perotis californicus</i>	western mastiff bat	None	None	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.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Icteria virens</i>	yellow-breasted chat	None	None	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle "Redlands"

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Imperata brevifolia</i>	California satintail	None	None	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-1495 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Lasiurus xanthinus</i>	western yellow bat	None	None	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Lepidium virginicum</i> <i>var. robinsonii</i>	Robinson's pepper-grass	None	None	Chaparral, coastal scrub. Dry soils, shrubland. 4-1435 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle “Redlands”

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Malacothamnus parishii</i>	Parish's bushmallow	None	None	Chaparral, coastal sage scrub. In a wash. 305-455 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Neolarra alba</i>	white cuckoo bee	None	None	Known only from localities in Southern California. Cleptoparasitic in the nests of perdita bees.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None	None	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None	None	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle “Redlands”

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Oncorhynchus mykiss irideus pop. 10</i>	steelhead - southern California DPS	Endangered	Candidate Endangered	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	None	None	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	None	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.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Polioptila californica californica</i>	coastal California gnatcatcher	Threatened	None	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle “Redlands”

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Rana muscosa</i>	southern mountain yellow-legged frog	Endangered	Endangered	Disjunct populations known from southern Sierras (northern DPS) and San Gabriel, San Bernardino, and San Jacinto Mtns (southern DPS). Found at 1,000 to 12,000 ft in lakes and creeks that stem from springs and snowmelt. May overwinter under frozen lakes. Often encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Rhinichthys osculus ssp. 8</i>	Santa Ana speckled dace	None	None	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Ribes divaricatum var. parishii</i>	Parish's gooseberry	None	None	Riparian woodland. Salix swales in riparian habitats. 65-300 m.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Setophaga petechia</i>	yellow warbler	None	None	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

CNDDDB Element Occurrences for USGS 7.5 min Quadrangle "Redlands"

Scientific Name	Common Name	Federal List	State List	Habitat	Probability of Occurrence
<i>Spea hammondii</i>	western spadefoot	Proposed Threatened	None	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Taxidea taxus</i>	American badger	None	None	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Thamnophis hammondii</i>	two-striped gartersnake	None	None	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.
<i>Vireo bellii pusillus</i>	least Bell's vireo	Endangered	Endangered	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	The Site is developed and contains two three-million-gallon reservoirs and supporting facilities. The proposed well is located within the asphalted yard and parking area. There are no natural biological habitats within the reservoir site. There are no suitable habitat or resources to support this species. Therefore, the probability of occurrence is zero.

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.

Appendix A - SITE PHOTOGRAPHS



Photo. View of existing Reservoir, existing building, and proposed well site inbetween.



Photo 2. View existing Conditions to the east of the proposed well site



Photo #3
Typical view east of
the proposed site



Photo #4
Typical view
proposed well
location.



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Appendix B. 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” (WOTUS) 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. Development Areas 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).

Amended 2023 Water of the US Definition:

The USACE has authority to permit the discharge of dredged or fill material in WOTUS under Section 404 of the CWA. According to the EPA and the Department of the Army’s January, 2023 was amended September 2023 following the Sackett Supreme Court Decision (effective May 25, 2023). The Definition of ‘Waters of the United States,’ WOTUS are defined under 5 categories: (a)(1) i Traditional navigable waters, ii The territorial seas, iii Interstate waters; (a)(2) Impoundments of Jurisdictional Waters; (a)(3) Relatively Permanent Waters that are tributaries to and (a)(1) or (a)(2) Water; (a)(4) Wetlands with a continuous surface connection to (a)(1), (a)(2), or (a)(3) Water; and (a)(5) Water not identified in (a)(1)-(4) that are Relatively permanent, standing or continuously flowing with a continuous surface connect to waters identified in (a)(1) or (a)(3) (85 FR 22250).

The 2023 Amended Rule specifically excludes from the definition of WOTUS:

- b)(1) Waste treatment systems
- (b)(2) Prior converted cropland
- (b)(3) Certain ditches
- (b)(4) Artificially irrigated areas that would revert to dry land if irrigation ceased
- (b)(5) Certain artificial lakes and ponds
- (b)(6) Artificial reflecting or swimming pools or other small ornamental bodies of water
- (b)(7) Certain waterfilled depressions
- (b)(8) Swales and erosional features.

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 Development Area “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 Development Area where any body of water is impounded, diverted, deepened, or otherwise modified. Development Area 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 depredating 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.

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, Development Areas 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 Development Area 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 Development Areas 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 Development Areas that would result in take of a species that is state listed only, the Development Area 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 (CFGC) list 37 fully protected species (CFGC 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 CFGC 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 Development Area- 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).

Native Plant Protection Act

The Native Plant Protect Act (NPPA) (1977) (CFGC 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 (CFGC 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

Appendex C
CNDDDB LIST



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad IS (Redlands (3411712))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
<i>Actinemys marmorata</i> northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
<i>Adela oplerella</i> Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S4	WL
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
<i>Aneides niger</i> Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
<i>Anniella stebbinsi</i> Southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
<i>Anodonta californiensis</i> California floater	IMBIV04220	None	None	G3	S2?	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Arenaria paludicola</i> marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Asio otus</i> long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
<i>Aspidoscelis hyperythra</i> orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S2	SSC
<i>Berberis nevinii</i> Nevin's barberry	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
<i>Bombus crotchii</i> Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
<i>Brachyramphus marmoratus</i> marbled murrelet	ABNNN06010	Threatened	Endangered	G3	S2	
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
<i>Calasellus californicus</i> An isopod	ICMAL34010	None	None	G2	S3	
<i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
<i>Centromadia pungens ssp. laevis</i> smooth tarplant	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
<i>Chloropyron maritimum ssp. maritimum</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
<i>Chorizanthe parryi var. parryi</i> Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S2	SSC
<i>Crotalus ruber</i> red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
<i>Cuscuta obtusiflora var. glandulosa</i> Peruvian dodder	PDCUS01111	None	None	G5T4?	SH	2B.2
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC
<i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat	AMAFD03061	None	None	G4T1	S2	
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	AMAFD03143	Endangered	Endangered	G5T1	S1	SSC
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	AMAFD03100	Threatened	Threatened	G2	S3	
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
<i>Dodecahema leptoceras</i> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
<i>Egretta thula</i> snowy egret	ABNGA06030	None	None	G5	S4	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S3	
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Eriastrum densifolium ssp. sanctorum</i> Santa Ana River woollystar	PDPLM03035	Endangered	Endangered	G4T1	S1	1B.1
<i>Eugnosta busckana</i> Busck's gallmoth	IILEM2X090	None	None	G1G3	S2S3	
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S3	
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S2	
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
<i>Icteria virens</i> yellow-breasted chat	ABPBX24010	None	None	G5	S4	SSC
<i>Imperata brevifolia</i> California satintail	PMPOA3D020	None	None	G3	S3	2B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05032	None	None	G3G4	S4	
<i>Lasiurus xanthinus</i> western yellow bat	AMACC05070	None	None	G4G5	S3	SSC
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
<i>Lepidium virginicum var. robinsonii</i> Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Malacothamnus parishii</i> Parish's bushmallow	PDMAL0Q0C0	None	None	GXQ	SX	1A
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia pusillula</i> Alameda song sparrow	ABPBXA301S	None	None	G5T2T3	S2	SSC
<i>Microcina homi</i> Hom's micro-blind harvestman	ILARA47020	None	None	G1	S2	
<i>Myotis evotis</i> long-eared myotis	AMACC01070	None	None	G5	S3	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Neolarra alba</i> white cuckoo bee	IIHYM81010	None	None	GH	SH	
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Nyctinomops femorosaccus</i> pocketed free-tailed bat	AMACD04010	None	None	G5	S3	SSC
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
<i>Oncorhynchus mykiss irideus pop. 10</i> steelhead - southern California DPS	AFCHA0209J	Endangered	Candidate Endangered	G5T1Q	S1	
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T3Q	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	AMAFD01041	None	None	G5T2	S1S2	SSC
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G4	S4	SSC
<i>Polioptila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T3Q	S2	SSC
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
<i>Rana boylei pop. 4</i> foothill yellow-legged frog - central coast DPS	AAABH01054	Threatened	Endangered	G3T2	S2	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Rana muscosa</i> southern mountain yellow-legged frog	AAABH01330	Endangered	Endangered	G1	S2	WL
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
<i>Rhinichthys osculus ssp. 8</i> Santa Ana speckled dace	AFCJB3705K	None	None	G5T1	S1	SSC
<i>Ribes divaricatum var. parishii</i> Parish's gooseberry	PDGRO020F3	None	None	G5TX	SX	1A
<i>Riversidian Alluvial Fan Sage Scrub</i> Riversidian Alluvial Fan Sage Scrub	CTT32720CA	None	None	G1	S1.1	
<i>Rynchops niger</i> black skimmer	ABNNM14010	None	None	G5	S2	SSC
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3	SSC
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
<i>Southern Coast Live Oak Riparian Forest</i> Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
<i>Southern Sycamore Alder Riparian Woodland</i> Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
<i>Spea hammondi</i> western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
<i>Speyeria adiastrae adiastrae</i> unsilvered fritillary	IILEPJ6143	None	None	G1G2T1	S1S2	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Proposed Endangered	Threatened	G5	S1	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Taricha rivularis</i> red-bellied newt	AAAAF02020	None	None	G2	S2	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis hammondi</i> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
<i>Trimerotropis infantilis</i> Zayante band-winged grasshopper	IIORT36030	Endangered	None	G1	S1	
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	

Record Count: 112

Appendix D
iPAC List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

San Bernardino County, California



Local office

Carlsbad Fish And Wildlife Office

☎ (760) 431-9440

📅 (760) 431-5901

2177 Salk Avenue - Suite 250

<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Jan 1 to Aug 31
<p>Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8</p>	Breeds Apr 1 to Aug 15
<p>Black-chinned Sparrow <i>Spizella atrogularis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447</p>	Breeds Apr 15 to Jul 31
<p>Bullock's Oriole <i>Icterus bullockii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Mar 21 to Jul 25
<p>California Gull <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 1 to Jul 31
<p>California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jan 1 to Jul 31
<p>Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084</p>	Breeds May 20 to Jul 31
<p>Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680</p>	Breeds Jan 1 to Aug 31

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat <i>Dipodomys merriami parvus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat <i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>) Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3495	Threatened

Birds

NAME	STATUS
Coastal California Gnatcatcher <i>Polioptila californica californica</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo <i>Vireo bellii pusillus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Southwestern Pond Turtle <i>Actinemys pallida</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4768	Proposed Threatened

Amphibians

NAME	STATUS
Western Spadefoot <i>Spea hammondi</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

Fishes

NAME	STATUS
Santa Ana Sucker <i>Catostomus santaanae</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3785	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Nevin's Barberry <i>Berberis nevinii</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8025	Endangered

San Diego Ambrosia *Ambrosia pumila* Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
<https://ecos.fws.gov/ecp/species/8287>

Santa Ana River Woolly-star *Eriastrum densifolium* ssp. Endangered
sanctorum
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/6575>

Slender-horned Spineflower *Dodecahema leptoceras* Endangered
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/4007>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Jan 1 to Aug 31
<p>Golden Eagle <i>Aquila chrysaetos</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680</p>	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

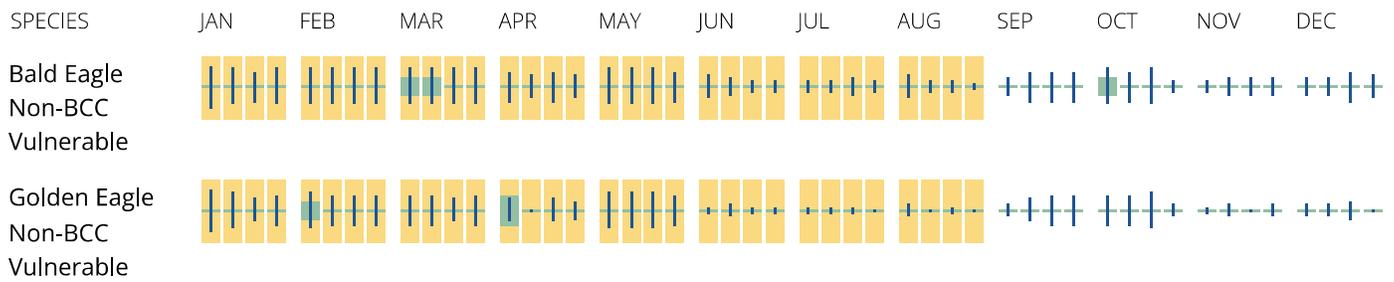
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Lawrence's Goldfinch <i>Spinus lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Northern Harrier <i>Circus hudsonius</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Nuttall's Woodpecker <i>Dryobates nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Santa Barbara Song Sparrow <i>Melospiza melodia graminea</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5
Western Grebe <i>Aechmophorus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

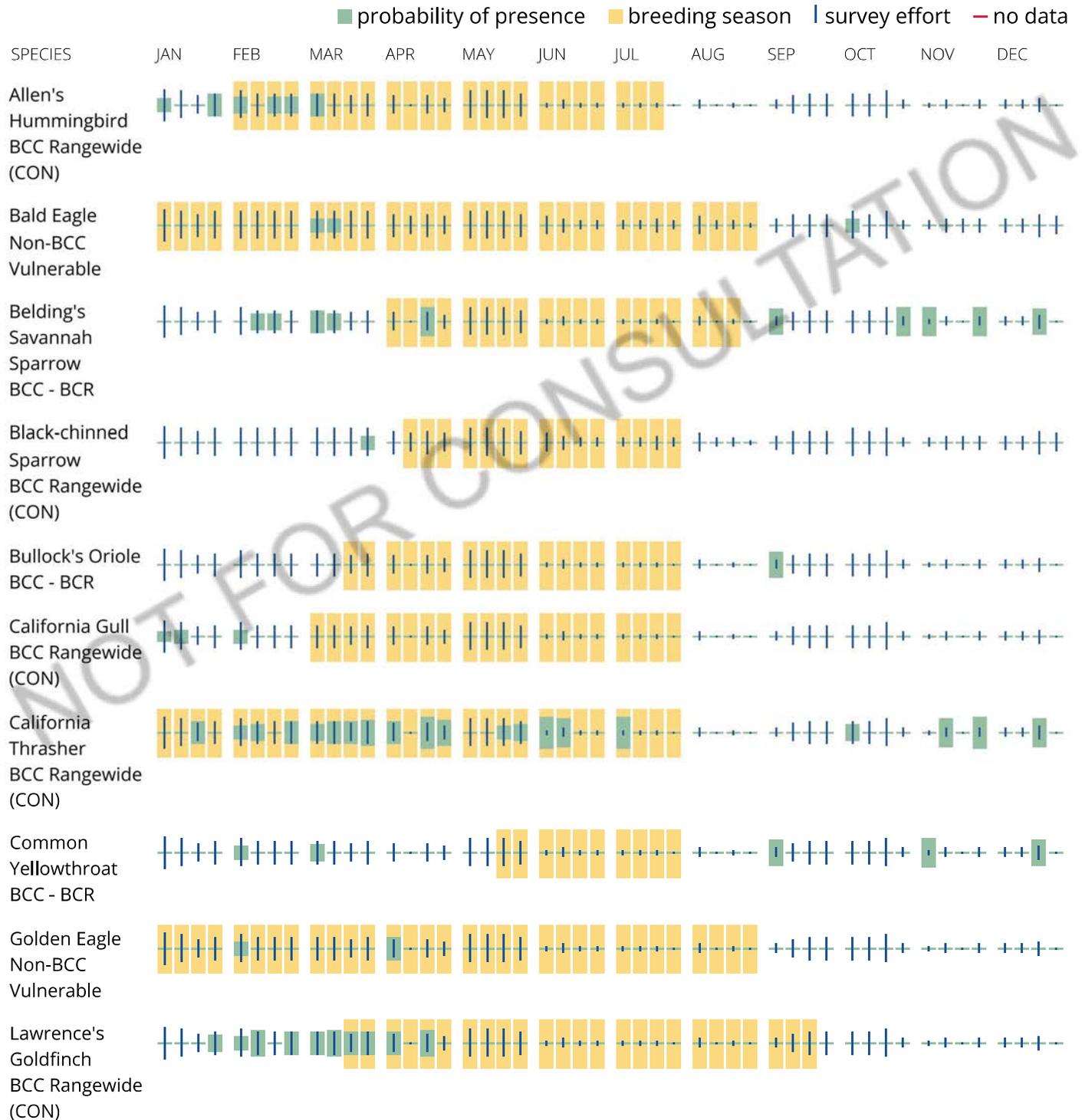
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

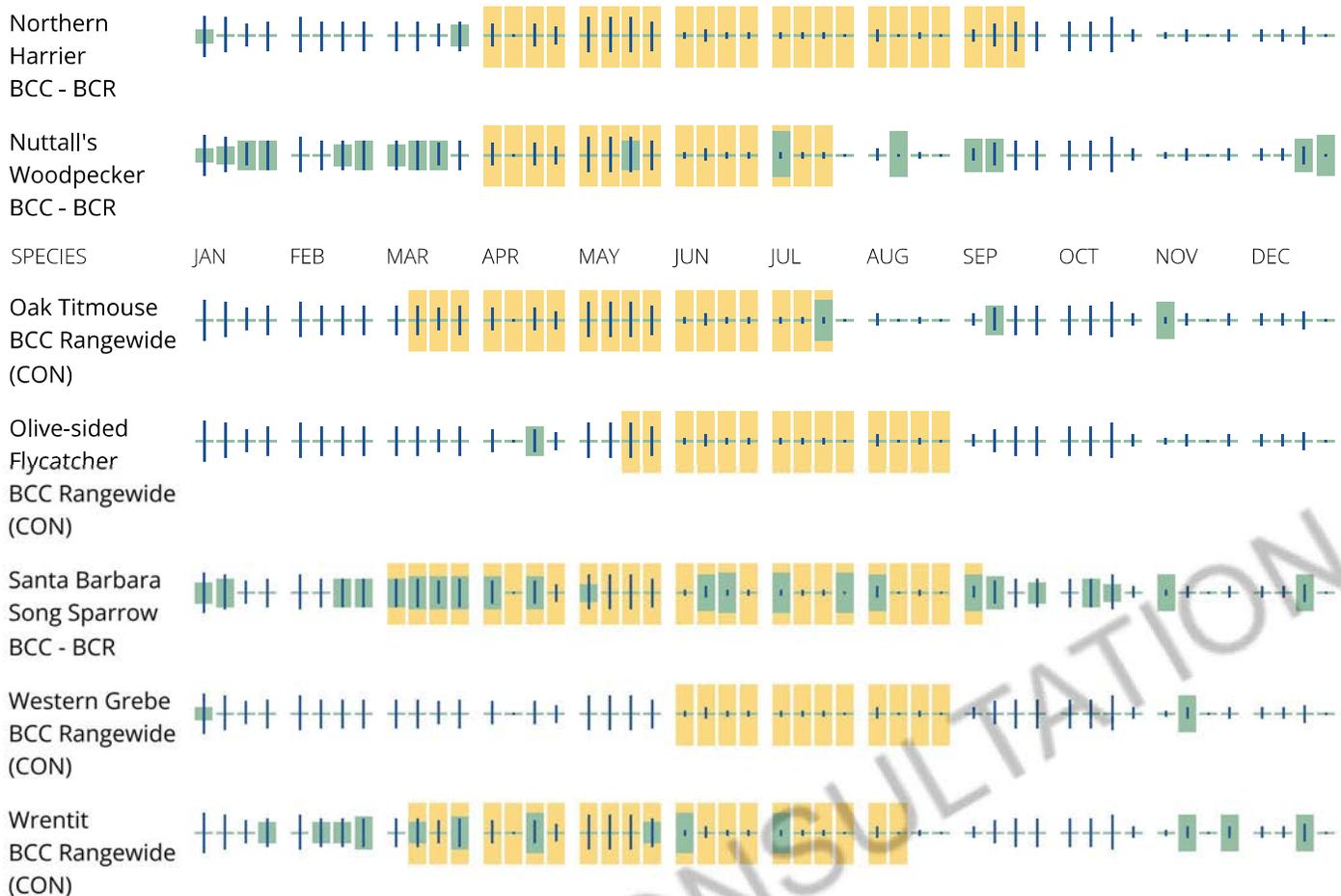
No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

APPENDIX 3



CULTURAL RESOURCES ASSESSMENT FOR THE EAST VALLEY WATER DISTRICT WELL 129 PROJECT

**ASSESSOR'S PARCEL NUMBER 1210-381-10
CITY OF HIGHLAND,
SAN BERNARDINO COUNTY, CALIFORNIA**

**FOR SUBMITTAL TO:
EAST VALLEY WATER DISTRICT
31111 GREENSPOT ROAD,
HIGHLAND, CA 92346**

**PREPARED FOR:
Tom Dodson and Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405**

**PREPARED BY:
Michelle Hart, M.A.
Mojave Archaeological Consulting, LLC
PO Box 271
Joshua Tree, CA 92252**

Document Details	
Document Title	Cultural Resources Assessment for the East Valley Water District Well 129 Project
Document Subtitle	Assessor's Parcel Number 1210-381-10, City of Highland, San Bernardino County, California
Date	28 May 2024
Author	Michelle Hart, M.A.
Consulting Firm	Mojave Archaeological Consulting, LLC
For Submittal to	East Valley Water District
Prepared for	Tom Dodson and Associates
USGS Quadrangle	7.5-minute Redlands, California; Section 1 T1S R3W, San Bernardino Baseline and Meridian

ABSTRACT

At the request of Tom Dodson and Associates, Mojave Archaeological Consulting, LLC, conducted a cultural resources investigation for the East Valley Water District's proposed Well 129 project, in the City of Highland, San Bernardino County, California. This report was prepared in accordance with the California Environmental Quality Act (CEQA) as part of the Initial Study for the project. Pursuant to the provisions of CEQA and state and local guidelines, the East Valley Water District (EVWD) is the Lead Agency for the proposed project.

EVWD proposes to install Well 129 on an approximately 2.4 acre parcel (Assessor's Parcel Number [APN] 1210-381-10). The parcel currently contains two 3-million-gallon steel reservoirs, an associated booster station, and asphalt paved parking and work areas surrounded by block walls, chain link fencing, and an access gate. The project site is located northeast of the intersection of Calle Del Rio Street and Vista Clara Street, in the City of Highland, on the USGS 7.5-minute map for Redlands, CA, within Section 1 of Township 1 South Range 3 West.

This report describes the methods and results of the cultural resources investigation of the project area, which included a records search and literature review, a Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC), and a pedestrian survey. The purpose of the investigation was to provide the East Valley Water District with the information and analysis necessary to determine the potential for the proposed project to impact "historical resources" and "archaeological resources" under CEQA.

The records search performed by the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS), included a 0.5-mile-wide buffer (study area), and indicated twenty-four previous cultural resource investigations and seven cultural resources are documented within the 0.5-mile study area. Of the previous investigations, one covered a portion of the project site (Mckenna et al. 1992). No cultural resources have been previously documented within the 2.4-acre project site.

The SLF search with the NAHC was completed with negative results. A copy of the NAHC's response letter and a list of Native American tribes who may also have knowledge of the project area are provided as an appendix to this report. Compliance with tribal notification and consultation under AB 52 is the responsibility of the Lead Agency (EVWD) under CEQA.

As most of the project site had not been previously surveyed for cultural resources, and due the age of any applicable previous cultural resource investigations, Mojave Archaeological Consulting conducted a site visit and survey of the 2.4-acre project site on 16 May 2024. No cultural resources were identified.

The project site is located on land that was used historically for agricultural purposes. No traces of historic orchard trees, historic irrigation systems, or any historic debris remain on the site. Oak creek, immediately to the north of the parcel, was utilized as an irrigation ditch during historic periods but the natural creek channel and subsequent irrigation ditch have been heavily modified through time for flood control purposes, altering both the natural and historic corridor of the creek/irrigation ditch any characteristic features. The entirety of the project site is heavily disturbed through decades of use including historic agricultural production, followed by subsequent grading, cut and fill, and contouring using heavy equipment in the 1990's, and the installation of the present water pumping and storage facility. Because of this, there is little to no potential for any intact or substantial buried cultural resources to remain at the project site.

Considering these findings, Mojave Archaeological Consulting recommends to the East Valley Water District that the proposed project will have no impact on historical or archaeological resources. No further cultural resources work is recommended necessary for the proposed project activities. However, in the

unlikely event that archaeological materials are encountered during ground disturbance for project activities, all work should be halted in the vicinity of the discovery until a qualified archaeologist can assess the significance and integrity of the find. If intact and significant archaeological remains are encountered, the impacts of the project should be mitigated appropriately. Any such discoveries, and subsequent evaluation and treatment, should be documented in a cultural resources report, which would be submitted to the SCCIC for archival purposes. Additionally, Health and Safety Code Section 7050.5, *CEQA Statute & Guidelines* Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the event of an accidental discovery of human remains. Finally, as progress plans are finalized, if the project area is expanded to include areas not covered by this survey or other recent cultural resource investigations, additional cultural resource studies may be required.

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Acronyms and Abbreviations

B.P. before present
 ca. circa
 cal calibrated years
 CCR California Code of Regulations
 CEQA California Environmental Quality Act
 CHRIS California Historical Resources Information System
 cm centimeter
 CRHR California Register of Historical Resources
 DPR California Department of Parks and Recreation
 EVWD East Valley Water District
 GLO General Land Office
 GPS Global Positioning System
 m meter
 NAHC Native American Heritage Commission
 NPS National Park Service
 OHP Office of Historic Preservation
 PRC Public Resources Code
 SLF Sacred Lands Files
 USGS United States Geological Survey

1 INTRODUCTION

1.1 Overview

The East Valley Water District proposes to drill and construct a new groundwater production well (Well 129), within its Foothill Pressure Zone in Highland, California. The well project will serve a dual purpose of maintaining current and future drinking water supplies and fortifying drought resiliency as outlined in the EVWD's 2024 draft Drought Contingency Plan.

Currently the well project is in its preliminary design phase. The EVWD plans to construct the well on an approximately 2.4-acre parcel (Assessor's Parcel Number [APN] 1210-381-10). The parcel contains two 3-million-gallon steel reservoirs, an associated booster station, and asphalt paved parking and work areas surrounded by block walls, chain link fencing, and an access gate. According to preliminary design plans, the well would be constructed within a previously-disturbed and paved area to the west of the existing water reservoirs and may include a disturbance footprint up to 50-feet in diameter at the well location. The well would be drilled to a depth of up to 540-feet for the installation of the well-casing and other materials. Staging for drill equipment including a drill rig, pipe trailer, compressors, generators, a field office, and other components would all occur within the western portion of the site on previously disturbed and paved areas. Further details regarding the installation of a permanent pumping system and associated infrastructure for the well will be determined in subsequent stages by the EVWD.

The project site is located northeast of the intersection of Calle Del Rio Street and Vista Clara Street, in the City of Highland, on the USGS 7.5-minute map for Redlands, CA, within Section 1 of Township 1 South Range 3 West.

The project is subject to the California Environmental Quality Act (CEQA). Initial technical studies to evaluate the potential environmental impacts of the project include a cultural resources assessment of the project site. Tom Dodson and Associates retained Mojave Archaeological Consulting, LLC, to conduct the cultural resources investigation for project compliance with CEQA. The East Valley Water District is the Lead Agency for compliance with CEQA.

Michelle Hart, M.A, meets the Secretary of Interior Standards for Professional Qualifications in the disciplines of Archaeology (Prehistoric and Historic), History, and Architectural History (36 CFR 61), and served as Principal Investigator for the current study. Ms. Hart initiated records searches with the South Central Coastal Information Center (SCCIC) and the Native American Heritage Commission (NAHC), and completed background research, survey fieldwork, and report writing. SCCIC staff completed the archaeological records search.

This report presents a site description ([Section 2](#)); the cultural context, which provides a review of the prehistoric and historic background for the project area ([Section 3](#)); the regulatory framework that mandates consideration of cultural resources in project planning ([Section 4](#)); the methods used in the field survey and resource evaluation ([Section 5](#)); the results of the study ([Section 6](#)); conclusions and recommendations ([Section 7](#)); and references cited ([Section 8](#)).

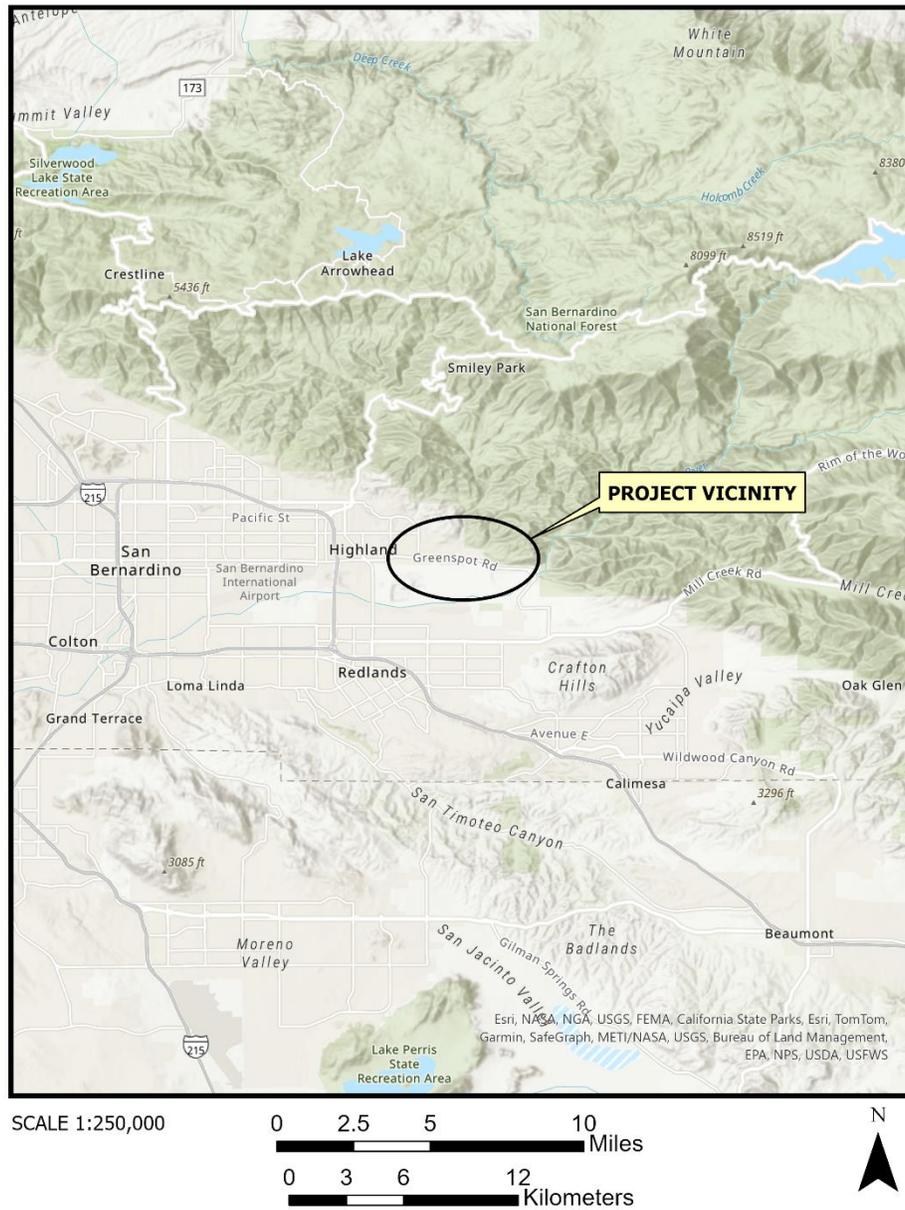


Figure 1: Project Vicinity

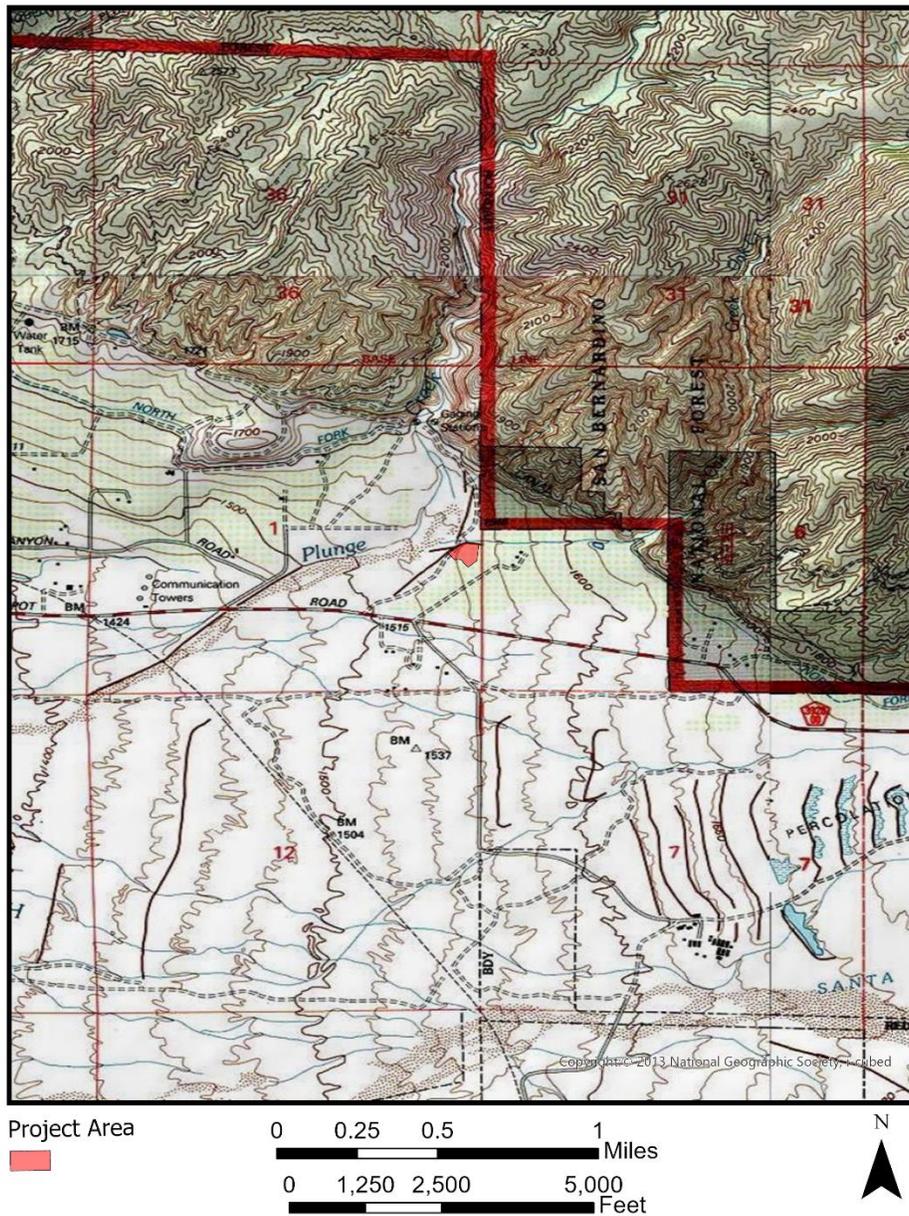


Figure 2: Project Location, Scale 1:24,000, USGS 7.5' Redlands, CA Topographic Quadrangle

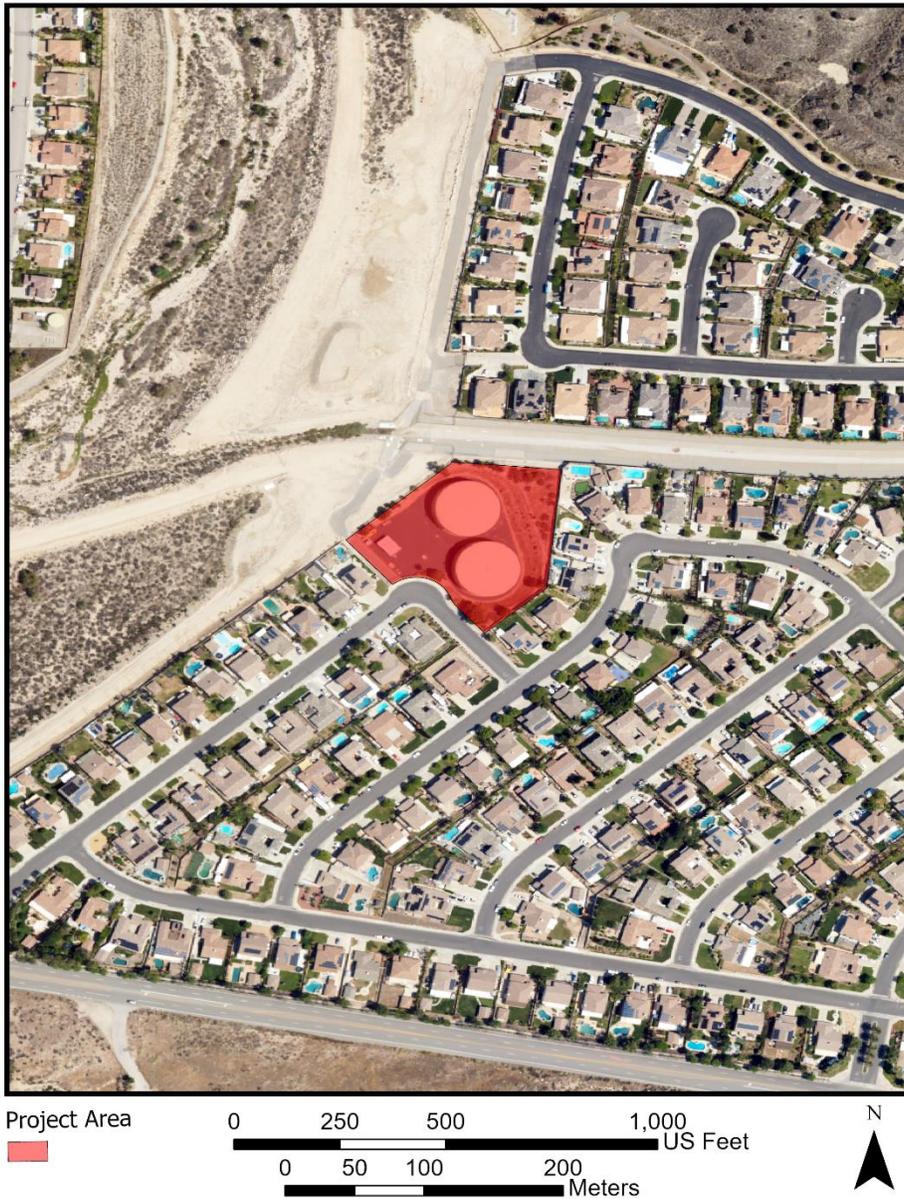


Figure 3: Project Site on NAIP Aerial Imagery (Data Source: USGS Earth Explorer)

2 SITE DESCRIPTION

2.1 Current Site Use

The project site consists of an approximately 2.4-acre parcel owned by the East Valley Water District. It is located on the northeast side of the intersection of Calle Del Rio Street and Vista Clara Street, in the community of East Highlands within the City of Highland, San Bernardino County. The site is situated in a residential area north of Greenspot Road. The parcel is surrounded by single family homes to the east, south, and southwest. To the northeast, the project site is bound by a concrete-lined flood control channel for Oak Creek. The site itself contains two large 3-million-gallon steel reservoirs, an associated booster station and asphalt paved parking and work areas surrounded by block walls, chain link fencing, and an access gate. The entirety of the site is paved and developed with the exception of approximately 0.7-acres on the eastern side of the site which consists of steep slope that has been stabilized with irrigated non-native vegetation. The site is accessed via a gated driveway on the southwest side of the parcel. A small, paved access road to the west of the entry gate provides access to the flood control channel to the north of the property.

2.2 Topography and Geology

The project site is located at the base of the San Gabriel and San Bernardino Mountains, in northern Highland, in the inland valley region of San Bernardino County. The area is located within a series of rocky alluvial fans in the drainages of Plunge Creek and Oak Creek, running south and southwest of the Santa Ana River. Peaks of the mountains to the north rise from 6,000 to over 10,000 feet and include Highland Peak, Whitecliff Peak, Silver Peak, and Morton Peak, which drain into steep and deeply incised canyons which feed the Santa Ana River and multiple streams and drainages. The geologic units which comprise the project site include unconsolidated quaternary alluvium and terrace deposits dating from the Pleistocene to Holocene (USGS 2023). The project site lies at an elevation of approximately 1,530-feet and slopes to the southwest. Soils in the general area consist of sandy loam with numerous boulders and rocks.

2.3 Local Climate and Ecology

Highland has a Mediterranean climate with an average of thirteen inches of precipitation annually. High temperatures in the summer are hot and can exceed 96-degrees Fahrenheit. Winters are comparatively mild and rarely drop below 38 degrees. Prior to historical development, vegetation in the general vicinity of the project site would have been dominated by valley grassland and Riversidian sage-scrub communities, with riparian communities at springs, creeks, and other water sources. Common plant species native to the project area would have included California buckwheat, brittle-bush, black sage, white sage, Yerba Mansa and a variety of grasses, forbs and succulents. The region also would have provided habitat for various fauna including bobcat, gray fox, opossum, raccoons, jackrabbits, cottontail rabbits, kangaroo rats, ground squirrels, Mule deer, coyote, quail, rattlesnakes, and other species.

Plate 1: Overview of the project site from Calle Del Rio Street, view to the northeast.



Plate 2: West side of project site looking towards booster station, view to the northwest from entry gate.



Plate 3: Overview of the project site with existing reservoir tanks and paved areas, view towards the north from the access gate.



Plate 4: Overview of unpaved area, east side of parcel beyond reservoir tanks. Ground surface consists of non-native top-soil and irrigated landscaping on steeply cut and contoured slope, view to the northeast from Vista Clara Street.



3 CULTURAL PERSPECTIVE

The following presents a cultural context for the project vicinity. This overview addresses the broader perspective of prehistoric and historic use in the area and is based upon numerous past reports and synthesis that summarize the history of human occupation in Southern California. This context is summarized from relevant reports (Goldberg et al. 2001), as well as cultural frameworks from several decades of past regional archaeological research, including Horne and McDougal (2003), Rogers (1929, 1939), Warren (1980, 1984); Warren and Crabtree (1986), and Wilke (1978) among others, as cited below.

3.1 Prehistoric Chronology

Prehistoric occupation of the inland valleys of Southern California can be divided into seven cultural periods: Paleoindian (circa 12,000–9,500 B.P.), Early Archaic (9,500–7,000 B.P.), Middle Archaic (7,000–4,000 B.P.), Late Archaic (4,000–1,500 B.P.), Saratoga Springs (1,500–750 B.P.), Late Prehistoric (750–410 B.P.), and Protohistoric (410–180 B.P.), which was followed by the ethnographic period. Due to the nature of most prehistoric archaeological sites identified within the Highland area, the prehistoric cultural setting discussed below begins in the Late Archaic period. For the most part, the prehistory of the inland valleys of Southern California is less thoroughly understood than that of the nearby desert and coastal regions, and with the exception of a small selection of recent research in recent decades, including that of Horne and McDougal (2003), there is a lack of comprehensive synthesis developed specifically for the interior valley and mountain localities of Southern California that characterize the region.

3.1.1 Late Archaic Period (4,000 to 1,500 B.P.)

Archaeologists discuss the Late Archaic period as a time of cultural intensification in Southern California (Goldberg et al. 2001). The beginning of the Late Archaic coincides with the Little Pluvial period, a time of increased moisture in the region which continued to increase in the desert interior by approximately 3,600 B.P. and lasted throughout most of the Late Archaic period resulting in more extensive occupation of the region. By approximately 2,100 B.P., however, drying and warming increased, possibly providing a catalyst for resource intensification. Archaeological site types typical of this period include residential bases with large diverse artifact assemblages, abundant faunal remains, and cultural features; as well as temporary base camps and task-specific activity areas. Generally, sites showing evidence of the most intensive use tend to be on benches adjacent to mountain ranges and near reliable water sources, such as springs or streams, while less intensively used sites often occur either on upland benches or on the margins of active alluvial fans (Goldberg et al. 2001).

Data from Late Archaic archaeological sites also suggest increased sedentism and a semi-sedentary resource collection strategy. The increase of features and midden deposits in sites with Late Archaic components is suggestive of longer use and more frequent reuse than that seen during the Middle Archaic period, which perhaps can be attributed to increasing moisture which improved the conditions and available resources of Southern California after 3,100 B.P. (Goldberg et al. 2001). A warmer and dryer climate after 2,100 B.P. likely stressed populations and influenced resource procurement strategies, ultimately contributing to subsistence diversification, resource intensification, and perhaps resulting in a permanent trend towards less mobile lifeways (Goldberg et al. 2001).

Advanced resource processing technologies introduced during the Late Archaic period include the mortar and pestle which were used for processing acorns, mesquite pods, and other hard seeds. This development correlates with the warming and drying trend that began around 2,100 B.P. and resulting resource intensification and increased reliance on storable food staples. At the same time, hunting also

presumably gained in importance. Archaeological evidence of this includes many broad leaf-shaped blades and stemmed or notched projectile points that have been found in association with mammal bones. Bone and antler implements and the occasional use of asphaltum and steatite are also characteristic of this period (Goldberg et al. 2001).

Most chronological sequences for Southern California recognize the introduction of the bow and arrow around 1,500 B.P. The transition to this technology is marked by the appearance of small arrow points as well as arrow shaft straighteners. Overall, technology represented in the artifact assemblage of this period is similar to that of the preceding Middle Archaic but new tools were added either as innovations or as “borrowed” cultural items. Common diagnostic projectile points of this period are still consistent with dart points based on their large size, but also include more refined notched, concave base, and small stemmed forms including Elko, Humboldt, and Gypsum types (Warren 1984). Rose Spring arrow points began to appear in the archaeological record as bow and arrow technology from the Great Basin and the Colorado River region spread to California, beginning in the desert regions.

3.1.2 Saratoga Springs Period (1500 to 750 B.P.)

During the beginning of the Saratoga Springs Period, cultural trends that began during the Late Archaic Period continue. These include increasing adaptation to an increasingly arid environment in the desert and increased trade relations (Warren 1984). Warren defined four cultural spheres within the Mojave and Colorado deserts during the early part of this period, including a southern desert sphere influenced by Patayan cultures from the Colorado River. Warren discusses these trends within the Coachella Valley and San Jacinto Mountain regions, but it is less clear whether this influence extended as far west as the inland valley region where the project area is located.

Lake Cahuilla was periodically present within the Coachella Valley, and researchers estimate its last infilling occurred around 1,450 B.P. As a large freshwater lake in an otherwise arid region, it was the focus of Native subsistence activities including the exploitation of fish, waterfowl, and other wetland resources. Linguistic evidence suggests that desert people who spoke Shoshonean languages, may have moved into Southern California at this time. Brown and Buff Ware pottery first appeared on the lower Colorado River at about 1,200 B.P. and started to spread across the California deserts by about 1,100 B.P. (Moratto 1984). By around 1,060 B.P., environmental conditions became notably warmer and drier. This period of intense drought extended throughout the Southwest (Stine 1994; Warren 1984). As desert areas became increasingly marginal, Native American populations are believed to have retreated to more favorable foothill and mountain environments. Human occupation of the inland valley regions may also have declined during this period and use focused on springs and other reliable sources of water (Goldberg et al. 2001).

3.1.3 Late Prehistoric Period (750 to 400 B.P.)

Warmer and drier climate extended into the Late Prehistoric Period, until around 575 B.P. A period of lower temperatures and increased precipitation, known as the “Little Ice Age”, resulted in increased resource productivity and corresponding population growth in the inland region. Artifact assemblages that included Cottonwood Triangular arrow points began to appear in inland areas at this time, and obsidian sourced from Obsidian Butte in the Colorado Desert is seen more frequently (Goldberg et al., 2001). By about 500 B.P., distinctive ethnic patterns developed among native populations in Southern California, potentially reflective of accelerated cultural change brought about by increased efficiency in cultural adaptation and diffusion of technology from the southern Great Basin as well as the central coastal region of California (Douglas 1981). As Lake Cahuilla receded large shoreline sites occupied by Patayan populations were abandoned and Patayan people move westward into Anza Borrego, Coyote Canyon,

the Upper Coachella Valley, the Little San Bernardino Mountains, and the San Jacinto Plain (Wilke 1976, Waters 1983). It is estimated the final desiccation of Lake Cahuilla occurred by approximately 400 B.P. (A.D. 1640), which resulted in a final population shift away from the lakebed into the Peninsular Ranges to the west, and the Colorado River regions to the east.

3.1.4 Protohistoric Period

Advanced technologies including the utilization of the bow and arrow resulted in increased hunting efficiency while a renewed abundance of mortars and pestles indicates extensive exploitation of various hard nuts and seeds. As a result of increased resource utilization of the area, sedentism intensified with small fully sedentary villages forming during the Protohistoric period. This is demonstrated by sites containing deeper midden deposits suggesting more permanent habitation. Protohistoric Period villages, or rancherias, were noted by the early non-native explorers (True 1966, 1970). The cultural assemblage associated with this transitional period included the introduction of locally manufactured ceramic vessels and ceramic smoking pipes, an abundance of Obsidian Butte lithic material, Cottonwood Triangular and Desert Side-notched arrow points, as well as the addition of European trade goods, such as glass trade beads (Meighan 1954).

3.2 Ethnographic Setting

The project site is located within an area generally associated with the Serrano Indians, though also geographically bordering the lands of the Gabrielino and the Luiseno. It is difficult if not nearly impossible to assign definitive boundaries for tribal territories in the area due to aspects of sociopolitical organization and a lack of data. As noted by Strong (1929) and Bean and Smith (1978), the Serrano were organized into autonomous localized lineages occupying definite favored territories and village sites, but rarely claimed any territory farther removed from these locations.

Historically, the Serrano territory was wide-ranging, centered out of the San Bernardino Mountains, and including portions of the desert to the east, and the San Bernardino Valley region the south (Kroeber 1925). Estimates of pre-contact populations of most native groups in California vary substantially between sources, but Lowell John Bean suggested that the Serrano may have had a population of perhaps 2,500 people (Bean and Smith 1978).

Ethnographically, the Serrano relied on hunting, gathering, and fishing. Game for hunting included deer, antelope, rabbits, other small mammals, and various birds. Plant staples consisted of acorns, pine nuts, bulbs and tubers, berries, mesquite pods, various cacti, and yucca. Diverse materials were used for foraging and processing food, as well as shelter clothing, and other items. These materials included shell, wood, bone, stone, plant materials, animal skins, and features to make basketry, pottery, blankets, mats, nets, clothing, cordage, bows, arrows, drills, pipes, musical instruments, and other specialized items (Bean and Smith 1978). Reliable water sources dictated settlement locations and most villages were situated near water sources such as springs and streams. Serrano houses and other structures were generally round and constructed of poles covered with bark and tule mats. After contact, Serrano shelters were more commonly rectangular (Kroeber 1925). Villages also often had a ceremonial house which served as a central gathering place; other structures included granaries and sweathouses (Bean and Smith 1978).

Serrano contact with European populations occurred by 1771 when the Mission San Gabriel was established. More direct influence took place by 1819 when the Asistencia of San Bernardino in Redlands was established. Between 1819 and 1834 the Serrano were removed to the Mission and much of their traditional lifeway was dramatically altered. The Serrano and other tribes played an important role in the settlement of the region during the mission era and subsequent rancho period, as native populations, though substantially diminished by this time, supplied much of the labor force.

The project site is near the San Manuel Reservation, and Serrano-affiliated tribes include the Morongo Band of Mission Indians, San Fernando Band of Mission Indians, San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation) and the Serrano Nation of Mission Indians (nahc.ca.gov 2024).

3.3 Historical Setting

Generally, European contact with Southern California Native American groups dates to as early as 1540 with the arrival of the Spanish into California and the Southwest. In the 1770's Father Garces interacted with Southern California Native Americans as he traveled across the Mojave Desert and through the Cajon Pass enroute to the coastal region of Southern California (Walker 1986). Shortly after, Father Juniper Serra directed the establishment of nine missions throughout Alta California, including the Mission San Gabriel de Archangel in the San Gabriel Valley. Extensive tracts of land in the area were administered by the Mission San Gabriel until the Mexican government declared independence from Spain and ordered the secularization of the California missions in 1824. Following this order, mission lands were transferred and allotted to individuals to relocate populations from Mexico to California for settlement (Perry 2004 citing Mckenna 1995), and following transfer to private ownership, lands including the valley areas of Highland were converted to ranching and agricultural production (Perry 2004).

The project site is located near the boundary of the Rancho San Bernardino, a Mexican land grant of over 35,000 acres that was patented to Don Antonio Maria Lugo in 1813. Lugo's sons obtained subsequent land grants. Beginning in the 1850's the Lugos sold portions of their land to Mormon settlers. The current project site was located just outside of this settlement and was subject to homesteading, purchasing from the federal government, or granted as right-of-way property to the railroad.

As early as 1882, lands which include the current project site were owned by F.E. Brown, a large land holder in San Bernardino County (Mckenna 1992). By the 1890's most of the lands within Section 1 were owned by Alfred M. Alpin and an individual named Raiss. The lands were then transferred to various owners including members of a family named Smith. Research of tax deeds and assessor's records by Mckenna et al (1992) indicates the Smith family constructed irrigation in the area as early as the 1890's and planted orchards in both Section 6 and Section 1 north of Greenspot Road. A review of historic maps and aerial imagery confirms that orchard trees were present within the project site until modern periods when the site was cleared and graded for the construction of reservoir tanks in the mid-1990's.

4 REGULATORY FRAMEWORK

The project requires review and approval from the East Valley Water District and is subject to the requirements of CEQA. The *CEQA Statute & Guidelines* (Association of Environmental Professionals 2021) direct lead agencies to determine whether a project will have a significant impact on historical resources. Under CEQA, a cultural resource is considered “historically significant” is a “historical resource” if it is included in a local register of historical resources, listed in or determined eligible for listing on the California Register of Historical Resources (CRHR), or meets the requirements for listing on the CRHR under any one of the criteria of historical significance (see Section 4.2).

Compliance with CEQA’s cultural resource provisions typically involves several steps. Archival research and field surveys are conducted, and identified cultural resources are inventoried and evaluated in prescribed ways. A prehistoric and historical archaeological site, standing structure, building, or object deemed by the lead agency to be a historical resource must be considered in project planning and development. A project with an impact that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant impact on the environment. The lead agency is responsible for identifying potentially feasible measures to avoid, minimize, or mitigate significant impacts in the significance of historical resources.

4.1 California Environment Quality Act

The *CEQA Statute & Guidelines* include procedures for identifying, analyzing, and disclosing potential adverse impacts to historical resources, which include all resources listed in or formally determined eligible for the CRHR, or local registers. CEQA further defines a “historical resource” as a resource that meets any of the following criteria of historical significance:

- A resource listed, or determined to be eligible by the State Historical Resources Commission for listing, in the CRHR (Public Resources Code [PRC] Section 5024.1, Title 14 of the California Code of Regulations (CCR) Section 4850 et seq.)
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- A resource identified as significant (i.e., rated 1-5) in a historical resource survey meeting the requirements of PRC Section 5024.1(g) (California Department of Parks and Recreation [DPR] 523 Form), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered “historically significant” if it meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR Section 4852), as outlined below.

4.2 California Register of Historical Resources Criteria of Evaluation

Under CEQA, a resource may be considered “historically significant” if it meets one or more of the following criteria:

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California; or

2. It is associated with the lives of persons important in our past; or
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in prehistory or history.

The fact that a resource is not listed, or determined eligible for listing, in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Section 5020.1(j) or 5024.1

4.3 Regulations Concerning Discovery of Human Remains

Health and Safety Code Section 7050.5-7055

California Health and Safety Code Section 7050.5-7055 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in PRC Section 5097.98. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, they should contact the NAHC by telephone within 24 hours.

California Public Resources Code Section 5097.98

This code mandates that the lead agency adhere to the following regulations when a project results in the identification or disturbance of Native American human remains:

a) Whenever the Native American Heritage Commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

b) Whenever the Native American Heritage Commission is unable to identify a descendent, or the descendent identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendent, and the mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native

American burials with appropriate dignity on the property, in a location not subject to further subsurface disturbance.

c) Notwithstanding the provisions of Section 5097.9, the provisions of this section, including those actions taken by the landowner or his or her authorized representative to implement this section, and any action taken to implement an agreement developed pursuant to subdivision (l) of Section 5097.94, shall be exempt from the requirements of the California Environmental Quality Act [Division 13 (commencing with Section 21000)].

d) Notwithstanding the provisions of Section 30244, the provisions of this section, including those actions taken by the landowner or his or her authorized representative to implement this section, and any action taken to implement an agreement developed pursuant to subdivision (1) of Section 5097.94, shall be exempt from the requirements of the California Coastal Act of 1976 [Division 20 (commencing with Section 30000)].

4.4 Senate Bill 18

Senate Bill 18 requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting Tribal cultural resources. Senate Bill 18 stipulates that, as of March 2005, cities and counties must send any proposals for revisions or amendments to general plans and specific plans to those California Native American Tribes that are on the NAHC's contact list and have traditional lands located within the city or county's jurisdiction. Cities and counties must also conduct consultations with these tribes prior to adopting or amending their general plans or specific plans or designating land as open space.

4.5 Assembly Bill 52

Assembly Bill 52 was enacted to guarantee that Tribal cultural resources are protected to the largest extent possible throughout the development process. Tribal cultural resources are defined by PRC Section 21074 as follows:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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 purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(3) 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.

(4) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

If Tribal cultural resources are identified within a project area, impacts must be avoided or mitigated to the extent feasible. Assembly Bill 52 protects these resources by requiring that lead agencies seek Tribal consultation prior to the release of any CEQA documentation. Lead agencies must notify Tribes

traditionally and culturally affiliated with a potential project area within 14 days of a development application being complete. Upon this initial notification, tribes would confirm consultation within 30 days of notification if consultation is deemed necessary.

5 METHODS

This study was conducted in accordance with the California Office of Historic Preservation (OHP) *Archaeological Resource Management Reports Guidelines* (California OHP 1990), the *Guidelines For Archaeological Research Designs* (California OHP 1991), and *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* [48 Federal Register 44716-44740] (NPS 1983).

5.1 Literature and Records Search

A records search was requested from the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) on 09 April 2024 in order to identify any previously recorded cultural resources and previous cultural resource investigations in the vicinity of the project site. Additionally, maps and aerial imagery were reviewed to determine historic land uses in the area. The results of the SCCIC records search and historic map review are summarized in Section 6.

5.2 Sacred Lands File Search and Native American Outreach

Mojave Archaeological Consulting also contacted the Native American Heritage Commission (NAHC) on 09 April 2024, requesting a review of their Sacred Lands Files (SLF) to determine if any known Native American cultural properties (e.g., cultural resources, traditional use or gathering areas, places of religious or sacred activity) are present within or adjacent to the project area. The NAHC responded on 29 April 2024, stating the SLF search results were negative.

Compliance with Tribal notification and consultation under AB 52 is the responsibility of the Lead Agency (East Valley Water District) under CEQA. The results of the NAHC SLF search and applicable Native American contact list are included in Appendix A to elicit further information concerning any potential tribal cultural resources and to assist with government-to-government consultation requirements as needed.

5.3 Field Methods

Mojave Archaeological Consulting's Principal Investigator Michelle Hart visited the project site on 16 May 2024. The site has been previously developed by the water district and contains reservoir tanks, associated pumping equipment, and paved areas. As such, few areas of visible ground surface remain with the exception of several feet of earthen berm on the northern periphery of the site bounding an adjacent flood control channel and approximately 0.7-acres on the eastern side of the site which consists of steep slope with irrigated vegetation. The unpaved areas of the site were visually inspected to confirm levels of prior disturbance and to assess the potential for buried cultural deposits. The results and findings of the field visit are further summarized in Section 6.4.

6 RESULTS

6.1 Previous Investigations

A CHRIS literature and records search was performed by the SCCIC, which included a 0.5-mile-wide buffer (study area). The results of the search were received on 08 May 2024. A total of 24 cultural resource investigations have been previously conducted within the 0.5-mile study area (Tables 6.1-1 and 6.1-2). One of these investigations (McKenna 1992) included a portion of the current project site and is discussed below.

McKenna et al. conducted a cultural resource study of the right-of-way and facilities for the Greenspot Road Pipeline project in 1992. McKenna's study encompassed a small portion of the project site. Four historic cultural resources were identified and recorded during the study, none of which fall within the current project site.

Table 6.1-1: Previous Investigations within or intersecting the Project Site

Number	Year	Author(s)	Title
SB-02652	1992	Jeanette A. McKenna	An Archaeological Monitoring Program for the Greenspot Road Pipeline Along Greenspot Road, East Highlands, San Bernardino County, California

Table 6.1-2: Additional Previous Investigations within 0.5-Mile of the Project Site

Number	Year	Author(s)	Title
SB-00219	1974	Sarah H. Schlanger	Environmental Impact Evaluation: Archaeology of "East Highlands Ranch" East Highlands, California
SB-00715	1978	Joseph E. Hearn	Cultural Resources Assessment of East Highland Ranch Property
SB-01124	1981	Michael K. Lerch	Cultural Resources Assessment of the East Highland Ranch, San Bernardino County, California
SB-01125	1986	Michael K. Lerch	Cultural Resources Assessment of Tentative Tracts 13467, 13468, and 13469, East Highlands Ranch Phase 3, San Bernardino County, California
SB-01410	1983	East Highlands Ranch, Inc.	East Highlands Ranch Photo Essay
SB-01566	1986	James Brock, John F. Elliott, Benjamin Resnick, and William A. Sawyer	Santa Ana River Upstream Alternatives, Cultural Resources Survey
SB-01755	1987	Jeanne E. Arnold, Anne Q. Duffield, Roberta S. Greenwood, R. Paul Hampson, and Thad M. Van Bueren	Archaeological Resources of the Seven Oaks Dam Project, Upper Santa Ana River Locality
SB-01783	1988	David Hornbeck and Howard Botts	Seven Oaks Dam Project: Water Systems

Number	Year	Author(s)	Title
SB-01808	1988	R. Paul Hampson, Jerrel Sorensen, Susan K. Goldberg, Mark T. Swanson, and Jeanne E. Arnold	Cultural Resources Survey, Upper Santa Ana River, California
SB-02029	1989	Victor C. De Munck	Initial Cultural Resource Assessment: A Cultural Resource Assessment of a 20 Acre Tract of Land Designated P.N. 2-9013-000 Located in the East Highlands Area of San Bernardino County, California
SB-02853	1991	John M. Foster, James J. Schmidt, Carmen A. Weber, Gwendolyn R. Romani, and Roberta S. Greenwood	Cultural Resource Investigation: Inland Feeder Project, MWD of Southern California
SB-03037	1995	Deborah Mclean, Mari Pritchard-Parker, and Brad Sturm	Cultural Resources Assessment for 278.4 Acres within East Highlands Ranch, San Bernardino County, California
SB-03478	1985	Eric B. Sweetman	David Graves—Special Use Permit
SB-04067	2004	Bai Tom Tang	APN: 297-021-04, -05 & the Southern Portion of 097-021-12, Due Diligence/ Feasibility Investigation, City of Highland, San Bernardino County, California
SB-04827	2005	Josh Smallwood	Historical/Archaeological Cultural Resources Survey Report: The Calvary Chapel Project, City of Highland, San Bernardino County, California
SB-04828	2006	Josh Smallwood	Historical/Archaeological Cultural Resources Survey Report: (Addendum to) The Calvary Chapel Project, City of Highland, San Bernardino County, California
SB-04831	2005	Curt Duke and David Brunzell	Cultural Resources Assessment: Upper Santa Ana River Wash Land Management and Habitat Conservation Plan, San Bernardino County, California
SB-05672	2005	URS Corporation	Cultural Resources Technical Report: North Fork Channel, East Valley Water District
SB-05816	2007	Tiffany A. Schmidt and Janis K. Offerman	East Branch Extension Phase II Archaeological Survey Report, San Bernardino County, California
SB-06839	2010	Mitchell Marken	East Branch Extension Phase II Project, Extended Phase I Archaeological Survey and Assessment
SB-07459	2012	Bai “Tom” Tang, Terri Jacquemain, Harry Quinn, Daniel Ballester, and Nina Gallardo	Identification and Evaluation of Historic Properties: Enhanced Recharge Facilities for Santa Ana River Water Diverted by Valley District and Western under Water Rights Permit Project (Phase 1 & 2), Cities of Highland and Redlands, San Bernardino County, California
SB-07569	2003	Dennis P. McDougall and Jill A. Onken	Inland Feeder Pipeline Project: Final Synthetic Report of Archaeological Findings, San Bernardino County, California
SB-08040	2015	Bai “Tom” Tang and Michael Hogan	Historical/Archaeological Resources Survey Report Tentative Tract Map no. 18893, City of Highland, San Bernardino County, California

6.2 Previously Identified Resources

Based on the SCCIC search, seven cultural resources have been previously documented within 0.5-miles of the project site. The resources include the North Fort Main Canal, the East Highlands Ranch, an irrigation system and orchard, a historic camp site, and refuse scatters. No prehistoric resources have been previously documented within 0.5-miles of the project site and none of the previously documented historic resources fall within or intersect the project site.

Table 6.2-1: Previously Recorded Resources within 0.5-Mile of the Project Site

Resource Number	Resource Description	NRHP/CRHR Eligibility
P-36-006544 CA-SBR-006544H	“North Fork Main Canal”	Unknown/Unevaluated
P-36-007051 CA-SBR-007051H	“East Highlands Ranch”	Unknown/Unevaluated
P-36-07215 CA-SBR-007215H	Historic irrigation system and orchard (“Greenspot No. 1”)	Unknown/Unevaluated
P-36-010184 CA-SBR-010184H	Historic refuse scatter	Unknown/Unevaluated
P-36-010681 CA-SBR-010681H	“Cone Camp”	Unknown/Unevaluated
P-36-0033121 CA-SBR-03312H	Historic refuse scatter	Unknown/Unevaluated
P-36-060194	Historic isolate (refuse scatter)	Not Eligible

6.3 Historic Map and Aerial Imagery

Maps and aerial imagery were also reviewed to determine the historic land uses in the 0.5-mile Study Area and to identify the potential for historic cultural features within the project site (Table 6.3-1). Sources included General Land Office (GLO) survey plat maps dating to 1858; USGS topographic maps dating to 1899, 1901, 1924, 1939, 1954, and 1967; and aerial imagery dating from 1938 through present (gloreconds.blm.gov, earthexplorer.usgs.gov, and netronline.com, accessed 25 May 2024).

In 1858, no roads, trails, structures, or other cultural features are depicted within the 0.5-mile Study Area. In 1899 and 1901, settlement of the area is apparent, and the general vicinity is named “East Highlands” on USGS topographic maps. Multiple cultural features are depicted within the Study Area including “Old North Fork Ditch”, located approximately 0.5 miles south of the project site and “Highlands Ditch”, approximately 450 feet to the north, running parallel to the base of the San Bernardino Mountains. Several unnamed roads and unnamed structures are also present in the vicinity. Immediately east of the project site is an unimproved two-track road or trail leading to a structure which is depicted approximately 350 feet northeast of the project site adjacent to Highlands Ditch.

The Study Area remains little changed on historic topographic maps in the 1920’s and 1930’s. By 1954, the “Old North Fork Ditch” and “Highlands Ditch” appear to have been partially realigned to form the “North Fork Canal” to the north of the project site. Improved “Greenspot Road” is present to the south of the project site and an unnamed unimproved road is depicted trending north from Greenspot Road to the project site where it diverges into two road segments which then parallel the North Fork Canal and the base of the San Bernardino Mountains. A tributary of Oak Creek, previously undepicted on earlier maps, lies immediately north of the project site. The general area, including the project site, is planted with citrus rows or orchards.

The citrus rows or orchards are also visible in the earliest available imagery of the area dating to 1938 and the project site and surrounding vicinity contained rows of orchard trees through at least the 1980's. The orchard rows were cleared from the project site by 1995, at which time the site was graded and the two reservoir tanks were constructed. The Oak Creek tributary which bounds the north side of the project site and appears as a minor agricultural canal in earlier imagery, was graded and substantially widened for flood control by 1995. By 2002, the project site is surrounded by a housing development to the east, south, and southwest, and the Oak Creek flood control channel appears to have been lined with concrete.

In summary, historic maps and aerial imagery confirm the general vicinity of the project site appears to have been used for agricultural cultivation beginning as early as the 1890's. This use is evidenced by nearby irrigation ditches, canals, and access roads. Orchard or citrus rows were present by the 1930's or earlier and the project site appears to have been used exclusively for this purpose through the 1980's. There is no indication of any buildings or structures on the site prior to the circa 1995 construction of the EVWD reservoir tanks. The Oak Creek tributary abutting the north side of the site appears to have been utilized as an irrigation ditch during later historic periods but was substantially altered through time and is now a modern flood control channel.

Table 6.3-1: Historic Map and Aerial Imagery Features within 0.5-Mile of the Project Site

Year	Map/Source	Description	In Project Site
1899, 1901	USGS 1:625,000 Redlands, California	"Old North Fork Ditch"	No
1924 1939	USGS 1:24,000 Redlands, California	"Highland Ditch"	No
		Unnamed Roads	No
		Unnamed Structures	No
1954, 1967	USGS 1:24,000 Redlands, California	"North Fork Canal"	No
		"Greenspot Road"	No
		Unnamed Roads	Yes
		Unnamed Structures	No
		Orchard Trees	Yes
1938-1985	USGS Aerial Imagery	Orchard Trees	Yes

6.4 New Survey Results

As most of the site had not been previously surveyed for cultural resources and given the age (circa early 1990's) of the only previous investigation which covered a portion of the project site, new survey was conducted on 16 May 2024. The visit confirmed the level of previous disturbance and development of the site. Based on historic research, the site once contained an orchard, and historic irrigation features and historic refuse have been previously recorded outside of the project site, but in the general area. The historic orchard rows were removed in approximately 1995, when the site was cleared and graded for the installation of the reservoir tanks, a booster station structure, and asphalt paved parking and work areas. The periphery of the site is surrounded by block walls, chain link fencing, and an access gate.

Few areas of visible ground surface remain with the exception of several feet of earthen berm on the northern periphery of the site bounding an adjacent flood control channel and approximately 0.7-acres on the eastern side of the site which consists of steep slope with irrigated vegetation and what appears to be non-native topsoil. The unpaved areas of the site were visually inspected to confirm levels of prior disturbance and to assess the potential for buried cultural deposits.

No traces of historic orchard trees or any historic irrigation systems remain on the site. Oak creek, immediately to the north of the parcel, was utilized as an irrigation ditch during historic periods but the natural creek channel and subsequent irrigation ditch have been heavily modified through time for flood control purposes, altering both its natural and historic corridor and any characteristic features. In summary, the entirety of the site is heavily disturbed through decades of use including historic agricultural production, followed subsequent grading, cut and fill, and contouring using heavy equipment in the 1990's, and the installation of a water pumping and storage facility by the water district. Because of this, there is little to no potential for any intact or substantial buried cultural resources to remain at the project site.

7 CONCLUSION AND MANAGEMENT RECOMMENDATIONS

Mojave Archaeological Consulting, LLC has prepared this cultural resources assessment on behalf of Tom Dodson and Associates for the construction of the East Valley Water District's Well 129 in Highland, San Bernardino County.

In accordance with CEQA, to determine the potential for the proposed project to impact historical/archaeological resources eligible for or listed on the CRHR, Mojave Archaeological Consulting's assessment included a records search and literature review, an SLF search with the NAHC, and a site visit and archaeological survey of the approximately 2.4-acre project site.

In summary of the research presented within this report, the project site is located on land that was used historically for agricultural purposes. No traces of historic orchard trees, historic irrigation systems, or any historic debris remain on the site. Oak creek, immediately to the north of the parcel, was utilized as an irrigation ditch during historic periods but the natural creek channel and subsequent irrigation ditch have been heavily modified through time for flood control purposes, altering both its natural and historic corridor and destroying any characteristic features. The entirety of the project site is heavily disturbed through decades of use including historic agricultural production, followed by subsequent grading, cut and fill, and contouring using heavy equipment in the 1990's, and the installation of the present water pumping and storage facility by the water district. Because of this, there is little to no potential for any intact or substantial buried cultural resources to remain at the project site.

Considering these findings, Mojave Archaeological Consulting recommends to the East Valley Water District that the proposed well drilling and installation will have no impact on historical or archaeological resources. No further cultural resources work is recommended necessary for the proposed project activities. However, in the unlikely event that archaeological materials are encountered during construction, all work must be halted in the vicinity of the discovery until a qualified archaeologist can assess the significance and integrity of the find. If intact and significant archaeological remains are encountered, the impacts of the project should be mitigated appropriately. Any such discoveries, and subsequent evaluation and treatment, should be documented in a cultural resources report, which would be submitted to the SCCIC for archival purposes.

Additionally, Health and Safety Code Section 7050.5, *CEQA Statute & Guidelines* Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the event of the discovery of human remains. Finally, as project plans are further developed, if the project area is expanded to include areas not covered by this survey or other recent cultural resource investigations in the study area, additional cultural resource studies may be required.

8 REFERENCES

Association of Environmental Professionals

- 2021 *2021 CEQA Statute & Guidelines*.
https://www.califaep.org/docs/CEQA_Handbook_2021.pdf

Basgall, M.E., K.R. McGuire, and A.J. Gilreath

- 1986 *Archaeological Test Excavations at CA-INY-30; A Multi-Component Prehistoric Site Near Lone Pine, Inyo County, California*. On file at the California Department of Transportation, Sacramento.

Basgall, Mark E., and D.L. True

- 1985 *Crowder Canyon Archaeological Investigations, San Bernardino County, Volumes 1 and 2, CA-SBr-421 and CA-SBr-713*. Prepared by Far West Anthropological Research Group, Inc.

Bean, Lowell J.

- 1978 Serrano. In *California*, edited by Robert F. Heizer, pp. 571–574. Handbook of North American Indians, Volume 8, William Sturdevant, general editor. Smithsonian Institution, Washington, D.C.

Bean, Lowell J., and Sylvia B. Vane (editors)

- 1978 *Persistence and Power: A Study of Native American Peoples in the Sonoran Desert and the Devers-Palo Verde High Voltage Transmission Line*, by Lowell John Bean, Henry F. Dobyns, M. Kay Martin, Richard W. Stoffle, Sylvia Brakke Vane, and David M. White. Cultural Systems Research, Inc., Menlo Park, California.

Bettinger, Robert L., and Martin A. Baumhoff

- 1982 The Numic Spread: Great Basin Cultures in Competition. *American Antiquity* 47(3):485–503.

California Office of Historic Preservation (California OHP)

- 1990 *Archaeological Resource Management Reports Guidelines*.
 1991 *Guidelines For Archaeological Research Designs*.
 1995 *Instructions for Recording Historical Resources*.

Douglas, R. C.

- 1981 *Archaeological, Historical/Ethnohistorical, and Paleontological Assessment, Weir Canyon Park-Road Study, Orange County, California*. On file at the University of California Institute of Archaeology, Los Angeles, California.

Goldberg, S. K., C. J. Klink, J. A. Onken, W. G. Spaulding, M. C. Robinson, M. C. Horne, and R. L. McKim

- 2001 *Metropolitan Water District of Southern California Eastside Reservoir Project Final Report of Archaeological Investigations, Vol. IV: Synthesis of Findings*. Report prepared by Applied EarthWorks, Inc., Hemet, California. On file at the Eastern Information Center.

Harrington, J.P.

- 1986 *The Papers of John Peabody Harrington in the Smithsonian Institution, 1907–1957, Vol. 3: Native American History, Language, and Culture of Southern California/Basin*. Krause International Publications, White Plains, New York.

- Horne, Melinda C., and Dennis P. McDougall
2003 *Cultural Resources Element of the City of Riverside General Plan Update*. Applied EarthWorks, Inc., Hemet, California. On file at the Eastern Information Center.
- Kroeber, A.L.
1925 *Handbook of the Indians of California*. Bulletin 78 of the Bureau of American Ethnology of the Smithsonian Institution, Government Printing Office, Washington. D.C.
- Madsen, David B and David Rhode
1994 *Across the West. Human Population Movement and the Expansion of the Numa*. David. University of Utah Press, Salt Lake City.
- Mckenna, Jeanette A.
1992 *Results of an Archaeological Monitoring Program for the Greenspot Road Pipeline, Along Greenspot Road, East Highlands, San Bernardino County, California*. On file at the South Central Coastal Information Center.
- Meighan, Clement W.
1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10(2):215–227.
- Moratto, Michael J.
1984 *California Archaeology*. Academic Press, New York.
- National Park Service (NPS)
1983 *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 Federal Register 44716-44740).
- Norris, Robert M. and Webb, Robert W.
1976 *Geology of California*. Originally published by Wiley, New York.
- Perry, Richard M.
2004 *An Intensive Cultural Resources Survey of 210 Acres for the Proposed Citrus Heights North Specific Plan in the City of Fontana, San Bernardino County, California*. On file at the South Central Coastal Information Center.
- Pigniolo, Andrew R.
2004 Points, Patterns, and People: Distribution of the Desert Side-Notched Point in San Diego County. *Proceedings of the Society for California Archaeology* 14:27–39.
- Ramon, Dorothy, and Eric Elliott
2000 *Wayta' Yawa'*. Morongo Indian Reservation, Banning, California: Malki Museum Press.
- Rogers, M.J.
1939 *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas*. San Diego Museum of Man Papers 3. San Diego, California.
- Sawyer, J.O.
1994 *Draft Series Descriptions of California Vegetation*. California Native Plant Society, Sacramento.
- Schaefer, Jerry

- 1994 The Challenge of Archaeological Research in the Colorado Desert Region: Recent Approaches and Discoveries. *Journal of California and Great Basin Anthropology* 16(1): 60-80.
- Strong, William Duncan
- 1929 Aboriginal Society in Southern California. *University of California Publications in American Archaeology and Ethnology* 26(1):1–358. Berkeley.
- Sutton, Mark Q.
- 1981 Archaeology of the Antelope Valley, Western Mojave Desert, California.
- 1988 *An Introduction to the Archaeology of the Western Mojave Desert, California*. Coyote Press Archives of California Prehistory 14. Coyote Press, Salinas, California.
- 1996 The Current Status of Archaeological Research in the Mojave Desert. *Journal of California and Great Basin Archaeology* 18(2):221–257.
- Sutton, Mark Q., M.E. Basgall, J.K. Gardner, and M.W. Allen
- 2007 Advances in Understanding the Mojave Desert Prehistory. In *California Prehistory Colonization, Culture and Complexity*, edited by T. L. Jones and K. A. Klar, pp. 229–245. Altamira Press, Lanham, Maryland.
- Sutton, Mark Q., and David D. Earle
- 2017 The Desert Serrano of the Mojave River. *Pacific Coast Archaeological Society Quarterly* 53(2&3):1-61.
- Sutton, Mark Q., Joan S. Schneider, and Robert M. Yohe
- 1993 The Siphon Site (CA-SBR-6580): A Millingstone Horizon Site in Summit Valley, California. *Quarterly of the San Bernardino County Museum Association* 40(3).
- True, D. L.
- 1966 *Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California*. Dissertation on file with the Department of Anthropology, University of California, Los Angeles, CA.
- 1970 *Investigations of a Late Prehistoric Complex in Cuyamaca State Park, San Diego County, California*. Archaeological Survey Monographs No. 1, University of California, Los Angeles, CA.
- United States Geological Survey (USGS)
- 2023 Geologic maps of US states, electronic document, <https://mrdata.usgs.gov/geology/state/>.
- Wallace, W.J.
- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214–230.
- Warren, Claude N.
- 1967 The San Dieguito Complex: A Review and Hypothesis. *American Antiquity* 32(2):168–185.
- 1984 The Desert Region. In *California Archaeology*, edited by M. Moratto, pp. 339–430. Academic Press, Orlando, Florida.

Warren, Claude N., Martha Knack, and Elizabeth von Till Warren

- 1980 The Archaeology and Archaeological Resources of the Amargosa–Mojave Basin Planning Units. In *A Cultural Resources Overview for the Amargosa–Mojave Basin Planning Units*. U.S. Bureau of Land Management, Cultural Resources Publications, Anthropology–History, Riverside, California.

Warren, Claude N., and Robert H. Crabtree

- 1986 Prehistory of the Southwestern Area. In *Great Basin*, edited by Warren L. D’Azevedo, pp. 183–193. Handbook of North American Indians, Vol. 11, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Wilke, Phillip J.

- 1978 *Late Prehistoric Human Ecology at Lake Cahuilla Coachella Valley California*. Contributions of the Archaeological Research Facility, Department of Anthropology, University of California Berkeley.

APPENDIX A

SACRED LANDS FILE SEARCH



NATIVE AMERICAN HERITAGE COMMISSION

April 29, 2024

Michelle A. Hart
Mojave Archaeological Consulting

Via Email to: michelle@mojavearchaeology.com

Re: East Valley Water District Well No. 129 Project, San Bernardino County

To Whom It May Concern:

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: Murphy.Donahue@NAHC.ca.gov

Sincerely,

Murphy Donahue
Cultural Resources Analyst

Attachment

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Butly McGullen
Yokayo Pomo, Yuki,
Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
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Luiseno

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Laurena Bolden
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Reid Milanovich
Cahuilla

COMMISSIONER
Bennoe Calac
Pauma-Yulma Band of
Luiseno Indians

EXECUTIVE SECRETARY
Raymond C.
Hilchcock
Miwok, Nisenan

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

Native American Heritage Commission
Native American Contact List
San Bernardino County
4/29/2024

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation
San Bernardino	Agua Caliente Band of Cahuilla Indians	F	Lacy Padilla, Director of Historic Preservation/THPO	5401 Dinah Shore Drive Palm Springs, CA, 92264	(760) 333-5222	(760) 699-6919	ACBCI-THPO@aguacaliente.net	Cahuilla
	Gabrieleno Band of Mission Indians - Kizh Nation	N	Christina Swindall Martinez, Secretary	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno
	Gabrieleno Band of Mission Indians - Kizh Nation	N	Andrew Salas, Chairperson	P.O. Box 393 Covina, CA, 91723	(844) 390-0787		admin@gabrielenoindians.org	Gabrieleno
	Morongo Band of Mission Indians	F	Robert Martin, Chairperson	12700 Pumarra Road Banning, CA, 92220	(951) 755-5110	(951) 755-5177	abrierty@morongo-nsn.gov	Cahuilla Serrano
	Morongo Band of Mission Indians	F	Ann Brierty, THPO	12700 Pumarra Road Banning, CA, 92220	(951) 755-5259	(951) 572-6004	abrierty@morongo-nsn.gov	Cahuilla Serrano
	Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	(928) 210-8739		culturalcommittee@quechantribe.com	Quechan
	Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	(928) 261-0254		historicpreservation@quechantribe.com	Quechan
	Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	P.O.Box 1899 Yuma, AZ, 85366	(760) 919-3600		executivesecretary@quechantribe.com	Quechan
	San Manuel Band of Mission Indians	F	Alexandra McCleary, Senior Manager of Cultural Resources Management	26569 Community Center Drive Highland, CA, 92346	(909) 633-0054		alexandra.mccleary@sanmanuel-nsn.gov	Serrano
	Santa Rosa Band of Cahuilla Indians	F	Vanessa Minott, Tribal Administrator	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	vminott@santarosa-nsn.gov	Cahuilla
	Santa Rosa Band of Cahuilla Indians	F	Steven Estrada, Tribal Chairman	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	sestrada@santarosa-nsn.gov	Cahuilla

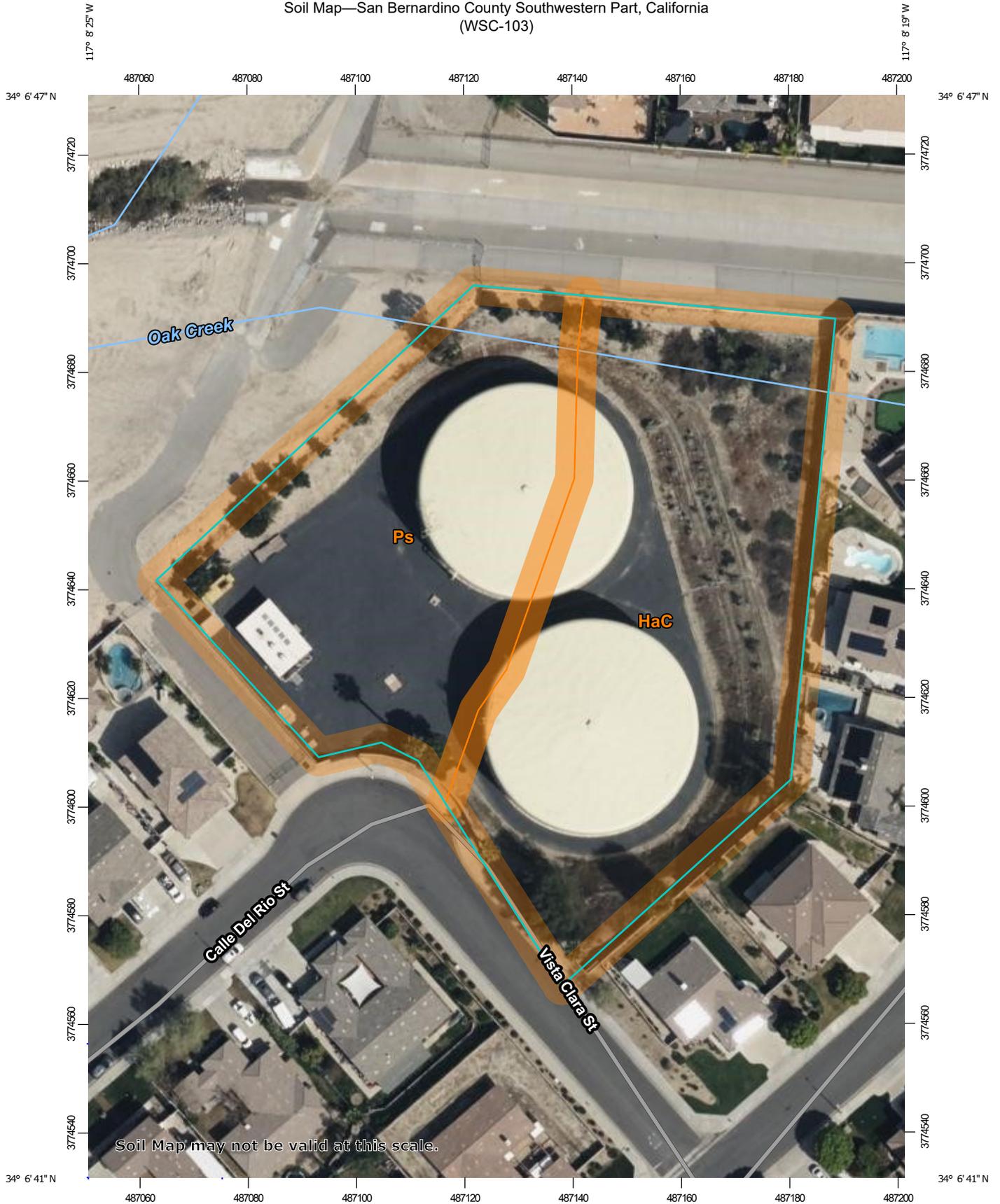
Serrano Nation of Mission Indians	N	Wayne Walker, Co-Chairperson	P. O. Box 343 Patton, CA, 92369	(253) 370-0167		serranonation1@gmail.com	Serrano
Serrano Nation of Mission Indians	N	Mark Cochrane, Co-Chairperson	P. O. Box 343 Patton, CA, 92369	(909) 578-2598		serranonation1@gmail.com	Serrano
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno
Soboba Band of Luiseno Indians	F	Isaiah Vivanco, Chairperson	P.O. Box 487 San Jacinto, CA, 92581	(951) 654-5544	(951) 654-4198	ivivanco@soboba-nsn.com	Cahuilla Luiseno

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 th

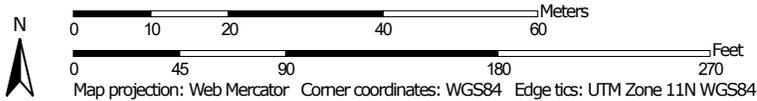
This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed East Valley Water District Well No. 129 Project, San Bernardino County.

APPENDIX 4

Soil Map—San Bernardino County Southwestern Part, California
(WSC-103)



Map Scale: 1:972 if printed on A portrait (8.5" x 11") sheet.



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 Southwestern Part, California
Survey Area Data: Version 15, Aug 30, 2023

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

Date(s) aerial images were photographed: Mar 17, 2022—Jun 12, 2022

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
HaC	Hanford coarse sandy loam, 2 to 9 percent slopes	1.4	57.8%
Ps	Psamments, Fluvents and Frequently flooded soils	1.0	42.2%
Totals for Area of Interest		2.4	100.0%

APPENDIX 5

July 11, 2024

Mr. Nathan Carlson
East Valley Water District
31111 Greenspot Road
Highland, CA 92346

SUBJECT: EAST VALLEY WATER DISTRICT WELL NO. 129 NOISE ASSESSMENT

Dear Mr. Nathan Carlson:

Urban Crossroads, Inc. is pleased to provide the following Noise Assessment for the East Valley Water District Well No. 129 Project (referred to as the "Project") located northwest of the intersection of Calle Del Rio St. and Vista Clara St., just south of Oak Creek in the City of Highland, as shown in Exhibit A. The Project site is on a 2.37-acre parcel within the City of Highland (Assessor's Parcel Numbers [APN] 121-038-110). The purpose of this Noise Assessment is to describe the potential Project-related construction noise impacts.

The site would include the following features: a new well (wellhead); an 8-inch (") diameter pipeline connecting to the District's booster pump station onsite; a 4-foot (') diameter reinforced concrete pipe (RCP) that extends 2' above grade and 16" RCP drain line; chlorine and orthophosphate dosing systems; a 55' x 20' Concrete Masonry Unit (CMU) block building with a standing seam metal roof enclosing the wellhead, discharge header, pump-to-waste header, electrical equipment, and chemical facilities. It is assumed that minor grading will be required to construct the structure. The location of improvements and anticipated location of drilling equipment is shown in Exhibit B.

The District anticipated that the new well will be drilled utilizing the reverse rotary well drilling method to about 550 feet below ground surface (bgs), based on the depth of the District's nearby well. The objective for the well is to generate 25 to 150 acre-feet of potable groundwater on a monthly basis. The District anticipates that the water quality of the water extracted by the new Well No. 129 would be similar to Well No. 142, which does experience elevated levels of combined uranium and gross alpha particle activities. The new well will require the installation of a line shaft vertical pump and will connect to the existing booster pump station onsite. This would be sufficient to carry water from the proposed new well to customers.

Access to the proposed project site is provided from the intersection of Calle Del Rio Street and Vista Clara Street, where the gated Plant No. 129 can be accessed (refer to Figure 3). Stormwater is removed from the project site via sheet flow into an on-site catch basin, which conveys the water within a 24" RCP to an off-site San Bernardino County Flood Control District facility.

It is anticipated that about five persons will be at the Well No. 129 site at any one time to support drilling the well: three drillers, the hydrogeologist inspector, and a foreman. Trips to complete the well will include a few days each to mobilize and demobilize sound walls, a drill rig, pipe trailer, generator, mud tanks, a mobile field office/storage unit, water storage tanks, and a well development rig. Other short-term trips during the work will include deliveries of concrete, well casing, and materials to fill the annular space within the well borehole. Daily trips to complete the well will include one roundtrip per day for the drillers, a hydrogeologist, and a foreman. Work shall be performed on a 24-hour basis during some

phases of the project, including drilling the pilot borehole, conducting isolated aquifer zone testing, reaming the pilot borehole, constructing the well, and performing a constant rate pumping test (surrounding housing to be notified in advance). The durations of these activities are estimated to range from 1 day to 2 weeks. The instantaneous yield of the new well is estimated to be up to 1,000 gpm. Assuming the groundwater quality is potable (see the discussion under Hydrology and Water Quality), the new well will be connected to the District’s distribution system.

EXHIBIT A: LOCATION MAP

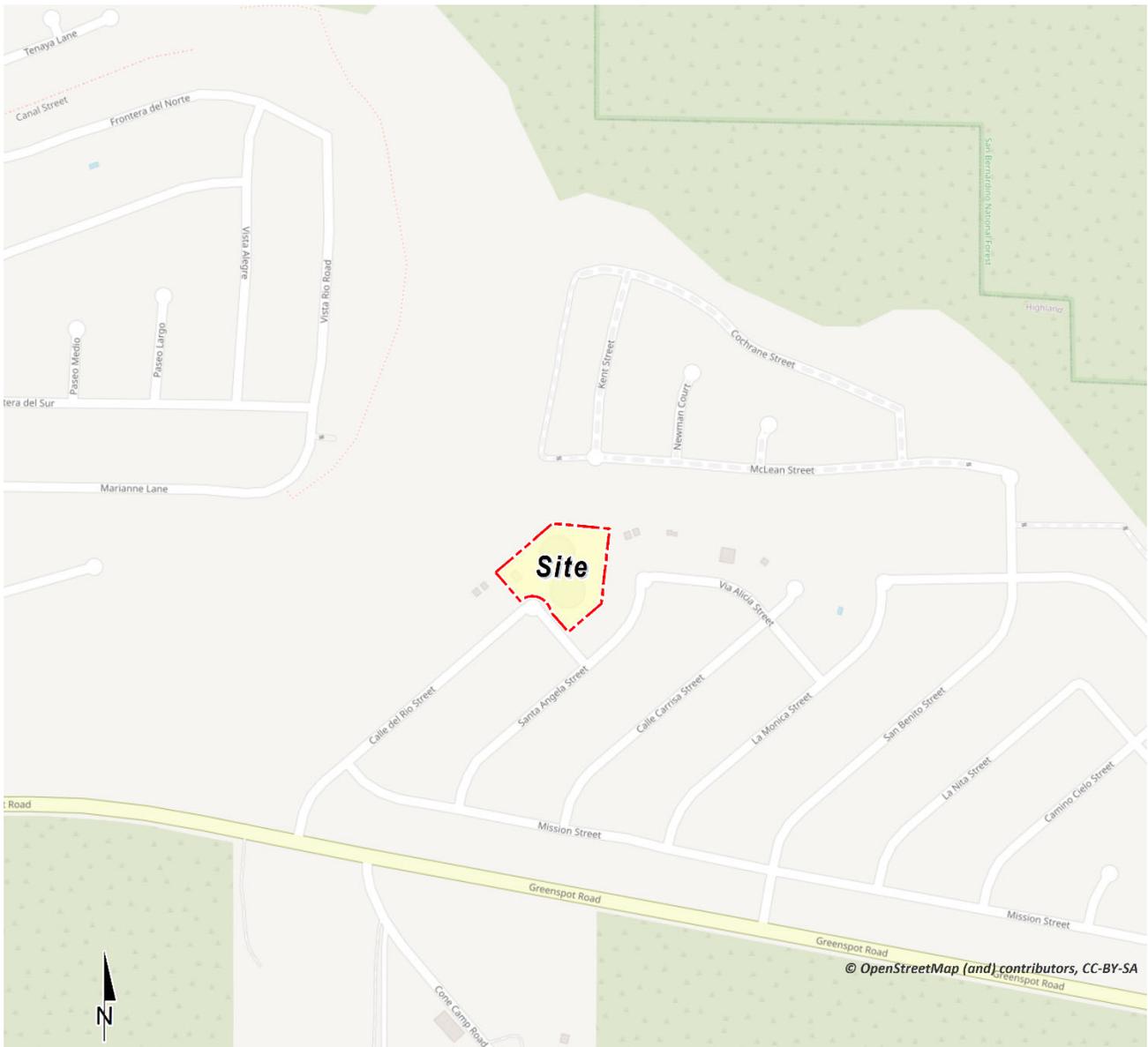
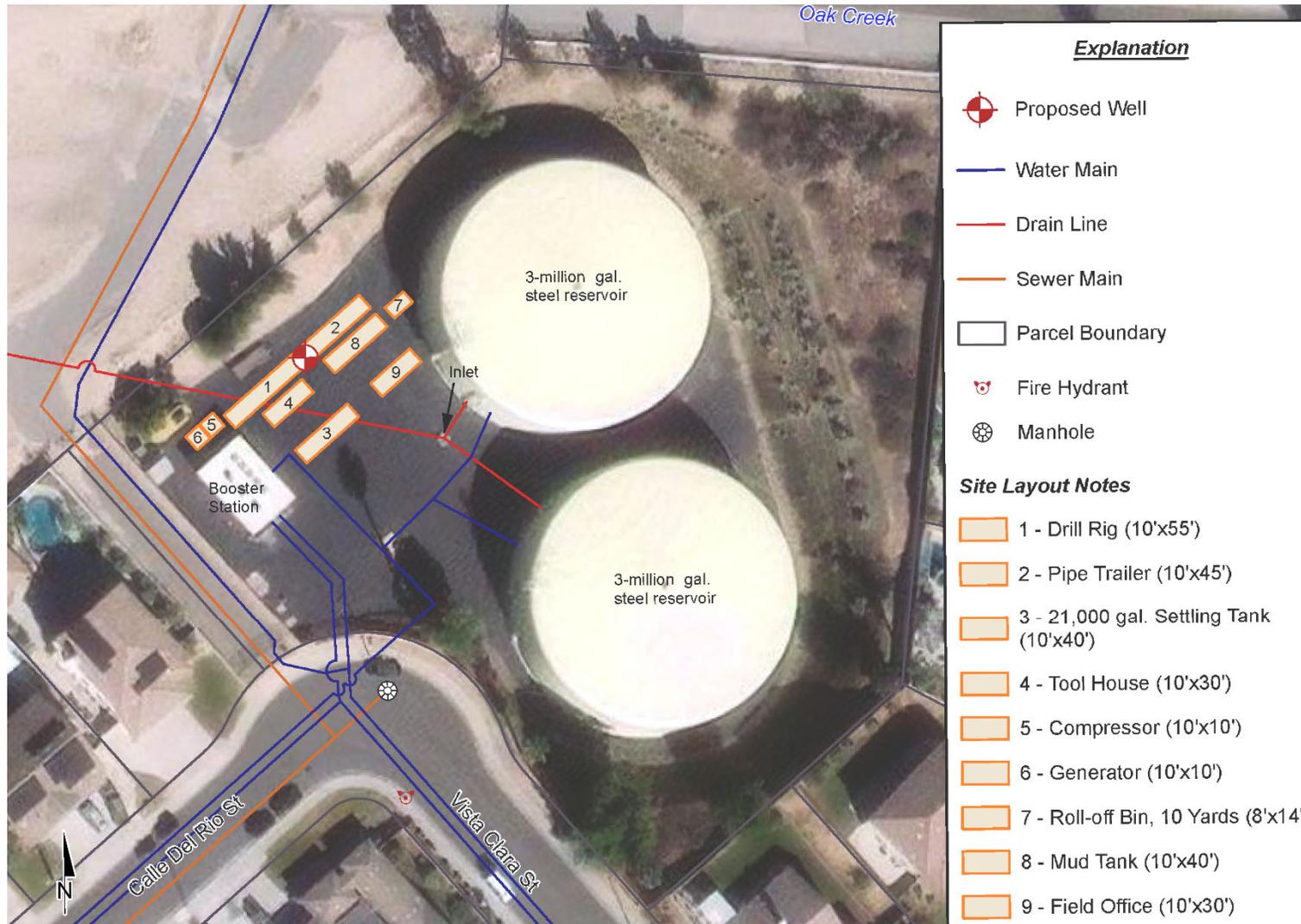


EXHIBIT B: PROJECT SITE PLAN



RECEIVER LOCATIONS

To assess the potential for construction noise impacts, four receiver locations were identified as representative locations for analysis. Sensitive uses or receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land.

To describe the potential off-site Project noise levels, receiver locations in the vicinity of the Project site were identified, as shown on Exhibit C. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Since the exact location of the drilling activity is not known, distances are measured in a straight line from the Project boundary to each receiver location.

NOISE PREDICTION MODEL

To fully describe the construction noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nemap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of the noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The drilling rig noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. (1) The local topography of each site out to each receiver location based on lidar data. The model does not account for any existing structures or other manmade obstacles. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for predominately hard site conditions.

EXHIBIT C: CONSTRUCTION NOISE SOURCE AND RECEIVER LOCATIONS



LEGEND:

- Receiver Locations
- Construction Activity

CITY OF HIGHLAND PROPERTY LINE NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Project, stationary-source (operational) noise levels such as the expected drill rig, mud pumps, compressors, and generators, as well as noise from construction activities are typically evaluated against standards established under the City’s Municipal Code. However, the currently adopted City of Highland Municipal Code included in Appendix 3.1 does not identify any quantifiable exterior noise level standards for non-transportation (stationary) noise sources. However, Table 7.2 in the City of Highland General Plan Noise Element provides exterior noise standards (2), as shown in Exhibit D. While Exhibit D indicates the noise levels are based on dBA CNEL, however, they are also provided based on the daytime and nighttime periods. Since CNEL levels are based on 24-hour noise levels, the noise level limits are assumed to be intended as hourly noise level limits, i.e., dBA L_{eq} .

EXHIBIT D: CITY OF HIGHLAND EXTERIOR NOISE STANDARDS

<i>Type of Land Use</i>	<i>Time Interval</i>	<i>CNEL (dBA)</i>
Residential	10:00 p.m. – 7:00 a.m.	55
	7:00 a.m. – 10:00 p.m.	60
Agricultural/Equestrian	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Commercial	10:00 p.m. – 7:00 a.m.	65
	7:00 a.m. – 10:00 p.m.	70
Manufacturing or Industrial	Any Time	75
Open Space	Any Time	75

Source: Chapter 8.50, Noise Control, City of Highland Municipal Code.

City of Highland General Plan Noise Element.

CONSTRUCTION NOISE SOURCES

Using reference construction equipment noise levels level measurements and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the equipment with the highest reference noise level operating continuously over a 24-hour period.

Drill rigs have several substantial noise sources, each with its own characteristics. The main sources of noise are the generator set, the compressor, the mud pump, and the top drive of the drill rig. Pumps/compressors and generator noise sources were placed five feet above ground level, and the drill rig top drive was placed fourteen feet above ground level. Drill rig and associated equipment noise levels were developed from a noise survey conducted by Behrens and Associates, Inc. of three different drill rig systems in 2006. Each of the drill rigs was rated at 1,000 horsepower and was capable of drilling depths ranging from 12,000 to 15,000 feet (3). The surveyed drill rigs are similar in capability to the drill

rig proposed for the Project. Based on peak noise levels provided by the survey, reference noise levels with a uniform distance of 50 feet were calculated and are provided in Table 1.

TABLE 1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})
Borehole Drilling	Drill Rig Top Drive	82.0	87.6
	Compressors/Pumps	80.0	
	Generators	85.0	

¹ Behrens and Associates, Inc., 2006

CONSTRUCTION NOISE LEVEL ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise levels with all equipment operating simultaneously were completed. As shown in Table 2, the unabated construction noise levels for activities at Location 1 are expected to range from 59.2 to 74.5 dBA L_{eq} at the nearest residential uses. Appendix B includes the unabated typical construction CadnaA noise model calculations.

As shown in Table 2, the unabated construction noise levels for drilling activities are expected to exceed applicable standards at R1 through R3 and at R11 through R14. Therefore, various mitigation strategies were evaluated to reduce drilling noise levels to acceptable levels. The first option was to install temporary barriers around the drilling activity. However, even with 24-foot-high barriers surrounding the activity the Project would not comply with the City of Highland noise level limits at R-1 through R-3. Therefore, relocating equipment within the site, shielding of specific equipment, as well as various barrier height were evaluated.

TABLE 2: UNABATED DRILLING EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Project Construction Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Threshold Exceeded?	
	Daytime	Nighttime	Daytime	Nighttime		
R01	74.5	74.5	60	55	Yes	Yes
R02	70.5	70.5	60	55	Yes	Yes
R03	61.5	61.5	60	55	Yes	Yes
R04	59.2	59.2	60	55	No	Yes
R05	46.3	46.3	60	55	No	No
R06	46.5	46.5	60	55	No	No
R07	46.6	46.6	60	55	No	No
R08	45.8	45.8	60	55	No	No
R09	47.9	47.9	60	55	No	No
R10	52.0	52.0	60	55	No	No
R11	60.4	60.4	60	55	Yes	Yes
R12	64.4	64.4	60	55	Yes	Yes
R13	57.9	57.9	60	55	No	Yes
R14	55.2	55.2	60	55	No	Yes

¹ Noise receiver locations are shown in Exhibit C.

² Highest construction noise level operating at the Project site boundary to nearby receiver locations.

³ City of Highland Municipal Code, Section 30-469.

Based on the modeling, the following abatement measures, as shown in Exhibit E, would allow the Project to comply with the City of Highland daytime and nighttime noise level standards:

- a sound blanket barrier on three sides (southwest, southeast, and northeast) of the drill rig mast,
- a 15-foot-high barrier should be erected along the southwestern boundary,
- a minimum 12-foot-high barrier along the southwest boundary,
- a minimum height of 10-foot-high barrier should be erected along the northeastern and northwestern boundaries, and
- the generator and compressor should be placed near the existing tanks and as far away from the properties to the southeast as possible, and a 12-foot-high barrier should be erected on three sides (northwest, southwest, and southeast) of the generator and compressor.

As shown in Table 3, the mitigated construction noise levels are expected to range from 59.6 to 64.0 dBA Leq at the nearest residential land uses. Appendix B includes the abated construction CadnaA noise model calculations. Appendix C includes photos of a typical temporary noise barrier used for water well construction activity.

TABLE 3: ABATED DRILLING EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Project Construction Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Threshold Exceeded?	
	Daytime	Nighttime	Daytime	Nighttime		
R01	54.7	54.7	60	55	No	No
R02	53.8	53.8	60	55	No	No
R03	48.9	48.9	60	55	No	No
R04	44.6	44.6	60	55	No	No
R05	43.5	43.5	60	55	No	No
R06	43.5	43.5	60	55	No	No
R07	43.8	43.8	60	55	No	No
R08	42.8	42.8	60	55	No	No
R09	41.1	41.1	60	55	No	No
R10	41.9	41.9	60	55	No	No
R11	47.8	47.8	60	55	No	No
R12	49.2	49.2	60	55	No	No
R13	45.1	45.1	60	55	No	No
R14	42.9	42.9	60	55	No	No

¹ Noise receiver locations are shown in Exhibit C.

² Highest construction noise level operating at the Project site boundary to nearby receiver locations.

³ City of Fontana Municipal Code, Section 30-469.

ABATEMENT REQUIREMENTS

To comply with the City of Highland noise standards during daytime and nighttime hours, noise barriers with a minimum height of 15 feet should be erected along the southwestern boundary, a sound blanket barrier on three sides (southwest, southeast, and northeast) of the drill rig mast, a 15-foot-high barrier should be erected along the southwestern boundary, a minimum 12-foot high barrier along the southwest boundary, and a minimum height of 10-foot-high barrier should be erected along the northeastern and northwestern boundary. Additionally, the generator and compressor should be placed near the existing tanks and as far away from the properties to the southeast as possible, and a 12-foot-high barrier should be erected on three sides (northwest, southwest, and southeast) of the generator and compressor. An effective barrier requires a weight of at least 2 pounds per square foot of face area with no decorative cutouts, perforations, or line-of-sight openings between shielded areas and the source. (4) Examples of temporary barrier material includes 5/8-inch plywood, 5/8-inch oriented-strand board, or sound blankets capable of providing a minimum sound transmission loss (STC) of 27 or a Noise Reduction Coefficient (NRC) of 0.85.

EXHIBIT-E: DRILL RIG NOISE ABATEMENT



LEGEND:



- | | | | | | | | | | |
|--|---------------|--|------------|--|--------------|--|----------------------------|--|-----------------------|
| | Drill Rig | | Tool Room | | Roll-Off Bin | | 10' High Temporary Barrier | | Sound Blanket Barrier |
| | Pipe Trailer | | Compressor | | Mud Tank | | 12' High Temporary Barrier | | |
| | Settling Tank | | Generator | | Field Office | | 15' High Temporary Barrier | | |

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CONCLUSIONS

This Noise Assessment demonstrates that the drill rig noise levels associated with East Valley Water District Well No. 129 Project can satisfy the City of Highland exterior noise level standards at all nearby receiver locations with the use of barriers shielding the receivers to the east and south of the Project site. Unabated noise levels at R3 would not exceed the City of Highland noise level standards and would not require a barrier along the northwest side of the Project site. Therefore, with the implementation of the identified noise abatement measures shown in Exhibit E, the construction noise levels would comply with the City of Highland noise level limits during daytime and nighttime hours. If you have any questions, please contact me directly at (619) 778-1971.

Respectfully submitted,

URBAN CROSSROADS, INC.



William Maddux
Senior Associate

Mr. Nathan Carlson
East Valley Water District
July 11, 2024
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REFERENCES

1. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
2. **City of Highland.** *General Plan, Noise Element.* March 2006.
3. **Behrens and Associates, Inc.** *Gas Well Drilling Noise Impact and Mitigation Study.* April 2006.
4. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.

APPENDIX A

CITY OF HIGHLAND MUNICIPAL CODE

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Chapter 8.50 NOISE CONTROL

Sections:

- [8.50.010 Findings and purpose.](#)
- [8.50.020 Definitions.](#)
- [8.50.030 Prohibited acts.](#)
- [8.50.040 Excessive noise and vibration emanating from a motor vehicle.](#)
- [8.50.050 Controlled hours of operation.](#)
- [8.50.060 Exemptions.](#)
- [8.50.070 Enforcement and administration.](#)
- [8.50.080 Enforcement – Interference.](#)
- [8.50.090 Violations – Notices – Abatement.](#)
- [8.50.100 Repealed.](#)
- [8.50.110 Violations – Notices – Service – Effect.](#)
- [8.50.120 Immediate threats to health and welfare.](#)
- [8.50.130 Administrative citations and costs of second and subsequent responses.](#)
- [8.50.140 Modification, suspension and/or revocation of validly issued city permit and/or city license.](#)

8.50.010 Findings and purpose.

A. It is the purpose of these regulations to implement the goals and objectives of the noise element of the city's general plan, to establish community-wide noise standards and to serve as a reference for locating other city regulations relating to noise in the community. It is further the purpose of these regulations to recognize that the existence of excessive noise within the city is a condition which is detrimental to the health, safety, welfare and quality of life of the citizens which should be regulated in the public interest.

B. In furtherance of the foregoing purpose, the city council finds and declares as follows:

1. The making, creation or maintenance of such loud, unnecessary, unnatural or unusual noises or vibrations that are prolonged, unusual, annoying, disturbing and unnatural in their time, place and use are a detriment to the public health, comfort, convenience, safety, general welfare and the peace and quiet of the city and its inhabitants; and
2. The public interest necessity for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuit of and for the purpose of securing and promoting the public health, comfort, convenience, safety, general welfare and property and the peace and quiet of the city and its inhabitants. (Ord. 324 § 2, 2008)

8.50.020 Definitions.

For the purposes of this chapter, the following terms shall have the meanings given:

"Construction equipment" means tools, machinery or equipment used in connection with construction operations, including all types of "special construction" equipment as defined in the pertinent sections of the California Vehicle Code when used in the construction process on any construction site, home improvement site or property maintenance site, regardless of whether such site be located on highway or off highway.

"Enforcement officer" means a city code enforcement officer or peace officer authorized to enforce the provisions and prohibitions of this chapter pursuant to HMC [8.50.070](#).

"Plainly audible" means any sound that can be detected by a person using his or her unaided hearing faculties. As an example, if the sound source under investigation is a portable or personal vehicular sound amplification or reproduction device, the investigating enforcement officer need not determine the title of any music, specific words, or the artist performing the music. The detection of the vibration from the rhythmic bass component of the music is sufficient to constitute a plainly audible sound.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk, alley or similar place, owned or controlled by a government entity.

"Public space" means any real property or structure(s) on real property, owned by a government entity and normally accessible to the public, including but not limited to parks and other recreation areas.

"Responsible person" means (1) any person who owns, leases or is lawfully in charge of the property or motor vehicle where the noise violation takes place or (2) any person who owns or controls the source of the noise or violation. If the responsible person is a minor, then the parent or guardian who has custody of the child at the time of the violation shall be the responsible person who is liable under this chapter. (Ord. 324 § 2, 2008)

8.50.030 Prohibited acts.

A. It shall be unlawful for any person to engage in the following activities:

1. Sounding any horn or signal device on any automobile, motorcycle, bus or other motor vehicle in any other manner or circumstance(s) or for any other purpose than required or permitted by the Vehicle Code or other state laws.
2. Racing the engine of any motor vehicle while the vehicle is not in motion, except when necessary to do so in the course of repairing, adjusting or testing the same.
3. Operating or permitting the use of any motor vehicle on any public right-of-way or public place or on private property within a residential zone for which the exhaust muffler, intake muffler or any other noise abatement device has been modified or changed in a manner such that the noise emitted by the motor vehicle is increased above that emitted by the vehicle as originally manufactured.
4. Operating or permitting the use or operation of personal or commercial music or sound amplification or production equipment that is:
 - a. Plainly audible across property boundaries;
 - b. Plainly audible through partitions common to two residences within a building;
 - c. Plainly audible at a distance of 50 feet in any direction from the source of music or sound, between the hours of 7:00 a.m. and 10:00 p.m.; or
 - d. Plainly audible at a distance of 25 feet in any direction from the source of music or sound, between the hours of 10:00 p.m. and 7:00 a.m.
5. The intentional sounding or permitting the sounding outdoors of any fire, burglar, or civil defense alarm, siren, whistle, or any motor vehicle burglar alarm, except for emergency purposes or for testing, unless such alarm is terminated within 15 minutes of activation.
6. Creating excessive noise adjacent to any school, church, court or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed, clearly visible to the motoring public, indicating the presence of a school, institution of learning, church, court or hospital.
7. Making or knowingly and unreasonably permitting to be made any unreasonably loud, unnecessary or unusual noise that disturbs the comfort, repose, health, peace and quiet or which causes discomfort or annoyance to any reasonable person of normal sensitivity. The characteristics and conditions that may be considered in determining whether this section has been violated include, but are not limited to, the following:
 - a. The level of noise;

- b. Whether the nature of the noise is usual or unusual;
- c. Whether the origin of the noise is natural or unnatural;
- d. The level of the background noise;
- e. The proximity of the noise to sleeping facilities;
- f. The nature and zoning of the area(s) within which the noise emanates;
- g. The density of the inhabitation of the area within which the noise emanates;
- h. The time of day or night the noise occurs;
- i. The duration of the noise; and
- j. Whether the noise is produced by a commercial or noncommercial activity.

B. A violation of this section is a public nuisance.

C. A violation of this section may result in the following:

1. Issuance of an administrative citation, where the fines and penalties shall be assessed as infractions in accordance with HMC [2.56.110](#);
2. Issuance of a notice of public nuisance and abatement pursuant to Chapter [8.28](#) HMC;
3. Imposition of criminal and civil penalties, including those in Chapter [1.24](#) HMC; and
4. Confiscation and impoundment as evidence of the components that are amplifying or transmitting the prohibited noise.

D. An enforcement officer who encounters a violation of this section may issue a written notice to the responsible person demanding immediate abatement of the violation (written notice). The written notice shall inform the recipient that a second violation of the same provision within a 72-hour period may result in the issuance of a criminal citation and/or notice of public nuisance, the imposition of criminal and civil penalties, and confiscation and impoundment as evidence of the components that are amplifying or transmitting the prohibited noise.

E. Any peace officer who encounters a second violation of this section within a 72-hour period following issuance of a written notice is empowered to confiscate and impound as evidence any or all of the components amplifying or transmitting the sound.

F. Any person claiming legal ownership of the items confiscated and impounded under this section may request the return of the item by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the police department. (Ord. 370 § 27, 2012; Ord. 324 § 2, 2008)

8.50.040 Excessive noise and vibration emanating from a motor vehicle.

A. No person shall operate or occupy a motor vehicle on any public right-of-way, public place or private property, while operating or permitting the use or operation of any radio, stereo receiver, musical instrument, television, computer, compact disc player, tape recorder, cassette player or any other device for the production or reproduction of sound from within the motor vehicle, so that the sound is plainly audible at a distance of 50 feet from such vehicle, or in the case of a motor vehicle on private property, beyond the property line.

B. A violation of this section is a public nuisance.

C. A violation of this section may result in the following:

1. Issuance of an administrative citation, where the fines and penalties shall be assessed as infractions in accordance with HMC [2.56.110](#);
2. Issuance of a notice of public nuisance and abatement pursuant to Chapter [8.28](#) HMC;
3. Imposition of criminal and civil penalties, including those in Chapter [1.24](#) HMC; and
4. Immediate confiscation and impoundment as evidence of the components that are amplifying or transmitting the prohibited noises or the immediate confiscation and impoundment of the motor vehicle to which the component is attached if the same may not be removed without causing harm to the vehicle or the component.

D. Any person claiming legal ownership of a motor vehicle confiscated and impounded under this section may request the return of the vehicle by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with procedures adopted by the police department.

E. Any person claiming legal ownership of the items confiscated and impounded under this section, other than a motor vehicle, may request the return of the item by filing a written request with the police department, which shall be processed in accordance with procedures adopted by the police department. (Ord. 370 § 28, 2012; Ord. 324 § 2, 2008)

8.50.050 Controlled hours of operation.

It shall be unlawful for any person to engage in the following activities at a time other than between the hours of 5:00 a.m. and 10:00 p.m. on any day in the industrial (I) zone, and between the hours of 7:00 a.m. and 10:00 p.m. on any day in all other zones:

- A. Operate or permit the use of powered model vehicles and planes.
- B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous or unnecessary noise within 1,000 feet of a residence.
- C. Operate or permit the use of domestic power tools, machinery, or any other equipment or tool in any garage, workshop, house or any other structure.
- D. Operate or permit the use of gasoline or electric-powered leaf blowers such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters and other property.
- E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the code enforcement officer.
- F. Operate or permit the use of electrically operated compressor(s), fan(s) and other similar device(s).
- G. Operate or permit the use of pile driver(s), steam or gasoline shovel(s), pneumatic hammer(s), steam or electric hoist(s) or other similar device(s).
- H. Perform ground maintenance on golf course grounds and tennis courts contiguous to golf courses that creates a noise disturbance across a residential or commercial property line.

I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of 10,000 pounds, or of any auxiliary equipment attached to such a vehicle, including but not limited to refrigerated truck compressors, for a period longer than 15 minutes in any hour while the vehicle is stationary and on a public right-of-way or public space, except when movement of said vehicle is restricted by other traffic.

J. Repair, rebuild, reconstruct or dismantle any motor vehicle or other mechanical equipment or device(s) in a manner so as to be plainly audible across property lines.

K. Load, unload, open, close or otherwise handle garbage cans, recycling bins or other similar objects between the hours of 10:00 p.m. and 7:00 a.m. the following morning, except city-permitted trash collection. (Ord. 352 § 1, 2010; Ord. 324 § 2, 2008)

8.50.060 Exemptions.

The following activities and noise sources shall not be subject to the provisions of this chapter:

A. Those noise events in the community (e.g., airport noise, arterial traffic noise, railroad noise) that are more accurately measured by application of the general plan noise element policy, utilizing the community noise equivalent level (CNEL) method.

B. Activities conducted on the grounds of any public or private school during regular hours of operation.

C. Outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are authorized by the city.

D. Legally permitted activities conducted at public places during regular hours of operation.

E. Any mechanical device, apparatus, or equipment used, related to or connected with emergency machinery, vehicle or work.

F. All mechanical devices, apparatus, or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

G. Mobile noise sounds associated with agricultural operations, provided such operations do not take place between the hours of 10:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or at any time on Sunday or a state holiday.

H. Mobile noise sources associated with agricultural pest control through pesticide application.

I. Warning devices necessary for the protection of the public safety, including, but not limited to, police, fire and ambulance sirens and train horns and sounds for the purpose of alerting persons to the existence of an emergency.

J. Construction, repair or excavation necessary for the immediate preservation of life or property.

K. Construction, operation, maintenance and repair of equipment, apparatus or facilities of the park and recreation department, public work projects or essential public services and facilities, including trash collection and those of public utilities subject to the regulatory jurisdiction of the Public Utilities Commission.

L. Construction, repair or excavation work performed pursuant to a valid written agreement with the city or any of its political subdivisions, which agreement provides for noise mitigation measures.

M. Any activity, to the extent regulation thereof has been preempted by state or federal law.

N. Any specific activity or noise source governed elsewhere in this code. Such activities include, but are not limited to:

1. Security alarm systems (Chapter [8.04](#) HMC);
2. Animal noise (Chapter [6.04](#) HMC);
3. Loud, unruly or disorderly private parties or assemblies (Chapter [9.17](#) HMC). (Ord. 324 § 2, 2008)

8.50.070 Enforcement and administration.

The city manager, chief of police and/or their designees shall be responsible for administering and enforcing the provisions of this chapter. (Ord. 324 § 2, 2008)

8.50.080 Enforcement – Interference.

No person shall interfere with, oppose, or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his duty. (Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.140)

8.50.090 Violations – Notices – Abatement.

Violations of this chapter shall be prosecuted in the same manner as other violations of this code; provided, however, in the event of an initial violation of the provisions of this chapter, a written notice shall be given the alleged violator which specifies the time by which the condition shall be corrected or, where applicable, an application for a permit shall be received by the planning division. No complaint or further action shall be taken in the event the cause of the violation has been removed or the condition abated or fully corrected within the time period specified in the written notice. (Ord. 370 § 29, 2012; Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.150)

8.50.100 Violations – Penalties.

Repealed by Ord. 370. (Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.160)

8.50.110 Violations – Notices – Service – Effect.

In the event the alleged violator cannot be located in order to serve the violation of intention to prosecute, such notice shall be deemed to be given upon mailing such notice by registered or certified mail to the alleged violator at his last known address or at the place where the violation occurred, in which event the specified time period for abating the violation or applying for a variance shall commence on the date of the day following the mailing of such notice. Subsequent violations of the same offense shall result in the immediate filing of a complaint. (Ord. 370 § 30, 2012; Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.170)

8.50.120 Immediate threats to health and welfare.

A. The city manager may order an immediate halt to any sound which exposes any person, except those excluded pursuant to HMC [8.50.060](#), to continuous sound levels in excess of those described herein. Within two days following the issuance of any such order, the city shall apply to the appropriate court for an injunction to replace the order.

B. No order pursuant to subsection A of this section shall be issued if the only persons exposed to sound levels in excess of those contained herein are exposed as a result of (1) trespassing; (2) an invitation upon private property by the person causing or permitting the sound; or (3) employment by the person or contractor of the person causing or permitting the sound.

C. Any person subject to an order issued pursuant to subsection A of this section shall comply with such order until (1) the sound is brought into compliance with the order, as determined by the city manager; or (2) a judicial order has superseded the order of the city manager. (Ord. 324 § 3, 2008; Ord. 283 § 4, 2002. Formerly 8.50.180)

8.50.130 Administrative citations and costs of second and subsequent responses.

The city manager or his designee, in his/her sole discretion, may prosecute violations of this chapter through the administrative citation process set forth in Chapter [2.56](#) HMC, in lieu of the criminal or nuisance abatement process. In the case of second and subsequent violations of this chapter, the city may assess a second response service fee in compliance with HMC [9.17.030](#) through [9.17.060](#), inclusive. (Ord. 324 § 4, 2008)

8.50.140 Modification, suspension and/or revocation of validly issued city permit and/or city license.

The violation of this chapter by any city permittee or licensee more than twice in any six-calendar-month period, in the course of operating pursuant to a validly issued city permit and/or license, may be grounds for the modification, suspension or revocation of such license subject to normal city processes, in the discretion of the city manager. (Ord. 324 § 4, 2008)

The Highland Municipal Code is current through Ordinance 462, passed November 14, 2023.

Disclaimer: The city clerk's office has the official version of the Highland Municipal Code. Users should contact the city clerk's office for ordinances passed subsequent to the ordinance cited above.

City Website: <https://www.cityofhighland.org/>

City Telephone: (909) 864-6861

[General Code](#)

APPENDIX B

NOISE LEVEL CALCULATIONS

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16049 - Well No. 129

CadnaA Noise Prediction Model: 16049-02_Construction.cna

Date: 11.07.24

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates		
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)
R01		R01	61.0	61.0	67.7	0.0	0.0	0.0	x	Total	5.00	r	6292170.69	2349554.05	5.00
R02		R02	57.0	57.0	63.7	0.0	0.0	0.0	x	Total	5.00	r	6292301.44	2349401.09	5.00
R03		R03	53.0	53.0	59.7	0.0	0.0	0.0	x	Total	5.00	r	6292379.75	2349309.45	5.00
R04		R04	49.8	49.8	56.5	0.0	0.0	0.0	x	Total	5.00	r	6292482.42	2349383.41	5.00
R05		R05	45.3	45.3	51.9	0.0	0.0	0.0	x	Total	5.00	r	6292544.31	2349438.26	5.00
R06		R06	45.6	45.6	52.3	0.0	0.0	0.0	x	Total	5.00	r	6292577.80	2349518.09	5.00
R07		R07	46.1	46.1	52.7	0.0	0.0	0.0	x	Total	5.00	r	6292589.09	2349610.10	5.00
R08		R08	45.1	45.1	51.8	0.0	0.0	0.0	x	Total	5.00	r	6292607.13	2349730.65	5.00
R09		R09	44.5	44.5	51.1	0.0	0.0	0.0	x	Total	5.00	r	6292652.40	2349859.77	5.00
R10		R10	45.5	45.5	52.2	0.0	0.0	0.0	x	Total	5.00	r	6292583.73	2349864.94	5.00
R11		R11	52.3	52.3	58.9	0.0	0.0	0.0	x	Total	5.00	r	6292515.29	2349873.92	5.00
R12		R12	51.1	51.1	57.7	0.0	0.0	0.0	x	Total	5.00	r	6292451.19	2349882.83	5.00
R13		R13	40.3	40.3	46.9	0.0	0.0	0.0	x	Total	5.00	r	6291621.51	2350157.31	5.00
R14		R14	38.7	38.7	45.3	0.0	0.0	0.0	x	Total	5.00	r	6291114.79	2349759.98	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			Height (ft)	Coordinates			
			Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)		Night (min)	X (ft)	Y (ft)	Z (ft)
Drill Rig		Rig1	113.6	113.6	113.6	Lw	113.6				14.00	a	6292271.18	2349622.48	14.00
Generator		GEN1	116.6	116.6	116.6	Lw	116.6				5.00	a	6292234.64	2349597.41	5.00
Compressor/Pump		COM1	111.6	111.6	111.6	Lw	111.6				0.00	a	6292228.29	2349591.96	0.00

Line Source(s)

Urban Crossroads, Inc.

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li		Operating Time			Moving Pt. Src			Height	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	Day	Evening	Night	Number

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li		Operating Time			Height (ft)
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext. (ft)	Cantilever		Height		Coordinates			
				left	right		horz. (ft)	vert. (ft)	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BARRIEREXISTING			0						6.00	a	6292107.12	2349536.07	6.00	0.00
											6292158.58	2349580.34	6.00	0.00
											6292232.12	2349493.65	6.00	0.00
BARRIEREXISTING			0						6.00	a	6292590.68	2349746.60	6.00	0.00
											6292584.42	2349664.75	6.00	0.00
											6292571.24	2349544.11	6.00	0.00
											6292563.75	2349471.31	6.00	0.00
											6292508.06	2349423.64	6.00	0.00
											6292448.18	2349374.65	6.00	0.00
BARRIEREXISTING			0						6.00	a	6292308.96	2349397.18	6.00	0.00
											6292320.94	2349407.39	6.00	0.00
											6292383.61	2349335.47	6.00	0.00
											6292448.33	2349261.43	6.00	0.00
											6292431.45	2349249.22	6.00	0.00
BARRIEREXISTING			0						6.00	a	6292178.03	2349602.20	6.00	0.00
											6292274.28	2349489.71	6.00	0.00
BARRIERTEMP			0						6.00	a	6292419.61	2349891.96	6.00	0.00
											6292431.05	2349869.63	6.00	0.00
											6292670.54	2349842.87	6.00	0.00
BARRIERTEMP			0						24.00	a	6292256.65	2349535.48	24.00	0.00
											6292209.35	2349589.40	24.00	0.00
											6292307.29	2349663.30	24.00	0.00
											6292318.78	2349672.27	24.00	0.00
											6292326.62	2349663.80	24.00	0.00
											6292334.76	2349652.20	24.00	0.00
											6292324.03	2349642.20	24.00	0.00
											6292348.66	2349611.17	24.00	0.00
											6292298.98	2349570.85	24.00	0.00
											6292282.79	2349557.93	24.00	0.00
											6292256.91	2349535.60	24.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height (ft)	Coordinates				
								Begin (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BUILDING			BUILDING00001	x	0		30.00	a	6292382.28	2349716.88	30.00	0.00
									6292401.43	2349720.02	30.00	0.00
									6292426.57	2349717.86	30.00	0.00
									6292442.90	2349708.03	30.00	0.00
									6292455.71	2349695.65	30.00	0.00
									6292463.30	2349682.50	30.00	0.00
									6292467.33	2349664.20	30.00	0.00
									6292465.26	2349644.26	30.00	0.00
									6292459.78	2349628.73	30.00	0.00
									6292452.61	2349615.83	30.00	0.00
									6292442.90	2349606.44	30.00	0.00
									6292428.87	2349598.00	30.00	0.00
									6292414.90	2349593.90	30.00	0.00
									6292400.96	2349590.66	30.00	0.00
									6292383.64	2349593.56	30.00	0.00
									6292369.02	2349601.63	30.00	0.00
									6292357.87	2349609.63	30.00	0.00
									6292346.76	2349620.24	30.00	0.00
									6292342.60	2349630.73	30.00	0.00
									6292338.54	2349647.30	30.00	0.00
									6292337.91	2349661.20	30.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates				
								Begin	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)	
								6292342.64	2349683.69	30.00	0.00	
								6292360.39	2349705.96	30.00	0.00	
BUILDING			BUILDING00002	x	0		30.00	a	6292421.13	2349577.30	30.00	0.00
									6292440.29	2349580.44	30.00	0.00
									6292465.43	2349578.28	30.00	0.00
									6292481.76	2349568.45	30.00	0.00
									6292494.57	2349556.07	30.00	0.00
									6292502.16	2349542.92	30.00	0.00
									6292506.19	2349524.62	30.00	0.00
									6292504.11	2349504.68	30.00	0.00
									6292498.64	2349489.15	30.00	0.00
									6292491.47	2349476.25	30.00	0.00
									6292481.76	2349466.86	30.00	0.00
									6292467.72	2349458.42	30.00	0.00
									6292453.76	2349454.32	30.00	0.00
									6292439.81	2349451.08	30.00	0.00
									6292422.50	2349453.98	30.00	0.00
									6292407.88	2349462.05	30.00	0.00
									6292396.73	2349470.05	30.00	0.00
									6292385.62	2349480.66	30.00	0.00
									6292381.46	2349491.15	30.00	0.00
									6292377.40	2349507.72	30.00	0.00
									6292376.77	2349521.62	30.00	0.00
									6292381.50	2349544.11	30.00	0.00
									6292399.24	2349566.38	30.00	0.00

Ground Absorption(s)

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(ft)	(ft)

Contour(s)

Name	Sel.	M.	ID	OnlyPts	Height		Coordinates			
					Begin	End	x	y	z	
					(ft)	(ft)	(ft)	(ft)	(ft)	

Vertical Area Source(s)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Rail

Name	Sel.	M.	ID	Lw'		Train Class	Correct.	Vmax
				Day	Night			
				(dBA)	(dBA)	(dB)	(km(mph))	

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)										Source			
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000		A	lin	

Roads

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data			Speed Limit		SCS	Surface		Gradient	Mult. Reflection					
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type	Dreffl	Hbuild	Dist.	
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)	(dB)	(dB)	(%)	(dB)	(ft)	(ft)	

RoadsGeo

Name	Height		Coordinates				Dist	LSlope
	Begin	End	x	y	z	Ground		
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)

16049 - Well No. 129

CadnaA Noise Prediction Model: 16049-02_ConstructionAlt.cna

Date: 11.07.24

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height (ft)	Coordinates		
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)
R01		R01	54.7	54.7	61.4	0.0	0.0	0.0	x	Total	5.00	r	6292172.32	2349554.33	5.00
R02		R02	53.8	53.8	60.5	0.0	0.0	0.0	x	Total	5.00	r	6292301.44	2349401.09	5.00
R03		R03	48.9	48.9	55.6	0.0	0.0	0.0	x	Total	5.00	r	6292379.75	2349309.45	5.00
R04		R04	44.6	44.6	51.3	0.0	0.0	0.0	x	Total	5.00	r	6292482.42	2349383.41	5.00
R05		R05	43.5	43.5	50.2	0.0	0.0	0.0	x	Total	5.00	r	6292544.31	2349438.26	5.00
R06		R06	43.5	43.5	50.2	0.0	0.0	0.0	x	Total	5.00	r	6292577.80	2349518.09	5.00
R07		R07	43.8	43.8	50.4	0.0	0.0	0.0	x	Total	5.00	r	6292589.09	2349610.10	5.00
R08		R08	42.8	42.8	49.5	0.0	0.0	0.0	x	Total	5.00	r	6292607.13	2349730.65	5.00
R09		R09	41.1	41.1	47.7	0.0	0.0	0.0	x	Total	5.00	r	6292652.40	2349859.77	5.00
R10		R10	41.9	41.9	48.6	0.0	0.0	0.0	x	Total	5.00	r	6292583.73	2349864.94	5.00
R11		R11	47.8	47.8	54.4	0.0	0.0	0.0	x	Total	5.00	r	6292515.29	2349873.92	5.00
R12		R12	49.2	49.2	55.9	0.0	0.0	0.0	x	Total	5.00	r	6292451.19	2349882.83	5.00
R13		R13	45.1	45.1	51.8	0.0	0.0	0.0	x	Total	5.00	r	6291621.51	2350157.31	5.00
R14		R14	42.9	42.9	49.6	0.0	0.0	0.0	x	Total	5.00	r	6291114.79	2349759.98	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li Value	Operating Time			Height (ft)	Coordinates			
			Day (dBA)	Evening (dBA)	Night (dBA)		Type	norm. dB(A)	Day (min)		Special (min)	Night (min)	X (ft)	Y (ft)
Drill Rig with sound blanket reduction (-10 dB)		Rig1	103.6	103.6	103.6	Lw 113.6				14.00	a	6292271.18	2349622.48	14.00
Generator		GEN1	116.6	116.6	116.6	Lw 116.6				5.00	a	6292317.90	2349632.80	5.00
Compressor		COM1	111.6	111.6	111.6	Lw 111.6				5.00	a	6292322.49	2349637.24	5.00

Line Source(s)

Urban Crossroads, Inc.

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src			Height	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	Day	Evening	Night	Number	Speed (mph)

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height (ft)
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	Night (min)	

Name	ID	Height		Coordinates			
		Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext. (ft)	Cantilever		Height		Coordinates			
				left	right		horz. (ft)	vert. (ft)	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BARRIEREXISTING			0						6.00	a	6292107.12	2349536.07	6.00	0.00
											6292158.58	2349580.34	6.00	0.00
											6292232.12	2349493.65	6.00	0.00
BARRIEREXISTING			0						6.00	a	6292590.68	2349746.60	6.00	0.00
											6292584.42	2349664.75	6.00	0.00
											6292571.24	2349544.11	6.00	0.00
											6292563.75	2349471.31	6.00	0.00
											6292508.06	2349423.64	6.00	0.00
											6292448.18	2349374.65	6.00	0.00
BARRIEREXISTING			0						6.00	a	6292308.96	2349397.18	6.00	0.00
											6292320.94	2349407.39	6.00	0.00
											6292383.61	2349335.47	6.00	0.00
											6292448.33	2349261.43	6.00	0.00
											6292431.45	2349249.22	6.00	0.00
BARRIEREXISTING			0						6.00	a	6292178.03	2349602.20	6.00	0.00
											6292274.28	2349489.71	6.00	0.00
BARRIERTEMP			0						6.00	a	6292419.61	2349891.96	6.00	0.00
											6292431.05	2349869.63	6.00	0.00
											6292670.54	2349842.87	6.00	0.00
BARRIERTEMP			0						12.00	a	6292324.67	2349640.29	12.00	0.00
											6292329.03	2349635.60	12.00	0.00
											6292315.29	2349624.02	12.00	0.00
											6292309.14	2349630.38	12.00	0.00
BARRIERTEMP			0						15.00	a	6292231.16	2349613.57	15.00	0.00
											6292274.12	2349561.61	15.00	0.00
BARRIERTEMP			0						12.00	a	6292274.12	2349561.61	12.00	0.00
											6292321.35	2349603.74	12.00	0.00
BARRIERTEMP			0						10.00	a	6292335.16	2349653.47	10.00	0.00
											6292308.30	2349682.83	10.00	0.00
BARRIERTEMP			0						10.00	a	6292231.08	2349614.07	10.00	0.00
											6292308.42	2349682.70	10.00	0.00
BARRIERTEMP			0						12.00	a	6292309.26	2349630.49	12.00	0.00
											6292320.94	2349640.00	12.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates				
								Begin (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
BUILDING			BUILDING00001	x	0		30.00	a	6292382.28	2349716.88	30.00	0.00
									6292401.43	2349720.02	30.00	0.00
									6292426.57	2349717.86	30.00	0.00
									6292442.90	2349708.03	30.00	0.00
									6292455.71	2349695.65	30.00	0.00
									6292463.30	2349682.50	30.00	0.00
									6292467.33	2349664.20	30.00	0.00
									6292465.26	2349644.26	30.00	0.00
									6292459.78	2349628.73	30.00	0.00
									6292452.61	2349615.83	30.00	0.00
									6292442.90	2349606.44	30.00	0.00
									6292428.87	2349598.00	30.00	0.00
									6292414.90	2349593.90	30.00	0.00
									6292400.96	2349590.66	30.00	0.00
									6292383.64	2349593.56	30.00	0.00
									6292369.02	2349601.63	30.00	0.00
									6292357.87	2349609.63	30.00	0.00
									6292346.76	2349620.24	30.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates			
								Begin	x	y	z
							(ft)	(ft)	(ft)	(ft)	(ft)
								6292342.60	2349630.73	30.00	0.00
								6292338.54	2349647.30	30.00	0.00
								6292337.91	2349661.20	30.00	0.00
								6292342.64	2349683.69	30.00	0.00
								6292360.39	2349705.96	30.00	0.00
BUILDING			BUILDING00002	x	0		30.00	a 6292421.13	2349577.30	30.00	0.00
								6292440.29	2349580.44	30.00	0.00
								6292465.43	2349578.28	30.00	0.00
								6292481.76	2349568.45	30.00	0.00
								6292494.57	2349556.07	30.00	0.00
								6292502.16	2349542.92	30.00	0.00
								6292506.19	2349524.62	30.00	0.00
								6292504.11	2349504.68	30.00	0.00
								6292498.64	2349489.15	30.00	0.00
								6292491.47	2349476.25	30.00	0.00
								6292481.76	2349466.86	30.00	0.00
								6292467.72	2349458.42	30.00	0.00
								6292453.76	2349454.32	30.00	0.00
								6292439.81	2349451.08	30.00	0.00
								6292422.50	2349453.98	30.00	0.00
								6292407.88	2349462.05	30.00	0.00
								6292396.73	2349470.05	30.00	0.00
								6292385.62	2349480.66	30.00	0.00
								6292381.46	2349491.15	30.00	0.00
								6292377.40	2349507.72	30.00	0.00
								6292376.77	2349521.62	30.00	0.00
								6292381.50	2349544.11	30.00	0.00
								6292399.24	2349566.38	30.00	0.00

Ground Absorption(s)

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(ft)	(ft)

Contour(s)

Name	Sel.	M.	ID	OnlyPts	Height		Coordinates			
					Begin	End	x	y	z	
					(ft)	(ft)	(ft)	(ft)	(ft)	

Vertical Area Source(s)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Rail

Name	Sel.	M.	ID	Lw'		Train Class	Correct.	Vmax
				Day	Night			
				(dBA)	(dBA)		(dB)	(km(mph))

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)										Source			
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000		A	lin	

Roads

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection			
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck		Dist.	Dstro		Type	Drefl	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)	

RoadsGeo

Name	Height		Coordinates				Dist	LSlope
	Begin	End	x	y	z	Ground		
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)

APPENDIX C

WATER WELL NOISE ABATEMENT PHOTOS

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