

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

San Bernardino County Department of Public Works

Rademacher Project (PROJ-2023-00120)

Hesperia, California

Lead Agency

County of San Bernardino
Department of Public Works
825 E. Third Street
San Bernardino, CA 9415-0835

Technical Assistance Provided By:

Cornerstone Consulting Services
13392 Amargosa Road. Victorville, CA 92392



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ACRONYMS

AB	Assembly Bill
amsl	Above Mean Sea Level
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
BACT	Best Available Control Technology
bgs	Below Ground Surface
BMPs	Best Management Practices
BNSF	Burlington Northern and Santa Fe
BRA	Biological Resources Assessment
BTU	British Thermal Unit
CalEPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resource Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	California Code of Regulation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
cf	Cubic Feet
CFR	Code of Federal Regulations
CH ₄	Methane
CMU	Concrete Masonry Unit
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CQA	Construction Quality Assurance
CWA	Clean Water Act
CWP	Countywide Plan
DTSC	Department of Toxic Substance Control
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
GHG	Greenhouse Gases
gpm	Gallons Per Minute

ITP	Incidental Take Permit
LED	Light Emitting Diode
LUST	Leaking Underground Storage Tank
MDAB	Mojave Desert Air Basin
MRZ	Mineral Resource Zone
MTBA	Migratory Bird Treaty Act
MTCO _{2e}	Metric Tons of CO ₂ Equivalent
NBS	Nesting Bird Survey
NEPA	National Environmental Policy Act
N ₂ O	Nitrous Oxide
NO _x	Nitrous Oxides
NRCS	National Resource Conservation Service
OPR	Office of Planning and Research
PM	Particulate Matter
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBNF	San Bernardino National Forest
SCS	Soil Conservation Service
SCE	Southern California Edison
sf	Square Feet
SMARTS	Stormwater Multiple Application and Report Tracking System
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TCR	Tribal Cultural Resources
TPH-g	Total Petroleum Hydrocarbons of Gas
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
WDR	Waste Discharge Requirements
WJTCA	Western Joshua Tree Conservation Act
WoUS	Waters of the United States

SECTION 1 – INTRODUCTION

Background

Cornerstone Construction Company (applicant) has submitted an application to the San Bernardino County (County) Land Use Services Department, Planning Division for a General Plan Amendment and a Zone Change for the development of a single family residence, a building pad for a future workshop, and retention basin (Project Site) on the approximately 10.15-acre property located at 4881 Summit Valley Road, Hesperia, CA 92345 and is identified by Assessor's Parcel Numbers (APN: 0357-102-12) (Subject Property). Additional construction includes a retention basin and compacted earthen swales.

SECTION 2 - REGULATORY FRAMEWORK

The County has identified that the Rademacher Project (Proposed Project) meets the California Environmental Quality Act (CEQA) Guidelines Section 15378 definition of a Project. CEQA Guidelines Section 15378 defines a Project as the following:

"Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."

In accordance with CEQA (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to determine potentially significant impacts upon the environment resulting from the implementation of the Proposed Project. In accordance with Section 15063 of the State CEQA Guidelines, this Initial Study is a preliminary analysis prepared by the County to inform decision makers, other affected agencies, and the public of potential environmental impacts associated with the implementation of the Proposed Project.

SECTION 3 – DETAILED PROJECT DESCRIPTION

PROJECT SITE SUMMARY

The Subject Property currently has dual Countywide Policy Plan Land Use Categories, the northern portion is designated Limited Industrial (IC), and the lower southern portion is designated Very Low Density (VLDR). The Subject Property has dual zoning districts consistent with the respective Land Use Categories. The northern portion is zoned Community Industrial, (IC) and the southern portion is zoned Single-Residential 1 Acre Minimum (RS-1). The Subject Property is currently undeveloped land and is surrounded by Rural Living (RL) and Single Residential (RS) on all sides (Figure 3 Zoning Map).

PROJECT LOCATION

The Subject Property is located in Section 22, Township 03N, Range 05W on the US Geological Survey (USGS) 7.5-minute topographic quadrangle at approximately 34°20'21.73"N, 117°23'53.48"W (See Figure 2 Vicinity Map, and Figure 3 Structure Map.)

The approximately 10.15-acre Subject Property was previously used for recreation and storage. Project implementation would include grading, cut and fill of the Project Site. Elevations of the Subject Property range from approximately 3,668 feet to 3,798 feet above mean sea level (amsl).

Additional Approval Required By Other Agencies

Federal: None

State of California: None

County of San Bernardino: Building and Safety, Planning, Environmental Health Services, Land Development, Department of Public Works Traffic,

Regional: None

Local: None

Consultation With California Native American Tribes

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes. For example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc?

Tribal consultation request letters were sent to the following tribes on June 2, 2025: Twentynine Palms Band of Mission Indians, Morongo Band of Mission Indians, Colorado River Indian Tribe, San Gabrieleno

SECTION 3 – DETAILED PROJECT DESCRIPTION

Band of Mission Indians, San Manuel Band of Mission Indians, Fort Mojave Indian Tribe, Yuhaaviatam of the San Manuel Nation (YSMN). YSMN indicated that “the proposed project area is located within serrano ancestral territory and, therefore, is of interest to the tribe.” Formal consultation was not requested, however; the requested that standard mitigation measure be incorporated into project approvals.

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.

Figure 1 Regional Map

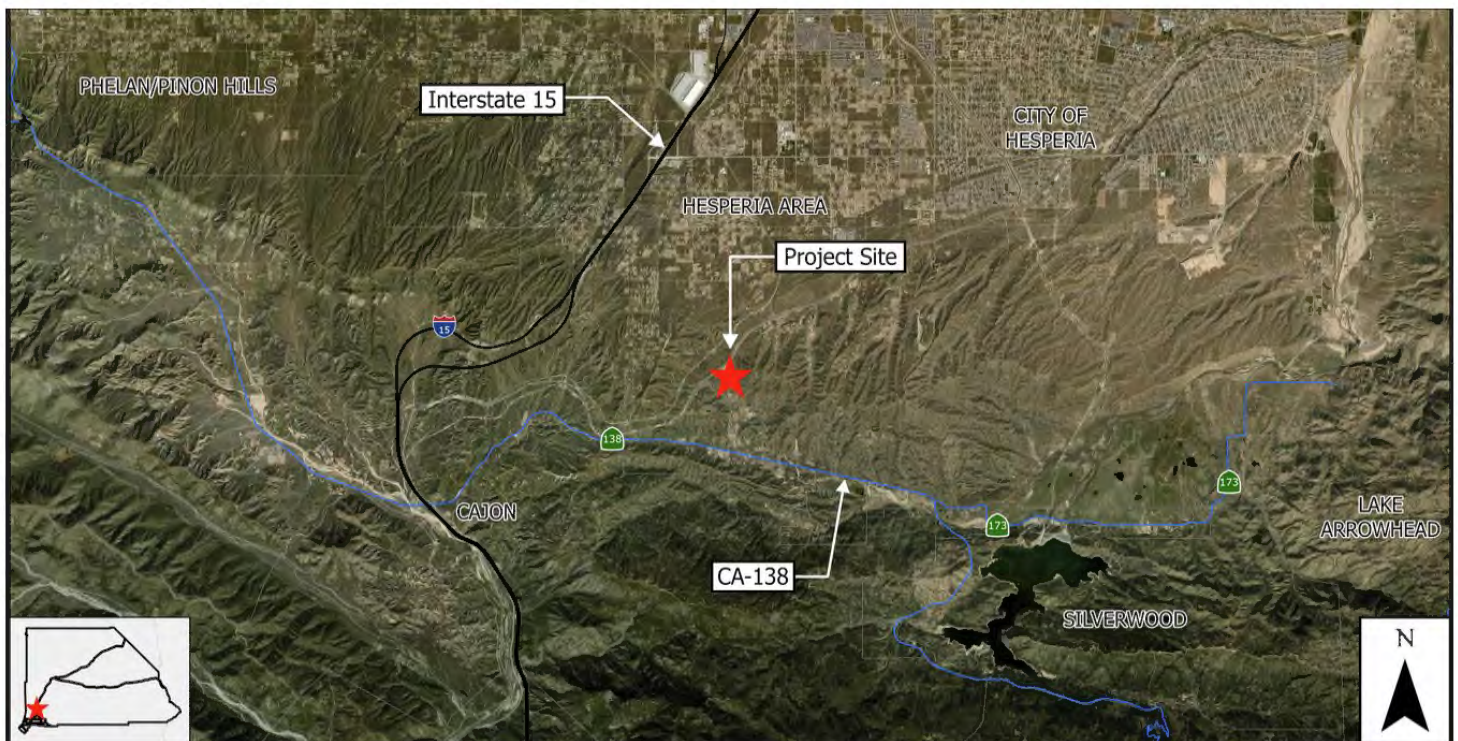
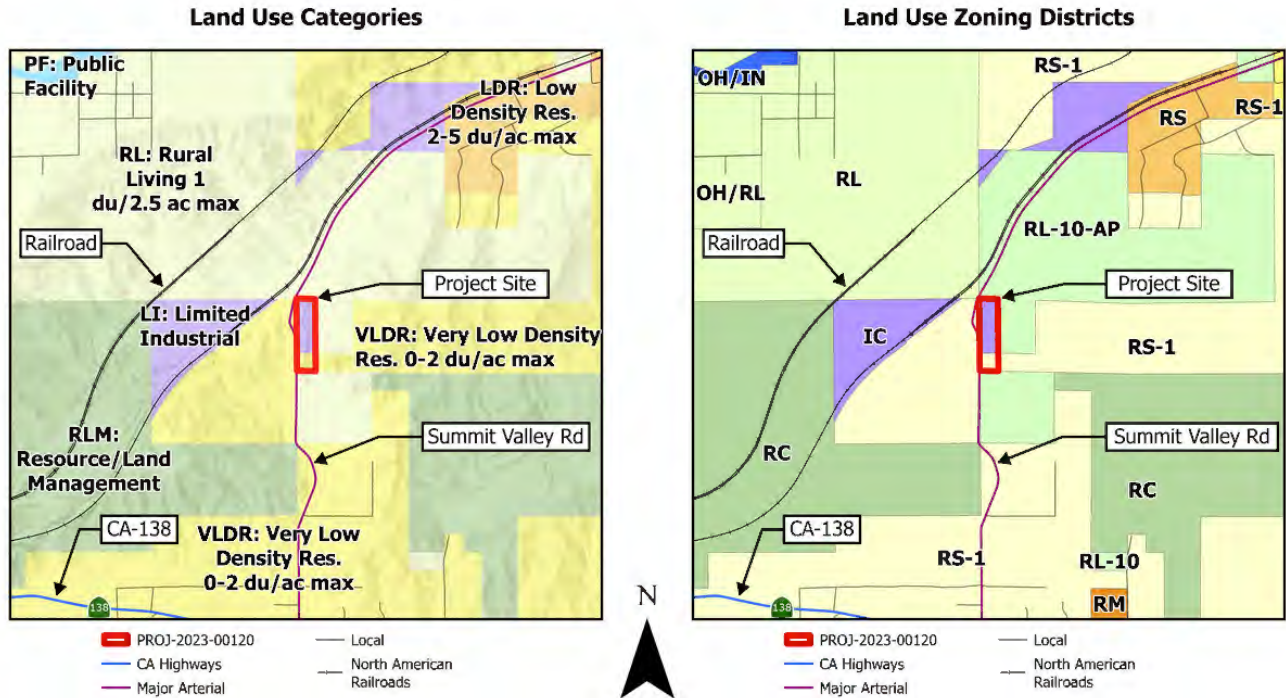


Figure 2 Vicinity Map



Figure 3 Zoning Map



PROPOSED PROJECT

The Proposed Project involves the construction of three structures: a single-family residence, a concrete building pad for a future workshop, and a 79 cubic feet (cf) retention basin. A gravel driveway for access will also be constructed and connected to an existing access road to Summit Valley Road. Site grading will be required. Construction access to the site will be provided via the existing access road from Summit Valley Road (Figure 3).

The primary structure consists of a single-family one-story, four bedrooms, two baths residence approximately 1,785 square feet (sf) including an attached garage. The primary structure will be 23-feet tall at its peak with architecture consistent with the County's guidelines as described in the General Plan. Electricity will be provided by Southern California Edison (SCE) and will be connected through existing infrastructure located on the Subject Property via above-ground lines. Water services will be provided by an on-site existing well (WCR2020-009246) which has a flow rate of 10 gallons per minute (gpm) (SGMA 2025). A 1,500-gallon septic system will be installed, and a leach field will be located approximately 75 feet south of the residence. Gas utilities will be provided by an on-site 500-gallon propane/natural gas tank. The proposed workshop pad consists of a 50-foot by 70-foot concrete pad totaling 3,500 sf. The workshop will be 24 feet tall with a gabled roof and architecture consistent with the County's guidelines. The workshop will not have any plumbing facilities, and electricity will be via overhead lines. Exterior lighting will be downcast and located at each corner of the workshop. The workshop pad will be approximately 950 feet directly north of the proposed residence.

A 79 cf retention basin would be located northwest of the proposed primary structure. The retention basin would be at minimum 15 feet in length to account for all post-construction runoff from the Proposed Project's residence structure.

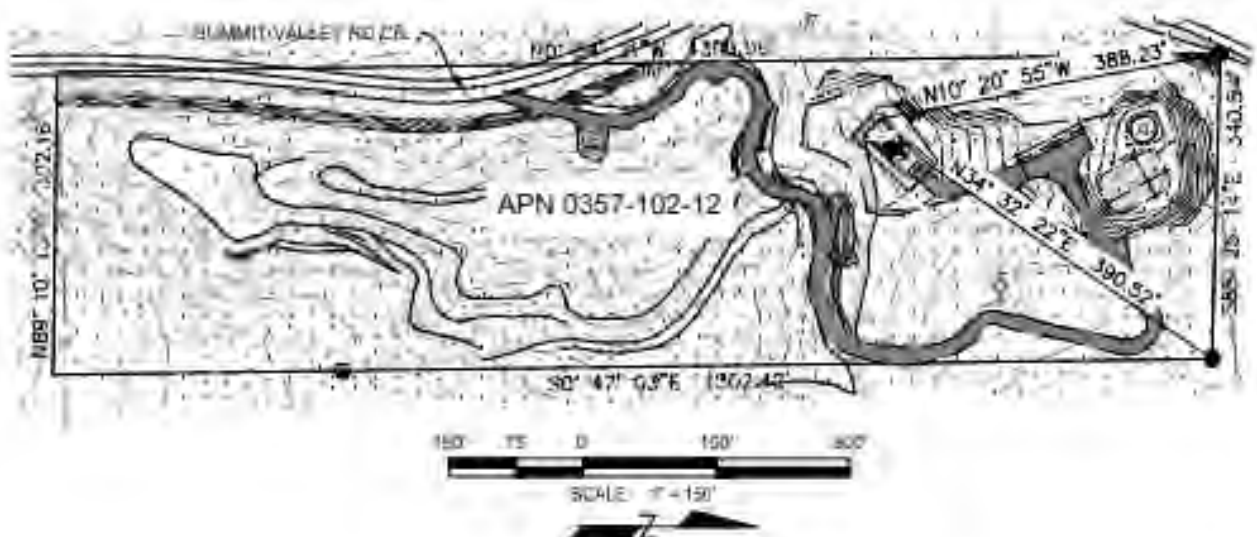
A 75-foot long and 16-foot wide (1,200 sf) compacted gravel driveway extending from the residence to the south, connecting to an existing access road, which connects to Summit Valley Road to the north, will be constructed and will also be used for all construction equipment and access. The driveway will be surfaced with $\frac{3}{4}$ inch non-asbestos-containing rock sourced from a local company. Construction activities would last approximately 12 months from the start date of site preparation. The construction schedule would be limited to 7:00 a.m. to 7:00 p.m. during weekdays only and not on federal holidays.

23-feet tall at its peak with architecture consistent with the County's guidelines as described in the General Plan. Electricity will be provided by Southern California Edison (SCE) and will be connected through existing infrastructure located on the Subject Property via above-ground lines. Water services will be provided by an on-site existing well (WCR2020-009246) which has a flow rate of 10 gallons per minute (gpm) (SGMA 2025). A 1,500-gallon septic system will be installed, and a leach field will be located approximately 75 feet south of the residence. Gas utilities will be provided by an on-site 500-gallon propane/natural gas tank. The proposed workshop pad consists of a 50-foot by 70-foot concrete pad totaling 3,500 sf. The workshop will be 24 feet tall with a gabled roof and architecture consistent with the County's guidelines. The workshop will not have any plumbing facilities, and electricity will be via overhead lines. Exterior lighting will be downcast and located at each corner of the workshop. The workshop pad will be approximately 950 feet directly north of the proposed residence.

A 79 cf retention basin would be located northwest of the proposed primary structure. The retention basin would be at minimum 15 feet in length to account for all post-construction runoff from the Proposed Project's residence structure.

A 75-foot long and 16-foot wide (1,200 sf) compacted gravel driveway extending from the residence to the south, connecting to an existing access road, which connects to Summit Valley Road to the north, will be constructed and will also be used for all construction equipment and access. The driveway will be surfaced with $\frac{3}{4}$ inch non-asbestos-containing rock sourced from a local company. Construction activities would last approximately 12 months from the start date of site preparation. The construction schedule would be limited to 7:00 a.m. to 7:00 p.m. during weekdays only and not on federal holidays.

Figure 4, Site Plan



This Initial Study is prepared in compliance with CEQA pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines. Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. The Proposed Project is evaluated based on its effect on 20 major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the Proposed Project on each element of the overall factor. The Initial Study checklist provides a formatted analysis that provides a determination of the effect of the Proposed Project on the factor and its elements. The effect of the Proposed Project is categorized into one of the following four categories of possible determinations:

Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant	No Impact
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SECTION 4 – ENVIRONMENTAL CHECKLIST FORM

1. Project Title Rademacher Residence (PROJ-2023-00120)
2. Lead Agency Name County of San Bernardino, Land Use Services
Address: 385 N Arrowhead, San Bernardino, CA 92415
3. Contact person: Elena Barragan
4. Project Location: 4881 Summit Valley Road, Hesperia, CA 92345

Topographic Quad (USGS 7.5") Section 22, Township 03N, Range 05W

Latitude/Longitude: 34°20'21.73"N, 117°23'53.48"W

Site Access: Summit Valley Road
5. Project Sponsor: Mike Rademacher

Name and Address: 4881 Summit Valley, Hesperia, CA 92345
6. Land Use Category: Limited Industrial, (IL) and
Very Low Density Residential (VLDR)
Zoning: Community Industrial (IC) and
Single Residential 1 Acre minimum, (RS-1)
7. Other Public Agencies Whose Approval is Required: None.
8. Have California Native American Tribes Traditionally Affiliated With The Project Area Requested Consultation Pursuant to Public Resource Code Section 21080.3.1? If So, Is There A Plan For Consultation?
9. Lead Agency Discretionary Actions

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact requiring mitigation to be reduced to a level that is less than significant as indicated in the checklist on the following pages.

☐	Aesthetics	☐	Agricultural and Forest Resources	Air Quality
☒	Biological Resources	☒	Cultural Resources	Energy
☐	Geology and Soils	☐	Greenhouse Gas Emissions	Hazards and Hazardous Materials
☐	Hydrology and Water Quality	☐	Land Use and Planning	Mineral Resources
☐	Noise	☐	Population and Housing	Public Services
☐	Recreation	☐	Transportation	X Tribal Cultural Resources
☐	Utilities and Service Systems	☐	Wildfire	Mandatory Findings of Significance

LEAD AGENCY DETERMINATION

ON THE BASIS OF THIS INITIAL EVALUATION, THE FOLLOWING FINDING IS MADE.

☐	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	Although the proposed project could have a significant effect on the environment, there 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.
☐	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: *Elena Barragan*

Date: 10/14/2026

1. Aesthetics

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

Environmental Setting:

The Proposed Project is located in the community of Hesperia, California with direct access from Summit Valley Road to the north, west, and south of the Subject Property with Summit Valley Road transecting the southwest portion of the Subject Property. The majority of the Project Site is not easily viewable from the public roadway or nearby private properties due to the topography of the Subject Property and surrounding area. The nearest residence is directly south of the Subject Property, and views are obstructed of the Proposed Project activities by hills on the Subject Property’s southern portion.

The Subject Property contains no rock outcroppings, historic buildings, or scenic highways. The closest scenic highway is Highway 138 approximately one mile south of the Subject Property (CalTrans 2025). There are no trees on the Subject Property scheduled to be removed or affected as part of the Proposed Project.

The Proposed Project is not located within an urbanized area. The Proposed Project would create minimal light typically associated with a single-family residence, including three exterior light

emitting diode (LED) lights on the residence and garage. All outdoor lighting would be downcast and not faced towards any open areas, residences, public roadways, or public buildings.

Impact Analysis:

a) Have a substantial adverse effect on a scenic vista?

No Impact. Implementation of the Proposed Project would not obstruct any scenic vista or open view to the public as the proposed changes are out of the public view due to the topography of the Project Site. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The Proposed Project is not located near a scenic highway and would not damage scenic resources within a scenic highway. Implementation of the Proposed Project would not remove or damage any trees or rock outcroppings as trees and rock outcroppings are not known on the Subject Property. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

c) Substantially degrade an 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 points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The Proposed Project would not substantially degrade the existing visual character or quality of public views of the site and surroundings as the Proposed Project cannot be observed by the public's view due to the topography of the Subject Property. The Proposed Project is not in an urbanized zone and would not conflict with zoning or other regulations governing scenic quality. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. No new light sources would occur during construction as such activities would be conducted during daylight hours. Operational activities of the Proposed Project would require typical residential lighting and would not be cast into public roadways, residential areas, or public view. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

2. Agricultural and Forestry Resources

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
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?				x
(b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				x
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				x

Timberland Production (as defined by Government Code section 51104(g))?				
d) Result in the loss of forest land or conversion of forest land to non-forest use?				x
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?				x

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

Environmental Setting:

The Proposed Project is located on lands zoned as Single Residential 1 Acre Minimum (RS-1) zoning district in the Very Low Density Residential (VLDR) land use category. No known agricultural activities have occurred on the Subject Property.

The Subject Property is located on soils which have been classified as “Prime if irrigated” through the National Resource Conservation Service (NRCS) online Web Soil Survey (NRCS 2025).

The Subject Property is located within Grazing Land as described by the California Department of Conservation’s California Important Farmland Finder. Grazing land is described as “Land on which the existing vegetation is suited to the grazing of livestock.” Grazing land is not considered prime farmland (Department of Conservation 2025).

The Subject Property is not located on land with existing zoning for agricultural use or with a Williamson Act contract. The Subject Property is not located within forest land or timberland.

Impact Analysis:

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?

No Impact. Less than 10 percent of the Subject Property is designated as a prime (if irrigated) agricultural soil by the U.S. Department of Agriculture, Soil Conservation Service’s (SCS) Soil Survey of San Bernardino County, California. The Subject Property is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Subject Property has not previously had agricultural activities and consequently would not convert farmland into non-farmland uses. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

(b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. The Proposed Project would not conflict with an existing zoning for agricultural use or a current Williamson Act contract as no agricultural lands or activities exist within the Subject Property. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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))?

No Impact. The Proposed Project would not conflict with existing zoning for forest land or timberland zoned as Timberland Production. The Subject Property is not located within forest land or timberland. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use as no forest lands are located within or near the Subject Property. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?

No Impact. The Proposed Project would not involve other changes in the existing environment which could result in the conversion of Farmland or forest land to non-farmland or non-forest use as no Farmland or forest lands are located within or near the Subject Property. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

3. Air Quality

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Environmental Setting:

The Proposed Project is located in the Mojave Desert Air Basin (MDAB). The Mojave Desert Air Quality Management District (AQMD) has jurisdiction over air quality issues and regulations within the MDAB. To assist local agencies to determine if a project’s emissions could pose a significant threat to air quality, the AQMD has published its CEQA Air Quality Handbook (CEQA Handbook).

Construction activities would last approximately 12 months from the date of site preparation. The construction schedule would be limited to 7:00 a.m. to 7:00 p.m. during weekdays only and not on federal holidays.

During construction, the following equipment would be used:

- Air Compressor
- Backhoe
- Bulldozer

- Dump Trucks
- Excavator
- Grader
- Paver
- Paving Equipment
- Roller
- Miscellaneous Construction Equipment
- Miscellaneous Material Handling Equipment

All construction equipment would be compliant with the California Air Resource Board (CARB) emissions standards and requirements.

During the operation of the Proposed Project, typical household appliances and equipment would be used. No commercial grade/size or large equipment would be used on a regular basis.

Impact Analysis:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The Mojave Desert Air Quality Management Plan (AQMP) for the basin establishes rules and regulations to obtain attainment of state and federal air quality standards. The Proposed Project does not include proponents which would conflict or obstruct implementation of the applicable air quality plan. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. Construction activities of the Proposed Project would require earth moving, material handling, material import, and material export. These activities were screened for emission generation using AQMD CEQA Handbook guidelines. These tables are used to generate emissions estimates for development projects. The criteria pollutants screened included: reactive organic gases (ROG), nitrous oxide (NO_x), carbon monoxide (CO), and particulates (PM₁₀ and PM_{2.5}). ROG and NO_x are precursors for ozone. The Proposed Project emissions are considered short-term and temporary. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The Proposed Project construction activities would take place in a rural residential area. The closest sensitive receptor is a residence south of the Subject Property.

There are no schools or other sensitive receptors located within one mile of the Subject Property. Although the Proposed Project would create pollutants, the emissions would be minimal and temporary. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The Proposed Project construction activities would take place in a rural residential area. Potential sources that may emit odors during construction activities include equipment diesel exhaust and the application of materials such as asphalt pavement. Odors that may be produced during construction would be short-term in nature and the odors emissions are expected to cease upon the drying or hardening of the odor-producing materials and completion of construction. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None Required.

Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

4. Biological Resources

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		X		
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?		X		
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?			X	
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?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
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?				X

☐ Check if project is located in the Biological Resources Overlay or Contains habitat for any species listed in the California Natural Diversity Database

Environmental Setting:

A Final General Biological Resources Assessment (BRA) was prepared by RCA Associates, Inc. on April 3, 2025, for the Proposed Project (Appendix A).

The Subject Property has moderate elevation changes throughout the entire property. Flora on the Subject Property consists of both native and non-native species. Flora species include rubber rabbitbrush (*Ericameria nauseosa*), manzanita (*Arctostaphylos manzanita*), California buckwheat (*Eriogonum fasciculatum*), California juniper (*Juniperus californica*), scrub oak (*Quercus ilicifolia*), Mexican tea (*Ephedra californica*), water jacket (*Lycium andersonii*), and flatspine bur ragweed (*Ambrosia ancanthicarpa*).

During the March 17, 2025, BRA site investigation, no mammals were observed on the Subject Property. Avian species observed on the Subject Property include the common raven (*Corvus corax*), California gull (*Laus californicus*), California scrubjay (*Aphelocoma californica*), northern mockingbird (*Mimus polygottos*), and house sparrow (*Passer domesticus*). No reptiles were observed during the survey due to the time of year and lower outside temperatures.

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States (WoUS). The State also regulates waters of the State and streambeds under the preview of regional water quality control boards (RWQCB) and California Department of Fish and Wildlife (CDFW) jurisdiction. No blueline streams or channels were detected during the field investigation. Due to the undulating and uneven terrain, smaller channels or low elevation areas where ponding may occur, may be present during large rain events.

No sensitive habitats were observed on the Subject Property during the field investigation.

As of July 10, 2023, California legislators passed the Western Joshua Tree Conservation Act (WJTCA), SB 122 into effect. This listed the western Joshua tree (*Yucca brevifolia*) as an endangered species. Western Joshua trees were not observed during the field survey in March 2025 (Appendix A).

Impact Analysis:

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?

Less Than Significant Impact with Mitigation. A BRA, which included habitat assessment, was conducted for burrowing owls in conjunction with the BRA report to determine if suitable habitat was available. It was found that the Subject Property supports marginally suitable habitat for burrowing owls. A survey for western Joshua trees was conducted and none were observed during the survey. Therefore, the Proposed Project would not be required to submit a California Endangered Species Act (CESA) Incidental Take Permit (ITP), for a WJTCA ITP.

The immediate surrounding area contains habitat suitable for nesting birds (developed shrubs and tall trees). As such, the Proposed Project is subject to the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. A less than significant impact with the implementation of mitigation measure **BIO-1** is required for nesting birds.

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?

Less Than Significant Impact With Mitigation. A BRA report was prepared for the Proposed Project by RCA Associates, Inc. (Appendix A). The Subject Property does not contain riparian or other sensitive habitat. The Subject Property does contain habitat suitable for nesting birds. Due to the Subject Property's potential for suitable habitat for nesting birds, mitigation shall be implemented. A less than significant impact with the implementation of mitigation measure **BIO-1** is required for nesting birds.

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?

Less Than Significant Impact. The Proposed Project does not meet the definitions of Section 1600 of the California Fish and Game Code under the jurisdiction of CDFW, Section 401 "Waters of the State" of the Clean Water Act (CWA) under the jurisdiction of the RWQCB or WoUS as defined in Section 404 of the CWA under jurisdiction of the USACE within the Subject Property or Project Site. A less than significant impact is identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. A BRA report conducted in 2025 and did not identify any wildlife corridors, WoUS which would contain migratory fish, or any wildlife nursery sites. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. As of July 10, 2023, California legislators passed the WJTCA, SB 122 into effect. This listed the western Joshua tree (*Yucca brevifolia*) as an endangered species. Western Joshua trees were not observed during the field survey according to the 2025 BRA. No removal of trees are anticipated as part of the implementation of the Proposed Project. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

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?

No Impact. The Project Site is not within or adjacent to a habitat conservation plan. According to the 2025 BRA, the Project Site is not located within any United States Fish and Wildlife Services (USFWS)-designated Critical Habitat. Therefore, no impact is identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

Mitigation Measure BIO-1:

Nesting bird nesting season generally extends from February 1 through September 15 in southern California. For migratory passerine birds, the season is March 15 through August 31. To avoid impacts to nesting birds during the nesting seasons, a qualified avian biologist will conduct pre-construction nesting bird surveys prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required. In the event that an active nest is identified, the biologist will set appropriate no-work buffers around the nest which will be based on nesting species, its sensitivity to disturbance, nesting stage, intensity, and duration of disturbances. The nests and buffer zones shall be clearly marked and checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive. A weekly tailgate meeting shall be conducted by the biological monitor to provide appropriate information to construction crews, including any updates to the no-work buffers.

Impact Conclusions:

Implementation of mitigation measure **BIO-1** would ensure that the potential impacts to biological resources are reduced to the extent feasible.

5. Cultural Resources

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Check if project is located in the Cultural ☐ overlays or cite results of cultural resource review.

Environmental Setting:

The Project Site is located within Township 3 North, Range 5 West, Sections 15, 16, 21, and 22 as depicted on the Cajon, California USGS 7.5-minute quadrangle.

On April 7, 2025, a records search was conducted at the South Central Coastal Information Center (SCCIC). The SCCIC is the regional office of the California Historical Resources Information System (CHRIS) and is located at California State University, Fullerton. The records search included a review of all recorded cultural resources and reports within a ½ mile radius of the Project.

The records search identified two historic period resources within one-half mile of the Project Site. The first of these resources is described as the “Baldy Mesa Pole Line” (P-36-004251), which is a historic period telephone pole alignment and associated dirt road. The only feature associated with this site, according to CHRIS consists of an unpaved, graded, packed-earth, one-lane historical period road.

Impact Analysis:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less Than Significant Impact with Mitigation. A cultural resources study (Appendix C) was prepared for the Proposed Project. The purpose of the study was to locate and record any cultural resources within the Project Site and evaluate any resources as part of the environmental review process in compliance with CEQA. The records identified two (2) previously recorded resources within a one-half mile radius of the Project Site. These resources were considered to not be of significance nor located within the activities of the Project Site and therefore would not have a significant impact. Because the cultural survey did not include digging or unearthing, implementation of the Proposed Project could potentially uncover cultural resources. Therefore, to ensure less than significant impacts to cultural resources, the Proposed Project will adhere to Mitigation Measures CR-1, CR-2, CR-3

Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant Impact with Mitigation. No archeological resources were identified within ½ mile of the Project Site. Because the cultural survey did not include digging or unearthing, implementation of the Proposed Project could potentially uncover cultural resources. Therefore, to ensure less than significant impacts to cultural resources, the Proposed Project will adhere to Mitigation Measure CR-1, CR-2, and CR-3

b) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact with Mitigation. Construction activities, particularly grading or excavation, could potentially disturb human remains interred outside of a formal cemetery. To ensure adequate and compliant management of any buried remains that may be identified during project development. Therefore, to ensure less than significant impacts to cultural resources, the Proposed Project will adhere to Mitigation Measure TC-3.

Mitigation Measures:

CR-1 Monitoring and Treatment Plan

A Monitoring and Treatment Plan that is reflective of the project mitigation (“Cultural Resources” and “Tribal Cultural Resources”) shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

CR-2 Archaeological Monitoring

Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage.

CR-3 Worker Environmental Awareness Program

Prior to project initiation, a qualified archaeologist should be retained to conduct a Worker’s Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training should be conducted by an archaeologist who meets or exceeds the Secretary of Interior’s Professional Qualification Standards for archaeology. Tribal representatives from the Consulting Tribes, such as Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) will be allowed to attend and/or participate in the WEAP training should they elect to and will be given ten days’ notice prior to the training. Archaeological sensitivity training should include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find. **Impact**

Conclusions:

Implementation of mitigation measure **CR-1, CR-2, CR-3** would ensure that the potential impacts to cultural resources are reduced to the extent feasible.

6. Energy

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

Environmental Setting:

In 2024, California had a total consumption of 6,882 trillion British Thermal Unit (BTU), ranking it number two in the U.S. for total consumption (EIA 2025a). California ranked 49th in total energy consumption per capita in 2022 with a total of 176 million BTU (EIA 2025b). In 2022, California consumed 12.8 percent of the State’s total energy through renewable energy.

Regulatory Setting

The San Bernardino Countywide Plan (CWP) outlines goals, objectives, and policies for renewable energy and energy reduction. The following are applicable goals, objectives, and policies to the Proposed Project.

RE Goal 1: The County will pursue energy efficiency tools and conservation practices that optimize the benefits of renewable energy.

RE Objective 1.1: By 2030, electricity and natural gas usage will be the same as or less than 2007 levels.

RE Policy 1.2: Optimize energy efficiency in the built environment.

RE 1.2.6: Encourage new development to comply with the optional energy efficiency measures of the CALGreen Code.

RE 1.2.7: Encourage passive solar design in subdivision and design review processes.

RE Goal 2: The County will be home to diverse and innovative renewable energy systems that provide reliable and affordable energy to our unique Valley, Mountain, and Desert regions.

RE Objective 2.1: By 2030, access to community-oriented renewable energy generation will be available throughout San Bernardino County.

RE Policy 2.1: Support solar energy generation, solar water heating, wind energy and bioenergy systems that are consistent with the orientation, siting and environmental compatibility policies of the General Plan.

RE 2.1.1: Utilize renewable energy development standards in the Development Code to minimize impacts on surrounding properties.

RE Goal 4: The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.

RE Objective 4.1: The County will continue its efforts to meet or exceed State Greenhouse Gas reduction goals, by encouraging renewable energy development that will be compatible with the natural environment and the integrity of unincorporated communities.

RE Policy 4.1: Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.

RE 4.1.2: Renewable energy development applications shall be subject to thorough environmental review, including consideration of water consumption, before being permitted.

RE Policy 4.2: Ensure that renewable energy facilities do not disrupt, degrade, or alter local hydrology and hydrogeology.

RE 4.2.1: Require a groundwater impact assessment that evaluates the short and long-term impacts to groundwater usage.

RE Policy 4.3: Require construction and operation of all renewable energy facilities to minimize negative effects and optimize benefits to unincorporated communities.

RE 4.3.1: Define measures required to minimize ground disturbance, soil erosion, flooding, and blowing of sand and dust, with appropriate enforcement mechanisms in the Development Code.

RE 4.3.2: Require operators to track and report energy production and other benefits cited in a project proposal, in addition to tracking efforts to avoid and minimize negative impacts.

RE 4.3.3: Give preference to the utilization of existing infrastructure to minimize the need for additional transmission development.

Impact Analysis:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. The Proposed Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation due to current and implemented policies of the Proposed Project. The Proposed Project would comply with the County's design standards and renewable energy goals and objectives. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency as it does not include any implementation that would not follow a renewable energy plan. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

7. Geology and Soils

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury death involving?			X	
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.			X	
ii. Strong seismic ground shaking?			X	
iii. Seismic-related ground failure, including liquefaction?			X	
iv. Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
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?			X	
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Check if project is located in the Geologic Hazards ☐ or Paleontologic Resources ☐ Overlay District:

Environmental Setting:

The Proposed Project is in the western part of the Mojave Desert Geomorphic Province. The Mojave Province consists of isolated mountain ranges separated by expanses of desert plains. It consists of two main fault trends that control the topography: a prominent northeast-southeast trend and a secondary east-west trend with an apparent alignment with the Transverse Ranges. The Mojave province is wedged in a sharp angle between the Garlock Fault (southern boundary Sierra Nevada) and the San Andreas Fault, where it bends east from its northwest trend. The northern boundary of the Mojave is separated from the prominent Basin and Range by the eastern extension of the Garlock Fault. The Little Horsethief Canyon fault, a quaternary fault, is located south of the Subject Property and just north of the Cleghorn late quaternary fault, and northeast of the San Andreas fault (CGS 2025)

The Subject Property is comprised of Avawatz-Oak Glen Association, gently sloping soils (approximately 9.2 percent) on the northwestern, northeastern, and southwestern corners, as well as Gullied Land-Haploxeralfs Association soils (approximately 90.8 percent) in the remaining areas of the Subject Property. The Project Site's quaternary surficial deposits consist of young alluvial fan deposits and coarse-grained tertiary age formations (NRCS 2025).

The Project Site is located on soils unrated for a hydrologic soil group. Hydrologic soil groups are based on estimates of runoff potential according to the rate of water infiltration when soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Soils with high ratings are more susceptible to liquefaction during ground shaking events such as earthquakes. Liquefaction is a phenomenon in which loose, saturated granular soils lose shear strength, develop high pore water pressure, and exhibit liquid like behavior.

The Subject Property is located with the geologic map of the Cajon quadrangle, San Bernardino County California (USGS 2003). Geologic features on the Subject Property include Qa Holocene surficial sediments: alluvial sand of Cajon Creek and major tributaries; and Qgf Pleistocene Harold formation: alluvial fan gravel, mostly light grey, pebbly sand (USGS 2003).

A unique geological feature may be the best example of its kind locally or regionally, illustrate a geologic principle, provide a key piece of geologic information, be the "type locality" of a fossil or formation, or it may have high aesthetic appeal. Unique geologic features may be exposed or created from natural weathering and erosion processes, or from human excavations. These unique geological features provide aesthetic, scientific, educational, or recreational value.

Impact Analysis:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury 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.

Less Than Significant Impact. The Proposed Project is not located on a known earthquake fault. The nearest fault line, Little Horsethief Canyon fault, is located south of the Project Site. The Proposed Project does not include major ground disturbing activities during construction or operation and would not cause a rupture of a known earthquake fault. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

ii. Strong seismic ground shaking?

Less Than Significant Impact. The Project Site is located in a seismically active region and could be subject to moderate ground shaking in the event of an earthquake. The effects of ground shaking can be minimized if the proposed infrastructures are designed and constructed in conformance with current engineering practices. The Proposed Project includes cut and fill grading and site preparation, including the installation of a septic tank and leach field. The Proposed Project does not include blasting, deep drilling, skyscrapers, or significant earth moving activities. Construction equipment would not cause strong seismic ground shaking. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The Proposed Project includes moderate to minimal hills and slopes. There is one domestic groundwater well located on the Project Site (WCR2020-009246). The nearest groundwater monitoring well (343350N1173993W001) recorded with the California Statewide Groundwater Elevation Monitoring (CASGEM) system is located approximately 1,500 feet south of the Project Site and had a water elevation reading of 309.25 feet below ground surface (bgs) on 05/20/1996 (CASGEM 2025). The Project Site likely has deep groundwater conditions, typical of the area, and the Proposed Project would include properly compacted fill soils which would also have a low potential for liquefaction. It is unlikely that the Project Site contains a hydrologic soils group that could

be associated with liquefaction. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

iv. Landslides?

Less Than Significant Impact. The Proposed Project is not located within an area identified as having a potential for seismic slope instability, have any known landslides near, or in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely affect the proposed development is considered low. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction activities could result in soil erosion; however, any potential impacts of soil erosion would be minimized through the preparation and implementation of a required Storm Water Pollution and Prevention Plan (SWPPP). The SWPPP would prescribe temporary Best Management Practices (BMPs) to control wind and water erosion during and shortly after the construction of the Proposed Project. A 2025 Post Construction Measures Plan (PCMP) was prepared by Capstone Engineering, Inc. on March 13, 2024 (Appendix B). The PCMP outlines measures that would be used for post-construction of the Proposed Project, including details regarding the proposed retention basin for the Project Site's runoff. Implementation of this PCMP would minimize any project-specific impacts post-construction. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. Lateral spread occurs as a result of liquefaction induced lateral ground movement and typically occurs due to the presence of liquefiable soils underlying sloping ground. There were no instances of liquefaction or lateral spreading that were observed in the immediate vicinity of the site. Although shear observation cannot be used as a direct correlation to future hazard, based on the observance of absence of lateral spreading as well as understanding of the subsurface geology, groundwater conditions, and the site topography, the potential for lateral spreading to affect the project area is low. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact. The existing Subject Property soils are granular and are non-expansive. Therefore, no impact is identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. The Proposed Project includes the installation of a 1,500 gallons septic tank for the proposed residence. The soils on the Project Site are suitable for a septic tank and leach field which will be located approximately 75 feet south of the proposed residence. The installation of the proposed septic tank would not cause flooding or erosion to the Project Site's soils. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. The Project Site does not contain a unique geologic feature. A Cultural Resources Report was conducted by Duke CRM on July 7, 2025. No unique geological features were identified within the Project Site during the site visit. No geological features have been recorded with the SHPO or other historic database. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

8. Greenhouse Gas Emissions

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

Regulatory Setting:

San Bernardino County adopted its “Greenhouse Gas Emissions Reduction Plan” (GHG Reduction Plan) in December 2011. The GHG Reduction Plan was updated in June 2021. A review standard of 3,000 metric tons of carbon dioxide equivalents (MTCO₂e) per year will be used to identify projects that require the use of the Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions.

The City of Hesperia (City) adopted the City of Hesperia Climate Action Plan (CAP) in June of 2010. The Hesperia CAP outlines a course of action for the City government and the community of Hesperia to reduce per capita GHG emissions 29% below 2010 levels by 2020 and to adapt to the effects of climate change. The Hesperia CAP includes actions such as reducing emissions from new development through CEQA.

Environmental Setting:

The Proposed Project is located in the MDAB. The AQMD has jurisdiction over air quality issues and regulations within the MDAB. To assist local agencies to determine if a project’s emissions could pose a significant threat to air quality, the AQMD has published its CEQA Handbook.

Construction activities would last approximately 12 months from the date of site preparation. The construction schedule would be limited to 7:00 a.m. to 7:00 p.m. during weekdays only and not on federal holidays.

The Environmental Protection Agency (EPA) published its Green Book for National Area and County-Level Multi Pollutant Information, and within includes California Nonattainment/Maintenance Status for each county by year for all criteria pollutants (EPA 2025).

1-Hour Ozone was in nonattainment from 2000-2004 while 8-Hour Ozone, Carbon Monoxide, Nitrogen Dioxide, PM-10, and PM-5 were in nonattainment from 2020-2025 (EPA 2025).

Impact Analysis:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. Per CEQA guidelines, new project emissions are treated as standard emissions, and air quality impacts are evaluated for significance on an air basin or even at a neighborhood level. GHG emissions are treated differently, in that the perspective is global, not local. Therefore, emissions for certain types of projects might not necessarily be considered as new emissions if the project is primarily population driven. Many gases make up the group of pollutants that are believed to contribute to global climate change. However, three gases are currently evaluated: carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O).

The Proposed Project would include GHG reduction measures as listed in Table 1 below.

Table 1
Screening Table for Implementation of GHG Reduction Measures for Residential Development

Feature	Description	Project Points
Reduction Measure R2E6: Residential Energy Efficiency		
Building Envelope		
Insulation	Greatly Enhanced Insulation (spray foam wall insulated walls R-15 or higher, roof/attic R-38 or higher.	18
Windows	Enhance Window Insulation (0.32 U-Factor, 0.25 SHGC)	7
Heating/Cooling Distribution System	Enhanced Duct Insulation (R-8)	8
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	9
Water Heaters	High Efficiency Water Heater (0.72 Energy Factor)	15
Daylighting	All rooms daylighted	2
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	12
Appliances	Energy Star Refrigerator (new) Energy Star Dish Washer (new) Energy Star Washing Machine (new)	3

Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on Jun 21 st .	4
Energy Star Homes	EPA Energy Star for Homes (version 3 or above)	25
Photovoltaic	Solar Photovoltaic panels installed on individual homes or in collective neighborhood arrangements such that the total power provided augments: 30 percent of the power needs of the project	20
Water Efficient Landscaping	Only California Native Plants that	8
Electric Vehicle Recharging	Provide circuit and capacity in garages of residential units for use by an electric vehicle. Charging stations are for on-road electric vehicles legally able to drive on all roadways including interstate Highways and freeways.	1
Recycling of Construction/Demolition Debris	Recycle 15% of debris	5
Total		137

Construction emissions are not anticipated to exceed the County screening thresholds. Operational activities are typical of a single-family residence and are therefore considered negligible. Therefore, the Proposed Project would not generate GHG emissions, either directly, or indirectly, that may have a significant impact on the environment. Less than significant impacts are identified or are anticipated, and no mitigation measures are required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gases. The Proposed Project would adhere to all building standards, waste reduction standards, and energy efficiency requirements for new construction within the State, County, and Hesperia. No impacts are identified or are anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

9. Hazards and Hazardous Materials

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
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 for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk loss, injury or death involving wildland fires?			X	

Environmental Setting:

During construction activities, the Proposed Project would require the routine transport, use, storage, and disposal of limited quantities of common hazardous materials such as gasoline, diesel fuel, oils, solvents, paints, and other similar materials. All materials required during construction would be kept in compliance with State and local regulations, and BMPs. Operation activities would include those associated with a single-family residence and would include standard maintenance involving the use of commercially available products the use of which would not cause a significant hazard to the public.

The Proposed Project includes the construction of one single-family residence and does not include the use, transport, or storage of large quantities of hazardous materials other than those associated with construction activities which would be temporary and would follow all BMPs.

The Proposed Project is not located near an existing or proposed school site. The nearest school is located approximately 8.1 miles northeast of the Project Site.

The Department of Toxic Substance Control (DTSC) uses an online database to record and map hazardous sites within the State called EnviroStor. There are no sites within one mile of the Subject Property (DTSC, 2025).

The State Water Resource Control Board (SWRCB) lists all water discharge permits and cases through GeoTracker, an online database and map viewer (GeoTracker, 2025a). There is one site located within 2.5 miles of the Subject Property:

Summit Inn Texaco. 6010 Mariposa Road, Oak Hills, CA. The site is listed as a Leaking Underground Storage Tank (LUST) cleanup site and is completed and closed as of June 6, 2009 (GeoTracker, 2025b). Three LUSTs were removed and soil testing indicated benzene and total petroleum hydrocarbons of gas (TPH-g) in high concentrations. The site was closed due to no detection of all analytes and groundwater is extremely deep beneath the site.

The California Environmental Protection Agency (CalEPA) utilizes a database with an online map viewer for regulated sites within the State. There are no regulated sites within one mile of the Subject Property. There are four sites within 1.5 miles of the Subject Property and are listed as follows:

Silverwood Gas Market. 12077 State Highway 138. The Silverwood Gas Market is listed on the Regulated Sites Portal for Chemical Storage Facilities, Hazardous Waste Generator, and Underground Storage Tank in the California Environmental Reporting System. The site has had 30 total violations (CalEPA 2025); however, none have resulted in major spills

or leaks. The site stores, handles, or produces the following chemicals: waste liquid, waste absorbent and spent fuel filters, propane, gasoline, and diesel fuel number 2.

Silver Gas Market. 12077 State Highway 138. The silver Gas Market is listed on the Regulated Sites Portal due to an ongoing Storm Water Multiple Application and Report Tracking System (SMARTS) for a construction stormwater permit.

TD1041400 Deteriorated Pole Replacement. Silverwood Lake, CA. The TD1041400 is listed on the Regulated Sites Portal due to a California Integrated Water Quality System facility for the fill and dredge material within a wetland. No spills or leaks are associated with this site.

Verizon Wireless: Summit Valley Road. 3754 Little Horsethief Canyon Road, Summit Valley, CA. The Verizon site is listed on the California Environmental Reporting System for a chemical storage facility which stores lead acid batteries and diesel fuel number 2. There have been no leaks associated with this site.

The Proposed Project is located six miles from Hesperia Airport; a privately owned airport. The next nearest airport is 20 miles northeast: Apple Valley Airport. The Proposed Project is within the general flight paths of several airports; however, landing is not possible near or on the Project Site (SkyVector, 2025).

The Proposed Project includes features such as concrete masonry unit (CMU) exterior walls and desert landscaping. The Proposed Project would have a 1,500-gallon water storage tank located approximately 200 feet northeast of the proposed residence.

Impact Analysis:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. Construction of the Proposed Project would require the routine transport, use, storage, and disposal of limited quantities of common hazardous materials such as gasoline, diesel fuel, oils, solvents, and other similar materials. All materials required during construction would be kept in compliance with State and local regulations, and BMPs. Operations would be minimal and include standard maintenance involving the use of commercially available products (e.g., gas, asphalt, oil, paint, etc.) the use of which would not create a significant hazard to the public. Less than significant impacts are identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. Construction of the Proposed Project would require the routine transport, use, storage, and disposal of limited quantities of common hazardous materials. Operations would be minimal and include standard maintenance involving the use of commercially available products. Less than significant impacts are identified or anticipated, and no mitigation measures are required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school. The nearest school is located 8.1 miles northeast of the Project Site. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?

No Impact. The Proposed Project does not occur on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impacts are identified or anticipated, and no mitigation measures are required.

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 for people residing or working in the project area?

No Impact. The Proposed Project does not occur within an airport land use plan or within two miles of a public airport or public use airport. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. There are no critical facilities located at the Subject Property. The Proposed Project is located adjacent to Summit Valley Road, an evacuation route and main thoroughfare. There would be no road closures associated with the implementation of the Proposed Project. Traffic may be impacted during construction and would be a temporary impact and would be a less than significant impact to Summit Valley Road as an evacuation route. During an

evacuation, it is likely that project construction would also halt, and workers would be required to evacuate. Workers evacuating would add vehicles to the evacuation route however, this would be a minimal addition. Therefore, less than significant impacts are anticipated, and no mitigation measures are required.

g) Expose people or structures, either directly or indirectly, to a significant risk loss, injury or death involving wildland fires?

Less Than Significant Impact. The Proposed Project is located within a very high fire hazard severity zone according to CalFire. The Proposed Project does not include features that would exacerbate the risks of wildfire. The Proposed Project would implement a 1,500-gallon water tank for fire suppression, includes stucco siding that is fire resistant and spark resistant, and would maintain a 100-foot minimum defensible space surrounding all buildings on the Project Site. Less than significant impacts are anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

10. Hydrology and Water Quality

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
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?			X	
i. Result in substantial erosion or siltation on – or off-site;			X	
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on – or off-site;			X	
iii. Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or			X	
iv. Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or substantial groundwater management plan?			X	

Environmental Setting:

The Proposed Project is located within the Upper Mojave River Valley Groundwater Basin underlies an elongated north-south valley, with the Mojave River flowing (occasionally) through the valley from the San Bernardino Mountains on the south, northward into the Middle Mojave

River Valley Groundwater Basin at the town of Helendale. The groundwater basin is bounded on the north by a roughly east-west line from basement rock outcrops near Helendale to those in the Shadow Mountains. The southern boundary is the contact between Quaternary sedimentary deposits and unconsolidated basement rocks of the San Bernardino Mountains. The basin is bounded on the southeast by the Helendale fault and on the east by basement exposures of the mountains surrounding Apple Valley. In the west, the boundary is marked by a surface drainage divide between this basin and the El Mirage Valley Basin, and a contact between alluvium and basement rocks that form the Shadow Mountains.

The Project Site is approximately 10 acres in size. The nearest surface water feature is an intermittent stream located approximately 2,000 feet south, which receives runoff from the Mojave River.

Impact Analysis:

a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Less Than Significant Impact. The Proposed Project will not violate any water quality standards or waste discharge requirements. Because the total disturbed area is greater than one acre (1.09 acres), the project requires coverage under the SWCB's Construction General Permit for stormwater discharges associated with construction activities. Because the project construction site is greater than one acre (1.09 acres), a Statewide NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ: NPDES No. CAS000002) (Construction General Permit) is required and a SWPPP will be prepared for the project and submitted to the City of Hesperia for review. A notice of intent (NOI) will be filed with the RWQCB 30 days prior to the start of construction, and a Notice of Termination will be filed with the Regional Water Quality Control Board upon completion of construction and site stabilization. The project will comply with local stormwater management requirements, including implementation of BMPs as needed to control erosion and prevent offsite sedimentation during construction. In addition, the project does not involve any dredge or fill activities or work within streambeds, and therefore no permits are anticipated under Clean Water Act Sections 401, a 404 permit from the U.S. Army Corps of Engineers, or a 1600 permit from the California Fish and Game Code, Section 1602. Due to the Proposed Project's size, and implementation of required SWPPP BMPs, the Proposed Project would have a less than significant impact on water quality. Therefore, a less than significant impact is identified or anticipated, and no mitigation measures are required.

b) Substantially decrease groundwater supplies or substantially interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The Proposed Project includes a single-family residence with desert landscaping to minimize outdoor water use. All project proponents would include California conservative appliances and equipment. Project construction would use off-site water for dust control and tire washing and would not utilize groundwater resources. The Proposed Project includes a 79 cf retention basin in order to offset all post-construction runoff rates and to improve infiltration of the site. Groundwater on the site would be utilized for the implementation of the Proposed Project. Precipitation in the surrounding mountain ranges contributes to the groundwater recharge and is part of the Mojave Groundwater Basin (Mojave Area). The Proposed Project will not significantly impact groundwater supplies. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?

i. Result in substantial erosion or siltation on – or off-site;

Less Than Significant Impact. The Proposed Project includes construction of a single-family residence. During construction activities, erosion and siltation could occur during rain events. The Proposed Project includes a required SWPPP which implements BMPs specific for the project type and site. Implementation of the SWPPP and BMPs would reduce possible erosion and siltation from construction of the Proposed Project. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site;

Less Than Significant Impact. The Proposed Project includes approximately 1.09 acres of project components and disturbed area. Per the PCMP, a 79-cf. retention basin would be included and would reduce surface runoff from the Proposed Project. A less than significant impact is identified or anticipated, and no mitigation measures are required.

iii. Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff;

Less Than Significant Impact. The Proposed Project would minimally contribute to runoff during construction and implementation. The Proposed Project includes a required SWPPP which implements BMPs specific for the project type and site. Implementation of the SWPPP and BMPs would reduce runoff and prevent polluted runoff from construction activities. A less than significant impact is identified or anticipated, and no mitigation measures are required.

iv. Impede or redirect flood flows?

No Impact. The Proposed Project would not impede or redirect flood flows on or off of the Subject Property. Access roads and driveways would not alter the existing drainage pattern of the site or area in a manner that would result in substantial impedance of flood flows on- or off-site. There are no streams or rivers in the project area. No impacts are identified or anticipated, and no mitigation measures are required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The Proposed Project will not cause inundation by seiche, tsunami, or mudflow. The project location, climate and topography do not contribute to these types of events. The Proposed Project BMPs would prevent project-related pollutants from impacting surface waters. No impacts are identified or anticipated, and no mitigation measures are required.

e) Conflict with or obstruct implementation of a water quality control plan or substantial groundwater management plan?

No Impact. The Proposed Project would not conflict with or obstruct implementation of a water quality control plan or groundwater management plan as no part of the Proposed Project includes requirements for changes or additions to any plans. Therefore, no impacts are identified or are anticipated, and no mitigation measures are required.

Mitigation Measures:

None.

Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

11. Land Use and Planning

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				X
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?				X

Environmental Setting:

The Project Site is located south of Hesperia proper within the Desert Region of the County and borders residential and rural zoned areas. Summit Terrace, an unincorporated community/hamlet, is approximately 1.3 miles east of the Project Site. The project is located on private property in a rural residential area and is situated in proximity to an existing railroad corridor.

The San Bernardino CWP incorporates a Land Use Element which serves as guidance and a vision for future development of the County. Within the Land Use Element, policies which pertain to the Proposed Project are as follows:

Goal LU-2 Land Use Mix And Compatibility

Policy LU-2.2 Compatibility with planned uses

We require that new residential development is located, scaled, buffered, and designed to minimize negative impacts both on and from adjacent areas designated for nonresidential land uses.

Policy LU-2.3 Compatibility with natural environment

We require that new development is located, scaled, buffered, and designed for compatibility with the surrounding natural environment and biodiversity.

Policy LU-2.4 Land Use Map consistency

We consider proposed development that is consistent with the Land Use Map (i.e., it does not require a change in Land Use Category), to be generally compatible and consistent with

surrounding land uses and a community's identity. Additional site, building, and landscape design treatment, per other policies in the Policy Plan and development standards in the Development Code, may be required to maximize compatibility with surrounding land uses and community identity.

Policy LU-2.5 Hillside preservation

We require that new development in sloping hillside areas preserve the natural character of the surrounding environment and does not further exacerbate natural hazards or erosion.

Policy LU-2.8 Rural lifestyle in the Mountain/Desert regions

We intend that new residential development in the unincorporated Mountain and Desert regions offer a lower intensity lifestyle that complements the suburban and urban densities in incorporated cities and towns to provide a range of lifestyle options. Master planned communities in unincorporated Mountain/Desert regions may provide a broader range of lifestyles and densities.

Goal LU-4 Community Design

Policy LU-4.1 Context-sensitive design in the Mountain/Desert regions

We require new development to employ site and building design techniques and use building materials that reflect the natural mountain or desert environment and preserve scenic resources.

Policy LU-4.3 Native or drought-tolerant landscaping

We require new development, when outside of high and very high fire hazard severity zones, to install and maintain drought-tolerant landscaping and encourage the use of native species.

Policy LU-4.4 Natural topography in the Mountain region

We require new development in the Mountain region to retain natural topography and minimize grading unless it is necessary to reduce exposure to natural hazards.

Policy LU-4.7 Dark skies

We minimize light pollution and glare to preserve views of the night sky, particularly in the Mountain and Desert regions where dark skies are fundamentally connected to community identities and local economies. We also promote the preservation of dark skies to assist the military in testing, training, and operations.

Impact Analysis:

a) Physically divide an established community?

No Impact. The project will not divide any established communities. The project area is in a rural residential area, and there are no established communities in the immediate vicinity that would be divided as a result of the Proposed Project. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?

No Impact. The Proposed Project does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project or project area. The Proposed Project would implement features that would be consistent with the CWP policies and goals, including those listed above. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None.

Impact Conclusions:

No impacts are identified or anticipated, and no mitigation measures are required.

12. Mineral Resources

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?				X

Environmental Setting:

The Proposed Project is located in Hesperia, within the North Desert Region of San Bernardino County. Approximately 6.2 percent of this region is designated Mineral Resource Zone 2 (MRZ-2) or Mineral Resource Zone 3 (MRZ-3), which are scattered widely throughout the region and are more prevalent in the eastern portion than in the west. The Proposed Project Site is located within Mineral Resource Zone 4 (MRZ-4), a designation assigned by the California Geological Survey for areas where there is insufficient data to determine the significance of mineral resources.

Impact Analysis:

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?

No Impact. The Proposed Project area is mapped by the California Department of Conservation as MRZ-4, which indicates that there is insufficient geologic information to determine the presence or absence of significant mineral resources. No known regionally or locally important mineral resources have been documented within the project area. Because no regionally or locally important mineral resources have been identified on the site, the Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the state. No impacts are identified or anticipated, and no mitigation measures are required.

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?

No Impact. The Project Site is not identified as a locally important mineral resource recovery site in any applicable general plan, specific plan, or other land use plan. Additionally, the MRZ-4 designation indicates that there is insufficient geologic information to confirm the presence of mineral resources. Therefore, the Proposed Project will not result in the loss of availability of a locally important mineral resource recovery site. No impacts are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None.

Impact Conclusions:

No impacts significant adverse impacts are identified or anticipated, and no mitigation measures are required.

13. Noise

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration of groundborne noise levels?			X	
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?				X

Environmental Setting:

The Project Site is located nearby (approximately 500 ft) to an active railroad corridor owned by the BNSF Railway (BNSF). Based on guidance from the Federal Transit Administration (FTA 2023), freight train passbys can result in significant decibels (dB.) The FTA utilizes equations to identify noise levels for train passbys. The following table indicates conversions used:

Table 2 Conversion to L_{max} at the Receiver for a Single Train Passby

Source	Equation
Locomotives	$L_{max, lo\ cos} = SEL_{lo\ cos} + 10\log(S/50) - 10\log(L/50) + 10\log(2\alpha) - 3.3$
Rail Cars	$L_{max, cars} = SEL_{cars} + 10\log(S/50) - 10\log(L/50) + 10\log[2\alpha + \sin(2\alpha)] - 3.3$
Total Train	$L_{max, total} = \max[L_{max, lo\ cos} \text{ or } L_{max, cars}]$
D = closest distance between receiver and source, in feet L = total length of measured group of locomotives or rail cars, in feet S = vehicle speed, in miles per hour $\alpha = \arctan(L/2D)$	

A commuter train will pass by a receiver of interest and its $L_{\max}$ is desired. For this train, the following conditions apply:

SEL_{ref}	92 dB for locomotives and 82 dB for rail cars
N_{locos}	1
N_{cars}	6
S	45 miles per hour
D	425 feet

The locomotive and rail cars each have a unit length of 70 feet. Therefore,

L_{locos}	70 feet
L_{cars}	420 feet

Using the equations in Table 6, the resulting $L_{\max}$'s are as follows:

$L_{\max, \text{locos}}$	89 dBA
$L_{\max, \text{cars}}$	84 dBA
$L_{\max, \text{total}}$	89 dBA

During construction, the following equipment and their $L_{\max}$ at 50 feet dBA are listed in the table below.

Table 3 Construction Equipment dBA Maximums

Air Compressor	81
Backhoe	80
Bulldozer	85
Dump Trucks	84
Excavator	85
Grader	85
Paver	85
Paving Equipment	85
Roller	74
Miscellaneous Construction Equipment	85
Miscellaneous Material Handling Equipment	85
Maximum dBA	85
Source: Table 9.9 FTA Construction Equipment Noise Emission Levels, FHWA 2025.	

Construction equipment would cause a range of approximately 55 to 85 dB of noise during construction hours of 7:00 AM to 7:00 PM, five days a week for 12 months. Construction is divided into phases and not all equipment would be running at all times. The frequency of equipment would vary throughout the construction duration and throughout each day.

The nearest residence is south of the Project Site approximately 1,250 feet from construction activities.

Impact Analysis:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Project Site is located in a primarily rural residential, open space area, adjacent to the BNSF Railway. The construction schedule is estimated to be approximately 12 months and is anticipated to occur. Construction noise is regulated within Section 83.01.080(g)(3) of the San Bernardino County Development Code. Accordingly, the Proposed Project would not result in a significant impact if Proposed Project construction occurred outside the hours of 7:00 AM and 7:00 PM, or on Sundays or Federal holidays. The Proposed Project construction will not occur outside of the hours outlined as “exempt” in County Development Code Section 83.01.080(g)(3); therefore, the Proposed Project would not exceed County-established standards relating to construction noise. Furthermore, because of its proximity to the BNSF, which is a major source of noise in the area, the Proposed Project is not anticipated to significantly increase ambient noise. Therefore, no significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

b) Generation of excessive groundborne vibration of groundborne noise levels?

Less Than Significant Impact. Section 83.01.090(a) of the San Bernardino County Development Code prohibits the creation of ground vibration that can be felt without the aid of instruments at or beyond the lot-line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot-line. Per Section 83.01.090(c), construction and demolition related ground vibration is exempt from this requirement as long as it occurs between 7:00 AM and 7:00 PM, Mondays through Saturdays and not on Sundays or Federal holidays. Construction of the Proposed Project will not occur outside of the hours outlined in Section 83.01.090(c) of the County Development Code. Therefore, less than significant impacts are identified or are anticipated, and no mitigation measures are required.

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?

No Impact. The Proposed Project is not located within the vicinity of a private airstrip or an airport land use plan. The Proposed Project would not expose people residing or working in the area of the project to excessive noise levels. Therefore, no significant impacts are identified or are anticipated, and no mitigation measures are required.

Mitigation Measures:

None.

Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

14. Population and Housing

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

Environmental Setting:

The Project Site is located in a low-density residential area approximately six miles southwest of Hesperia and is characterized by sparse, widely spaced single-family homes and limited development. The Proposed Project does not include multi-family residences or access roads that would allow for further development of residences. According to the US Census Demographic Data Map Viewer, San Bernardino County has 667,836 total households, with 50.3 percent of those being a married-couple households (US Census 2020). Married couple households are more likely to have school-aged children.

Impact Analysis:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. The Proposed Project includes the addition of a single-family residence and does not include infrastructure that would allow for additional housing. A single-family residence does not induce substantial population growth. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Proposed Project would not displace existing people or housing as the project is a new construction of a single-family residence. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None required.

Impact Conclusions:

No impacts are identified or anticipated, and no mitigation measures are required.

15. Public Services

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

Environmental Setting:

i. The San Bernardino County Fire Station 302 and 305 are the two closest fire stations to the Project Site. Station 302 has a response time of approximately 15 minutes to the Project Site. Station 302 is staffed with seven personnel daily and the apparatus includes one paramedic engine, two paramedic ambulances, and one brush engine (Hesperia 2025a). Station 305 has a response time of approximately 25 minutes to the Project Site. Station 305 is staffed with eight personnel daily, including one Battalion Chief, and serves as the Battalion 8 Quarts. Apparatus includes one paramedic engine, two paramedic ambulances, one Battalion Chief command vehicle, one brush engines, one Urban Search & Rescue Unit, one swift rescue unit and equipment including rescue boat, and one mobile command post (Hesperia 2025a).

ii. Hesperia Police Department (contracted through the San Bernardino County Sheriffs’ Department) is comprised of 58 sworn law enforcement personnel including one captain, one lieutenant, seven sergeants, five detectives, and 44 deputies (Hesperia 2025b).

San Bernardino County Sheriff's Department contracted with the City of Hesperia for police services in 1988 due to rapid increases in commercial development and population growth (San Bernardino County 2025).

iii. Hesperia Unified School District includes 17 elementary schools, three middle schools, and eight high schools which includes an adult education school. The closest school to the Project Site is the Krystal School of Science Math & Technologies located approximately eight miles northeast of the Project Site. Currently, Krystal School has an extensive waitlist for enrollment for the 2025-2026 school year (Karlen 2025).

iv. Hesperia Parks and Recreation Department offers aquatics, camping and fishing, senior activities, skating rink, youth and adult sports, Kids Kamp, therapeutic programs, Hesperia historical sites, and farmer's markets at 15 different locations and facilities throughout Hesperia. The nearest park to the Project Site is Maple Park, owned by the City of Hesperia.

Impact Analysis:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire protection?

ii. Police protection?

iii. Schools?

iv. Recreation/Parks?

v. Other public facilities?

Less Than Significant Impact. The Proposed Project includes a single-family residential proponent and would result in a minimal increase in the residential population. Construction activities would be short-term and temporary. The Proposed Project would result in the need for emergency services, and would possibly utilize local schools, parks, and recreation areas. However, this would have a minimal impact on emergency services due to other existing homes within the vicinity that utilize emergency services. The closest school is a choice school and currently has a waitlist for enrollment and may be only minimally impacted by a new single-family residence with school-aged children. Currently, all parks and recreational facilities are in working order and can be maintained by the City and organizations. Therefore, the Proposed Project would not have a significant impact on parks and recreational facilities.

A single-family residence typically utilizes public services, including public libraries. The City of Hesperia has not reported that public services have been at capacity or unable to function due to population growth. Typical population growth in the City could put a strain on public services, however a single-family residence is unlikely to have significant impact to public services. Less than significant impacts are identified or are anticipated, and no mitigation measures are required.

Mitigation Measures:

None.

Impact Conclusions:

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

16. Recreation

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

Environmental Setting:

Hesperia Parks and Recreation Department offers aquatics, camping and fishing, senior activities, skating rink, youth and adult sports, Kids Kamp, therapeutic programs, Hesperia historical sites, and farmer’s markets at 15 different locations and facilities throughout Hesperia. The nearest park to the Proposed Project is Maple Park located approximately 4.6 miles northeast and Silverwood State Recreation Area located approximately 4.7 miles to the southeast. San Bernardino County has 667,836 total households, with 50.3 percent of those being married-couple households (US Census 2020). Married-couple households are more likely to have school-aged children who may utilize public parks.

Impact Analysis:

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?

Less Than Significant Impact. The Proposed Project involves the construction of a single-family residence which would minimally increase the use of parks and recreational facilities. It would minimally result in a population increase that would increase the use of existing parks or other recreational facilities. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. The Proposed Project involves improvements to existing public works infrastructure. It does not include recreational facilities and would not require the construction or expansion of other recreational facilities. Less than significant impacts are identified or anticipated, and no mitigation measures are required.

17. Transportation

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

Environmental Setting:

The County includes a diverse multimodal transportation network that serves residents, businesses, and visitors. The San Bernardino CWP incorporates a Transportation & Mobility Element which serves as guidance and a vision for future development of the County. Within the Transportation & Mobility Element, policies which pertain to the Proposed Project are as follows:

Goal TM-1 Roadway Capacity

Policy TM-1.1 Roadway level of service

We require our roadways to be built to achieve the following minimum level of service standards during peak commute periods (typically 7:00-9:00 AM and 4:00-6:00 PM on a weekday):

- LOS D in the Valley Region
- LOS D in the Mountain Region
- LOS C in the North and East Desert Regions

Policy TM-1.4 Unpaved roadways

The County does not accept new unpaved roads into the County Maintained Road System, and we require all-weather treatment for all new unpaved roads.

Policy TM-1.6 Paved roads

For any new development for which paved roads are required, we require the developer to construct the roads and we require the establishment of a special funding and financing mechanism to pay for roadway operation, maintenance, and set-aside reserves.

Goal TM-2 Road Design Standards

Policy TM-2.2 Roadway improvements

We require roadway improvements that reinforce the character of the area, such as curbs and gutters, sidewalks, landscaping, street lighting, and pedestrian and bicycle facilities. We require fewer improvements in rural areas and more improvements in urbanized areas, consistent with the Development Code. Additional standards may be required in municipal spheres of influence.

Goal TM-3 Vehicle Miles Traveled (VMT)

Policy TM-3.1 VMT reduction

We promote new development that will reduce household and employment VMT relative to existing conditions.

Policy TM-3.2 Trip reduction strategies

We support the implementation of transportation demand management techniques, mixed use strategies, and the placement of development in proximity to job and activity centers to reduce the number and length of vehicular trips.

Levels of Service (LOS) measures a driver's experience on the road and at intersections, based on the speed and number of cars using the road. The LOS of a road is designated by a letter grade of A (free flow) to F (near gridlock). A designation of A, B, or C represents free-flowing traffic conditions. F is stop-and-go traffic. These scores are based on the highest congestion level on that roadway, even if it only occurs for a few minutes each day. The CWP requires new roadways and new construction which could add to roadway congestion, to maintain a level of D in the Valley region, where the Project Site is located.

Summit Valley Road is classified as a Major Collector and Secondary Highway roadway that connects Hesperia to Highway 138.

Impact Analysis:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The Proposed Project is consistent with the CWP goals and policies listed above. The project does not include improvements to roadways; however, it does include the addition of a single-family residence which would minimally contribute to traffic. There is no regular bus service to the general area and project-related construction and operations would not impact mass transit. The Proposed Project would not interfere with bicycle facilities since the project is located within a rural portion of the County with no existing designated bicycle routes in the immediate vicinity. There are no sidewalks or walking paths within the vicinity of the Proposed Project and no impacts would occur. Therefore, less than significant impacts are identified or are anticipated, and no mitigation measures are required.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impact. The Proposed Project would result in short-term increases in vehicle trips from construction workers and construction vehicles on area roadways. These trips would include workers commuting to and from the Project Site, haul truck trips associated with the transfer and disposal of materials, and material and equipment deliveries. The number of construction-related trips would vary each day. Per CEQA Guidelines, §15064.3 subdivision (a), ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.” The term “automobile” refers to on-road passenger vehicles, specifically cars and light trucks and is not applied for heavy-duty trucks as those associated with construction. Accordingly, construction and operation of the project would generate minimal vehicle trips much fewer than the screening threshold for small projects of 110 on-road passenger vehicle trips. Therefore, a less than significant impacts are identified or are anticipated, and no mitigation measures are required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

No Impact. The Proposed Project does not include roadway design features of roadways or additions to roadways, nor would it provide any incompatible uses to the streets and highway system. All vehicles that would be used for travel to and from the Project Site would be licensed and comply with all appropriate transportation laws and regulations including obtaining and adhering to provisions of any required permits for oversized loads. No impacts are identified or anticipated, and no mitigation measures are required.

d) Result in inadequate emergency access?

Less Than Significant Impact. All proposed facilities would be constructed within the property boundaries of the project site and would not affect emergency vehicle access to the facility or any roadway. The Applicant would be responsible for repairing any damage caused by construction traffic during construction and maintaining the applicable roads in a safe condition. The use of the proposed access roads is not otherwise anticipated to increase hazards because of design features or incompatible uses. Less than significant impacts are identified or are anticipated, and no mitigation measures are required.

Mitigation Measures:

None.

Impact Conclusions:

No impacts are identified or anticipated, and no mitigation measures are required.

18. Tribal Cultural Resources

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		x		
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.		x		

((Background setting))

Nearby historical tribes:

Morongo Band of Mission Indians

San Fernando Band of Mission Indians

San Manuel Band of Mission Indians → Yuhaaviatam of San Manuel Nation (YSMN)

Regulatory Setting

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include Tribal Cultural Resources (TCRs), the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the Public Resources Code defines California Native American tribes as “a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004.” This includes both federally and non-federally recognized tribes. Section 21074(a) of the Public Resource Code defines TCRs for the purpose of CEQA as:

1. Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), 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; and/or
 - b. included in a local register of resources as defined in subdivision (k) of Section 5020.1; and/or
 - c. 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.

Because criteria a. and b. also meet the definition of a historical resource under CEQA, a TCR may also require additional consideration as a historical resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators. Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant

impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

Impact Analysis:

a) Listed or eligible for listing in California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant with Mitigation. The Cultural Resources Report was completed in accordance with San Bernardino County environmental compliance procedures and CEQA significance evaluation criteria.

Two resources were identified within one-half mile of the Project Site, P-36-004251 and P-36-004272. They have been evaluated as not eligible for the CRHR, and any project-related impacts are not considered significant.

Given that the current ground cover within the Project Site may have hidden archeological deposits, there remains a potential that buried archeological resources may inadvertently be discovered within the Proposed Project Site. Therefore, to ensure a less than significant impact on archeological resources, the Proposed Project will implement Mitigation Measure CR-1, CR-2, CR-3.

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.

Less Than Significant with Mitigation. On February 23, 2026, the San Bernardino County mailed notification pursuant to AB 52 to the following tribes, which had previously submitted general consultation request letters pursuant 21080.3.1(d) of the Public Resource Code:

San Manuel Band of Mission Indians (SMBMI, now known as The Yuhaaviatam of San Manuel Nation [YSMN])

Twenty-Nine Palms Band of Mission Indians

Colorado River Indian Tribes

Fort Mojave Indian Tribe

Morongo Band of Mission Indians

San Gabrieleno Band of Mission Indians

San Manuel Band of Mission Indians

Each recipient was provided with a brief description of the Proposed Project, a map of its location,

the lead agency representative's contact information, and a notification that the tribe has 30 days to request consultation. The 30-day response period concluded on March 23, 2026.

As a result of the initial notification letters, the San Bernardino County received the following responses:

A representative from YSMN identified that a known site was lacking from the record search. The site is referred to as CA-SBR-173. Due to the results of the Cultural report and knowledge of the area YSMN determined that the project may have potential for inadvertent discoveries. Therefore, YSMN requests for Cultural and Tribal Cultural Resources mitigation to be incorporated.

Mitigation was subsequently provided by YSMN. The Mitigation Measures requested by the tribe(s) and agreed to by the County are required as project Conditions of Approval (COAs). The required Mitigation Measures are summarized below and are in addition to CR-1, CR-2, CR-3

Mitigation Measures:

TCR-1 Tribal Monitoring

Due to the heightened cultural sensitivity of the proposed project area, at the discretion of the consulting tribe(s), Tribal monitor(s) authorized to represent YSMN shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). At the discretion of the consulting tribes, a sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation (“Cultural Resources” and “Tribal Cultural Resources”) shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

TCR-2 Treatment of Cultural Resources During Project Implementation

If a pre-contact cultural resource is discovered during project implementation, ground-disturbing activities shall be suspended 60 feet around the resource(s), and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed.

The Project Archaeologist shall develop a research design that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from YSMN, the Archaeologist, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the resource's archaeological significance, its potential as a Tribal Cultural Resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the Tribe, unless otherwise decided by YSMN. All plans for analysis shall be reviewed and approved by the applicant and YSMN prior to implementation, and all removed material shall be temporarily curated on-site.

It is the preference of YSMN that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by YSMN, the landowner, and the Lead Agency, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, CHRIS, and YSMN. All reburials are subject to a reburial agreement that shall be developed between the landowner and YSMN outlining the determined reburial process/location and shall include measures and provisions to protect the reburial area from any future impacts.

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with YSMN to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and YSMN for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and YSMN.

TCR-3 Inadvertent Discoveries of Human Remains

If human remains 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.

Impact Conclusions:

Implementation of mitigation measures **TCR-1, TCR-2, TCR-3**, would ensure that the potential impacts to tribal cultural resources are reduced to the extent feasible.

19. Utilities and Service Systems

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
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?				X
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?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

Environmental Setting:

The Project Site is located within a rural area. Electrical facilities from SCE are located on the Subject Property and will provide services to the Proposed Project. No public water or wastewater facilities are currently located on or adjacent to the Project Site. The Project Site includes a private groundwater well (WCR2020-009246) and would install a 1,500-gallon septic tank for the proposed residence. No natural gas services are nearby, and no telecommunications facilities are on the Project Site.

Impact Analysis:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The Proposed Project would not result in relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities as the installation or expansion of those utilities would not be required. The Proposed Project would install a 1,500-gallon septic tank, utilize an onsite well, utilize current SCE facilities and structures on the Project Site, and therefore, no impacts are identified or are anticipated, and no mitigation measures are required.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. Water may be required during construction of the Proposed Project to control dust. However, this demand would be temporary and negligible. Post-construction use of the Proposed Project would require water and would be typical of a single-family residence and would be provided by an on-site groundwater well. Therefore, less than significant impacts are identified or are anticipated, and no mitigation measures are required.

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?

No Impact. The Proposed Project would install an on-site 1,500-gallon septic tank for the residence and would not utilize wastewater treatment facilities. During construction, a portable restroom facility would be utilized for construction staff and would be hauled off-site by a local company. Therefore, no impacts are identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. During construction, the Proposed Project would generate solid waste from materials used. During operation, solid waste would be generated and would be typical of a single-family residence. Solid waste generation would be negligible. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The Proposed Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, no significant impacts are identified or anticipated, and no mitigation measures are required.

20. Wildfire

	Potentially “Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
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 a wildfire?			X	
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?			X	
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?				X

Environmental Setting:

The Proposed Project is located within a Very High Fire Hazard Severity zone per CalFire’s Fire Hazard Severity Map (CalFire 2025a). Summit Valley Road is a main thoroughfare from Hesperia and Oak Hills to State Route 138 to the south and is the only evacuation route for the Proposed Project site.

Recent fire history includes the Hesperia Fire that started on June 15, 2024, and burned just under 1,100 acres (CalFire 2025b). The Hesperia Fire was located approximately eight miles east of the Subject Property and burned no structures.

The City of Hesperia Hazard Mitigation Plan adopted in 2024 (Hesperia 2024) details areas in which have a higher probability of being within an identified hazard such as flooding, dam inundation zones, earthquake faults, and wildfire severity areas. The plan also identifies

restrictions on evacuations. Evacuation maps are made in coordination with several agencies, specific for each hazard incident, including wildfires. Agencies involved in evacuations and incident command include California Office of Emergency Services (CalOES), California Highway Patrol (CHP), Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), San Bernardino County Office of Public Health, and the City of Hesperia.

Impact Analysis:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The Proposed Project has only one access road: Summit Valley Road. The implementation of the Proposed Project would not impair any emergency response plan or evacuation plan. The Proposed Project would require the installation of an access road to Summit Valley Road. The access road would not be for public use and would not impact an existing emergency plan. Less than significant impacts are identified or anticipated, and no mitigation measures are required.

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 a wildfire?

Less Than Significant Impact. The Project Site is located on lands classified as Very High Fire Hazard Severity and therefore the potential for wildfires to occur are high. The Proposed Project includes fire-safe features including CMU (Concrete Masonry Unit) exterior walls, desert landscaping, and a 1,500-gallon water tank for fire suppression. The Proposed Project does not include features that would exacerbate the risks of wildfires. In the event of a wildfire near the Project Site, occupants may encounter pollutant concentrations from the wildfire; however, this exposure would be temporary. In the event of a wildfire, occupants would likely follow emergency services' safety recommendations and evacuate dangerous areas. Less than significant impacts are identified or anticipated, and no mitigation measures are required.

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?

Less Than Significant Impact. The Proposed Project would require the installation of an access road not available to the public. The access road would connect the proposed residence to the existing Summit Valley Road. The Project Site contains existing utility power lines and would not

include the installation of additional lines. Less than significant impacts are identified or anticipated, and no mitigation measures are required.

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?

No Impact. The Proposed Project is not located near large hills or mountains, streams, or areas prone to landslides as a result of runoff, post-fire slope instability, or drainage changes. Therefore, No impacts are identified are identified or anticipated, and no mitigation measures are required.

Mitigation Measures:

None Required.

Impact Conclusions:

No impacts are identified or anticipated, and no mitigation measures are required.

21. Mandatory Findings of Significance

	Potentially "Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
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)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Environmental Setting:

Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period of time. The CEQA Guidelines, Section 15130 (a) and (b), states:

- (a) Cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project. The discussion should be guided by the standards of practicality and reasonableness.

Impact Analysis:

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?

Less Than Significant Impact with Mitigation. As concluded in Appendix A, no state and/or federally listed threatened or endangered species are documented/or expected to occur within the Project Site. Additionally, no plant species with the California Rare Plant Rank (CRPR) of 1 or 2 were observed on-site. No other sensitive species were observed within the Project area or buffer area. Since there is some habitat within the immediate surrounding area that is suitable for nesting birds in general, **Mitigation Measure BIO-1** shall be implemented.

The archaeological records search identified two previously recorded resources recorded within a one-half-mile radius of the project. The survey did not result in the identification of any new historic or prehistoric cultural resources within the Project Site. There remains a potential that buried archaeological resources may inadvertently be discovered within the project boundaries. As such, implementation of the Proposed Project could potentially uncover cultural resources. Therefore, to ensure less than significant impacts, the Proposed Project shall adhere to State Health and Safety Code Section 7050.5 if previously unidentified cultural materials are unearthed during construction, the Project would implement **Mitigation Measure CR-1**, CR-2, CR-3.

Per the County, on February 23, 2026, notifications were mailed pursuant to Assembly Bill 52. After the mailing, the YSMN indicated that they would like to see the cultural report, post construction management plan, and project plan set. Those documents were provided on March, 6, 2025, Mitigation was subsequently provided by the YSMN and consultation with the County which continued through June 15, 2026. **Mitigation Measures TCR-1, TCR-2, TCR-3** are required as project COAs and are in addition to **Mitigation Measure CR-1**.

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)?

Less Than Significant Impact. Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period of time. The CEQA Guidelines, Section 15130 (a) and (b), states:

- a) Cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable.*
- b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project. The discussion should be guided by the standards of practicality and reasonableness.*

Air Quality

Cumulative projects include local development. However, as with most developments, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the Proposed Project's air quality must be generic by nature. In accordance with the AQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations. Development of the Proposed Project will be conditioned to comply with current AQMD rules and regulations to minimize impacts to air quality as discussed. The Proposed Project is not anticipated to exceed applicable AQMD regional thresholds. The Proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, cumulative impacts are anticipated to be less than significant.

Greenhouse Gas

Although the Proposed Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the Proposed Project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission

impacts from a climate change perspective. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

Currently, the County GHG Reduction Plan's initial screening procedure is to determine if a project will emit 3,000 metric tons of carbon dioxide equivalents (MTCO_{2e}) per year or more. Projects that do not exceed this threshold require no further climate change analysis. Therefore, consistent with CEQA Guidelines Section 15064h(3),10, the County, as lead agency, has determined that the project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions. As discussed previously, the Proposed Project's total net operational GHG emissions are not anticipated to exceed the County's screening threshold of 3,000 MTCO_{2e} per year and is consistent with the goals and objectives of the County's GHG Reduction Plan. Therefore, the Proposed Project's incremental contribution to GHG emissions and their effects on climate change would not be cumulatively considerable.

Implementation of the Proposed Project would not result in any cumulative impacts. Therefore, less than significant impacts are identified or anticipated, and no mitigation measures are required.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. The Proposed Project would not create substantial adverse effects on human beings due to its short duration and limited Project area.

SECTION 5 – SUMMARY OF MITIGATION MEASURES

Mitigation Measure BIO-1:

Nesting bird nesting season generally extends from February 1 through September 15 in southern California. For migratory passerine birds, the season is March 15 through August 31. To avoid impacts to nesting birds during the nesting seasons, a qualified avian biologist will conduct pre-construction nesting bird surveys prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required. In the event that an active nest is identified, the biologist will set appropriate no-work buffers around the nest which will be based on nesting species, its sensitivity to disturbance, nesting stage, intensity, and duration of disturbances. The nests and buffer zones shall be clearly marked and checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive. A weekly tailgate meeting shall be conducted by the biological monitor to provide appropriate information to construction crews, including any updates to the no-work buffers.

Mitigation Measure CR-1:

A Monitoring and Treatment Plan that is reflective of the project mitigation (“Cultural Resources” and “Tribal Cultural Resources”) shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

CR-2 Archaeological Monitoring:

Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient

SECTION 5 – SUMMARY OF MITIGATION

number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage.

CR-3 Worker Environmental Awareness Program:

Prior to project initiation, a qualified archaeologist should be retained to conduct a Worker's Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training should be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Tribal representatives from the Consulting Tribes, such as Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) will be allowed to attend and/or participate in the WEAP training should they elect to and will be given ten days' notice prior to the training. Archaeological sensitivity training should include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find.

Mitigation Measure TCR-1 Tribal Monitoring:

Due to the heightened cultural sensitivity of the proposed project area, at the discretion of the consulting tribe(s), Tribal monitor(s) authorized to represent YSMN shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). At the discretion of the consulting tribes, a sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

SECTION 5 – SUMMARY OF MITIGATION

TCR-2 Treatment of Cultural Resources During Project Implementation:

If a pre-contact cultural resource is discovered during project implementation, ground-disturbing activities shall be suspended 60 feet around the resource(s), and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed.

The Project Archaeologist shall develop a research design that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from YSMN, the Archaeologist, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the resource's archaeological significance, its potential as a Tribal Cultural Resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the Tribe, unless otherwise decided by YSMN. All plans for analysis shall be reviewed and approved by the applicant and YSMN prior to implementation, and all removed material shall be temporarily curated on-site.

It is the preference of YSMN that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by YSMN, the landowner, and the Lead Agency, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, CHRIS, and YSMN. All reburials are subject to a reburial agreement that shall be developed between the landowner and YSMN outlining the determined reburial process/location and shall include measures and provisions to protect the reburial area from any future impacts.

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with YSMN to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated

SECTION 5 – SUMMARY OF MITIGATION

records and the obligation of the Project developer/applicant to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and YSMN for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and YSMN.

TCR-3 Inadvertent Discoveries of Human Remains:

If human remains 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.

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Regional Map



Rademacher Initial Study
Hesperia, California
Figure 1

Vicinity Map



Structure Map



Appendix A

General Biological Resources Assessment

RCA Associates, Inc.

April 3, 2025

GENERAL BIOLOGICAL RESOURCES ASSESSMENT

COUNTY OF SAN BERNARDINO, CALIFORNIA

APN: 0357-102-12

Prepared for:

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Brian S. Bunyi, Environmental Scientist, Wildlife Biologist**

Project: #2025-43 BA

April 3, 2025

TITLE PAGE

Date Report Written: April 3, 2025

Date Field Work Completed: March 17, 2025

Report Title: General Biological Resources Assessment

Project Location: County of San Bernardino, California
APN: 0357-102-12

Prepared for: Lauren Cross
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Principal Investigators: Ryan Hunter,
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Appendix A – Tables and Figures
Regulatory Context

1.0 INTRODUCTION AND SUMMARY

Biological surveys were conducted on a 10.15-acre site (APN: 0357-102-12) located in an unincorporated area of San Bernardino County, California (Figures 1 and 2). The site is specifically located in Section 22, Township 3 North, Range 5 West in the USGS Cajon 7.5-minute California Quadrangle. The project site is bordered by sparse residential developments to the south and is surrounded in all other directions by undeveloped land.

As part of the environmental process, California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) data sources were reviewed. Following the data review, surveys were performed on the site on March 17, 2025, during which the biological resources on the site and in the surrounding areas were documented by biologists from RCA Associates, Inc. As part of the surveys, the property and adjoining areas were evaluated for the presence of native habitats which may support populations of sensitive wildlife and plant species. The property was also evaluated for the presence of sensitive habitats including wetlands, vernal pools, riparian habitats, and jurisdictional areas.

Focused surveys were also conducted for both desert tortoise and burrowing owl. Scientific nomenclature for this report is based on the following references: Hickman (1993), Munz (1974), Stebbins (2003), Sibley (2000) and Whitaker (1980).

2.0 EXISTING CONDITIONS

The property is approximately 10.15-acres in size located in an unincorporated area of San Bernardino County, California (Township 3 North, Range 5 West, Section 22, USGS Cajon California quadrangle) (Figures 1, 2, and 3).

The site is moderately hilly with gradual slopes and is approximately 1,146 meters above sea level. The vegetation community on site consists of non-native plants, a few native plants and non-native grasses. Vegetation occurring on site includes include rubber rabbitbrush (*Ericameria nauseosa*), manzanita (*Arctostaphylos manzanita*), California buckwheat (*Eriogonum fasciculatum*), california juniper (*Juniperus californica*), scrub oak (*Quercus ilicifolia*), Mexican tea (*Ephedra californica*), water jacket (*Lycium andersonii*), and flatspine bur ragweed (*Ambrosia acanthicarpa*). Other species of flora that are expected to occur on site and the surrounding area are discussed in section 5.0.

The site is not expected to support a variety of wildlife species and no mammals were present on the site during the March 17, 2025, field investigations. Mammalian species that are expected to occur on site and in the surrounding area are discussed in section 5.0. Avian species observed on site include the common raven (*Corvus corax*), california gull (*Larus californicus*), California scrubjay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), and house sparrow (*Passer domesticus*). Other avian species that are expected to utilize the site and surrounding area are discussed in section 5.0.

No reptiles were observed during the survey due to the low temperatures during the time of year. A list of reptiles that could possibly inhabit the site or occur in the surrounding areas are discussed in section 5.0.

In addition, no sensitive habitats (e.g., sensitive species critical habitats, vernal pools, etc.) have been documented in the immediate area according to the CNDDB (2025) and none were observed during the field investigations.

3.0 METHODOLOGIES

General biological surveys were conducted on March 17, 2025, during which biologists from RCA Associates, Inc. walked 10-meter parallel belt transects throughout the property in an east-west direction. During the surveys, data was collected on the plant and animal species present on the site. All plants and animals detected during the surveys were recorded and are provided in Tables 1 & 2 (Appendix A). The property was also evaluated for the presence of habitats which might support sensitive species. Scientific nomenclature for this report is based on the following references: Hickman (1993), Munz (1974), Stebbins (2003), Sibley (2000), and Whitaker (1980). Following completion of the initial reconnaissance survey, protocol surveys were conducted for the burrowing owl as per agency requirements. Weather conditions consisted of wind speeds of 0 to 5 mph, temperatures in the mid to high 50's (°F) (AM) with approximately 80% cloud cover. The applicable methodologies are summarized below.

General Plant and Animal Surveys: Ten meter transects were walked throughout the site and in the surrounding area (i.e., the zone of influence) at a pace that allowed for careful documentation of the plant and animal present on the site. All plants observed were identified in the field and wildlife was identified through visual observations and/or by vocalizations. Tables 1 and 2 (Appendix A) provide a comprehensive compendium of the various plant and animal species observed during the field investigations on site or in the surrounding areas. The taxonomic nomenclature used in this study follows the California Native Plant Society (CNPS).

Burrowing Owl: A habitat assessment (Phase 1) was conducted for the burrowing owl in conjunction with the general biological surveys to determine if the site supports suitable habitat for the species on March 17, 2025. Following completion of the habitat assessment, it was determined that the site supports marginally suitable habitat for the burrowing owl. As part of the burrowing owl survey, transects were walked throughout the site during which any suitable burrows were evaluated for owls and owl sign (e.g., whitewash, feathers, or castings). After the field investigations it was determined that there are no suitable burrows on site for burrowing owls and no burrowing owls were observed. Burrowing owls typically utilize burrows which have been excavated by other animals (squirrels, coyotes, foxes, dogs, etc.) since owls rarely dig their own burrows. CDFW protocol also requires surveys be conducted in the surrounding area out to a

distance of about 500 feet where accessible; therefore, zone of influence (ZOI) surveys were performed in the area surrounding the site. If present on a site, CDFW typically requires the owls to be passively relocated during the non-breeding season.

4.0 LITERATURE SEARCH

As part of the environmental process, a search of the California Natural Diversity Database (CNDDDB, 2025) search was performed. Based on this review, it was determined that twenty-three special status species, twelve animals, one invertebrate, and ten plants, have been documented within the Cajon California quadrangle. The following tables provide data on each special status species which has been documented in the area.

NAME	STATUS	HABITAT REQUIREMENTS	PRESENCE/ ABSENCE ON PROPERTY
PLANTS			
Within Cajon Quadrangle			
Short-joint beavertail (<i>Opuntia basilaris</i> var. <i>brachyclada</i>)	Federal: None State: None CNPS: 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Between 425-2015 m.	The site supports marginal suitable habitat for the species. However, none were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
White pygmy-poppy (<i>Canbya candida</i>)	Federal: None State: None CNPS: 4.2	Joshua tree woodland, Mojave Desert scrub, gravelly, sandy habitat between 600-1350 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Mojave milkweed (<i>Asclepias nyctaginifolia</i>)	Federal: None State: None CNPS: 2B.1	Mojavean desert scrub Pinon & juniper woodlands between 775-1605 m.	The site supports marginal suitable habitat for the species. However, none were observed on site and the species is not expected to occur on site given the lack of suitable habitat.

Black bog-rush (<i>Schoenus nigricans</i>)	Federal: None State: None CNPS: 2B.2	Marsh & swamp wetland, often found in alkaline marshes from 120-1525 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
San Bernardino aster (<i>Symphiotrichum defoliatum</i>)	Federal: None State: None CNPS: 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Between 3-2045 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Greata's aster (<i>Symphiotrichum greatae</i>)	Federal: None State: None CNPS: 1B.3	Chaparral, cismontane woodland, broadleafed upland forest, lower montane coniferous forest, riparian woodland. Between 335-2015 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
White-bracted spineflower (<i>Chorizanthe xanti</i> var. <i>leucotheca</i>)	Federal: None State: None CNPS: 1B.2	Mojavean desert scrub, pinyon and juniper woodland, coastal scrub (alluvial fans). Between 365-1830 m.	The site does not support suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.

Parish's alumroot (<i>Heuchera parishii</i>)	Federal: None State: None CNPS: 1B.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder and rock field. Between 1340-3505 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Palmer's mariposa-lily (<i>Calochortus palmeri</i> var. <i>palmeri</i>)	Federal: None State: None CNPS: 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Between 195-2530 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Plummer's mariposa-lily (<i>Calochortus plummerae</i>)	Federal: None State: None CNPS: 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Between 60-2500 m.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.

Table 4-1: Federal and State Listed Species and State Species of Special Concern.

E = Endangered; T = Threatened; SSC = Species of special concern; CNPS = California Native Plant Society.

CNDDDB = California Natural Diversity Data Base

Notes:

Status abbreviations:

CNPS List 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

CNPS List 1B: Plants rare, threatened, or endangered in California and elsewhere.

CNPS List 2A: Plants presumed extirpated in California, but more common somewhere else.

CNPS List 2B: Plants rare, threatened, or endangered in California, but more common somewhere else

CNPS List 3: Plants about which more information is needed - a review list.

CNPS List 4: Plants of limited distribution - a watch list

.1 Seriously threatened in California (over 80% of occurrences threatened/ high degree and immediacy of threat)

.2 Moderately threatened in California (20-80% occurrences threatened/ moderate degree and immediacy of threat)

.3 No very threatened in California (<20% of occurrences threatened/ low degree and immediacy of threat or no current threats known)

Table 4-2: Special status wildlife and insects documented in the region (Source: CNDDDB, 2025) or likely to occur in the region.

NAME	STATUS	HABITAT REQUIREMENTS	PRESENCE/ ABSENCE ON PROPERTY
Wildlife Species			
Within Cajon Quadrangle			
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	Federal: None State: None CDFW: SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	The site supports marginal suitable habitat for the species. However, none were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Arroyo toad (<i>Anaxyrus californicus</i>)	Federal: None State: None CDFW: SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Crotch bumble bee (<i>Bombus crotchii</i>)	Federal: None State: Candidate Endangered	Coastal California east to the Sierra-Cascade crest and south into Mexico.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Bell's sparrow (<i>Artemisiospiza belli</i>)	Federal: None State: None CDFW: WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Long-eared owl (<i>Asio otus</i>)	Federal: None State: None CDFW: SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling	The site does not contain suitable habitat for the species. None were observed on site and the species is not

		stream courses.	expected to occur on site given the lack of suitable habitat.
Coastal whiptail (<i>Aspedoscelis tigris stejnegeri</i>)	Federal: None State: None CDFW: SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	The site supports marginal suitable habitat for the species. However, none were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Southwestern willow flycatcher (<i>Empidonax traillii eximius</i>)	Federal: Endangered State: Endangered	Riparian woodlands in Southern California.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Santa Ana speckled dace (<i>Rhinichthys osculus</i> ssp. 8)	Federal: None State: None CDFW: SSC	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Yellow warbler (<i>Setophaga petechia</i>)	Federal: None State: None CDFW: SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Mohave tui chub (<i>Siphateles bicolor mohavensis</i>)	Federal: Endangered State: Endangered	Endemic to the Mojave River basin, adapted to alkaline, mineralized waters.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.

American badger (<i>Taxidea taxus</i>)	Federal: None State: None CDFW: SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	The site supports marginal suitable habitat for the species. However, none were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Two-striped gartersnake (<i>Thamnophis hammondi</i>)	Federal: None State: None CDFW: SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	Federal: Endangered State: Endangered	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	The site does not contain suitable habitat for the species. None were observed on site and the species is not expected to occur on site given the lack of suitable habitat.

5.0 RESULTS

5.1 General Biological Resources

The site supports a desert scrub community along with, non-native plants and a few native plants. Species observed on the site include rubber rabbitbrush (*Ericameria nauseosa*), manzanita (*Arctostaphylos manzanita*), California buckwheat (*Eriogonum fasciculatum*), california juniper (*Juniperus californica*), scrub oak (*Quercus ilicifolia*), Mexican tea (*Ephedra californica*), water jacket (*Lycium andersonii*), and flatspine bur ragweed (*Ambrosia acanthicarpa*). Table 1 provides a compendium of all plants occurring on the site and/or in the immediate surrounding area.

No mammals were observed on site during the field investigations although, species expected to occur on site and in the surrounding area include black tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), and desert cottontail (*Sylvilagus auduboni*). Tables 1 and 2 (Appendix A) provide a compendium of the various plant and animal species identified during the field investigations and those common to the area. No distinct wildlife corridors were identified on the site or in the immediate area.

Birds observed included common raven (*Corvus corax*), california gull (*Larus californicus*), California scrubjay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), and house sparrow (*Passer domesticus*). Table 2 provides a compendium of wildlife species observed during the various surveys and those likely to occur in the area.

No reptiles were observed during the survey due to climate and time of the year. Some species that are common in the area and that may occur on and around the site include the western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), and western whiptail lizard (*Cnemidophorus tigris*). Table 2 provides a compendium of wildlife species observed during the various surveys and those likely to occur in the area.

No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

5.2 Federal and State Listed Species

Crotch Bumble Bee: The Crotch's bumble bee is a state candidate endangered species that can be distinguished by its square-shaped face and rounded ankle on the midleg. Females have a black head and face and display black color on their mid and bottom thorax. Males display yellow hair on their face, a black stripe mid-thorax, and the abdomen should have a yellow coloring. They are active from April to August, with nests located underground in abandoned rodent nests or above ground in tufts of grass or old bird nests and rely almost exclusively on milkweed to complete their life cycle. They inhabit grasslands and shrublands in hotter and drier areas of California's Mediterranean region, Pacific coast, western desert, and adjacent foothills throughout southwestern region. The site lacks suitable habitat for the Crotch's bumble bee to occur on site in the foreseeable future.

Southwestern willow flycatcher: The Southwestern willow flycatcher is state and federally listed as endangered. This species lives in riparian woodlands across Southern California. They typically grow to a little less than six inches in overall length and appear to be brownish olive below to more of a gray green color in their upper half. The throat of this species is typically whitish in color with the breast being a pale olive color. The species inhabits parts of Arizona, Colorado, New Mexico, Texas, and Utah in the past. Typically, they fly around taking insects out of the air as their primary food source. This species requires dense riparian areas that have standing water on site or standing water nearby with saturated soils. Given that there is no riparian habitat, standing water on site or in the immediate surrounding area, it is the opinion of RCA Associates, Inc. that the species does not inhabit the site and is not likely to in the future.

Mohave tui chub: The Mohave tui chub is a species of fish that is state and federally listed as endangered. This species used to commonly be found in deep pools and slough-like areas of the Mojave River. Its range is now limited to only a handful of places in San Bernardino County. It is a fish that is brassy-brown in color and can grow up to 8 and 9 inches in length, but typically found at 4 to 6 inches in length. The females lay 4,000 to 50,000 eggs from February to October where they are spread over underwater vegetation. The species' primary diet consists of insect larvae. The site does not support suitable habitat for the species and will not have any Mohave tui chub on site in the future given the lack of critical standing water habitat.

Least Bell's vireo: The least Bell's vireo is another species that is state and federally listed as endangered. Least Bell's vireos winter in southern Baja California, Mexico, where they occupy a variety of habitats, including mesquite scrub within arroyos, palm groves, and hedgerows bordering agricultural and residential areas. These birds arrive in Southern California for breeding in mid-March to early-April. This species has a variety of habitats but can typically be found in the vicinity of some sorts of water. There is no habitat for the species in the surrounding area or on site and no sign of the species or observations were recorded. It is the opinion of RCA Associate's Inc. that the species will not occur on site.

5.3 Species of Special Concern

Sensitive Plants: There are ten plant species of special concern, these species are the short-joint beavertail, Mojave milkweed, Palmer's mariposa-lily, Plummer's mariposa-lily, white-bracted spineflower, Parish's alumroot, black bog-rush, San Bernardino aster, Greata's aster, and white pygmy-poppy. There is marginally suitable habitat for three of these ten species being the short-joint beavertail, Mojave milkweed, and white-bracted spineflower. All three of these species occur in Mojavean desert scrub habitat. The remaining seven of ten species will not occur on site due to the lack of habitat needed such as riparian habitat, seeps and meadows, or Joshua tree woodlands observed during the March 2025 surveys. Even with some marginally suitable habitat, none of the ten plant species of special concern were observed on site and are not expected to occur on site in the future.

Sensitive Wildlife: There are eight wildlife species that are species of special concern in the Cajon quadrangle, the arroyo toad, long-eared owl, coastal whiptail, Santa Ana speckled dace, two-striped gartersnake, yellow warbler, American badger, and coast horned lizard. There is minimal suitable habitat for three of the eight species listed above. These species are the coast horned lizard, coastal whiptail and American badger. There is no suitable habitat on site for the remaining five species, the Santa Ana speckled dace, yellow warbler, long-eared owl, two-striped gartersnake, and arroyo toad. Even with some marginally suitable habitat, none of the eight wildlife species of special concern were observed on site during the March 2025 survey, and they are not expected to occur on site in the future.

5.4 Jurisdictional Waters and Riparian Habitat

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States (WoUS), and the State of California also regulates waters of the State (WoS) and streambeds under the preview of regional water quality boards and CDFW jurisdiction. No blueline streams or channels were detected during the field investigation. Due to the undulating and uneven terrain smaller channels or low elevation areas where ponding may occur may be present during high rain events, and may require proper permitting or notice to CDFW if modifications or improvements are made within area.

5.5 Protected Plants

As of July 10, 2023, California legislature passed and signed the Western Joshua Tree Conservation Act (WJTCA, Senate Bill 122) into effect listing the western Joshua tree (Yucca brevifolia) as an endangered species. The WJTCA authorizes CDFW to oversee the various permitting processes dealing with mitigation and/or removal of western Joshua trees. Western Joshua trees were not observed during the March 2025 field survey. Therefore, the project proponent will not be required to submit a California Endangered Species Act Incidental Take Permit (CESA, ITP) or a Western Joshua Tree Conservation Act Incidental Take Permit (WJTCA, ITP).

6.0 IMPACTS AND MITIGATION MEASURES

6.1 General Biological Resources

Future development of the site will have minimal impact on the general biological resources present due to the abundance of similar communities in the area. Some of the vegetation will likely be removed during future construction activities. Wildlife will also be impacted by development activities and those species with limited mobility (i.e., small mammals and reptiles) will experience increases in mortality during the construction phase. However, more mobile species (i.e., birds, large mammals) will be displaced into adjacent areas and will likely experience minimal impacts. Therefore, loss of about 10.15-acres of disturbed desert scrub habitat is not expected to have a significant cumulative impact on the overall biological resources in the region given the presence of similar habitat throughout the surrounding desert region. No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

6.2 Federal and State Listed and Species of Special Concern

No federal or State-listed species or signs were observed on the site during the field investigations. In addition, there are no documented observations of any listed or special status species on the site or in the immediate surrounding area according to the CNDDDB (2025). Furthermore, the site is not expected to support populations of any federally or state listed species based on the absence of critically necessary habitat that is required.

The Western Joshua tree (*Yucca brevifolia*), a threatened species under the California Endangered Species Act (CESA), was not observed on site. Refer to section 5.5 for more information on the status and requirements on this species.

A pre-construction burrowing owl survey may be required by CDFW to determine if any owls have moved on to the site since the March 17, 2025 surveys. As stated in CDFW's *Staff Report on Burrowing Owl Mitigation*, the most effective method of completing a pre-construction survey (take avoidance survey) should be performed within 14 days of ground disturbance, followed by a final pre-construction survey within 24 hours of breaking ground.

7.0 CONCLUSIONS AND CONSIDERATIONS

Future development activities are expected to result in the complete removal of vegetation from the 10.15-acre parcel; however, cumulative impacts to the general biological resources (plants and animals) in the surrounding area are expected to be negligible. This assumption is based on the presence of habitat on the site which is very common throughout the region. In addition, future development activities are not expected to have any impact on any State or Federal listed or State special status plant or animal species. In addition, burrowing owls do not inhabit the site and are not expected to be impacted given the absence of any suitable burrows. The following mitigation measures may be considered:

1. Pre-construction surveys for burrowing owls, desert tortoise, and nesting birds protected under the Migratory Bird Treaty Act and Section 3503 of the California Fish and Wildlife Code shall be conducted prior to the commencement of Project-related ground disturbance.
 - a. Appropriate survey methods and timeframes shall be established, to ensure that chances of detecting the target species are maximized. In the event that listed species, such as the Least Bell's vireo, are encountered, authorization from the USFWS and CDFW must be obtained. If nesting birds are detected, avoidance measures shall be implemented to ensure that nests are not disturbed until after young have fledged.
 - b. Pre-construction surveys shall encompass all areas within the potential footprint of disturbance for the project, as well as a reasonable buffer around these areas.
2. If any sensitive species are observed on the property during future activities, CDFW and USFWS (as applicable) should be contacted to discuss specific mitigation measures which may be required for the individual species. CDFW and USFWS are the only agencies which can grant authorization for the "take" of any sensitive species and can approve the implementation of any applicable mitigation measures.

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CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits, presents the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by Ryan Hunter and Brian Bunyi. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Date: 2/24/2025 Signed: *Ryan Hunter*
Brian Bunyi

Field Work Performed By: Ryan Hunter
Senior Environmental Scientist & Wildlife Biologist

Field Work Performed By: Brian Bunyi
Environmental Scientist & Wildlife Biologist

Appendix A

Tables and Figures

Legend

Project Boundary

A

Figure 1: Regional Exhibit

Produced By: RCA Associates Inc.

**Located in an Unincorporated Area
of San Bernardino County, CA
APN: 0357-102-12**

Source: Uinta Software

Acreage: 10.15 (Approximately)



Project #: 2025-43

Legend

Project Boundary

A

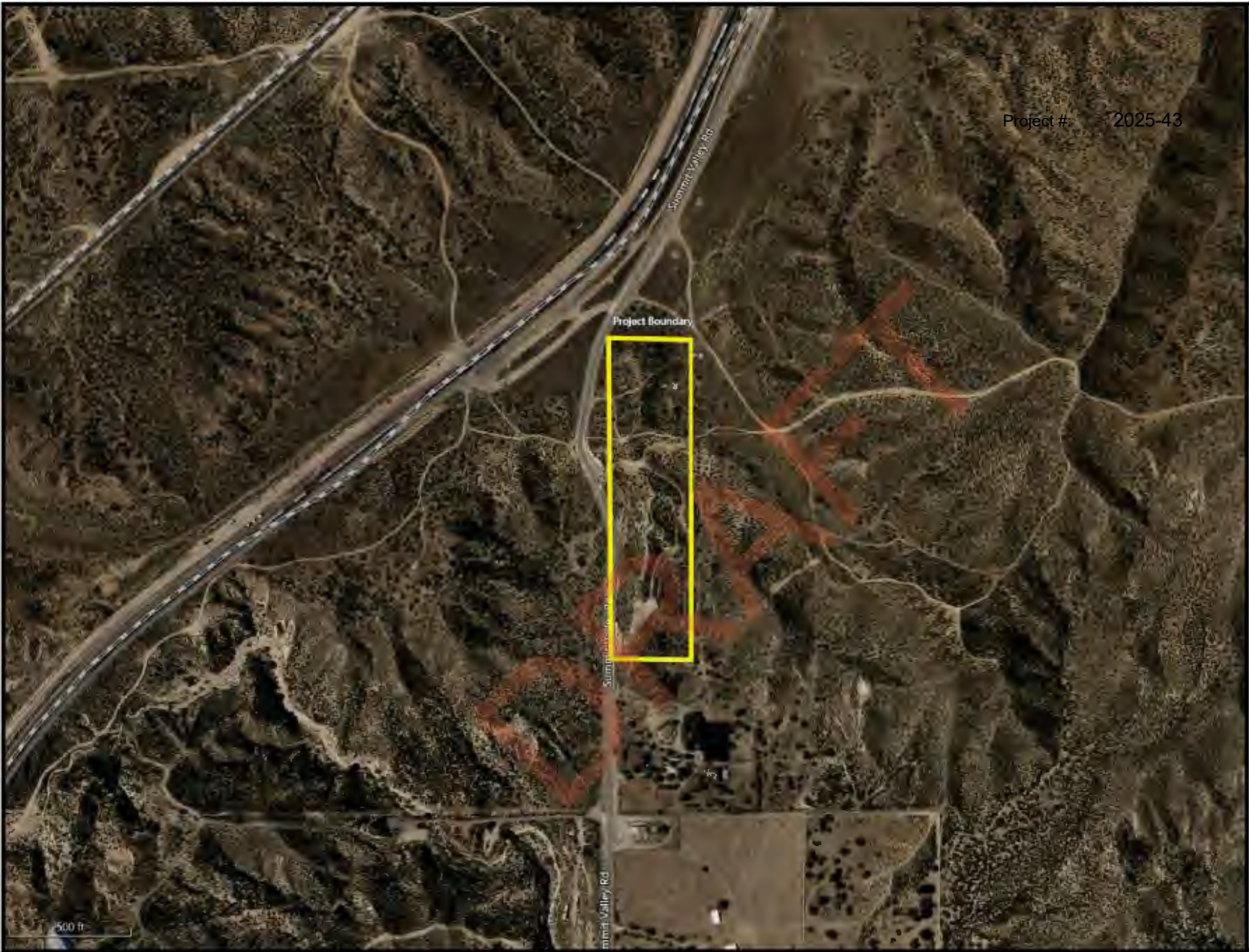
Figure 2: Vicinity Exhibit

Produced By: RCA Associates Inc.

**Located in an Unincorporated Area
of San Bernardino County, CA
APN: 0357-102-12**

Source: Uinta Software

Acreage: 10.15 (Approximately)



Project # 2025-43

CENTER OF SITE LOOKING NORTH



CENTER OF SITE LOOKING EAST



FIGURE 3: PHOTOGRAPHS OF SITE

CENTER OF SITE LOOKING SOUTH

CENTER OF SITE LOOKING WEST

FIGURE 3, cont: PHOTOGRAPHS OF SITE

Table 1 - Plants observed on the site and known to occur in the immediate surrounding area.

Common Name	Scientific Name	Location
Kelch grass	<i>Schismus barbatus</i>	On Site
Wall barley	<i>Hordeum murinum</i>	“
California buckwheat	<i>Eriogonum fasciculatum</i>	“
Redstem stork's bill	<i>Erodium cicutarium</i>	“
Red brome	<i>Bromus rubens</i>	“
Shortpod mustard	<i>Hirschfeldia incana</i>	“
Scrub oak	<i>Quercus ilicifolia</i>	“
Rubber rabbitbrush	<i>Ericameria nauseosa</i>	“
Flatspine bur ragweed	<i>Ambrosia acanthicarpa</i>	“
Dove weed	<i>Croton setigerus</i>	“
California poppy	<i>Eschscholzia californica</i>	“
Indian rice grass	<i>Eriocoma hymenoides</i>	“
Beavertail cactus	<i>Opuntia basilaris</i>	“
Century plant	<i>Agave americana</i>	“
California goldenbush	<i>Ericameria ericoides</i>	“
Big sage brush	<i>Artemisia tridentata</i>	“
Turpentine	<i>Ericameria laricifolia</i>	“
Manzanita	<i>Arctostaphylos manzanita</i>	“
Mexican tea	<i>Ephedra californica</i>	“
Waterjacket	<i>Lycium andersonii</i>	“
Desert chia	<i>Salvia columbariae</i>	“
Puncture vine	<i>Tribulus terrestris</i>	“

Note: The above Table is not a comprehensive list of every plant species which may occur in the area, but is a list of those common species which were identified on the site or which have been observed in the region by biologists from RCA Associates, Inc.

Table 2 - Wildlife observed on the site during the field investigations.

Common Name	Scientific Name	Location
Common raven	<i>Corvus corax</i>	On Site
House sparrow	<i>Passer domesticus</i>	“
House Finch	<i>Haemorhous mexicanus</i>	“
Northern mockingbird	<i>Mimus polyglottos</i>	“
California scrub jay	<i>Aphelocoma californica</i>	“
California gull	<i>Larus californicus</i>	“
Western whiptail lizard	<i>Cnemidophorus tigris</i>	May Occur
Western fence lizard	<i>Sceloporus occidentalis</i>	“
Black-tailed jackrabbit	<i>Lepus californicus</i>	“
Desert cottontail	<i>Sylvilagus audubonii</i>	“
California California ground squirrel	<i>Spermophilus beecheyi</i>	“

Note: The above Table is not a comprehensive list of every animal species which may occur in the area, but is a list of those common species which were identified on the site, or which have been observed in the region by biologists from RCA Associates, Inc.

REGULATORY CONTEXT

The following provides a summary of federal and state regulatory jurisdiction over biological and wetland resources. Although most of these regulations do not directly apply to the site, given the general lack of sensitive resources, they provide important background information.

Federal Endangered Species Act

The USFWS has jurisdiction over federally listed threatened and endangered plant and animal species. The federal Endangered Species Act (ESA) and its implementing regulations prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the ESA. ESA defines “take” as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Federal regulation 50CFR17.3 defines the term “harass” as an intentional or negligent act that creates the likelihood of injuring wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, or sheltering (50CFR17.3). Furthermore, federal regulation 50CFR17.3 defines “harm” as an act that either kills or injures a listed species. By definition, “harm” includes habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavior patterns such as breeding, spawning, rearing, migrating, feeding, or sheltering (50CFR217.12).

Section 10(a) of the ESA establishes a process for obtaining an incidental take permit that authorizes nonfederal entities to incidentally take federally listed wildlife or fish. Incidental take is defined by ESA as take that is “incidental to, and not the purpose of, the carrying out of another wise lawful activity.” Preparation of a habitat conservation plan, generally referred to as an HCP, is required for all Section 10(a) permit applications. The USFWS and National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) have joint authority under the ESA for administering the incidental take program. NOAA Fisheries Service has jurisdiction over anadromous fish species and USFWS has jurisdiction over all other fish and wildlife species.

Section 7 of the ESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA, or result in the destruction or adverse modification of its habitat. Federal agencies are also required

to minimize impacts to all listed species resulting from their actions, including issuance or permits or funding. Section 7 requires consideration of the indirect effects of a project, effects on federally listed plants, and effects on critical habitat (ESA requires that the USFWS identify critical habitat to the maximum extent that it is prudent and determinable when a species is listed as threatened or endangered). This consultation results in a Biological Opinion prepared by the USFWS stating whether implementation of the HCP will result in jeopardy to any HCP Covered Species or will adversely modify critical habitat and the measures necessary to avoid or minimize effects to listed species.

Although federally listed animals are legally protected from harm no matter where they occur, Section 9 of the ESA provides protection for endangered plants by prohibiting the malicious destruction on federal land and other “take” that violates State law. Protection for plants not living on federal lands is provided by the California Endangered Species Act.

California Endangered Species Act

CDFW has jurisdiction over species listed as threatened or endangered under Section 2080 of the California Fish and Wildlife Code. Section 2080 prohibits the take of a species listed by CDFW as threatened or endangered. The state definition of take is similar to the federal definition, except that Section 2080 does not prohibit indirect harm to listed species by way of habitat modification. To qualify as take under the state ESA, an action must have direct, demonstrable detrimental effect on individuals of the species. Impacts on habitat that may ultimately result in effects on individuals are not considered take under the state ESA but can be considered take under the federal ESA.

Proponents of a project affecting a state-listed species must consult with CDFW and enter into a management agreement and take permit under Section 2081. The state ESA consultation process is similar to the federal process. California ESA does not require preparation of a state biological assessment; the federal biological assessment and the CEQA analysis or any other relevant information can provide the basis for consultation. California ESA requires that CDFW coordinate consultation for joint federally listed and state-listed species to the extent possible; generally, the state opinion for the listed species is brief and references provisions under the federal opinion.

Clean Water Act, Section 404

The COE and the U.S. Environmental Protection Agency regulate the placement of dredged or fill material into “Waters of the United States” under Section 404 of the Clean Water Act. Waters of the United States include lakes, rivers, streams, and their tributaries, and wetlands. Wetlands are defined for regulatory purposes as “areas inundated or saturated by surface or groundwater 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, 40 CFR 230.3).

The COE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits (NWP’s) are general permits issued to cover particular fill activities. All NWP’s have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each NWP.

Clean Water Act, Section 401

Section 401 of the Clean Water Act requires water quality certification and authorization of placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with Section 401 of the Clean Water Act, criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. As such, proponents of any new project which may impair water quality as a result of the project are required to create a post construction stormwater management plan to ensure offsite water quality is not degraded. The resulting requirements are used as criteria in granting National Pollution Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Central Valley Regional Water Quality Control Board (RWQCB). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

California Fish and Wildlife Code, Sections 1600-1616

Under the California Fish and Wildlife Code, Sections 1600-1616 CDFW regulates projects that divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. Proponents of such projects must notify CDFW and enter into a streambed alteration agreement with them.

Section 1602 of the California Fish and Wildlife Code requires a state or local government agency, public utility, or private entity to notify CDFW before it begins a construction project that will: (1) divert, obstruct, or change the natural flow or the bed, bank, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Once the notification is filed and determined to be complete, CDFW issues a streambed alteration agreement that contains conditions for construction and operations of the proposed project.

California Fish and Wildlife Code, Section 3503.5

Under the California Fish and Wildlife Code, Section 3503.5, it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls). Take would include the disturbance of an active nest resulting in the abandonment or loss of young.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term “take” is defined as “to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires.” Most bird species native to North America are covered by this act.

Sensitive Natural Communities

The California Office of Planning and Research and the Office of Permit Assistance (1986) define project effects that substantially diminish habitat for fish, wildlife, or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA. This definition applies to certain natural communities because of their scarcity and ecological

values and because the remaining occurrences are vulnerable to elimination. For this study, the term “sensitive natural community” includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of sensitive natural communities continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., not special status species) could become less viable. Loss of sensitive natural communities also can eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands for example.

Appendix B

Mojave River Watershed, Site Design Only Project, Post Construction Measures Plan for 4811
Summit Valley Road

Capstone Engineering, Inc.

March 13, 2025

MOJAVE RIVER WATERSHED

Site Design Only Project

Post Construction Measures Plan

For:

4811 SUMMIT VALLEY ROAD

W 1/2 W1/2 NW1/4 SEC 22 TP 3N R 5W 25 PER CENT

MNL RTS 10 ACAPN: 3038-431-20

APN 0357-102-12

Prepared for:

CORNERSTONE CONSTRUCTION OCOMPANY

17615 ALDER ST. STE. A

Hesperia, Ca 92345

760-680-4576

Prepared by:

Capstone Engineering, Inc.

9530 Hageman Rd, Suite B#223

Bakersfield, CA 93312

661-230-9034

Submittal Date: 03-13-2024

Revision No. and Date: _____

Revision No. and Date: _____

Revision No. and Date: _____

Final Approval Date:_____

Project Owner's Certification

This "Site Design Only" Mojave River Watershed Post Construction Measures Plan (PCMP) has been prepared for ZAB, LLC by Capstone Engineer, Inc.. The PCMP is intended to comply with the requirements of the County of San Bernadino and the Phase II Small MS4 General Permit for the Mojave River Watershed. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the Phase II Small MS4 Permit and the intent of San Bernardino County (unincorporated areas of Phelan, Oak Hills, Spring Valley Lake and Victorville) and the incorporated cities of Hesperia and Victorville and the Town of Apple Valley. Once the undersigned transfers its interest in the property, its successors in interest and the city/county/town shall be notified of the transfer. The new owner will be informed of its responsibility under this PCMP. A copy of the approved PCMP shall be available on the subject site in perpetuity.

"I certify under a penalty of law that the provisions (implementation, operation, maintenance, and funding) of the PCMP have been accepted and that the plan will be transferred to future successors."

Project Data			
Permit/Application Number(s):	WQMP-2024-000000	Grading Permit Number(s):	GRAD-2024-000000
Tract/Parcel Map Number(s):		Building Permit Number(s):	SFR-2024-000000
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			APN: 0357-102-12
Owner's Signature			
Owner Name: MICHAEL RADEMACHER			
Address	PO BOX 886 WASHOUGAL WA 98671		
Email	spsd98@hotmail.com		
Telephone #	360-690-8000		
Signature		Date	

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Introduction

This PCMP template has been prepared specifically for the “Site Design Criteria Only” projects within the Phase II Small MS4 General Permit in the Mojave River Watershed. This location is within the jurisdiction of the Lahontan Regional Water Quality Control Board. This document should not be confused with the WQMP template for the regulated projects within the Phase II Small MS4 General Permit in the Mojave River Watershed or the Santa Ana Phase I area of San Bernardino County. **“Site Design Criteria Only” projects are projects with new impervious area of greater than 2500 square feet but less than 5000 square feet.**

Document preparers must refer to the Phase II Small MS4 General Permit (Mojave Watershed) Site Criteria Only PCMP Technical Guidance document found at: <http://cms.sbcounty.gov/dpw/Land/NPDES.aspx> to find pertinent arid region and Mojave River Watershed specific references and requirements.

Section 1 Project Information

Form 1-1 Project Information					
Project Name		4881 SUMMIT VALLEY ROAD S.F.R.			
Project Owner Contact Name:		MICHAEL RADEMACHER			
Mailing Address:	PO BOX 886 WASHOUGAL WA 98671	E-mail Address:	spsd98@hotmail.com	Telephone:	360-690-8000
Permit/Application Number(s):		WQMP-2024-000000	Tract/Parcel Map Number(s):		
Additional Information/ Comments:		n/a			
Description of Project:		Single Family Home Construction			
Provide summary of Conceptual Project Site Design conditions.		New Construction of a 1,308 SF Residence and a 477 sf garage area, with total area under roof 1,785 sf. The residence is located on the east of Summit Valley Rd., north of HWY 138 Run off rooftop and concrete driveway and walkways will be sheetflow to a swale circling the SFR and be conveyed until it reaches a infiltration basin, located NW of the house. The high point is located east of the garage and flows both directions until they converge to the infiltration basin.			

Section 2 Project Description

2.1 Project Information

This section of the Site Design Criteria Only PCMP should provide the information listed below. The information provided for the Conceptual/Preliminary PCMP (approved at time of planning department approvals) should give sufficient detail to identify the major proposed site design and Low Impact Development (LID) Best Management Practices (BMPs) and other anticipated water quality features that impact site planning. Final Project PCMP (approved prior to grading plan approval) must specifically identify all BMP incorporated into the final site design and provide other detailed information as described herein.

The purpose of this information is to help document the selected site design BMPs and long term maintenance responsibilities for the project. This information will be used in conjunction with the information in Section 3, Site Description, to establish the performance criteria and to select the Site Design BMPs for the project, which are described in Section 4.

2.1.1 Project Sizing Categorization

If the Project is greater than 5,000 square feet, and not on the excluded list as found on Section 1.4 of the TGD, the Project is a Regulated Development Project. Please use the appropriate Water Quality Management Plan (WQMP) template for this project type.

If the Project is creating and/or replacing greater than 2,500 square feet but less than 5,000 square feet of impervious surface area, then it is considered a Site Design Only project. This project type requires a PCMP. This criterion is applicable to all development types including detached single family homes that create and/or replace greater than 2,500 square feet of impervious area and are not part of a larger plan of development.

Form 2.1-1 Description of Proposed Project					
¹ Development Project Category:					
☒ Site Design Only (Project Total Square Feet > 2,500 but < 5,000 sq.ft.)					
² Project Area (ft ²):	46,000 SQ FT	³ Number of Dwelling Units:	1	⁴ SIC Code ¹ :	
⁵ Is Project going to be phased? Yes ☐ No ☒ If yes, ensure that the PCMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.					

1 – Commercial and Industrial sites only

2.2 Property Ownership/Management

Describe the ownership/management of all portions of the project and site. State whether any infrastructure will transfer to public agencies (City, County, Caltrans, etc.) after project completion. State if a homeowners or property owners association will be formed and be responsible for the long-term maintenance of project stormwater facilities. Describe any lot-level stormwater features that will be the responsibility of individual property owner.

Form 2.2-1 Property Ownership/Management

Describe property ownership/management responsible for long-term maintenance of the site design:

DURING THE CONSTRUCTION PHASE: Water quality BMPs will be the responsibility of the developer Cornerstone Construction Company (760-680-4576) and prior to sale as per Erosion Control Plan provided.

LONG TERM MAINTENANCE of the site and long term BMP's will be the responsibility of the property owner. This includes directing stormwater runoff to BMP's, and regular inspection and maintenance of the BMP's according to the CASQA BMP standards

Section 3 Site and Watershed Description

Describe the project site conditions that will facilitate the selection of Site Design BMPs through an analysis of the physical conditions and limitations of the site. Identify distinct drainage areas (DA) that collect flow from each portion of the site and describe how runoff from each DA is conveyed to the site outlet(s). Refer to Section 3.2 in the TGD for PCMP. **A map presenting the DAs must be included as an appendix to the PCMP document. Most small sites will have one DA.**

Form 3-1 Site Location and Hydrologic Features			
Site coordinates take GPS measurement at approximate center of site	Latitude 34.339490	Longitude -117.397566	Thomas Bros Map page
¹ San Bernardino County climatic region: ☒ Desert			
² Does the site have more than one drainage area (DA): Yes ☐ No ☒ Use this form to show a conceptual schematic describing DAs and hydrologic feature connecting DAs to the site outlet(s).			
Conveyance	Briefly describe on-site drainage features to convey runoff that is not retained within a DA		
	Ex. Roof runoff to rock-lined swale with 4' bottom width, 5:1 side slopes and bed slope of 0.01. Conveys runoff for 400' through DA 1 to existing catch basin on SE corner of property		
DA1 flows to Outlet 1	From the west high points, runoff from impervious areas will run in swales around the of the house until they reach a retention basin at the north west side of the house.		
DA2 flows to Outlet 2			

Section 4 Best Management Practices (BMP)

4.1 Source Control and Site Design BMPs

The information and data in this section are required for Site Design Only Projects. Source Control and Site Design BMPs are the basis of site-specific pollution management.

4.1.1 Source Control BMPs

Non-structural and structural source control BMP are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the PCMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for PCMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The site owner has reviewed the source control BMP requirements for new development and significant redevelopment projects. The owner has also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMPs shall be implemented in the project.

The identified list of source control BMPs correspond to the CASQA Stormwater BMP Handbook for New Development and Redevelopment found at: <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>.

Form 4.1-1 Non-Structural Source Control BMPs				
Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N1	Education of Property Owners, Tenants and Occupants on Stormwater BMPs	☒	☐	Educational Materials are provided for any present or future homeowner to review. (Section 4 Source Control BMP's SD-10, SD-11, SD-12, SD-13)
N2	Activity Restrictions	☒	☐	Proper disposal of liquid wastes; No burying of waste on site.
N3	Landscape Management BMPs	☒	☐	Desert landscaping for the front yard
N4	BMP Maintenance	☒	☐	Landscaping maintained by owner
N6	Local Water Quality Ordinances	☒	☐	The project will comply with the PCMP requirements and all application ordinances

Form 4.1-2 Structural Source Control BMPs				
Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S2	Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34)	☐	☒	No material will be kept outside.
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	☒	☐	Desert Landscaping
S5	Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement	☒	☐	Finished grade adjacent to concrete to be minimum of 1-2 inches below concrete finished surface
S6	Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10)	☐	☒	No existing channels exist on this site
S13	Hillside landscaping (CASQA New Development BMP Handbook SD-10)	☐	☒	Does not apply

4.1.2 Site Design BMPs

As part of the planning phase of a project, the site design practices associated with new LID requirements in the Phase II Small MS4 Permit must be considered. Site design BMPs are simple design methods to manage reducing runoff generation.

As is stated in the Permit, it is necessary to evaluate site conditions such as soil type(s); existing vegetation and flow paths will influence the overall site design.

Describe site design and drainage plan including:

- A narrative of site design practices utilized or rationale for not using practices
- A narrative of how site plan incorporates preventive site design practices
- Include an attached Site Plan layout which shows how preventative site design practices are included in PCMP

Refer to Section 4.3 of the TGD for PCMP for more details.

Form 4.1-3 Site Design Practices Checklist
Site Design Practices <i>If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets</i>
Stream Setbacks. Includes a specified distance from an adjacent stream: : Yes ☐ No ☒ Explanation: Not applicable. No stream on property.
Maximize natural infiltration capacity; Including improvement and maintenance of soil: Yes ☐ No ☒ Explanation: Impermeable surfaces have been minimized to what is necessary for use of the property. Desert landscaping is provided.
Re-vegetate disturbed areas. Including planting and preservation of drought tolerant vegetation. : Yes ☐ No ☒ Explanation: Disturbed areas will be seeded with native plants.
Minimize impervious areas: Yes ☐ No ☒ Explanation: No additional concrete surface
Disconnect impervious areas. Including rerouting of rooftop drainage pipes to drain stormwater to storage or infiltration BMPs instead of to storm drain : Yes ☐ No ☒ Explanation: A graded swale will remove runoff from impervious areas
Use of Porous Pavement.: Yes ☐ No ☒ Explanation: N/A
Arid Region Rock-lined Swales: Yes ☐ No ☒ Explanation: N/A
Use of Rain Barrels and Cisterns, Including the use of on-site water collection systems.: Yes ☐ No ☒ Explanation: N/A

It is noted that, in the Phase II Small MS4 Permit, site design elements for green roofs and vegetative swales are required. Due to the local climatology in the Mojave River Watershed, proactive measures are taken to maximize the amount of drought tolerant vegetation. It is not practical in this region to have green roofs or vegetative swales. As part of site design, the project proponent should utilize locally recommended vegetation types for landscaping. Typical landscaping recommendations are found in following local references:

San Bernardino County Special Districts:

Guide to High Desert Landscaping -

<http://www.specialdistricts.org/Modules/ShowDocument.aspx?documentid=795>

Recommended High-Desert Plants -

<http://www.specialdistricts.org/modules/showdocument.aspx?documentid=553>

Mojave Water Agency:

Desert Ranch: <http://www.mojavewater.org/files/desertranchgardenprototype.pdf>

Summertree: <http://www.mojavewater.org/files/Summertree-Native-Plant-Brochure.pdf>

Thornless Garden: <http://www.mojavewater.org/files/thornlessgardenprototype.pdf>

Mediterranean Garden: <http://www.mojavewater.org/files/mediterraneangardenprototype.pdf>

Lush and Efficient Garden: <http://www.mojavewater.org/files/lushandefficientgardenprototype.pdf>

Alliance for Water Awareness and Conservation (AWAC) outdoor tips –
<http://hdawac.org/save-outdoors.html>

4.3.1 Exceptions to Requirements

Contingent on a demonstration that use of all of the LID BMPs or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following categories:

- 1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;
- 2) Facilities receiving runoff solely from existing (pre-project) impervious areas; and
- 3) Historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

4.3.2 Site Design BMPs

Section E.12.b.ii of the Small Phase II MS4 Permit lists the required Site Design Low Impact Design preventative measures. As this is a Statewide Permit, the State of California Water Resources Control Board (SWRCB) and California State University, Sacramento have developed an on-line program and worksheet set to assist with site design BMP selection and sizing.

The on-line worksheets will require site specific inputs and it will provide the Permit required outputs for the Project's compliance. The goal of the on-line program is to assist the property owner with:

- Correctly calculating the runoff volume from the site;
- Adequately calculating the site design BMPs;
- Providing options for site design; and
- Summarizing the final results.

The calculations are in three main steps:

- 1) Site data is entered to calculate existing and proposed site runoff volumes
- 2) Site design BMPs are selected and criteria entered for sizing
- 3) The compliance criteria is calculated and summarized

The on-line worksheets/programs are found at the following website links:

Post Construction Calculator for Small Projects:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/phase_ii_municipal/120214_post_const_calc.xls

IMPORTANT: THIS CALCULATOR CAN ONLY BE USED FOR PROJECTS THAT CREATE AND/OR REPLACE BETWEEN 2,500 SQUARE FEET AND 5,000 SQUARE FEET OF IMPERVIOUS SURFACE (OR DETACHED SINGLE FAMILY HOMES THAT CREATE AND/OR REPLACE OVER 2,500

California Phase II LID Sizing Tool:

<http://owp-web1.saclink.csus.edu/LIDTool/Start.aspx>

Neither of these website links are developed or maintained by the County of San Bernardino

4.3.2.1 Using On-line Calculators

Please refer to the PCMP Technical Guidance Document for instructions on using the on-line calculators.

Section 5 WQMP Attachments

5.1. Site Design and Drainage Plan

Include a site plan with the drainage and BMP information containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Source Control BMP locations
- Site Design BMP locations
- LID BMP details
- Drainage points and flow direction

A modified Erosion Control Plan can be used for the Site Plan submittal.

5.2 Submittal Package Summary

The PCMP submittal package will include:

- 1) This template with the appropriate sections filled out
- 2) A copy of the “Post Construction Calculator for Small Projects” worksheets:
- 3) Site design and drainage plan

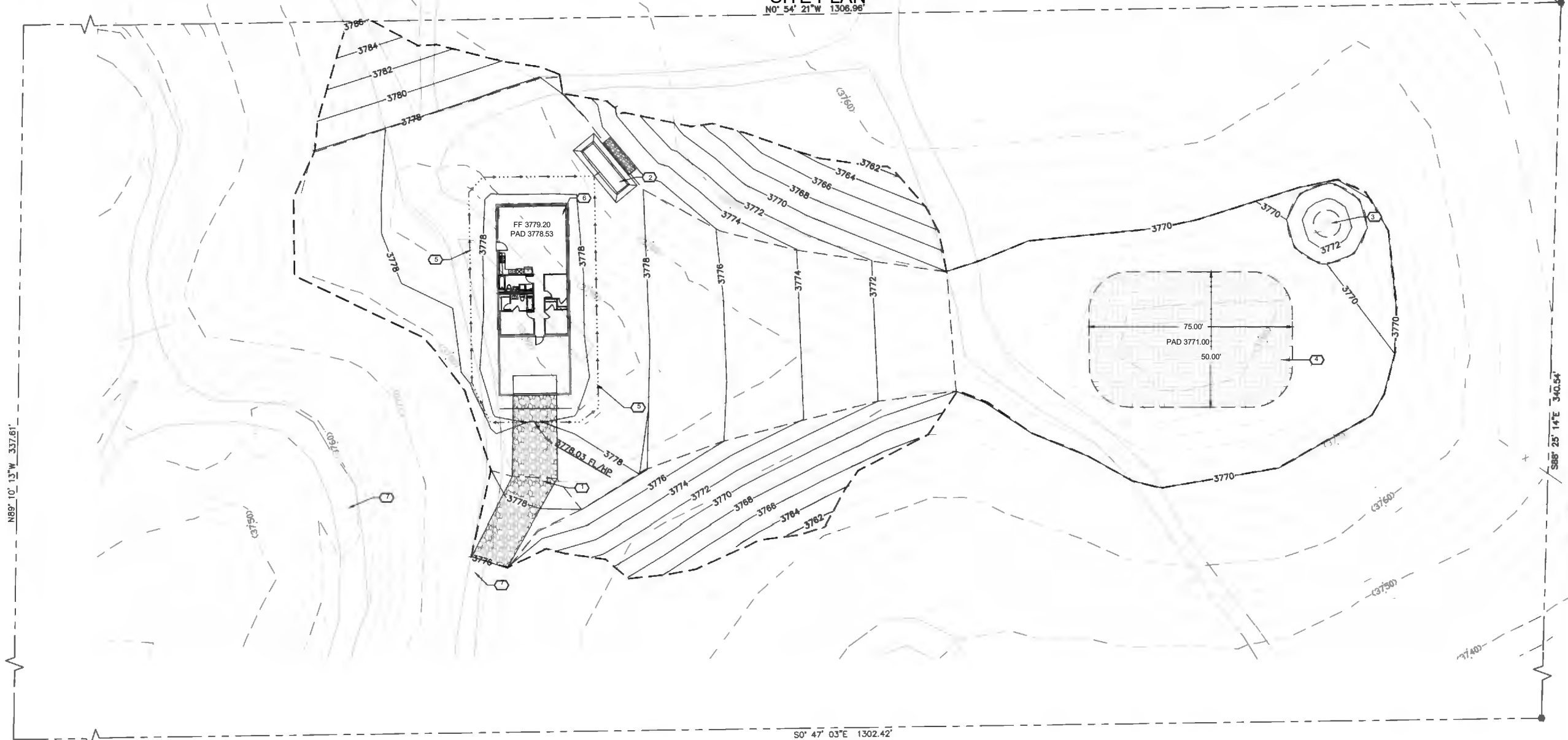
Once approved, a copy of this document should be kept with other important property records. This document would be transferable to future ownership. At the time of writing, this document did not have to be recorded against the property.

4881 SUMMIT VALLEY ROAD

APN 0357-102-12
SAN BERNARDINO COUNTY

SITE PLAN

N0° 54' 21"W 1306.96'



LEGAL DESCRIPTION

PARCEL 1 OF PARCEL MAP 18073 RECORDED IN BOOK

223 PAGE 31 AND 32, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA.

BASIS OF BEARINGS

THE WEST LINE OF THE NW 1/4 OF SECTION 22, T3N, R5W, S.B.M., PER RS 88/77 BEING N00° 54' 21"W.

BENCHMARK

FOUND 2" IP W/BASS LS2981 UP 0.30' PER CSFB 4118

NGVD-29 ELEV. = 3740.13'

CIVIL ENGINEER

ANDREW BELL
CAPSTONE ENGINEERING
9530 HAGEMAN RD. SUITE B223
BAKERSFIELD, CA 93312

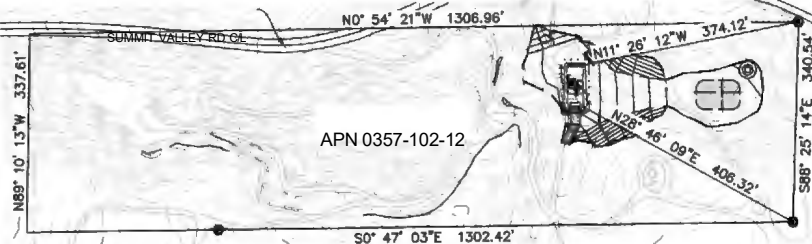
SURVEYOR

DAVID STONE LAND SURVEYING
329 E 1910 S
OREM, UT 84058

SITE NOTES

- PROPOSED GRAVEL DRIVEWAY
- PROPOSED 70 CF RETENTION BASIN
- EX. POWER POLE, GRADE UP TO, PROTECT IN PLACE
- PROPOSED 50X75 PAD FOR FUTURE SHOP
- PROPOSED COMPACTED EARTHEN SWALES

- 6 PROPOSED 1308 SF SINGLE FAMILY RESIDENCE WITH A 477 SF GARAGE
- 7 SUMMIT VALLEY ROAD PRIVATE ACCESS



SCALE 1" = 150'

150' 75' 0' 150' 300'

LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- CENTERLINE
- RIGHT OF WAY/PL
- MATCH EXISTING
- SWALE
- GRADE BREAK
- CENTER LINE
- EX. FENCE
- EX. PRIVATE DIRT ROADS

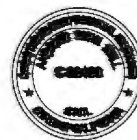
OWNER

MICHAEL RADENBACHER 300-850-6000

CAPSTONE
ENGINEERING, INC.
CIVIL ENGINEERING & LAND SURVEYING

Mailing Address:
9530 Hageman Road
Suite B223
P: 661-230-9034

www.CapstoneEngineering.com
administrator@CapstonePE.com



Initial Submittal

No. Revision/Issue Date

Project Name and Address

4881 Summit Valley Rd
HESPERIA CA 92345
San Bernardino County
APN 0357-102-12

Sheet Title

SITE AND DRAINAGE

BUILDING PERMIT #
PCMP PERMIT #
GRADING PERMIT #

Project No.

23-012

Call
Before

You Dig!

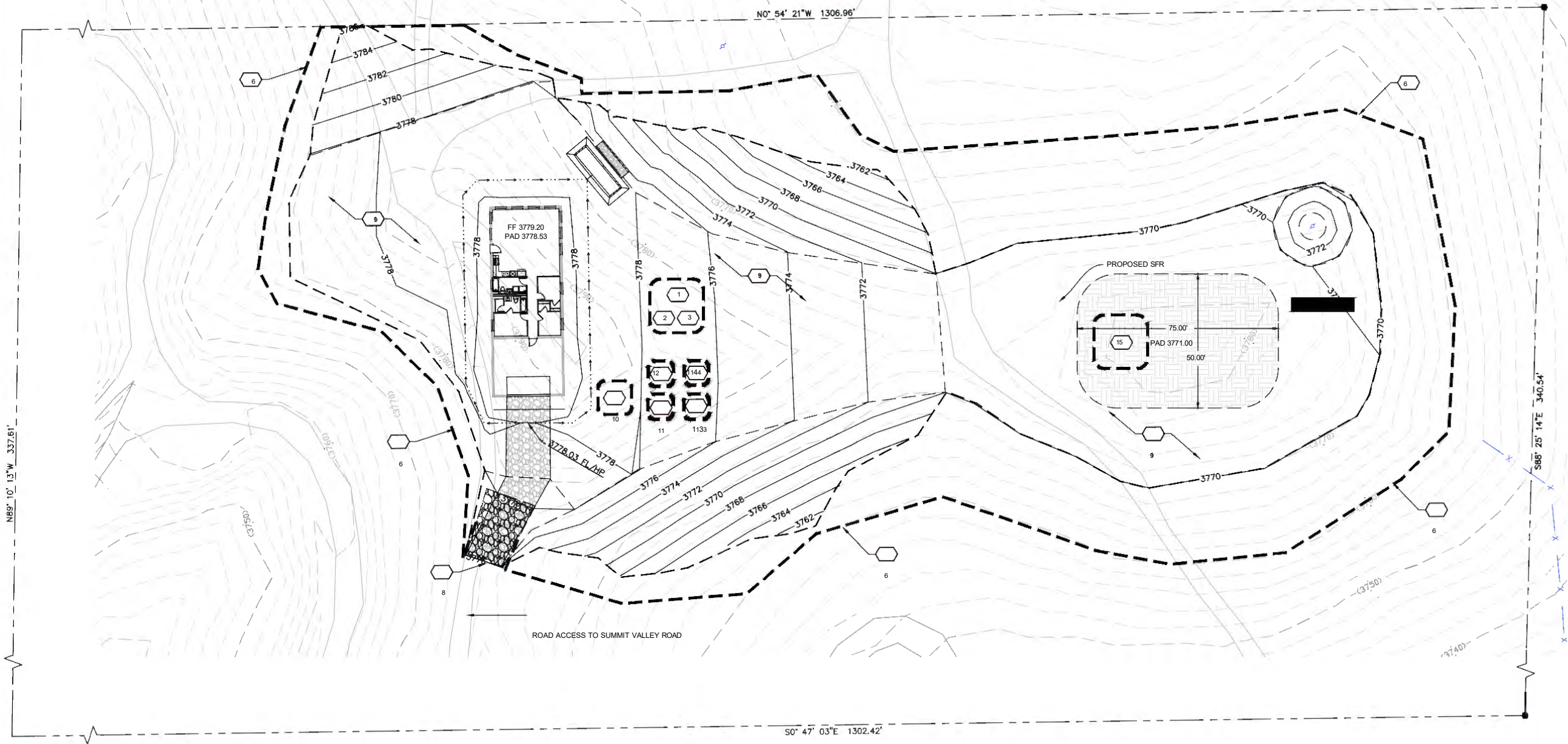
PROPOSED GRAVEL DRIVEWAY

Sheet No.

SITE

4881 SUMMIT VALLEY ROAD

APN 0357-102-12
SAN BERNARDINO COUNTY
EROSION CONTROL PLAN



EROSION CONTROL GENERAL NOTES

1. IN CASE OF EMERGENCY,
2. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON.
3. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE GRADING INSPECTOR IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
4. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY.
5. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
6. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS 2 FEET.
7. EXCEPT AS OTHERWISE APPROVED BY THE GRADING INSPECTOR, ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY OR ON WEEKENDS WHEN THE 5-DAY RAIN
8. ALL LOOSE SOIL AND DEBRIS WHICH MAY CREATE A POTENTIAL HAZARD TO OFFSITE PROPERTY SHALL BE REMOVED FROM THE SITE AS DIRECTED BY THE GRADING INSPECTOR.
9. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER.
10. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT APPROVAL OF THE GRADING INSPECTOR.
11. EROSION CONTROL DEVICES ARE TO BE MODIFIED AS NEEDED AS THE PROJECT PROGRESSES AND PLANS OF THESE CHANGES MUST BE SUBMITTED FOR APPROVAL AS REQUIRED.
12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
14. FUELS, OILS, SOLVENTS AND TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE

BMP CONSTRUCTION NOTES

- 1. PER CALIFORNIA STORMWATER HANDBOOK FOR BMP FACT SHEETS)
- 2. VEHICLE AND EQUIPMENT CLEANING (NS-8)
- 3. VEHICLE AND EQUIPMENT FUELING (NS-9)
- 4. VEHICLE AND EQUIPMENT MAINTENANCE (NS-10)
- 5. CONCRETE CURING (NS-12)
- 6. CONCRETE FINISHING (NS-13)
- 7. FIBER ROLLS (SC-5)[EC-103] OR SILT FENCE (SC-1)[EC-102]

- 8. MATERIAL DELIVERY AND STORAGE (WM-1)
- 9. SPILL PREVENTION AND CONTROL (WM-4)
- 10. SOLID WASTE MANAGEMENT (WM-5)
- 11. CONTAMINATED OIL MANAGEMENT (WM-7)
- 12. CONCRETE WASTE MANAGEMENT (WM-8)[EC-103]
- 13. STOCKPILE MANAGEMENT (WM-3)
- 14. JOSHUA TREE, PROTECT IN PLACE, 12' DIA



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administrator@CapstonePE.com



Initial Submittal	
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4881 Summit Valley Rd	
HESPERIA CA 92345	
San Bernadino County	
APN 0357-102-12	
Sheet Title	
EROSION CONTROL	
BUILDING PERMIT #	
PCMP PERMIT #	
GRADING PERMIT #	
W	ES ON SITE
A	UNTIL THEY CAN
S	BE DISPOSED
T	OF AS SOLID

- WASTE.
16. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
17. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE MUST BE STABILIZED SO AS TO INHIBIT SEMIDENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR HOSED DOWN.

7. SANDBAG BARRIER OR STRAW BALES (SE-8)
- 8a. STABILIZED CONSTRUCTION ENTRANCE / EXIT (TC-1)[EC-102] w/ 3/4" GRAVEL
9. WIND EROSION CONTROL FOR DUST (WE-1)

7

9

Call Before You Dig!

Project No.

Sheet No.

23-
012

EC-
101

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Post-Construction Water Balance Calculator														
2															
3	User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.			(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below	(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.	SAN_BERNARDINO									
4					(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recognize any of these locations, leave this drop-down menu at location. The average value for the County will be used.	VICTORVILLE PUMP PLANT									
5	Project Information				Runoff Calculations										
6	Project Name:		4881 SUMMIT VALLEY RD, HESPERIA		(Step 2) Indicate the Soil Type (dropdown menu to right):	Group A Soils	High infiltration. Sand, loamy sand, or sandy loam. Infiltration rate > 0.3 inch/hr when wet.								
7	Waste Discharge Identification (WDID):		N/A		(Step 3) Indicate the existing dominant non-built land Use Type (dropdown menu to right):	Natural Desert									
8	Date:		3/12/2024		(Step 4) Indicate the proposed dominant non-built land Use Type (dropdown menu to right):	Natural Desert Landscape									
9	Sub Drainage Area Name (from map):						Complete Either								
10	Runoff Curve Numbers						Sq Ft	Acres	Acres						
11	Existing Runoff Curve Number		63		(Step 5) Total Project Site Area:	47250		1.08							
12	Proposed Development Runoff Curve Number		72		(Step 6) Sub-watershed Area:	10600		0.24							
13	Design Storm				Percent of total project :		22%								
14	Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.		0.46		in										
15	The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)		1.19		In	(Step 7) Sub-watershed Conditions	Complete Either		Calculated Acres						
16	P used for calculations (in) (the greater of the above two criteria)		1.19		In	Sub-watershed Area (acres)	Sq Ft	Acres	0.24						
17	^Available at www.cabmphandbooks.com						Existing Rooftop Impervious Coverage	0		0.00					
18							Existing Non-Rooftop Impervious Coverage	0		0.00					
Proposed Rooftop Impervious Coverage							2115		0.05						
Proposed Non-Rooftop Impervious Coverage							500		0.01						
21							Credits		Acres		Square Feet				
Porous Pavement							0.00		0						
Tree Planting							0.00		0						
Downspout Disconnection							0.00		0						
25	Pre-Project Runoff Volume (cu ft)		0		Cu.Ft.										
26	Project-Related Runoff Volume Increase w/o credits (cu ft)		34		Cu.Ft.		Impervious Area Disconnection		0.00		0				
27							Green Roof		0.00		0				
Stream Buffer							0.00		0						
Vegetated Swales							0.00		0						
Subtotal							0.00		0						
31	Project-Related Volume Increase with Credits (cu ft)		0		Cu.Ft.		Subtotal Runoff Volume Reduction Credit		0 Cu. Ft.						
32	You have achieved your minimum requirements														
(Step 9) Impervious Volume Reduction Credits							Volume (cubic feet)								
Retention Basin							79 Cu. Ft.								
Soil Quality							0 Cu. Ft.								
Subtotal Runoff Volume Reduction							79 Cu. Ft.								
37							Total Runoff Volume Reduction Credit		79 Cu. Ft.						
38															
39															
40															



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for San Bernardino County, California, Mojave River Area

4881 SUMMIT VALLEY



March 12, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units).

Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map





I

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3799700

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3799800

3799750

3799700

3799650

3799600

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

MAP LEGEND

MAP INFORMATION

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
102	AVAWATZ-OAK GLEN ASSOCIATION, GENTLY SLOPING*	1.2	10.1%
126	GULLIED LAND- HAPLOXERALS ASSOCIATION	10.6	89.9%
Totals for Area of Interest		11.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County, California, Mojave River Area

102—AVALATZ-OAK GLEN ASSOCIATION, GENTLY SLOPING*

Map Unit Setting

National map unit symbol: hkr6
Elevation: 3,400 to 5,200 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 150 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Avawatz and similar soils: 50 percent
Oak glen and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avawatz

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 15 inches: sandy loam
H2 - 15 to 60 inches: loamy sand

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R019XE003CA - COARSE LOAMY
Hydric soil rating: No

Description of Oak Glen

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread

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Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 22 inches: sandy loam
H2 - 22 to 60 inches: sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R019XE003CA - COARSE LOAMY
Hydric soil rating: No

Minor Components

Haploxerolls

Percent of map unit: 5 percent
Landform: Fan remnants
Hydric soil rating: Yes

Xerofluvents

Percent of map unit: 5 percent
Hydric soil rating: No

126—GULLIED LAND-HAPLOXERALFS ASSOCIATION

Map Unit Setting

National map unit symbol: hkrz
Elevation: 1,000 to 9,000 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 150 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Gullied land: 41 percent
Haploxeralfs and similar soils: 40 percent

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Minor components: 19 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gullied Land

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 60 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8e

Hydric soil rating: No

Description of Haploxeralfs

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 15 inches: variable

Properties and qualities

Slope: 10 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 7 percent

Hydric soil rating: No

Avawatz

Percent of map unit: 5 percent

Hydric soil rating: No

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Oakglen

Percent of map unit: 4 percent

Hydric soil rating: No

Bull trail

Percent of map unit: 3 percent

Hydric soil rating: No

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Section 4

Source Control BMPs

4.1 Introduction

This section describes specific source control Best Management Practices (BMPs) to be considered for incorporation into newly developed public and private infrastructure, as well as retrofit into existing facilities to meet stormwater management objectives.

4.2 BMP Fact Sheets

Source control fact sheets for design are listed in Table 4-1. The fact sheets detail planning methods and concepts that should be taken into consideration by developers during project design. The fact sheets are arranged in three categories: those that have to do with landscape, irrigation, and signage considerations; those that have to do with use of particular materials; and those that have to do with design of particular areas.

4.3 Fact Sheet Format

A BMP fact sheet is a short document that provides information about a particular BMP. Typically, each fact sheet contains the information outlined in Figure 4-1. Supplemental information is provided if it is available. The fact sheets also contain side bar presentations with information on BMP design objectives. Completed fact sheets for each of the above activities are provided in Section 4.4.

Table 4-1 Source Control BMPs for Design	
Design	
SD-10	Site Design and Landscape Planning
SD-11	Roof Runoff Controls
SD-12	Efficient Irrigation
SD-13	Storm Drain System Signs
Materials	
SD-20	Pervious Pavements
SD-21	Alternative Building Materials
Areas	
SD-30	Fueling Areas
SD-31	Maintenance Bays and Docks
SD-32	Trash Enclosures
SD-33	Vehicle Washing Areas
SD-34	Outdoor Material Storage Areas
SD-35	Outdoor Work Areas
SD-36	Outdoor Processing Areas

SDxx Example Fact Sheet

Description of the BMP

Approach

Suitable Applications

Design Considerations

- Designing New Installations
- Redeveloping Existing Installations

Supplemental Information

- Examples
- Other Resources

4.4 BMP Fact Sheets

Source Control BMP Fact Sheets for design follow. The BMP fact sheets are individually page numbered and are suitable for photocopying and inclusion in stormwater quality management plans. Fresh copies of the fact sheets can be individually downloaded from the California Stormwater BMP Handbook website at www.cabmphandbooks.com.

Figure 4-1
Example Fact Sheet

Site Design & Landscape Planning SD-10



Design Objectives

- ☐ Maximize Infiltration
- ☐ Provide Retention
- ☐ Slow Runoff
- ☐ Minimize Impervious Land Coverage
- ☐ Prohibit Dumping of Improper Materials
- ☐ Contain Pollutants
- ☐ Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.



SD-10 Site Design & Landscape Planning

Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.
- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.
- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

Site Design & Landscape Planning SD-10

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

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Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.



Rain Garden

Design Objectives

- ☐ Maximize Infiltration
- ☐ Provide Retention
- ☐ Slow Runoff
- ☐ Minimize Impervious Land Coverage
- ☐ Prohibit Dumping of Improper Materials
- ☐ Contain Pollutants
- ☐ Collect and Convey

Description

Various roof runoff controls are available to address stormwater that drains off rooftops. The objective is to reduce the total volume and rate of runoff from individual lots, and retain the pollutants on site that may be picked up from roofing materials and atmospheric deposition. Roof runoff controls consist of directing the roof runoff away from paved areas and mitigating flow to the storm drain system through one of several general approaches: cisterns or rain barrels; dry wells or infiltration trenches; pop-up emitters, and foundation planting. The first three approaches require the roof runoff to be contained in a gutter and downspout system. Foundation planting provides a vegetated strip under the drip line of the roof.

Approach

Design of individual lots for single-family homes as well as lots for higher density residential and commercial structures should consider site design provisions for containing and infiltrating roof runoff or directing roof runoff to vegetative swales or buffer areas. Retained water can be reused for watering gardens, lawns, and trees. Benefits to the environment include reduced demand for potable water used for irrigation, improved stormwater quality, increased groundwater recharge, decreased runoff volume and peak flows, and decreased flooding potential.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Designing New Installations

Cisterns or Rain Barrels

One method of addressing roof runoff is to direct roof downspouts to cisterns or rain barrels. A cistern is an above ground storage vessel with either a manually operated valve or a permanently open outlet. Roof runoff is temporarily stored and then released for irrigation or infiltration between storms. The number of rain



barrels needed is a function of the rooftop area. Some low impact developers recommend that every house have at least 2 rain barrels, with a minimum storage capacity of 1000 liters. Roof barrels serve several purposes including mitigating the first flush from the roof which has a high volume, amount of contaminants, and thermal load. Several types of rain barrels are commercially available. Consideration must be given to selecting rain barrels that are vector proof and childproof. In addition, some barrels are designed with a bypass valve that filters out grit and other contaminants and routes overflow to a soak-away pit or rain garden.

If the cistern has an operable valve, the valve can be closed to store stormwater for irrigation or infiltration between storms. This system requires continual monitoring by the resident or grounds crews, but provides greater flexibility in water storage and metering. If a cistern is provided with an operable valve and water is stored inside for long periods, the cistern must be covered to prevent mosquitoes from breeding.

A cistern system with a permanently open outlet can also provide for metering stormwater runoff. If the cistern outlet is significantly smaller than the size of the downspout inlet (say 1/4 to 1/2 inch diameter), runoff will build up inside the cistern during storms, and will empty out slowly after peak intensities subside. This is a feasible way to mitigate the peak flow increases caused by rooftop impervious land coverage, especially for the frequent, small storms.

Dry wells and Infiltration Trenches

Roof downspouts can be directed to dry wells or infiltration trenches. A dry well is constructed by excavating a hole in the ground and filling it with an open graded aggregate, and allowing the water to fill the dry well and infiltrate after the storm event. An underground connection from the downspout conveys water into the dry well, allowing it to be stored in the voids. To minimize sedimentation from lateral soil movement, the sides and top of the stone storage matrix can be wrapped in a permeable filter fabric, though the bottom may remain open. A perforated observation pipe can be inserted vertically into the dry well to allow for inspection and maintenance.

In practice, dry wells receiving runoff from single roof downspouts have been successful over long periods because they contain very little sediment. They must be sized according to the amount of rooftop runoff received, but are typically 4 to 5 feet square, and 2 to 3 feet deep, with a minimum of 1-foot soil cover over the top (maximum depth of 10 feet).

To protect the foundation, dry wells must be set away from the building at least 10 feet. They must be installed in solids that accommodate infiltration. In poorly drained soils, dry wells have very limited feasibility.

Infiltration trenches function in a similar manner and would be particularly effective for larger roof areas. An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. These are described under Treatment Controls.

Pop-up Drainage Emitter

Roof downspouts can be directed to an underground pipe that daylights some distance from the building foundation, releasing the roof runoff through a pop-up emitter. Similar to a pop-up irrigation head, the emitter only opens when there is flow from the roof. The emitter remains flush to the ground during dry periods, for ease of lawn or landscape maintenance.

Foundation Planting

Landscape planting can be provided around the base to allow increased opportunities for stormwater infiltration and protect the soil from erosion caused by concentrated sheet flow coming off the roof. Foundation plantings can reduce the physical impact of water on the soil and provide a subsurface matrix of roots that encourage infiltration. These plantings must be sturdy enough to tolerate the heavy runoff sheet flows, and periodic soil saturation.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

Supplemental Information

Examples

- City of Ottawa’s Water Links Surface –Water Quality Protection Program
- City of Toronto Downspout Disconnection Program
- City of Boston, MA, Rain Barrel Demonstration Program

Other Resources

Hager, Marty Catherine, Stormwater, “Low-Impact Development”, January/February 2003.
www.stormh2o.com

Low Impact Urban Design Tools, Low Impact Development Design Center, Beltsville, MD.
www.lid-stormwater.net

Start at the Source, Bay Area Stormwater Management Agencies Association, 1999 Edition



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
 - Minimize Impervious Land Coverage
 - Prohibit Dumping of Improper Materials
 - Contain Pollutants
 - Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.



- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
 - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
 - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
 - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
 - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Appendix C

Cultural Resources Assessment for the Single-Family Residential Project as 4881 Summit Valley
Road in Hesperia (APN:0357-102-12)

Duke Cultural Resources Management, LLC

July 7, 2025

July 7, 2025

Lauren Cross
Cornerstone Consulting Services
13392 Amargosa Road
Victorville CA 92392

Subject: Cultural Resources Assessment for the Single-Family Residential Project at 4881 Summit Valley Road in Hesperia (APN: 0357-102-12)

Dear Ms. Cross:

At the request of Cornerstone Construction Company (CLIENT), Duke Cultural Resources Management, LLC (DUKE CRM) has prepared a cultural resources assessment report for the residential project at 4881 Summit Valley Road (Project) in the Hesperia sphere of influence. The Project is located on approximately 10 acres of land within Assessor Parcel Number (APN) 0357-102-12. The County of San Bernardino (County) is the lead agency for the California Environmental Quality Act (CEQA). The purpose of this letter report is to document compliance with CEQA regarding cultural resources, and to provide information to allow the County to determine whether the proposed Project would cause substantial impacts to archaeological or historical resources.

The Project is located within Township 3 North, Range 5 West, Sections 15, 16, 21, and 22, as depicted on the *Cajon, Calif.* USGS 7.5-minute quadrangle (see Attachment A for Project Maps). The Client proposes to build a 1,308 square foot (sq ft) residence with a 477 sq ft garage, a gravel driveway, 70 cubic foot retention basin, 50 ft. x 75 ft. pad for a future workshop, power pole, and a private access road.

Research

On April 7, 2025, DUKE CRM conducted a records search at the South Central Coastal Information Center (SCCIC). The SCCIC is the regional office of the California Historical Resources Information System (CHRIS) and is located at California State University, Fullerton. The records search included a review of all recorded cultural resources and reports within a 1/2-mile radius of the Project.

The SCCIC records search identified two (2) historic period resources within 1/2-mile of the Project. The first of these resources is described as the “Baldy Mesa Pole Line” (P-36-004251), which is a historic period telephone pole alignment and associated dirt road. The only feature associated with this site, according to the CHRIS records search map, consists of an unpaved, graded, packed-earth, one-lane historical period road that is approximately 29 feet wide that was once known as Summit Post Office Road. The intersection of the Summit Post Office Road / Baldy Mesa Pole Line (P-36-004251) and the Old Spanish Trail (P-36-004272) appears to be approximately 360 feet northeast from the northern boundary of the project. This linear resource is not associated with any important events or individuals, nor does it represent temporally specific engineering, or retain any potential for significant date and therefore, is not a historic resource according to Carleton Bennett who recorded the resource in July of 2018. The second resource is described as the “Old Spanish Trail,” also known as the “Mormon Road” (P-36-004272), which wound through California along two major routes, the Armijo Route and the Northern Route, as well as several minor branches that Spanish and Mexican colonists established over the course of the nineteenth century. The Old Spanish Trail overlapped an existing network of trails that the Ute, Pueblo, Jicarilla Apache, Hopi, Navajo, Paiute, Mojave, and Chemehuevi used for seasonal hunting and trade, and the routes would change according to season and weather. Although the portion of the trail that passes through the USGS *Cajon, California* quadrangle was not surveyed in the P-36-004272 primary record or the subsequent updates to the primary record, the trail as a whole is considered significant although there are non-contributing segments of the overall resource due to lack of integrity.

The SCCIC records indicate that a total of three (3) cultural resource reports cover areas within 1/2-mile of the Project (Table 2). One of these investigations (SB-00213) appears to involve the west boundary of the Project area. The Archaeological Analysis of Summit Valley Road from State Highway #138 to Rancho Street made test excavations along the seven and one-half mile alignment. The report identifies Site #1, which appears to encompass a portion of the Project area, as requiring salvage archaeology to comply with existing Local, State, and National Environmental Regulations due to the depth of midden and artifacts excavated by test trenches.

Of the two remaining cultural studies (SB-00046) and (SB-01147), neither of these surveys covered the Project area; however, they did include portions of the indirect APE. (SB-00046) was a linear survey of the Mohave Desert Pipeline, completed by Gorsscup, Gordon L. and Jack Smith. Seventeen (17) resources were recorded over the length of the survey. (AB-001147) is an "Evaluation of Impacts to Cultural Resources on 100 Acres of Land North of Summit Valley – Hesperia Road, completed by Robert J. Wlodarski. No resources were recorded.

Online Research

DUKE CRM conducted online research that included examination of the California Built Environment Resources Directory (BERD), which lists the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest. The BERD did not reference any cultural resources within the Project area. Additionally, a review of historical aerial photographs and historical topographic maps was conducted using images on file with the University of California, Santa Barbara's online *FrameFinder* program, the USGS Historical Topographic Map Explorer, and historicaerials.com.

The 1902 *Cajon, Calif* 1:24,000 historic topographic map depicts the Project area as vacant, undeveloped land southeast of Summit Valley Road, which is an unimproved dirt road, and the Burlington Northern and Santa Fe Railroad. Geanies' Trail appears to bypass the Project area to the west. The 1942 *Cajon, Calif* 1:24,000 historic topographic map depicts the Project area with an apparent settlement. The Burlington Northern and Santa Fe Railroad appears to have been expanded with two tracks for increased capacity, and the surrounding area is depicted with unimproved dirt roads leading to private homesteads. The 1957 *Cajon, Calif* 1:24,000 historic topographic map depicts the Project Area with the Benchmark height of 3,731. The Burlington Northern and Santa Fe Railroad has been renamed the Atchison Topeka and Santa Fe Railroad, and the depot to the north is labeled Hesperia. The 1969 *Cajon, Calif* 1:24,000 historic topographic map depicts the Union Pacific Railroad northwest of the Atchison Topeka and Santa Fe Railroad, there is a pipeline routed from the northeast to the west through the Hesperia depot, and Summit Valley Road has been renamed Hesperia Road. The 2012 *Cajon, Calif* 1:24,000 historic topographic map depicts Silverwood Street branching off from Summit Valley Road to the northeast. Neither the Atchison Topeka and Santa Fe Railroad nor the Union Pacific Railroad are depicted in this rendering; however, the train tracks are still there. The 2015 *Cajon, Calif* 1:24,000 historic topographic map depicts the Project and surrounding area as the Antelope Valley. In this rendering the train tracks for the Atchison Topeka and Santa Fe Railroad and the Union Pacific Railroad have been drawn back onto the map (historicaerials.com).

The aerial photograph from 1938 shows the project area as undeveloped land with native desert plants. Summit Valley Road is an unimproved dirt road, beyond which is the Atchison Topeka and Santa Fe Railroad. The surrounding area has several dirt trails that climb into the foothills. The aerial photograph from 1968 shows the project area is unchanged. Summit Valley Road has been improved as an all-weather road and the Union Pacific Railroad has been constructed in the foothills approximately 1,300 feet northwest of the Atchison Topeka and Santa Fe Railroad. The aerial photograph from 1995 shows that there is an engineering project or a bridge that is under construction on the northern portion of the Project area. The aerial photograph from 2010 appears to show a small rectangular access road at the northern portion of the Project area. The aerial photograph from 2022 shows four small antenna installations on the northern portion of the Project that are likely associated with radio (20 KHz to 5 GHz) or microwave (300 GHz) transmissions (historicaerials.com).

Field Survey

DUKE CRM archaeologist, Lauren Biltonen, conducted an intensive pedestrian survey of the Project area on April 18, 2025 (see Attachment B for Project area photos). The survey covered the entirety of the 10-acre Project area. The Project was intensively surveyed using parallel transects spaced no more than 15 meters apart. The topography consists of hilly terrain with the tallest point at 3,790 feet near the northern portion of the property and 3,670 feet at the lowest point near the southern boundary. The property is bounded by a few scattered homes to the south of its border and Summit Valley Road, as well as a railroad right-of-way to the west. There is a single structure on the north side of the property that is an approximately 10 ft. by 8 ft. concrete masonry block structure with signage that indicates it is a “well house” that appears to be of modern construction. The property has dirt paths and game trails that run throughout, and the property along the northern border has been used as a dump site. Exposed soils consist of a fine to coarse, very light tan-brown sand with small portions consisting of dried clay observed at the top of the highest point. Vegetation consists largely of native chaparral and sagebrush and non-native grasses. Disturbances include the adjacent road and subsequent trash dumping clustered adjacent to Summit Valley Road and along the dirt road entrance to the property along the northern boundary. Ground visibility is approximately 50% overall. No new cultural resources were observed within the Project boundary.

Conclusions

DUKE CRM assessed the proposed Project for potentially significant impacts to cultural resources under CEQA. No cultural resources have been previously recorded within the Project area. The records search identified two (2) cultural resources recorded within a ½-mile radius of the Project: the “Baldy Mesa Pole Line,” and the “Old Spanish Trail” (Mormon Road), whose eligibility has not been assessed for the segment of the trail that runs through the *Cajon, Calif.* quadrangle. The two roads intersect at a point approximately 360 feet northeast of the northern boundary of the project. The pedestrian survey identified no cultural resources within the Project area, and the Project has been disturbed by road construction and modern trash dumping. Based on these factors, the Project area is assessed as having a low sensitivity for intact prehistoric or historic cultural resources; no further archaeological investigation is recommended.

If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until the qualified archaeologist can assess the significance of the find. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has determined the origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

DUKE CRM appreciates the opportunity to provide cultural resource services in support of this project. If you have any questions or comments, please feel free to contact me at (949) 356-6660 or brentjohnson@dukecrm.com.

Sincerely,

DUKE CULTURAL RESOURCES MANAGEMENT, LLC

Brent Johnson

Brent Johnson, M.A.

Project Manager

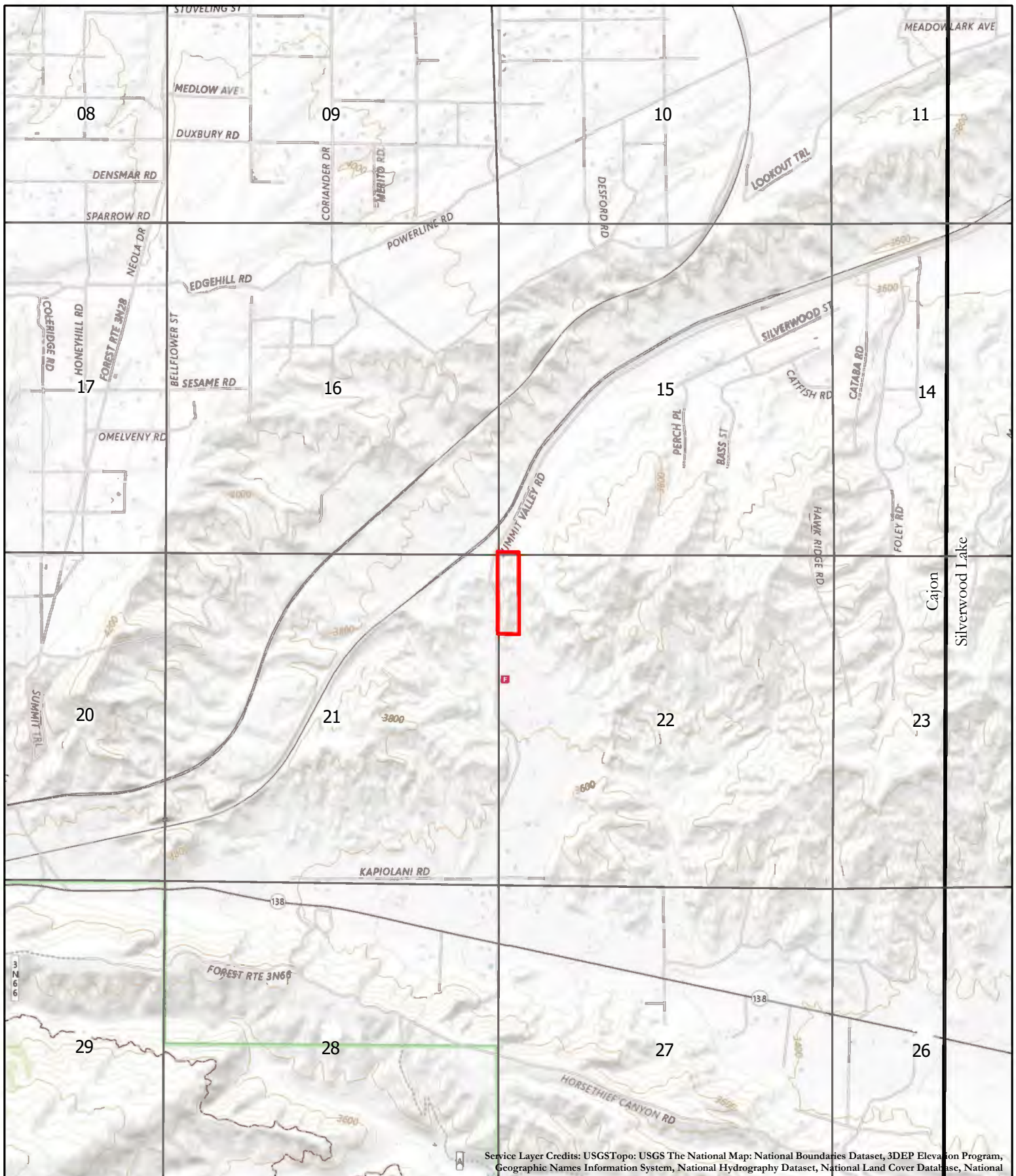
Attachments

A: Project Maps

B: Project Area Photographs

ATTACHMENT A

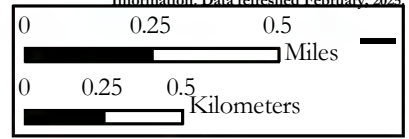
PROJECT MAPS



Service Layer Credits: USGSTopo: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structure Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HIU; NOAA National Centers for Environmental Information. Data refreshed February, 2025.



Figure 1. Project Location
 Eadenmacher, Hesperia (CA 6594)
 Cajon, Calif USGS 7.5-minute quadrangle
 T3N, R5W, Section 15, 16, 21, and 22



Project Area

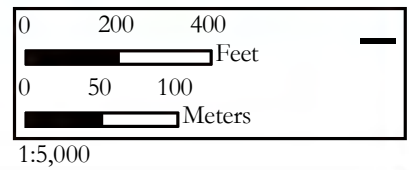
1:24,000



Figure 2. Project Aerial
Rademacher, Hesperia (C-0592)



 Project Area



ATTACHMENT B

PROJECT AREA PHOTOGRAPHS



Project overview. View looking west at the northeast boundary



Project overview. View looking southwest at the northeast boundary



View looking north at the felled wood post



Project overview. View looking west at a well house



Project overview. View looking southwest



View looking northeast at hammer in project area



View looking southeast at mattress spring



Project overview. View looking west at the southeast boundary



View looking southwest at the project surroundings



View looking southeast at the project surroundings