

INITIAL STUDY FOR THE CIRCLE GREEN “GREEN TECH” PROJECT

Prepared for:

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

Prepared by:

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

April 2019

TABLE OF CONTENTS

Introduction	1
Environmental Factors Potentially Affected	6
Determination	7
Evaluation of Environmental Impacts	8
I. Aesthetics	10
II. Agricultural and Forestry Resources	12
III. Air Quality	14
IV. Biological Resources	26
V. Cultural Resources	30
VI. Geology and Soils	32
VII. Greenhouse Gas Emissions	35
VIII. Hazards and Hazardous Materials	37
IX. Hydrology and Water Quality	40
X. Land Use and Planning	44
XI. Mineral Resources	45
XII. Noise	46
XIII. Population and Housing	52
XIV. Public Services	53
XV. Recreation	55
XVI. Transportation / Traffic	56
XVII. Tribal Cultural Resources	59
XVIII. Utilities and Service Systems	59
XIV. Mandatory Findings of Significance	61
Summary of Mitigation Measures	64
References	68

APPENDICES

Appendix 1 – Air Quality / Greenhouse Gas

Appendix 2 – Biological Resources

Appendix 3 – Cultural Resources

Appendix 4 – Soils Map

FIGURES

Figure 1	Regional Location
Figure 2	Site Location
Figure 3	Site Plan
Figure II-1	Farmland Map
Figure II-2	Williamson Act Map
Figure VI-1	Alquist-Priolo Earthquake Fault Zone
Figure VI-2	Geologic Hazard Overlay
Figure VIII-1	GeoTracker, page 1
Figure VIII-2	GeoTracker, page 2
Figure IX-1	FEMA Map
Figure IX-2	Hazard Overlay

TABLES

Table III-1	Ambient Air Quality Standards	15
Table III-2	Health Effects of Major Criteria Pollutants	17
Table III-3	Project Area Air Quality Monitoring Summary 2014-2017.....	19
Table III-4	Construction Activity Equipment Fleet	21
Table III-5	2019 Construction Activity Maximum Daily Emissions (lbs/day)	21
Table III-6	2019 Construction Activity Maximum Daily Emissions (tons/year)	22
Table III-7	Operational Activity Emissions (lbs/day).....	23
Table III-8	Operational Activity Emissions (tons/year)	23
Table XII-1	Noise Levels of Construction Equipment at 25, 50 and 100 feet (in dBA LEQ) from the Source	51

ABBREVIATIONS AND ACROYNMS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ADT	Average Daily Traffic
AF	acre-feet
AFY	acre-feet per year
APE	Area of Potential Effect
ARB	Air Resource Board
BACMs	Best Available Control Measures
bgs	below ground surface
BMPs	Best Management Practices
BUOW	Burrowing Owl
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emission Estimator Model
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO ₂ (e)	CO ₂ equivalent
CUP	Conditional Use Permit
CY	cubic feet
dB	decibel
dBA	A-weighted decibel
DIF	Development Impact Fees
DT	Desert Tortoise
EO	Executive Order
ESA	Endangered Species Act
ECC	Global Climate Change
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
FTA	Federal Transit Association
GAL	gallons
GHG	Greenhouse Gas
Ldn	day-night average sound level
Leq	average noise level
LOS	Level of Service
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MGS	Mohave Ground Squirrel
MND	Mitigated Negative Declaration

MT	metric tons
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen Dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O ₃	Ozone
OMP	Odor Minimization Plan
Pb	Lead
PM ₁₀	particulate matter per 10-microns
PM _{2.5}	particulate matter per 2.5-microns
PPHCSD	Phelan Piñon Hills Community Services District
RL	Rural Living
RWQCB	Regional Water Quality Control Board
SB	State Bill
SBCFD	San Bernardino County Fire Department
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF	square feet
SIP	State Implementation Plan
SMBMI	San Manuel Band of Mission Indians
SO ₂	Sulfur Dioxide
SWPPP	Storm Water Pollution Prevention Plan
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	Velocity in decibel
WQMP	Water Quality Management Plan

ENVIRONMENTAL CHECKLIST FORM

INTRODUCTION

1. Project Title: Circle Green "Green Tech" Project
2. Lead Agency Name: Phelan Piñon Hills Community Services District
Address: 4176 Warbler Road, Phelan, CA 92371
3. Contact Person: Don Bartz
Phone Number: (760) 868-1212
4. Project Location: The project is located at 17900 Sheep Creek Road, between Parkdale Road and Bartlett Road in an unincorporated part of San Bernardino County. The project site is located within Section 26, Township 6 North, Range 7 West of the USGS 7.5 Minute Shadow Mountains topographical quadrangle. The GPS coordinates of the proposed project are 34.576751°, -117.580666°. Refer to Figures 1 and 2 for aerial depictions of the regional and site location.
5. Project Sponsor's Name and Address: Circle Green, Inc. ("Circle Green")
8271 Chino Avenue, Ontario, CA 91761
6. General Plan Designation: Agriculture
7. Zoning: Agriculture / Rural Living
8. Project Description:

Introduction

Circle Green will develop a "Green Tech Park" at the Project Location that it leases from Phelan Piñon Hills Community Services District (PPHCSD or District) pursuant to a 30-year lease, and contemplate modifications to the site required for the development of a food waste and green waste material composting facility within the District boundaries in the County of San Bernardino. The County of San Bernardino will serve as a CEQA responsible agency as the proposed project will require a Conditional Use Permit (CUP) to develop the compost facility within the project site, which is designated for Agriculture use. Circle Green is an organic waste management company and provides a variety of organic recycling services from collection of organic materials, to manufacturing soil amendments and other finished recycled products. The purpose of the project is to support the need for expanded capacity for emerging state regulations requiring increased green and food waste recycling anticipated under SB 1383. The goal of the proposed project is to create a cost-effective green and food waste processing and composting facility and to manufacture high quality soil amendments for landscape, erosion control, renewable biomass products, and agricultural markets.

Project Description

The proposed project is located at the former Meadowbrook Dairy within an unincorporated portion of San Bernardino County, within the PPHCSD's service area. The former dairy is now owned by PPHCSD and is approximately 160 acres, though only 80 acres are currently proposed to serve the Green Tech Park operations. Circle Green leases the project site from PPHCSD. The proposed Green Tech Park facility would be a fully permitted Compost Manufacturing Facility that will comply with all State, and local requirements and be designed and operated to responsibly and safely manage the proposed feedstocks. The compost facility will utilize at least one, if not all of the three existing concrete pads that traverse the site from the southern border to the northern border of the site, as shown on the proposed site plan for the Green Tech Park (Figure 3). The approximate length of the concrete pads is 2,400 feet; the width of the largest pad (the easternmost concrete pad, as shown on Figure 3) is 30 feet, the other two concrete pads are approximately 20 feet wide. These concrete pads may require sealing to reinforce the existing concrete and meet Lahonton Regional Water Quality Control Board (RWQCB) standards, but they will ultimately serve as the base upon which the compost piles will be placed. In order to accommodate growth at the site as the compost operations expand, Circle Green may develop a large concrete pad in the northwestern corner of the site, approximately 660 feet x 1,000 feet in size. This area would require new concrete to fill in the gaps of space between the existing concrete pads, which would create a large impervious area upon which Circle Green could expand composting operations as growth in this industry occurs. Additionally, Circle Green may expand the existing pads on the southwestern portion of the site to each be 40-feet wide and 1,400 feet long to facilitate larger windrows and/or construct additional concrete pads. This effort would require new concrete in the amount of about 16,300 cubic yards (CY) to develop the 660' wide x 1,000' long x up to 8" deep pad at the northwestern portion of the site, and about 1,730 CY to expand the existing pads on the southwestern portion of the site to 40' wide x 1,400' long x up to 8" deep, which equates to a total of about 18,030 CY of new concrete.

The project site contains an existing solar generation farm that will remain in place on the northeast corner of the site. This solar generation farm must remain in place as it supports the energy demands required to operate PPHCSD facilities. The project site also includes an existing residence that is currently occupied by a Circle Green site manager for 24 hour security and site supervision. This residence is part of the site lease with PPHCSD and will remain occupied for the foreseeable future.

The Green Tech Park will utilize an existing office building that includes an attached equipment warehouse, existing shower / restroom facilities as well as an employee lunch room. The project site also contains an additional equipment warehouse. The project site is currently gated. The gated entrance to the project site is located at the center of the eastern site border along Sheep Creek Road.

Circle Green proposes to initiate activities that will accomplish site rehabilitation and enhancement, which would include processing of remnant dairy manures and rehabilitating dilapidated remnants of the previous dairy operation. This may include provision of 24-hour security, housekeeping, vector control, dust control, weed control, etc., which comprise of basic property management duties.

The daily throughput capacity of the proposed Green Tech Park facility would be a maximum of 1,800 tons per day, the majority of the materials received would be green materials, local cow manures, and food waste. Initially, the Green Tech Park will receive mostly vegetative material; however, Circle Green plans to ultimately accept post-consumer waste and digester digestate. The proposed Green Tech Park facility will not accept biosolids (i.e. human waste/raw sewage). The service areas that the new Green Tech facility intends to primarily serve are the Inland Empire and High Desert regions within the County of San Bernardino. The green and food waste composting operations at the proposed Green Tech Park would segregate feedstocks for a number of different products and uses, which may include the following: high grade organic compost and water saving mulches for various landscaping and agricultural uses; and biomass/fuel for renewable energy and bio-gas production. The proposed storage area for the products generated by the composting operation is currently located in the northwestern corner of the project site. This storage area is concrete lined and was formerly used to store feed for the cows managed by the former Meadowbrook Dairy and will be repurposed as a storage area for the products generated by the composting operations.

The materials on site will be composted via a windrow composting method or, alternatively by aerated static pile composting depending on the feasibility of implementing either method as part of the Green Tech Park. Turned windrow composting, the most common means of manufacturing compost in CA is well-suited for large volumes of materials generated by a region such as the High Desert and Inland Empire that the proposed Green Tech Park intends to serve. This type of composting involves forming organic waste into rows of long piles called “windrows” and aerating them periodically by mechanically turning the piles¹. In aerated static pile composting, organic waste is mixed in a large pile². To aerate the pile, layers of loosely piled bulking agents (e.g., wood chips) are added so that air can pass from the bottom to the top of the pile. The compost piles (either turned windrows or aerated static piles) will be located along the concrete pads to prevent any groundwater contamination. Additionally, the existing concrete pads are designed to direct runoff to the existing runoff catch basin located on the northern border of the site, as will be the case for any newly installed concrete pads. The existing runoff catch basin is approximately 61,000 square feet (SF) in size and roughly 12 feet deep, which is anticipated to be capable of holding approximately 5,400,000 gallons (GAL) or approximately 16 acre-feet (AF) of water. If required, the existing runoff catch basin will be modified to meet the State Water Resources Control Board (SWRCB) and Lahonton Regional Water Quality Control Board (LRWQCB) standards for compost facilities. The proposed project will include mulched wind berms which will also be developed on the southern and eastern borders of the site (shown in Figure 3) to prevent compost materials from leaving the site and provide wind protection for crops and greenhouses.

Once in operation, it is anticipated the Green Tech Park will receive a maximum of 95 truckloads of food, manure, green waste and amendments per day, 7 days per week, some operations, such as deliveries may occur 24 hours a day. Finished products would then be transported offsite in mainly in bulk quantities, however, depending upon demand, Circle Green anticipates installing equipment in one of the existing warehouse buildings for the purpose of bagging a portion of the finished product. It is anticipated that outbound finished products will typically be delivered by the same trucks dropping off green waste at the facility. The Green Tech Park is also anticipated to require the following equipment to support the compost

¹ <https://www.epa.gov/sustainable-management-food/types-composting-and-understanding-process#aeratedturned>

² <https://www.epa.gov/sustainable-management-food/types-composting-and-understanding-process#aeratedstatic>

operations: 2-3 large wood grinders, 3-5 trommel/shaker screens, 4-6 loaders, 3 water trucks, 2-3 excavators and 3-4 forklifts. The Green Tech Park will employ approximately 20 persons.

Construction Scenario

The proposed project is expected to begin construction/site preparation for the compost facility in April of 2019. It is estimated that the project will be in full operation by approximately the Spring Summer of 2019. The project does not propose any new structures, though some site improvements may be required, including repairing existing structures, which may require 10 round-trips per day for approximately one week. It is anticipated that the project will not require any cut or fill of material. Delivery of construction supplies and removal of any excavated materials, if necessary, will be accomplished using trucks during normal working hours, with a maximum of 50 round trips per day, though it is anticipated that an average of 15 round trips per day for 80 working days would occur. It is anticipated that a maximum number of 20 employees will be required to support the construction of the project each day. Grading will be by traditional mechanized grading and compaction equipment. Equipment utilized will be traditional site development equipment of front end graders, vibratory compactors, petroleum powered fork lifts, and various hand tools traditional to commercial construction.

Should expansion of the existing concrete pads be required in the future, this effort may require additional concrete in the amount of approximately 18,030 CY. Assuming concrete will be delivered from a nearby concrete plant in Adelanto (about 15 miles from the project site), this effort is anticipated to require up to 73 days and 1,803 concrete truck round trips (25 round trips per day maximum). However, it is assumed that this effort would be completed in phases:

- Phase 1 would occur during year 1 of the Green Tech operations (assumed to be in 2019), it is assumed that 9,150 CY of concrete would be required, which would cover approximately one half of the total area Circle Green intends to develop with concrete. This effort would require about 902 round trips that would occur over a period of a minimum of 37 days.
- Phase 2 would occur during year 2 of the Green Tech operations (assumed to be in 2020), it is assumed that 4,575 CY of concrete would be required, which would cover about another one quarter of the total area Circle Green intends to develop with concrete. This effort would require about 451 round trips that would occur over a period of a minimum of 19 days.
- Phase 3 would occur during year 3 of the Green Tech operations (assumed to be in 2021), it is assumed that 4,575 CY of concrete would be required, which would cover about another one quarter of the total area Circle Green intends to develop with concrete. This effort would require about 451 round trips that would occur over a period of a minimum of 19 days.

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

The area surrounding the project site is rural in nature with very little development surrounding the project. The project site is located in the high desert region of San Bernardino County. The land uses surrounding the project are as follows:

- To the immediate South and East: Rural Living-5 (RL-5 [5-acre plots]);
- To the immediate North and West: Rural Living (RL);

- 2.6 miles North: Ducommun Aerostructures Inc., which provides repairs, custom work, installations to its customers; and,
 - 3 miles North: Hein and Hettinga Dairy.
10. Other agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

There are at least 6 major permits or approvals which must be secured prior to operation of the proposed project. These include:

- Conditional Use Permit, County of San Bernardino
- California Environmental Quality Act (CEQA), PPHCSD
- Compostables Material Handling Permit ("Composting Permit") from the Department of Resources, Recycling and Recovery / San Bernardino County Division of Health Services
- Lahontan Regional Water Quality Control Board, compliance with Statewide General Order for Composting Facilities
- Mojave Desert Air Quality Management District, Authority to Construct, Permit to Operate
- San Bernardino County Non-Disposal Facility Element (NDFE), (Project must be identified in NDFE)

San Bernardino County will be a CEQA Responsible Agency given the need for the Applicant to obtain a CUP. The project will require participation from CalRecycle, which will permit the Facility. The project exceeds the one-acre threshold for a General Construction National Pollutant Discharge Elimination System (NPDES) permit. This requires notification to the State Water Board and preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

11. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun? Yes. One tribe has requested consultation under AB 52 from Phelan Piñon Hills Community Services District: The San Manuel Band of Mission Indians (SMBMI). SMBMI was contacted to initiate the AB-52 process on August 20, 2018 to notify the tribes of the proposed project through mailed letters. During the 30-day consultation period that concluded on September 19, 2018, no response was received from SMBMI. Therefore, consultation has concluded with no request from any tribe to be included as a consulting party for this project.

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

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION (To be completed by the Lead Agency)

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

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

Tom Dodson & Associates
Prepared by

April 8 2019
Date

Lead Agency (signature)

Date

DETERMINATION (To be completed by the Lead Agency)

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

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

Tom Dodson & Associates
Prepared by


Lead Agency (signature)

April 8 2019
Date

4/15/19
Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project consists of rehabilitating an old dairy to operate as a green, food, and manure waste composting facility. The project will occur entirely within the boundaries of the old Meadowbrook Dairy site, which is located within the unincorporated community of El Mirage/Phelan within San Bernardino County. The El Mirage/Phelan area slopes from north to south with the Shadow Mountains to the north and the San Gabriel Mountains to the south and several hills to the east.

Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic vistas that would be altered by new development. A review of the project area determined that there are no scenic vistas within the project site. The project site is currently developed with remnant structures from the former dairy operations and the features of the proposed project would not be substantially different than that which exists at the project site at present, particularly due to the fact that the project will reuse/repurpose several of the existing components within the project site in support of the composting operations. A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with the view to a scenic vista. As stated above, the Shadow Mountains and the San Gabriel Mountains dominate views to the north and to the south. Immediately surrounding the proposed project is open space characteristic of the Mojave Desert. At present, the project contains remnant structures of the former dairy and the proposed project does not anticipate construction of any new structures, other than the concrete pads and compost windrows, which will be no greater in height than the tallest existing structure on site. Therefore, views to the surrounding mountains will not substantially change. Additionally, views of the project site from the west and from the north and south are obstructed and will remain obstructed under the proposed project by a line of trees that forms a border between the neighboring site and the project site. Thus, the impact to any scenic vistas would be less than significant. No mitigation is required.

- b. *No Impact* – The project footprint does not contain any scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway corridor. No scenic resources, such as historical buildings, trees, or rock outcropping, would be removed, altered, or obstructed as part of the proposed project. The project is located within a former dairy that does not contain any distinctive natural features. Furthermore, the proposed project is located along Sheep Creek Road, which is not considered a scenic highway; as a result, there is no potential to substantially damage scenic resources within a state scenic highway corridor. No impact can occur under this issue and no mitigation is required.

- c. *Less Than Significant Impact* – The project is located in a rural area with very little surrounding development within the Mojave Desert. The project site currently contains the remnants of the Meadowbrook Dairy; several of the features of the former dairy will be reused and/or repurposed to serve the needs of the proposed composting operation. The proposed project may rehabilitate some of the existing structures and features on site, and will develop a green, food, and manure waste composting facility within the western half of the site. Though the Green Tech operations will serve a different purpose than the former Dairy, the visual setting at the site will not substantially change. Furthermore, as stated above, the project site is bound to the west, south, and north by a line of trees that are generally 10+ feet in height, which obscure views from the west, north, and south to the site. Based on these findings, the proposed project is not forecast to cause a substantial degradation of the area visual character or quality. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – The construction activities are limited to daylight hours unless an emergency occurs, and the amount of security lighting needed during construction will be minimal. The project is surrounded by land designated for Rural Living, and as such there are scattered residences surrounding the project site. The nearest resident is located across the street from the entrance to the site on Sheep Creek Road. Thus, the proposed project may have a potential to create a new source of substantial lighting or glare during construction that could adversely affect nighttime views at the adjacent residences, and residences can be considered a light sensitive land use. There may be some new permanent light sources to support operations of the Green Tech facility that would be greater than that which currently exists at the project site. This poses a potential to result in a substantial change to the area surrounding the project sites. To protect nearby residences from direct light and glare from new lighting, the following mitigation measure will be implemented.

AES-1 *A facilities lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically indicate that the lighting doesn't exceed 1.0 lumen at the nearest residence to any lighting site within the project footprint. This plan shall be implemented by the Applicant with the approval of the District to minimize light or glare intrusion onto adjacent properties.*

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project is located within a project site designated for agricultural use by the San Bernardino County General Plan. According to the California Department of Conservation California Important Farmland Finder, the project site is located within an area designated as “Farmland of Statewide Importance” and “Other Land” (Figure II-1). A majority of the project is designated as “Other Land,” while a portion of the northeastern corner and southeast corner are designated as “Farmland of Statewide Importance.” The northeastern corner of the site currently contains a solar field that will remain in place, while the southeastern corner of the site is mostly vacant (shown on the site plan, Figure 3). The project site previously served as a dairy with no farming uses on site. The former dairy has contaminated the soils with dairy waste and manure, and a previous certified Statutory Exemption for the project site has enabled Circle Green, Inc to initialize farming operations. Composting facilities such as the Green Tech Park

proposed by this project are considered a Conditional Use when developed within land designated as Agriculture by the San Bernardino County General Plan. The project will require a Conditional Use Permit (CUP) from the County in order to develop the project as it is currently proposed; however, the project will not require a general plan amendment to develop the project within this land use designation. Given that the proposed project will not alter the portion of the project site that has been identified as Farmland of Statewide Importance—the southeastern quarter—because the project will mostly occur within the western half of the site, the project would not convert Farmland of Statewide Importance to a non-agricultural use. Furthermore, due to the past CEQA certification, the project site has been approved to initiate farming operations independent of this Initial Study. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

- b. *Less Than Significant Impact* – According to the San Bernardino County Williamson Act Map (Figure II-2), the proposed project is not located on land that has is under a Williamson Act contract. However, as stated above under issue II(b) and in the Project Description, the proposed project is located on land that has been zoned for Agricultural and Rural Living use. The previous use of the project site was as the Meadowbrook Dairy, and the proposed site includes a compost processing facility. Because the project includes a compost facility, the project requires a CUP from the County. With the CUP, the proposed use is allowed within the Agricultural designation. Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract. Impacts are considered less than significant, and no mitigation is required.
- c. *No Impact* – Please refer to issues II(a) and II(b) above. The project site is located within the Community of El Mirage/Phelan in the High Desert region of San Bernardino County. The project is located in a rural area and the project site is designated for Agricultural use. Thus, neither the land use designation (Agriculture) nor zoning classification (Agriculture and Rural Living) support forest land or timberland uses or designations. No potential exists for a conflict between the proposed project and forest/timberland zoning. No mitigation is required.
- d. *No Impact* – There are no forest lands within the project area, which is because the project area is a rural desert that does not support trees. No potential for loss of forest land would occur if the project is implemented. No mitigation is required.
- e. *Less Than Significant Impact* – Please refer to issues II(a) and II(b) above. The proposed project does not support forestry uses. The previous use at the project site was the Meadowbrook Dairy and, the proposed project is designated for Agricultural use by the San Bernardino County General Plan. The project would develop a composting facility that would generate rich compost soil amendment that would increase the nutrient value of the soils. These soils will be used on site to remediate the dairy waste laden soils left from the former dairy, but will also be a product available to the public. Thus, the composting activities would not involve changes to the site that would prevent the site from future agricultural use. Given that the project will be constructed primarily within the western half of the project site, and will not damage the agricultural value of the site through the other proposed uses that make up the Green Tech operation, impacts under this issue are less than significant, and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the *Air Quality and GHG Impact Analysis, Circle Green "Green Tech" Project, Phelan, California* prepared by Giroux and Associates dated February 22, 2018. This document is provided as Appendix 1 to this Initial Study.

Background

Climate

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

Air Quality Standards

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

difference between state and national clean air standards. Those standards currently in effect in California are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

**Table III-1
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.070 ppm (147 µg/m3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		–		
Fine Particulate Matter (PM2.5)	24 Hour	–	–	35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	12.0 µg/m3		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m3)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m3)		9 ppm (10 mg/m3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 g/m3)		–	–	
Nitrogen Dioxide (NO2) ⁸	1 Hour	0.18 ppm (339 µg/m3)	Gas Phase Chemiluminescence	100 ppb (118 pg/m3)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)		0.053 ppm (100 µg/m3)	Same as Primary Standard	
Sulfur Dioxide (SO2) ⁹	1 Hour	0.25 ppm (655 µg/m3)	Ultraviolet Fluorescence	75 ppb (196 pg/m3)	–	Ultraviolet Flourescence; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m3)	
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm (for certain areas) ⁹	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ⁹	–	
Lead 8 ^{10,11}	30-Day Average	1.5 µg/m3	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m3 (for certain areas) ¹¹	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m3)		
Visibility Reducing Particles ¹²	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride ¹⁰	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

Footnotes

- 1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM₁₀, PM_{2.5}, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above 150 µg/m³, is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- 8 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- 9 On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- 10 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- 11 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 j.tg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- 12 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

**Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Of the standards shown in Table III-1, those for ozone (O₃), and particulate matter (PM-10) are exceeded at times in the Mojave Desert Air Basin (MDAB). They are called "non-attainment pollutants." Because of the variations in both the regional meteorology and in area-wide differences in levels of air pollution emissions, patterns of non-attainment have strong spatial and temporal differences.

Baseline Air Quality

Monitoring of air quality in the MDAB is the responsibility of the Mojave Desert Air Quality Management District (MDAQMD) headquartered in Victorville, California. The closest monitoring station to the project site is in Phelan. That station, however, only monitors Ozone. The nearest station that monitors the full spectrum of air pollutants is the Victorville Station at 14306 Park Avenue. Table III-3 summarizes the last four years of monitoring data from the available data at the Phelan and Victorville monitoring stations. Findings are summarized below:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of five percent of all days in the last four years at the monitoring station closest to the project site and the 8-hour state standard was violated fifteen percent of all days. The Mojave Desert Air Basin does not generate enough ozone precursor emissions to substantially affect ozone levels. Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities.
2. PM-10 levels have exceeded the federal 24-hour standard on four days within the last four years near Victorville. The three times less stringent federal 24 hour-standard not been reported during this period. No significant trend can be seen in regard to maximum 24-hour PM-10 concentrations over the most recent years.
3. PM-10, however, is affected by construction, by unpaved road travel, by open fires and/or by agricultural practices. These emissions can be controlled to some extent, and are, therefore, components in a respirable range (10-micron diameter) particulate matter (PM-10) attainment plan developed by the Mojave Desert AQMD. An attainment plan for PM-10 was adopted in July 1995, for designated federal PM-10 non-attainment areas in the MDAB. Any project-related PM-10 generation activities require an enhanced level of controls consistent with the control measures that are part of that plan.
4. A fraction of PM-10 is comprised of fine diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). The 24-hour federal standard has been exceeded twice in the recent past.
5. More localized pollutants such as carbon monoxide and nitrogen oxides, etc. are generally very low near the project site because background levels in the Mojave Desert area never exceed allowable levels except perhaps during rare wildfire events such as in 2010. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS.

**Table III-3
PROJECT AREA AIR QUALITY MONITORING SUMMARY 2014-2017
(ESTIMATED DAYS STANDARDS WERE EXCEEDED AND MAXIMUM OBSERVED LEVELS)**

Pollutant/Standard	2014	2015	2016	2017
Ozone				
1-Hour > 0.09 ppm (S)	18	9	15	33
8-Hour > 0.07 ppm (S)	61	42	51	66
8- Hour > 0.075 ppm (F)	36	22	27	47
Max. 1-Hour Conc. (ppm)	0.137	0.129	0.132	0.156
Max. 8-Hour Conc. (ppm)	0.100	0.092	0.109	0.118
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max 1-Hour Conc. (ppm)	0.067	0.012	0.010	0.057
Inhalable Particulates (PM-10)				
24-Hour > 50 µg/m ³ (S)	nr	nr	nr	nr
24-Hour > 150 µg/m ³ (F)	1	0	1	1
Max. 24-Hr. Conc. (µg/m ³)	246.2	96.1	226.5	182.5
Fine Particulates (PM-2.5)				
24-Hour > 35 µg/m ³ (F)	0	1	1	0
Max. 24-Hr. Conc. (µg/m ³)	24.1	50.2	41.5	27.2

nr = not reported

Source: Phelan: Ozone

and Victorville Air Monitoring Station Data www.arb.ca.gov/adam/

Air Quality Planning

The U.S. EPA is responsible for setting and enforcing the NAAQS for O₃, CO, NO_x, SO₂, PM₁₀, PM_{2.5}, and lead (7). The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (14). The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The Circle Green proposes a green and food waste composting facility. The majority of the materials received would be green materials, local cow manures and food waste. The project will utilize an existing office building that includes an attached equipment warehouse, existing shower /restroom facilities as well as an employee lunch room. The project site also contains an equipment warehouse. The materials on site will be composted through the outdoor/open windrow composting method. Aerated or turned windrow composting is suited for large volumes of materials

The daily intake capacity of the proposed Green Tech Park facility would average approximately 1,500 tons per day. Once in operation, it is anticipated the Green Park will receive approximately 65-95

truckloads of food, manure, green waste and soil amendments per day, 7 days per week. Outbound finished products will typically be delivered by the same trucks dropping off green waste at the facility.

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

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

Additional Indicators

In its CEQA Handbook (2007), the MDAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators relevant to this project are as follows:

- Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds.
- Generate a violation of any ambient air quality standard when added to the local background
- Creates odors that could be considered a nuisance by any substantial number of people.
- Does not conform to applicable attainment or maintenance plans.
- Emits hazardous or toxic emissions that create an excess cancer risk of more than 10 in a million or a non-cancerous health index (HI) or more than 1.0.

Except in special circumstances, the CEQA Handbook notes that meeting the daily or annual emissions thresholds is normally sufficient to demonstrate a less-than-significant impact.

Impact Analysis

- Less Than Significant Impact* – Projects such as the proposed Circle Green “Green Tech” Project do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use are the primary yardsticks by which impact significance of planned growth is determined. Based on the analysis in Section X (Land Use and Planning), the project requires a CUP from the County of San Bernardino to develop the Green Tech Park on the project site. With approval of the CUP application on this property, the Circle Green “Green Tech” Project will be fully consistent with the both the General Plan designation and Zone classification for the project site. Thus, the proposed project is consistent with regional planning forecasts maintained by the Southern California Association of Governments (SCAG) regional plans. Air quality impact significance for the proposed project has been analyzed on a project-specific basis. As the analysis of project-related emissions provided below indicates, the proposed project will not cause or be exposed to significant air pollution, and is, therefore, consistent with the applicable air quality plan.
- Less Than Significant With Mitigation Incorporated* – Air pollution emissions associated with the proposed project would occur over both a short and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and exhaust emission) at the proposed Project site. Long-term emissions generated by future operation of the

proposed project primarily include energy consumption, employee/visitor truck trips and any fugitive dust that might be generated by the composting facility.

Construction Emissions

The California Emissions Estimator Model (CalEEMod) was developed by the South Coast AQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. The 160 acre site proposes utilizing the existing concrete pads and possibly constructing additional pads. The project will utilize the existing on-site buildings (warehouse, showers/restrooms, etc.) and no new buildings are anticipated. The existing buildings may be remodeled and repaired. Should expansion of the concrete pads be required this effort would require 18,030 cubic yards and would require up to 73 days and 1,803 concrete truck trips (round trips). Construction is expected to require no more than 20 employees per day. Although the concrete pads may be built out over three years, for this analysis all construction is assumed to occur in 2019 as a worst case. Activity occurring in future years will generate less emissions as older trucks and diesel equipment are phased out and the fleets become progressively cleaner.

**Table III-4
 CONSTRUCTION ACTIVITY EQUIPMENT FLEET**

Phase Name and Duration	Equipment
Site Prep (30 days)	1 Dozer
	1 Loader/Backhoe
	20 Employees
Concrete Pad Installation (73 days, 3,606 one-way truck trips or 1,803 round trips)	4 Concrete Mixers
	2 Paving Equipment
	1 Paver
	2 Rollers
	20 employees
	1,803 concrete trucks

Utilizing this indicated equipment fleets shown in Tables III-4 the worst-case daily construction emissions are calculated by CalEEMod and are listed in Table III-5. As shown in Table III-5, daily construction related emissions would not exceed MDAQMD significance thresholds.

**Table III-5
 2019 CONSTRUCTION ACTIVITY MAXIMUM DAILY EMISSIONS (POUNDS/DAY)**

Daily Emissions (lbs/day)	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
	1.9	26.3	16.1	0.1	7.1	4.1
Thresholds	137	137	548	137	82	82

Source: CalEEMod output in report appendix

Because the MDAQMD also has annual standards, the yearly totals were also compared to their respective thresholds in Table III-6 below. No mitigation is required.

Table III-6
2019 CONSTRUCTION ACTIVITY MAXIMUM DAILY EMISSIONS (TONS/YEAR)

Daily Emissions (lbs/day)	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
	0.09	1.19	0.71	0.00	0.18	0.10
Thresholds	25	25	100	25	15	15

Source: CalEEMod output in report appendix

As with daily emissions annual construction related emissions are well below their respective CEQA significance thresholds. Short-term emissions are primarily related to construction of additional concrete pads and are recognized to be short in duration and without lasting impacts on air quality. With the enhanced dust control mitigation measures listed below, construction activity air pollution emissions are not expected to exceed MDAQMD CEQA thresholds for any pollutant even if the phases are under simultaneous construction. Regardless, the PM-10 non-attainment status of the Mojave Desert area requires that Best Available Control Measures (BACMs) be used as required by the Mojave AQMD Rule 403. Therefore, the following mitigation measure shall be implemented.

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

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

Operational Emissions

When in full operation the project daily intake capacity of 1,500 tons is expected to arrive in 95 trucks. The same trucks that make a drop off will carry out finished product. There will be 15-20 employees per day. Diesel equipment required for site operation includes 2 wood grinders, 4 trommel screens, 2 excavators, 5 loaders and 3 water trucks. Equipment was assumed to run 12-hours per day. Although some of this equipment may be electric powered, as a worst case it was all assumed to be diesel. For this analysis 90 truck trips and 20 employees were modeled with a one-way trip length of 40 miles (80 miles round trip).

Table III-7
 OPERATIONAL ACTIVITY EMISSIONS (LBS/DAY)

Source	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
Project Total	9.1	80.2	58.6	0.1	3.8	3.6
MDAQMD Threshold	137	137	548	137	82	82
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

Table III-8
 OPERATIONAL ACTIVITY EMISSIONS (TONS/YR)

Source	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
Project Total	1.19	10.43	7.62	0.02	0.50	0.47
MDAQMD Threshold	25	25	100	25	15	15
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

Tables III-7 and III-8 compare operational emissions to MDAQMD thresholds. As shown, operational emissions will be below respective thresholds. However, the following mitigation measures shall be implemented as recommended by the MDAQMD.

AIR-2 *Off-road diesel equipment operators shall be required to shut down their engines rather than idle for more than five minutes and shall ensure that all off-road equipment is compliant with the CARB in-use off-road diesel vehicle regulation.*

AIR-3 *All material transported off-site with dust blow off potential shall be sufficiently watered or securely covered to prevent excessive amounts of dust being generated.*

- c. *Less Than Significant With Mitigation Incorporated* – The evaluation presented in III(b) above addresses cumulative impacts of project emissions and the findings remain the same as outlined in the preceding text. Therefore, Mitigation Measures **AIR-1** through **AIR-3** shall be implemented. Thus, with mitigation, the proposed project would have a less than significant potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – The proposed project would generate minimal construction and operation related emissions. The proposed project would not emit hazardous or toxic emissions that would create an excess cancer risk of more than 10 in a million or a non-cancerous health index of more than 1.0. Therefore, With the implementation of Mitigation Measures **AIR-1** through **AIR-3** outlined under issue III(b), and **AIR-4** addressed under issue III(e) below, implementation of the Circle Green “Green Tech” Project is anticipated to have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations.
- e. *Less Than Significant With Mitigation Incorporated* – Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The nearest sensitive uses to the project site are the Lake Los Angeles

housing tract and Lake Los Angeles school which are more than 11-12 miles to the west. Most of the materials received would be green materials, local cow manures and food waste.

Odor is perhaps the most common problem associated with composting, and the failure to adequately address it has led to numerous neighbor complaints. Odor is a natural by-product of refuse handling and disposal. Odors may derive directly from the material being disposed (food waste, landscape material, etc.) or it may derive from the decay of organic material in chemical or biological processes. In most cases, the decay process generates the strongest or unpleasant odors. Factors affecting the odor include moisture, temperature, acidity, and oxygen supply. Since no container of refuse typically has an identical mix of waste, it does not have the identical set of odor-formation and therefore the resulting odors would vary greatly. In addition to the very complex character of refuse odor, people's odor sensitivity/acuity varies from person to person.

The project will utilize windrow composting which piles waste in long rows. To properly use a compost windrow turner, it is ideal to compost on a hard-surfaced pad as for this project which utilizes concrete pads. Aeration is important to allow proper air flow and make oxygen available to the microorganisms in the raw material. This also helps to maintain the moisture and the temperature in the windrows at the appropriate levels. Aeration depends on the size of the particles in the compost mix. Larger particle sizes and loosely packed material makes a compost pile highly porous, which increases air flow and reduces the accumulation of moisture. Small particles will be more compacted, making the flow of air more difficult. Oversized windrows will cause mechanical compaction of the compost, resulting in reduced porosity leading to anaerobic conditions.

There are several means to mitigate odor. These include chemicals and masking agents which are sprayed over a site or specific odor sources, chemical scrubbers which absorb or oxidize odorous gases by passing emissions through scrubbing solutions and biofilters which utilize natural microbial activity to break down odorous compounds. The following are some operational practices that can help in reducing anaerobic odors:

- **Mixing with coarse, dry bulking agents** helps to increase porosity and reduce moisture in the incoming material. If the materials accepted at a site are already anaerobic and odorous, they need to be combined promptly with coarse, dry bulking agents which will absorb any excess moisture, reduce the concentration of odoriferous material, and add porosity, which allows immediate oxygen penetration.
- **Turning the windrows** is very important for redistributing the moisture, providing aeration, and maintaining even temperatures. The optimum frequency of turning depends on how thoroughly materials are mixed initially, existing anaerobic conditions, and porosity of the windrows. Generally, windrows must be turned more frequently during the active stages of the composting process, especially if the moisture content is too high. On the other hand, excessive turning may reduce particle size, thus decreasing compost porosity and air flow.
- **Forced aeration** systems are utilized by some composting facilities to increase oxygen flow between turnings. Basically, these systems blow air deep into the windrows.
- **Sizing the windrows uniformly** facilitates oxygen diffusion and natural air convection. This practice is helpful whether using standard windrows or forced aeration windrow systems.
- **Placing an aerobic biofilter layer over the windrows** is a technique used to prevent the release of odors. Sometimes between turnings, pockets of anaerobic decomposition forms deep in the windrows. These pockets can cause odor problems when handling the composting material. The aerobic organisms in the biofilter layer will metabolize the compounds responsible for odors produced by the anaerobic organisms.
- **Enzymatic catalysts** can be used to degrade odorous compounds. These are normally applied to the surface of the compost windrow or sprayed in the airspace above it. These catalysts can be effective if incorporated evenly in the windrows and in low concentrations to prevent accidental kill of the aerobic microorganisms.

The success of any odor control system depends on the ability of the system to capture a high percentage of odorous emissions generated and the effectiveness of odor treatment. However, the potential for off-site odor impacts also depends on the dispersion patterns from an odor source. Dispersion is dependent on source parameters such as release height and atmospheric conditions including wind patterns. Odor emissions are diluted through atmospheric dispersion over large distances. For this project, given the 11-mile distance between the facility and sensitive uses it is unlikely that odors will cause a problem. Nevertheless, the following mitigation measure shall be implemented.

AIR-4 *Prior to the issuance of a building permit, the project applicant shall prepare an Odor Minimization Plan (OMP). The OMP must also describe a protocol for handling community complaints and must require that when a complaint is received, a facility representative must conduct an odor survey of the surrounding community as soon as practical after receiving the complaint. The results of the survey must be recorded in a log describing the odor and odor intensity, weather conditions, and the source of the odor if it is identifiable. The OMP must describe a protocol for responding and resolving odor complaints received from the surrounding community. The facility must post a contact sign indicating a contact phone number at the facility to call for questions or complaints.*

With implementation of this measure and distance separation between the site and sensitive uses the project is not projected to result in a significant odor impact. No further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: The following information is provided based on a study titled *"Biological Resources Assessment Circle Green "Green Tech" Project, 17900 Sheep Creek Road, San Bernardino County, California"* prepared by Jericho Systems, Inc. dated September 5, 2018 and provided as Appendix 2. The following information is abstracted from Appendix 2.

General Site Conditions

The entire 160-acre site is primarily characterized as bare ground, manure berms, piles and ground cover layers, concrete pads and footings. A north-south trending windrow of eucalyptus trees splits the site into western and eastern halves, each approximately 80 acres.

The western portion is primarily composed of two circular 25-acre circumference pivot irrigation fields, manure berms, two triangular catch basin reservoirs (each approximately 1.3 and 1.8 acres) situated between and just east of the irrigation fields, and a fallow 8.5-acre lot just north of the northern pivot irrigation field. This western half is almost exclusively bare ground with sparse weedy species (*Hirschfeldia incana*, *Salsola* sp.) distributed throughout.

The eastern half—which is where the Green Tech Park is proposed to be located—is also highly disturbed, with an approximately 1.4-acre catch basin reservoir, a residence and other structures including a solar farm and concrete pads. Approximately 80 percent of this section is composed of concrete pads with sparse weedy species (*Hirschfeldia incana*, *Salsola* sp.) growing within the cracks in the pads and in the catch basin. Bare ground and sparse weedy species constitute the remainder of this section.

Within the 200-foot buffer area around the site, the habitat is primarily composed of creosote bush scrub (*Larrea tridentata*) with varying degrees of disturbance along the north, south and west. Several animal species were observed throughout the Project site during the survey which included ravens (*Corvus corax*), mourning dove (*Zenaida macroura*), great-horned owl (*Bubo virginianus*), side-blotched lizard (*Uta stansburiana*), and domestic dog.

Burrowing Owl (BUOW)

BUOW are a State Species of Special Concern and are protected federally under the Migratory Bird Treaty Act. The pedestrian survey of the site was designed to visually detect BUOW and/or sign of BUOW use of the project site. No BUOW individuals or sign, including feathers, casting, whitewash, or burrows were observed in the survey. No suitable burrows were observed on the project site.

Due to the lack of burrow surrogates or mammal dens, the Project site does not contain suitable habitat for this species. However, once the catch basins, agricultural areas and fallow areas are inactive, these areas may pose attractive habitat for other burrowing species such as California ground squirrel, in which case the habitat would then be potentially suitable for BUOW.

Mohave Ground Squirrel (MGS)

MGS is listed as Threatened under the California Endangered Species Act (CESA). Although a focused Mohave ground squirrel trapping survey was not performed, Jericho conducted a Mohave ground squirrel habitat suitability assessment of the proposed project site. The pedestrian survey and review of reported occurrences of MGS in the region combined with adherence to the California Department of Fish and Wildlife's (CDFW) criteria for assessing potential impacts to the MGS.

The Project site is located within the historic range of the MGS but is outside of any MGS Conservation Areas. The site is also identified as within the San Bernardino County Biotic Resources area for Mohave ground squirrel. The site is within the historic range of the MGS, however, the site is fully disturbed and does not have the diverse native shrub layer required to support this species. No native habitat occurs on site, and no MGS were observed within the Project site or buffer area and none are expected to occur.

Desert Tortoise (DT)

DT is listed as Threatened under both the CESA and the Endangered Species Act (ESA). DT are known to occur in the general vicinity of the Project site. However, the Project site is fully disturbed, and no suitable habitat exists on the project. The survey of the project site did not locate any signs of DT. No burrows of sufficient size or appropriate aspect were observed during the survey. No DT are expected to occur on the Project site or within the buffer area.

- a. *Less Than Significant Impact* – Implementation of the Project does not have a potential for a significant adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) (*formerly Department of Fish and Game*) or U.S. Fish and Wildlife Service (USFWS). Based on a biological field survey of the site, the Biological Resources Assessment provided as Appendix 2 determined that because the site has been previously disturbed, and does not contain any suitable habitat for any Federal or State listed

species; however, BUOW do have the potential to move into the project area, as potentially suitable habitat exists onsite around the catch basins and fallow areas should species such as the California ground squirrels move onto the site and create burrows. Therefore, the following mitigation measure shall be implemented:

BIO-1 *In compliance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) the Project proponent shall ensure that a pre-construction burrowing owl survey is conducted at least 30 days prior to any proposed development on the western 80 acres of the project site (west of the Eucalyptus trees that bisect the site).*

With the implementation of the above mitigation measure, the project would have a less than significant impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. No further mitigation is necessary.

- b. *Less Than Significant Impact* – Implementation of the proposed project will not have an adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. This western half is almost exclusively bare ground with sparse weedy species (*Hirschfeldia incana*, *Salsola* sp.) distributed throughout. The eastern half—which is where the Green Tech Park is proposed to be located—is also highly disturbed, with approximately 80 percent of this section composed of concrete pads with sparse weedy species (*Hirschfeldia incana*, *Salsola* sp.) growing within the cracks in the pads and in the catch basin; bare ground and sparse weedy species constitute the remainder of this section. Based on the field survey conducted by Jericho Systems and the information contained in Appendix 2, no significant impacts to riparian habitat or other sensitive communities are anticipated to occur as a result of implementation of the proposed project.
- c. *No Impact* – According to the data gathered by Jericho Systems in Appendix 2, no federally protected wetlands occur within the project footprint. Therefore, implementation of the proposed project will have no potential to impact any federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – Based on the field survey of the project site, the Project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites. However, the State does protect all migratory and nesting native birds. No impacts to nesting or migratory birds have been identified in Appendix 2, with the exception evidence of suitable BUOW habitat for which mitigation measure BIO-1 has been identified to reduce impacts to a level of less than significant. Thus, the project area may include locations that function as nesting locations for native birds. To prevent interfering with native bird nesting, the following mitigation measure shall be implemented.

BIO-2 *The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the the State identified nesting season (Raptor nesting season is February 15 through July 31; and migratory bird nesting season is March 15 through September 1). Alternatively, the site shall be evaluated by a qualified biologist prior to the initiation of ground disturbance to determine the presence or absence of nesting birds. Active bird nests MUST be avoided during the nesting season. If an active nest is located in the project construction area it will be flagged and a 300-foot*

avoidance buffer placed around it. No activity shall occur within the 300-foot buffer until the young have fledged the nest.

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

- e. *No Impact* – Based on the field survey, the Project footprint does not contain any biological resources, such as trees, that might be protected by local policies or ordinances. Past disturbance from the former dairy has eliminated any trees or any other biotic resources that might be protected. As such, the site is bisected by several trees, mostly eucalyptus trees, that will remain in place with the development of the “Green Tech” Park. With no potential for conflicts with local policies or ordinances, no mitigation is required.
- f. *No Impact* – Implementation of the Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There are no applicable Habitat Conservation Plans or Natural Community Conservation Plans in effect within the unincorporated communities of Phelan/El Mirage within the County of San Bernardino. Based on this information, no further analysis is needed. No impacts are anticipated. No mitigation is required.

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

SUBSTANTIATION: The information utilized in this section of the Initial Study was obtained from the following technical study: "Historical/Archaeological Resources Survey Report, Green Tech Park Project, 17900 Sheep Creek Road, a portion of APN 0457-161-10, Phelan Piñon Hills Area, San Bernardino County, California" prepared by CRM TECH dated September 4, 2018 (Appendix 3).

Summary of the Finding

The purpose of the study is to provide the PPHCSD with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and carried out an intensive-level field survey of the entire project area. Through the various avenues of research, this study did not encounter any "historical resources" within the project area. Therefore, CRM TECH recommends to the PPHCSD a finding of *No Impact* on cultural resources, pending the completion of Native American consultation process by the City pursuant to Assembly Bill 52 to ensure the proper identification of potential "tribal cultural resources."

In light of the results of the study, CRM TECH recommends no further cultural resources investigation for the project unless development plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered inadvertently during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds. Human remains discovered during the project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98.

a&b. *Less Than Significant With Mitigation Incorporated* – CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

Per the above discussion and definition, as well as the information contained in Appendix 3, no historical or archaeological sites or isolates were recorded within the Project boundaries; thus, none of them requires further consideration during this study.

In light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the Project:

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

However, if buried cultural materials are discovered during any earth-moving operations associated with the Project, the following mitigation measure shall be implemented:

CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the District's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

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

- c. *Less Than Significant With Mitigation Incorporated* – The potential for discovering paleontological resources during development of the Project is considered highly unlikely based on the fact that the site has been previously engineered and disturbed at depth. No unique geologic features are known or suspected to occur on or beneath the sites. However, because these resources are located beneath the surface and can only be discovered as a result of ground disturbance activities, the following measure shall be implemented:

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

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

- d. *Less Than Significant Impact* – As noted in the discussion above, no available information suggests that human remains may occur within the Area of Potential Effect (APE) and the potential for such an occurrence is considered very low. Human remains discovered during the project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98, which is mandatory. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff and Coroner's Office receive notification if human remains are encountered. Compliance with these laws is considered adequate mitigation for potential impacts and no further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
<ul style="list-style-type: none"> Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Strong seismic ground shaking? 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Seismic-related ground failure, including liquefaction? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Landslides? 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. Ground Rupture

No Impact – According to the regulatory map obtained from the California Department of Conservation showing Alquist-Priolo Earthquake Fault Zones and other seismic hazards (Figure VI-1), the proposed project site is located in an area that has not been mapped as containing geologic hazards, and therefore is not located in an Alquist Priolo Earthquake Fault Zone. The nearest fault zone is approximately 15 miles to the south at the San Geronio Mountains. As such, the project site and general area do not contain any known faults, active or inactive. Therefore, no potential exists for the proposed project to experience any fault rupture along a delineated active fault.

Strong Seismic Ground Shaking

Less Than Significant Impact – The proposed project site, as with most of southern California, is in a seismically active area, and will most likely be subject to some groundshaking during the life of the Green Tech operations. According to the San Bernardino County Land Use Plan General Plan Geologic Hazard Overlay map (Figure VI-2), the proposed project is not located in close proximity to any delineated active faults. However, due to the proximity of the active San Andreas Fault, about fifteen miles to the south, and the active Helendale Fault, about fifteen miles to the northeast, the project site and area can be exposed to significant ground shaking during major earthquakes on either of these regional faults. Much of the project operations will occur in outdoor spaces, and no new structures will be developed to support the operation of the Green Tech, which presents minimal hazards from strong seismic ground shaking to humans working at the site. Therefore, impacts associated with strong ground shaking will be less than significant without mitigation.

Seismic-related Ground Failure Including Liquefaction

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

Landslides

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

- b. *Less Than Significant With Mitigation Incorporated* – During construction, it is not anticipated that much soil erosion will occur. The project currently contains three concrete pads that traverse the entire site from the northern border to the southern border. However, given the large stretches of dirt throughout the project site that may be disturbed during site clearing or during any potential grading activities, there is a potential for substantial short-term soil erosion. Because the project site has been previously compacted and has been developed as a dairy, the potential for substantial soil erosion or loss can be controlled to a less than significant impact level with the implementation of mitigation measures. Based on the mitigation listed below, best management practices (BMPs) will be employed during construction to minimize the potential for soil erosion impacts.

GEO-1 All disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Green Tech Park is being installed; this measure shall be carried forth into the operation phase of the Green Tech Park.

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

- c. *Less Than Significant Impact* – Refer to the discussion under VI(a) above. Potential instability associated with slope stability and liquefaction related to the project was determined to be negligible. The potential for shrinkage or subsidence at the site was determined to be limited as the project is not identified by the San Bernardino County General Plan, General Land Use Plan with Geologic Overlays (Figure VI-2) as being located within a liquefaction hazard zone. Additionally, the same Geologic Overlay map does not identify any landslide potential at or around the project site. Given that the project site has been previously developed with scattered, habitable structures, the potential for soil instability is minimal. Furthermore, much of the operation of the Green Tech Park within the project site will be located outdoors or within existing structures; no new habitable structures will be constructed as part of the proposed project. Therefore, the potential for the project to be located on a geologic unit or soil that is unstable or for the project to cause the soils to become unstable is considered less than significant. No mitigation is required.
- d. *No Impact* – According to the United States Department of Agriculture (USDA) Web Soil Survey Soil map prepared for the project site (Appendix 4), approximately 83 percent of the proposed project site is located on Manet Loamy Sand, Loamy Substratum 0 to 2 percent slopes, while the remaining approximately 16 percent of the proposed project site is located on Manet Coarse Sand 2 to 5 percent slopes. Expansive soils are generally of a clay type soil, not a sandy soil such as the Manet series soils that underlay the project site. Thus, based on the absence of clay-type soils on site, the proposed project would not 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 impacts are anticipated and no mitigation is required.
- e. *Less Than Significant Impact* – The Project does not propose any septic tanks or alternative wastewater disposal systems. As previously stated the proposed project is supported by stable soils, and based on the use of septic tanks or other alternative wastewater systems within the area, the soils are capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Furthermore, the Project will be required to continue to comply with the 2007 California Plumbing Code (Part 5, Title 24, California Code of Regulations), which sets parameters for private sewage disposal. Thus, with compliance of applicable California Code, any impacts under this issue are considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the *Air Quality and GHG Impact Analysis, Circle Green “Green Tech” Project, Phelan, California* prepared by Giroux and Associates dated July 25, 2018. This document is provided as Appendix 1 to this Initial Study.

a&b. *Less Than Significant Impact* –

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

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

Significance Thresholds

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

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

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.

- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

The California Air Resources Board (ARB) has developed an interim significance guideline for industrial projects or 7,000 metric tons (MT) of CO₂-equivalent (CO₂(e)) per year. Composting is not strictly an “industrial” process. However, in the absence of any adopted significance thresholds, this screening level will be used in the following analysis.

Project Related GHG Emissions Generated

Construction Activity GHG Emissions

During project construction, the CalEEMod computer model predicts that the indicated activities could generate 238.7 MT CO₂(e) in 2019. For screening purposes, the temporary construction activity GHG emissions were compared to the chronic operational emissions in the ARB’s interim thresholds. The screening level operational threshold is 7,000 MT CO₂(e) per year. Worst year construction activities generating a total of 238.7 MT CO₂(e) are well below this threshold.

Operational Activity GHG Emissions

Operational emissions include on-site diesel equipment used for operations, employee commuting and on-road truck haul emissions. According to CalEEMod the annual emissions will be 1,480 CO₂(e). Again, this is less than the 7,000 CO₂(e) threshold.

Therefore, impacts under these issues are considered less than significant given that the greenhouse gas emissions for construction and operation of the proposed project are well below thresholds.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

a&b. *Less Than Significant With Mitigation Incorporated* – The Project should not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; but it may create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment during construction. During construction there may be a potential for accidental release of petroleum products in sufficient quantity to pose a significant hazard to people or the environment. The following mitigation measure will be incorporated into the SWPPP prepared for the Project and it can reduce such a hazard to a less than significant level.

HAZ-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations

regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the Project development.

The proposed project will consist of developing a new green, food, and manure waste composting facility. The facility will process green, food, and manure waste for composting purposes. All materials will be handled according to Federal and State regulations. The facility is not anticipated to involve significant potential for routine transport or use of substantial volumes of hazardous materials or routine generation of hazardous wastes as the composted product is not considered hazardous once the onsite treatment has been completed. Any impacts are considered less than significant. No further mitigation is required.

- c. *No Impact* – The nearest school to the proposed project site—the El Mirage School—is located more than 2 miles northwest of the project site. Given that the proposed project will not emit hazardous emissions or utilize or produce any acutely hazardous materials, substances, or waste, and that there are no existing or proposed schools located within one-quarter mile of the project site, no impacts under this issue are anticipated and no mitigation is required.
- d. *Less Than Significant Impact* – The proposed project is located on a former dairy. The proposed project will not be located on a site that is included on a list of hazardous materials sites. The GeoTracker records were reviewed (consistent with Government Code Section 65962.5) and no contaminated sites are located within 3,000 feet of the project location (Figure VIII-1). The former Meadowbrook Dairy has been identified by the GeoTracker records as a Historical Confined Animal Facility (Figure VIII-2), but is not designated as a hazardous material site. The nearest Cleanup Program Site that is still undergoing remediation efforts is the Docummun Aerostructures groundwater contamination site, which is a few miles north of the project site near the intersection of Sheep Creek Road and El Mirage Road. This site has no potential to create a hazard that would affect the operations of the proposed Green Tech facility. Therefore, the proposed Green Tech facility is not anticipated to have a substantial potential to create a significant hazard to the population or to the environment from their implementation. No mitigation is required.
- e. *No Impact* – According to a review of Google Maps (January 13, 2016), the closest public airport to the project site is the Southern California Logistics Airport, which is located 10 miles to the east/northeast of the Project sites. Based on this information, implementation of the Project will not result in a safety hazard for people residing or working in the project area. No impacts are anticipated and no mitigation is required.
- f. *Less Than Significant Impact* – According to a review of Google Maps (January 13, 2016), the El Mirage Airport, Krey Field, and Brian Ranch Airport are all located between 1.5 and 5 miles from the project sites. Due to the distance from these private airports (between 1.5 and 5 miles) and the lack of any habitable structures on the project sites, implementation of the Project will not result in an exposure to a safety hazard for the people working in the project area.
- g. *Less Than Significant Impact* – The proposed project is located along Sheep Creek Road within an established site that previously operated as the Meadowbrook Dairy. The project is bound by Sheep Creek Road to the east and by Parkdale Road and Bartlett Avenue, which are dirt roadways. A limited potential to interfere with an emergency response or evacuation plan will occur during construction. Control of access during construction will ensure emergency access to the sites and project areas during construction. No known emergency response or evacuation plans or routes are known to exist in the vicinity of the Project and no such plans will be affected by this Project. Therefore, impacts under this issue are considered less than significant, no mitigation is required.

- h. *No Impact* – The proposed project is located in a wildland fire hazard area, but according to Section 8 – Safety of the Phelan/Piñon Hills Community Plan (p.54)³, fire hazard severity is very high only in limited areas, south of Highway 138. The fire threat throughout most of the community plan area is considered moderate. The proposed Green Tech Park would not expose people or structures to a significant risk of loss, injury or death involving wildland fires as they are not located in the vicinity of the high wildland fire hazard area. The project site is listed by Section 8 of the Safety of the Phelan/Piñon Hills Community Plan as being located in an area without sufficient fuel load to pose a wildland fire hazard. No impacts are anticipated and no mitigation is required.

³ <http://www.sbcounty.gov/Uploads/lus/CommunityPlans/PhelanPinonHillsCP.pdf>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – The process of installing the Green Tech facility, which will consist of a green, food, and manure waste composting facility, includes construction activities that could result in erosion and sedimentation due to future runoff from the disturbed areas within the Facility. Compliance with the following mitigation measure will control future nonpoint source pollutant discharges from the project site. Implementation of this measure in conjunction with the State Water Resources Control Board and NPDES program would reduce the

impact to the issue of erosion and sedimentation to less than significant. The most critical component of the SWPPP that will be implemented is to control all runoff during construction and operation to ensure that no sediment or any pollutant discharges are released into the general environment. These measures are intended to be complementary, not incremental.

HYD-1 *The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will be implemented to prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite. The SWPPP shall be developed with the goal of achieving a reduction in pollutants both during and following construction to control storm water runoff to the maximum extent practicable based on available, feasible best management practices.*

The following BMPs or comparable measures shall be included in the SWPPP during construction:

- *Stockpiled material should not be stored in areas which are subject to the erosive flows of water.*
- *Measures such as the use of straw bales, sandbags, silt fencing or detention basins shall be used to capture and hold eroded material for future cleanup.*
- *Rainfall will be prevented from entering material and waste storage areas and pollution-laden surfaces.*
- *Construction-related contaminants will be prevented from leaving the site and polluting waterways.*
- *A spill prevention control and countermeasures and remediation plan shall be in place and implemented to control release of hazardous substances.*

Additionally, the proposed Green Tech facility will be subject to General Waste Discharge Requirements for Composting Operations. Included in these requirements, as well as the requirements outlined above are prescriptive and performance standards for subgrades, storm water storage and conveyance, and monitoring that will be adhered to as part of construction and operation. There will be no offsite discharges of storm water runoff. The entirety of the project site is located on low permeability native soils that are very stable to minimize settling. The project site is currently developed to direct drainage toward the runoff catch basin located at the northern border of the project site. The project will be developed to promote drainage away from the compost facility areas to collect and convey storm water to effectively control contact water. Therefore, with implementation of the above mitigation measure, as well as the mandatory requirements outlined above, the project will have a less than significant potential to violate any water quality standards or waste discharge requirements.

- b. *Less Than Significant Impact* – The proposed Project will not adversely impact groundwater resources. Excavation will require small quantities of water to control fugitive dust and this can be provided from an existing on-site water well. According to data gathered from the United States Geologic Survey (USGS) California Water Science Center⁴, the project is located in the Mojave River Groundwater Basin, and the depth to groundwater is approximately 297 feet at nearby wells. Additionally, according to the Mojave Water Agency's data regarding well production in the Oeste Subarea of the Mojave River Groundwater Basin⁵, during the 2016-2017 water year, 3,185 acre feet (AF) of water was produced from wells in the Oeste Subarea, which is the Subarea that

⁴ <https://ca.water.usgs.gov/mojave/mojave-water-data.html>

⁵ <http://www.mojavewater.org/oeste-subarea-production.html>

overlaps the project site. Most of the wells in this subarea produce between 201-400 AF per year (AFY). In the short term, if any potable water must be used it will be such a small quantity (about 5,000 gallons per day of construction/grading) that no significant effect on the Mojave River Groundwater Basin is anticipated. The amount of water required per day to support the operation of the proposed Green Tech Park is anticipated to be approximately 1,000 gallons of water per day. Based on the production of wells within the area, the onsite well is anticipated to be capable of supplying this quantity of water reliably for the Green Tech operations without substantially depleting groundwater. This is because the project is anticipated to require less than 2 AFY, which is substantially below the average water production of wells within the area.

Furthermore, groundwater contamination from the proposed composting operation is considered unlikely due to the great distance of the groundwater from the surface of the project site (approximately 297 below ground surface [bgs]). Additionally, the compost windrows will be developed on concrete, which will eliminate the potential to contaminate the groundwater; this is considered a standard requirement of compost facilities by the Lahontan Regional Water Quality Control Board (RWQCB). The proposed project will comply with the RWQCB standards and therefore has a less than significant potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. No mitigation is required.

- c. *Less Than Significant Impact* – Impacts to the existing drainage pattern of the site or area could occur if development of the project results in substantial on- or off- site erosion or siltation. The project site currently contains remnants of the Meadowbrook Dairy, which is a developed project site. Because the project site was formerly a dairy, stormwater runoff management has been developed within the project site. The new Green Tech Park will utilize and improve the existing stormwater runoff management mechanism, which includes a water quality management basin on the northern border of the site. As stated under issue IX(a) above, there will be no offsite discharges of storm water runoff. The project will be developed to promote drainage away from the compost facility areas to collect and convey storm water to effectively control contact water. Therefore, the proposed project will not substantially increase discharge to nearby roadways or regional drainage systems. Therefore, implementation of the Project will not substantially alter the drainage pattern of the site in a manner that would result in substantial erosion or siltation onsite or offsite due to the construction of onsite drainage management facilities. Any impacts under this issue are considered less than significant. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – Please refer to response IX(c) above. Impacts to the existing drainage pattern of the site or area could occur if the development of the project results in an increased amount of flooding onsite or offsite. As stated above, the project site currently contains remnants of the Meadowbrook Dairy. During construction, runoff will be managed through implementation of a SWPPP and Water Quality Management Plan (WQMP), and implementation of mitigation measure HAZ-1 and HYD-1, which will ensure that the project site is not substantially altered during construction, such that the rate or amount of surface runoff would not result in flooding onsite or offsite. Once constructed, the project will manage runoff through improving an existing stormwater runoff management drainage pattern, which will prevent onsite flooding. There will be no offsite drainage discharge of runoff from the project site, and therefore there will not be flooding offsite. Therefore, given that the construction required to develop the site as the proposed Green Tech composting facility is minimal, the project is not anticipated to substantially alter the drainage pattern of the site in a manner which would result in onsite or offsite flooding. Implementation of mitigation measures **HAZ-1** and **HYD-1** will ensure that impacts are less than significant. No further mitigation is required.
- e. *Less Than Significant With Mitigation Incorporated* – As indicated under issues IX(a), IX(c) and IX(d) above, the project will not substantially create or contribute runoff water that would exceed the capacity of existing or planned stormwater capacity, or provide substantial additional sources of

polluted water, particularly because the site plan includes improving existing stormwater runoff management mechanisms that will collect onsite runoff and ensure that polluted runoff does not leave the site. The proposed project would develop a green, food, and manure waste composting facility. The former dairy included stormwater runoff management as part of the original site design. The proposed project does not include the development of any new structures, but will create outdoor compost windrows that may alter the site in a manner that will require the Applicant to modify the drainage pattern on site to maintain similar stormwater runoff management. The project will continue to collect all onsite runoff within the boundaries of the 160-acre project site. No runoff will be discharged off-site. Therefore, with the implementation of mitigation measures **HAZ-1** and **HYD-1**, the proposed project would have a less than significant potential to generate runoff water that would exceed the capacity of existing or planned stormwater capacity, or provide substantial additional sources of polluted water. No further mitigation is required.

- f. *No Impact* – There are no other conditions associated with the proposed Project beyond what is described above under responses to item IX(c), IX(d), and IX(e) above, that could result in the substantial degradation of water quality. Therefore, no additional impacts are anticipated under this issue.
- g&h. *No Impact* – The project proposes to develop a Green Tech Park— green, food, and manure waste —within a former dairy site. No housing is proposed as part of the project, though there is an existing residence that is currently occupied on the project site. According to the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) Panel 06074C5775H (Figure IX-1), the proposed project site is not located in a 100-year flood hazard area; it is located in an area designated as Zone D, which is considered to be an Area of Undetermined Flood Hazard. With no known flood hazards at the project site, and no water features nearby that would cause substantial flooding, development of the Green Tech Park would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or impede or redirect flood flows as none would occur at the project site. No impacts are anticipated and no mitigation is required.
- i. *No Impact* – According to the San Bernardino County Land Use Plan General Plan Hazard Overlay Map depicting the project area, the proposed project is not located in an area susceptible to dam inundation (Figure IX-2). Therefore, dam inundation is not likely, and implementation of the proposed project would not expose people or structures to any significant or greater risk of loss, injury, or death involving flooding as a result of a levee or dam to risk than that which presently exists at the site. No mitigation is required.
- j. *No Impact* – The project is located more than 70 miles from the Pacific Ocean, which eliminates the potential for a tsunami to impact the project area. Additionally, a seiche would not occur within the vicinity of the project because no lakes or enclosed bodies of water exist near the site that could be impacted by such an event. Mudflow typically occurs on hillsides, and as the project is located on flat lot, no such events are likely to occur within the project area. Therefore, no impacts under this issue are anticipated, and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – According to the San Bernardino County General Plan Land Use Services Zoning Look Up interactive website⁶, the proposed project site is zoned for Agriculture and Rural Living, and the land use designation is Agriculture. The project site was previously used as the Meadowbrook Dairy and the proposed project would develop the site as a green, food, and manure waste composting facility. This proposed use would not physically divide an established community as the area surrounding the project site is sparsely developed and the proposed use of the site is considered a permissible use, provided the applicant acquires a Conditional Use Permit. Since the proposed project occurs within and supports existing land use designations, no potential exists for the proposed project to physically divide an existing community. No impact will result and no mitigation is required.
- b. *Less Than Significant Impact* – As stated under issue X(a) above, the proposed project is zoned for Agriculture and Rural Living, and the land use designation is Agriculture. The County will require a Conditional Use Permit for the proposed Green Tech facility to be developed at the former dairy. With approval of the CUP application on this property, the proposed Green Tech facility will be fully consistent with both the General Plan designation and zone classification for the project site. Therefore, the implementation of this Project at this site will be consistent with surrounding land uses, and current use of the site. Based on this information, implementation of the proposed green, food, and manure waste composting facility would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Any impacts under this issue are considered less than significant and no mitigation is required.
- c. *No Impact* – Please reference the discussion in IV, Biological Resources, above. There are no habitat or natural community conservation plans that apply to the project area. Therefore, no potential exists for the proposed Project to conflict with such plans.

⁶<http://sbcounty.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=b3a8d3286a6b41d7ad2b80e871a4e048>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION:

- a. *Less Than Significant Impact* – Implementation of the Project will not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of the state. According to the Geologic Map of the San Bernardino Quadrangle from the California Department of Conservation⁷, the Project site is located on alluvial soils. Alluvial soils are not a unique soil classification in the Project vicinity, as well as in southern California. In addition, the project site was formerly a dairy, and as such, neither the project site nor surrounding vicinity have been mined in the past. If mineral resources were present on the project site, then there would have been historic operations on the project site to commercially extract these resources. Based on this information, no impacts to mineral resources from implementing the project are anticipated. No mitigation is required.
- b. *Less Than Significant Impact* – Please reference response XI(a) above. While the General Plan does contain Goals and Policies that related to mineral resources (Goal CO7, Policies CO7.1 through CO7.8, pp. V-32 and V-33 of the San Bernardino County General Plan)⁸, the project site has not been historically mined for important mineral resources. No specific plan or other land use plan is in place that would delineate important mineral resources on the project site. Based on this information, no impacts to mineral resources from implementing the project are anticipated. No mitigation is required.

⁷<http://www.quake.ca.gov/gmaps/RGM/sanbernardino/sanbernardino.html>

⁸<http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGPtext20130718.pdf>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Background

Noise is generally described as unwanted sound. The proposed Green Tech Park includes a green, food, and manure waste composting facility. The proposed project is located in a rural area with sparse residential development in the surrounding area. There is a residence within the project site that is currently leased from the District that is occupied by the property caretaker. This residence has been in place since the former dairy was in operation. The nearest residence/sensitive receptor outside of the project site is across the street from the proposed project on Sheep Creek Road—approximately 125 feet from the boundary of the proposed project.

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

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

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA (A-weighted decibel) increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project site is located in a relatively low background noise environments. Local sources of noise include modest traffic along Sheep Creek Road, and minimal traffic along Parkdale Road and Bartlett Road. Traffic along Parkdale Road and Bartlett Road is minimal because these roadways are dirt roadways that provide local access to rural residences in the area. Based on the limited traffic, background noise is estimated at about 45-50 dBA over a 24-hour period using the Community Noise Equivalent Level (CNEL). The proposed project site was previously a dairy, which would have contributed noise to the rural setting in which the site is located.

Short-term construction noise impacts associated with the proposed project will occur in phases dominated by concrete laying equipment and small structural construction equipment. The earth-moving sources are the noisiest type of equipment typically ranging from 82 to 85 dB at 50 feet from the source. Temporary construction noise is exempt from the County Noise Performance Standards between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The proposed project would be constructed in compliance with the County's Noise Performance Standards, and therefore construction of the project would be less than significant. However, to minimize the noise generated on the site to the extent feasible, the following mitigation measures shall be implemented:

- NOI-1** *All construction vehicles and fixed or mobile equipment shall be equipped with properly operating and maintained mufflers.*
- NOI-2** *All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.*
- NOI-3** *No construction activities shall occur during the hours of 7 PM through 7 AM, Monday through Friday, and 5 PM and 9 AM Saturdays; at no time shall construction activities occur on Sundays or holidays, unless a declared emergency exists.*
- NOI-4** *Equipment not in use for five minutes shall be shut off.*
- NOI-5** *Equipment shall be maintained and operated such that loads are secured from rattling or banging.*
- NOI-6** *Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.*

- NOI-7** *The District will require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities.*
- NOI-8** *If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation shall be taken into account), portable noise barriers shall be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds.*
- NOI-9** *Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example on the north- or south-west corners of the project site.*
- NOI-10** *The Applicant shall use noise reducing barriers and other devices to reduce exterior noise levels at the nearest sensitive receptor (where they occur) to 60 CNEL or less during the night-time construction hours (in the event that any emergency night-time construction hours become necessary) and 65 CNEL or less during the daytime construction hours.*
- NOI-11** *The District will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. A sign shall be placed where nearby residents can read it and identify a point of contact at the District to make a noise complaint. If the noise level exceeds an Ldn of 65 dBA exterior or an Ldn of 45 dBA interior at the receptor, the District will implement adequate measures to reduce noise levels to the acceptable thresholds, including scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.*

During operation of the proposed project, noise generated from the compost facility will be greater than that which exists at the former dairy site at present. The proposed green, food, and manure waste composting facility will be constructed on the northwestern corner of the project site, which is removed from the nearest off-site residence by approximately 700 feet. As stated above, noise attenuates at a rate of approximately 6 to 7 decibels per doubling of distance. Much like construction noise, the equipment required to operate the compost facility will generate some noise, anticipated to range from approximately 75 dBA to 85 dBA at 50 feet from the source. Given the distance from the nearest residence to the area in which the compost facility operations will occur, the noise environment at the nearest resident will be well within the levels deemed acceptable by the County of San Bernardino. According to the County of San Bernardino Development Code, the maximum acceptable stationary noise level at Residential land uses between the hours of 7 a.m. and 10 p.m. is 55 dBA, and 45 dBA between the hours of 10 p.m. and 7 a.m. Additionally, the San Bernardino County Development Code has standards for adjacent mobile noise sources: Interior 45 (day-night average sound level (Ldn) dBA and Exterior 60 Ldn dBA. The proposed project is anticipated to generate noise in the evenings, and during the daytime. Because of this noise levels at the nearest off-site sensitive receptor may occasionally exceed County noise standards. In order to reduce the noise level increase at off-site sensitive receptors to below a level of significance, the following mitigation shall be required.

- NOI-12** *Where the proposed Project will cause a significant noise level increase as defined by the County of San Bernardino Development Code, the proposed project shall implement supplemental noise controls designed to reduce noise level impacts below the applicable level of significance at all legal*

conforming use residential dwellings. Supplemental noise controls may include exterior noise walls or structural retrofits. Structural retrofits could include upgraded dual-paned windows, air conditioning, wall insulation or other methods acceptable to the property owner that can be demonstrated to reduce the noise impact below a level of significance.

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

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

The background vibration-velocity level in residential areas is generally 50 VdB; levels would generally be considered even less in rural areas such as the area surrounding the project footprint. Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration, but is generally associated with pile driving and rock blasting. Other construction equipment, such as air compressors, light trucks, hydraulic loaders, etc. generates little or no ground vibration. While no enforceable regulations for vibration exist within the County of San Bernardino, the Federal Transit Association (FTA) guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential Project related vibration impacts. Given the distance between where the ground disturbance activities will be located, and the distance to the nearest sensitive receptor (greater than 125 feet at any given point within the project site), it is not anticipated that vibration from either construction or operation activities would reach any nearby residences. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.

- c. *Less Than Significant With Mitigation Incorporated* – The proposed project would involve some change in the existing noise environment. As stated under issue XII(a) above, the San Bernardino County Development Code indicates that the maximum acceptable stationary noise level at Residential land uses between the hours of 7 a.m. and 10 p.m. is 55 dBA, and 45 dBA between the hours of 10 p.m. and 7 a.m. Additionally, the San Bernardino County Development Code has standards for adjacent mobile noise sources: Interior 45 Ldn dBA and Exterior 60 Ldn dBA. The proposed project is located within a rural, low baseline noise level setting, and the composting activities may involve some heavy equipment usage. The equipment used in the composting activities would generate noise intermittently to support the composting operations at similar levels to that which would be generated by the construction equipment outlined in Table XII-1 below, which lists noise levels of construction equipment at 25, 50, and 100 feet from the source. The compost operations are anticipated to occur approximately 700 feet from the nearest sensitive receptor. Though noise from the compost operations at this distance may attenuate to an acceptable level at the nearest sensitive receptor, given the stringent noise standards outlined in the County of San Bernardino Development Code, mitigation measure **NOI-12** above has been identified to prevent impacts to nearby sensitive receptors, particularly because some of the composting operations may occur during night-time hours. Therefore, though the project will

increase the baseline noise level at the project site due to operation of the Green Tech composting facility, it is not anticipated that the project will result in a substantial permanent increase in ambient noise levels in the project vicinity due to the distance of operational activities to the nearest sensitive receptors because mitigation has been identified to prevent significant impacts from occurring. Impacts under this issue are considered less than significant with mitigation incorporated.

- d. *Less Than Significant With Mitigation Incorporated* – During construction, the proposed Project would cause a temporary increase in ambient noise levels in the project vicinity. Refer to the discussion under issue XII(a) above. The proposed project will involve construction operations that have the potential to cause short-term significant noise impacts. In the short term, construction of the Green Tech facilities will result in noise generated by concrete mixers and pumps, air compressors, generators, and other noise making equipment required to complete construction. Construction equipment generates noise that ranges between approximately 75 and 90 dBA at a distance of 50 feet. Refer to Table XII-1, which shows construction equipment noise levels at 25, 50 and 100 feet from the noise source. However, noise generation from construction activities is exempt from County performance standards if construction does not occur from 7 p.m. through 7 a.m., and on Sundays and Federal holidays. Given that the proposed project would be constructed in compliance with the County's Noise Performance Standards, and that mitigation measures **NOI-1 through NOI-11** will be implemented as outlined under issue XII(a) above, the impacts under this issue are considered less than significant.
- e. *No Impact* – The proposed Green Tech site is not 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. According to a review of Google Maps (June 4, 2018), the closest public airport to the project site is the Southern California Logistics Airport, which is located 10 miles to the east/northeast of the Project sites. Based on this information, the Project will have no potential to expose people residing or working in the project area to excessive noise levels generated by nearby aircraft or airport operations. No impacts are anticipated and no mitigation is required.
- f. *Less Than Significant Impact* – According to a review of Google Maps (June 4, 2018), the El Mirage Field Adelanto Airport is located approximately 6 miles north of the project site and the Gray Butte Field Airport is located approximately 6 miles east of the project site, and Krey Field is located approximately 2 miles east of the project site. There is a potential for overflights because of the project's general vicinity to private airfields; however, due to the distance of the proposed project from the nearby airports, as well as the limited number of flights these air fields handle each day, it is not anticipated that future employees working at the proposed Green Tech Park would be adversely impacted by excessive noise generated from nearby airfields. Therefore, any impacts are considered less than significant. No mitigation is required.

**Table XII-1
 NOISE LEVELS OF CONSTRUCTION EQUIPMENT AT
 25, 50, AND 100 FEET (in dBA LEQ) FROM THE SOURCE**

Equipment	Noise Levels at 25 feet	Noise Levels at 50 feet	Noise Levels at 100 feet
Earthmoving			
Front Loader	85	79	73
Backhoes	86	80	74
Dozers	86	80	74
Tractors	86	80	74
Scrapers	91	85	79
Trucks	91	85	79
Material Handling			
Concrete Mixer	91	85	79
Concrete Pump	88	82	76
Crane	89	83	77
Derrick	94	88	82
Stationary Sources			
Pumps	82	79	70
Generator	84	78	72
Compressors	87	81	75
Other			
Saws	84	78	72
Vibrators	82	76	70

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed Green Tech Park is anticipated to employ approximately 20 persons once in operation; additionally, the project would require a temporary construction work force of approximately 20 persons. It is unknown whether the new employees will be drawn from the general area or will bring new residents to the project area. According to the Southern California Association of Governments (SCAG), the total population within unincorporated San Bernardino County was 309,759 persons in 2016⁹, or 14.5% of the overall County population of 2,139,570. According to the County of San Bernardino General Plan, the population within the County is anticipated to grow to 2,830,000 by 2020¹⁰, which can be translated to an approximate unincorporated population of 410,350 ($0.145 \times 2,830,000 = 410,350$) by 2020. Therefore, the proposed project would create a potential for 20 more opportunities for employment, which is only an increase in population of 0.0049% if each of the 20 new workers are new residents to unincorporated San Bernardino County. Given that the County General Plan indicates that the planned population is anticipated to grow by 100,591 from the 2016 population, the potential increase in residents is well within the planned population growth within unincorporated San Bernardino County. Thus, based on the type of project (commercial business) and the small increment of potential population the population generation associated with project implementation, the proposed project will not induce substantial population growth that exceeds either local or regional projections.
- b&c. *No Impact* – There is once occupied residence within the project site that is currently occupied by the site care-taker. This residence will remain occupied with a site care-taker and will be unaltered by the project as proposed. Therefore, implementation of the proposed project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impacts will occur; therefore, no mitigation is required.

⁹ <https://www.scag.ca.gov/Documents/UnIncAreaSanBernardinoCounty.pdf>

¹⁰ <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

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

SUBSTANTIATION

- a. *Less Than Significant Impact* – The nearest fire station to the proposed project is located approximately 1.5 miles northwest of the project site; San Bernardino County Fire Station #11 is located at 2929 El Mirage Road, El Mirage, CA 92301. The San Bernardino County Fire Department (SBCFD) provides fire protection and emergency medical services for the Communities of Phelan and El Mirage. The Green Tech Facility has some potential for random fire events during operations, but Green Tech will be served by large equipment that is available to combat a fire that ignites in compost materials. The staff would use this equipment to spread any burning material and apply water to put out the fire. It would take less than 5 minutes for SBCFD to reach the site from Station #11. Based on the above information, the proposed Project does not pose a significant fire hazard, nor is the proposed Project forecast to cause a significant demand for fire protection services. The County will require standard building construction techniques for the new structures to minimize fire hazard, and standard conditions will be imposed to ensure adequate fire flow at the new facilities. These requirements are considered adequate measures to prevent any significant impacts under this issue, thus no mitigation is required.
- b. *Less Than Significant Impact* – The Communities of Phelan and El Mirage receive police services through the San Bernardino County Sheriff Department. The Department enforces local, state, and federal laws; performs investigations and makes arrests; administers emergency medical treatment; and responds to County emergencies. The sheriff station is located at 4050 Phelan Road, Phelan, CA 92371. The proposed Project will not include the kind of uses or activities that would likely attract criminal activity, except for random trespass and theft; however, any random trespass is unlikely given that the facility is currently fenced and will remain fenced to control access, and the type of activities that are proposed to occur at the site do not typically attract criminal activities. Therefore, due to the proposed use of the project site, implementation of the proposed project would not substantially increase the demand for law enforcement services beyond that already existing at the project site.
- c. *Less Than Significant Impact* – The proposed project is anticipated to employ a maximum of 20 persons. The project is not anticipated to generate any new direct demand for the area schools. The proposed project may place additional demand on school facilities, but such demand would be indirect and speculative. The Phelan/Piñon Hills and El Mirage Communities are served by the

Snowline Joint Unified School District. The State of California requires a portion of the cost of construction of public schools to be paid through a fee collected on residential, commercial, and industrial developments. The development impact fee mitigation program of the Snowline Joint Unified School District adequately provides for mitigating the impacts of the proposed project in accordance with current state law. No other mitigation is identified or needed. Since this is a mandatory requirement, no mitigation measures are required to reduce school impacts of the proposed project to a less than significant level.

- d. *Less Than Significant Impact* – The proposed project will not directly add to the existing demand on local recreational facilities. The project will develop a Green Tech Park with green, food, and manure waste composting facilities, which will result in the creation of approximately 20 new jobs. The project is not anticipated to generate any new direct demand for parks within the County, as project would have a minimal potential to induce substantial population growth within the County. According to the Phelan Piñon Hills Community Plan, the parks and trails in the area consist of the following: San Bernardino County maintained trails, vast open space used for off-roading and other uses, and the San Bernardino National Forest is nearby and frequently traveled to from the Phelan/Piñon Hills/El Mirage Community area¹¹. The provision of parks within the County is provided through Park Development Impact Fees (DIF) on new development. Additionally, the project will contribute property and sales taxes to the general fund to offset the minimal potential for increased demand for park and recreation services within the County that may result from implementation of the proposed project. Thus, the proposed project will have a less than significant impact to parks and recreation facilities.
- e. *Less Than Significant Impact* – Other public facilities include library and general municipal services. Since the Project will not directly induce substantial population growth, it is not forecast that the use of such facilities will substantially increase as a result of the proposed project. The project will contribute to contribute to the County's General Fund through payment of property and sales tax, which is considered sufficient to offset any impacts to other public facilities as a result of implementing the Project. Thus, any impacts under this issue are considered less than significant, and no mitigation is required.

¹¹<http://countywideplan.com/wp-content/uploads/2017/08/PhelanPinonHillsCommunityPlanDRAFT.pdf>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – As addressed in the discussion under XIII and XVI(d) above, the proposed Project does not include a use that would substantially induce population growth. As stated in the discussion under Population and Housing, the project would create approximately 20 jobs at the new Green Tech Park; however, it is unknown what portion of the employees will be new residents. The proposed project will contribute to the County's General Fund through payment of property and sales tax. Given that the proposed Green Tech Park would not induce substantial population growth, and the availability of open space for recreational use in the surrounding area, the project is not anticipated to result in a substantial increase in the use of existing park and recreation facilities. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.
- b. *No Impact* – The previous use at the proposed project site was as the Meadowbrook Dairy, which does not include any recreational facilities. The proposed Green Tech Park will consist of a green, food, and manure waste composting facility. No recreational facilities are proposed or required by the Project and therefore, the proposed project is not anticipated to cause an adverse physical effect on the environment as a result of construction or expansion of recreational facilities.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. TRANSPORTATION / TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

a&b. *Less Than Significant Impact* – The proposed project is located within the community of El Mirage/Phelan along Sheep Creek Road. Sheep Creek Road is a paved two-lane major north-south roadway within the community that is maintained by the San Bernardino County Public Works Department. The San Bernardino County Transportation Authority 2016 Congestion Management Program¹² indicates the Level of Service (LOS) of Sheep Creek Road from El Mirage Road to State Route 18 (north- and south- bound) are operating at a LOS of “B” at both AM and PM peak hours. The County of San Bernardino considers a LOS of “E” to be unacceptable. Two lane rural roads can handle average daily traffic (ADT) of about 6,000 vehicles per day.

Construction activity will require no more than an average of about 35 round trips per day for a period of approximately 80 days to the project site, which includes employee trips to the project site. Additionally, expanding the concrete pads it anticipated to require up to concrete laying activities would require 73 days and 1,803 concrete truck round trips (25 round trips per day maximum). Once in operation, it is anticipated the Green Park will receive approximately 95 truckloads of food, manure, green waste and soil amendments per day. Additionally, 15-20 employee trips to the project per day are anticipated. The construction traffic is considered minimal and it not anticipated

¹² <http://www.gosbcta.com/sbcta/plans-projects/CMP/CMP16-Complete-061416.pdf>

to lower the LOS levels within this roadway segment or surrounding segments to an unacceptable level. Once in operation, it is anticipated that 4 vehicle trips per hour per day on average will occur during operation of the Green Tech Park; this is because the truck trips are anticipated to occur during a 24-hour period. Additionally, it is anticipated that many of the truck trips will not occur during peak AM or PM hours because, in general, when able truck drivers travel during off-peak hours to avoid traffic jams on adjacent freeways. Given the acceptable LOS of this segment of roadway, as well as of the roadways surrounding the project site, it is anticipated that the acceptable levels of service of these roadways will be maintained with implementation of the proposed project. Therefore, implementation of the project has a less than significant potential to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Similarly, the project has a less than significant potential to conflict with an applicable congestion management program. No mitigation is required.

- c. *No Impact* – The Project will not generate any increase in air traffic volumes or affect air traffic patterns. The nearest airports are private airfields, El Mirage Airport, Krey Field, and Brian Ranch Airport are all located between 1.5 and 5 miles from the project. The compost piles will be no more than 20 feet in height, and the project site itself contains structures of similar height. Mitigation for light and glare is included above in the Aesthetics Section of this Initial Study. This, along with compliance with the County of San Bernardino Municipal Code, will ensure that implementation of the Project will not create light and glare impacts that could affect air traffic. Therefore, the implementation of this Project will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. No impacts are anticipated. No mitigation is required.
- d. *Less Than Significant Impact* – The proposed project is located along Sheep Creek Road, which is a paved two-lane major north-south roadway within the community that is maintained by the San Bernardino County Public Works Department. Ingress and egress from the project site will be provided through an existing entrance on Sheep Creek Road that has been designed to accommodate large trucks. The project will develop a composting operation at an existing site that previously served as a dairy farm. Much of the infrastructure that will be used in the Circle Green “Green Tech” composting operations exists at present at the project site. Therefore, the project is not anticipated to have the potential to substantially increase hazards due to design or incompatible use. Impacts are considered less than significant and no mitigation is required.
- e. *Less Than Significant Impact* – The proposed project consists of activities that will take place along Sheep Creek Road. As previously stated, Sheep Creek Road is a paved two-lane major north-south roadway within the community. Although located several miles from the nearest emergency response station, access to the Project site is adequate. Additionally, according to the San Bernardino General Plan, no known emergency access plans or routes or emergency response or evacuation plans will be affected by this Project in the short- or long- term. Thus, because of the lack of adverse impact on local circulation and the fact that no modifications to Sheep Creek Road will be required to meet access requirements of the proposed project, no potential for significant impacts on emergency access are forecast to occur during construction or operation. No mitigation is required.
- f. *No Impact* – The operation of the Green Tech Park has as no potential to impact alternative transportation plans, policies or programs. The project area is not served by alternative modes of transportation. No sidewalk or bike lanes are provided along Sheep Creek Road that would be impacted by implementation of the proposed project. Additionally, the Project itself does not include any facilities or activities that would pose hazards or barriers for pedestrian or bicycle use of this roadway. Therefore, due to the rural location of the proposed project, no potential exists to adversely impact public transit, bicycle, or pedestrian facilities. No impacts are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: Please refer to the discussion under Section V, Cultural Resources.

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1;
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purpose of this paragraph, the lead agency shall consider the significance of the resources to a California American tribe;
 - A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape;
 - A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal resource if it conforms with the criteria of subdivision (a).
- a. *Less Than Significant Impact* – PPHCSD has been contacted by one California American Tribe: the San Manuel Band of Mission Indians (SMBMI or Tribe). Consultation letters were sent to the Tribe on August 20, 2018, and no response was received within the 30-day initial consultation period, and no response has been received as of October 3, 2018. Therefore, with no input from any California American Tribes, the analysis and conclusions under the Cultural Resources Section above, and contained in Appendix 3 (Cultural Resources Assessment), shall ensure that no significant impacts to any Tribal Cultural Resources occur. Impacts under these issues are considered less than significant and no further mitigation is required beyond that which was identified under Section V, Cultural Resources, above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm-water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – There are two sources of wastewater that the proposed project will generate that could exceed wastewater treatment requirements of the Lahonton Regional Water Quality Control Board (RWQCB). The surface runoff from the site, nonpoint source storm water runoff, will be managed in accordance with the WQMP as discussed in the Hydrology and Water Quality Section (Section IX) of this Initial Study. The project will retain runoff on site though capture within an existing water quality basin on site that is anticipated to be capable of holding approximately 5,400,000 GAL or approximately 16 AF of water. Therefore, surface water will be adequately managed on site and will not exceed RWQCB requirements. Furthermore, the compost piles will be placed atop existing concrete pads that will prevent any compost materials from seeping into the groundwater table. Before the Circle Green “Green Tech” Park begins operation, it will receive permits from the RWQCB as well as from CalRecycle to ensure that the facility operates according to State requirements for Compost Processing Facilities.

The project is not connected to any wastewater treatment system because none exist in the project area. The project contains an existing septic tank system with bathroom facilities that will not require expansion in order for the Green Tech Park to operate. No other sources of wastewater will be produced by the proposed project. Therefore, the proposed project has a less than significant potential to exceed or violate any wastewater treatment requirements.

- b. *No Impact* – The proposed project will utilize an existing well onsite to provide water to support construction and operation of the proposed project. As discussed under the Hydrology and Water Quality Section (Section IX) of this document, the onsite well is anticipated to be capable of service the water demand at the project site. Additionally, the proposed project will not require connection to municipal wastewater service as it is currently served by and will continue to be served by an existing septic tank system. Therefore, the proposed project will not require or result in the construction of new water or wastewater treatment facilities. No impacts are anticipated and no mitigation is required.
- c. *Less Than Significant Impact* – As indicated under issue IX, Hydrology and Water Quality, the proposed project will utilize an existing water quality basin that is anticipated to be capable of holding approximately 5,400,000 GAL or approximately 16 AF of water. This retention basins will allow for adequate onsite capacity for stormwater runoff capture. Thus, based on the existing features of the proposed project as well as the proposed modifications to the former dairy site, the Project will not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. No significant impacts under this issue are anticipated. No further mitigation is required.
- d. *Less Than Significant Impact* – As indicated under issue IX, Hydrology and Water Quality, the proposed project will utilize an existing water well on site. Most of the wells in the Oeste Subarea of the Mojave River Groundwater Basin produce between 201-400 AF per year (AFY). This is because the project is anticipated to require less than 2 AFY, which is substantially below the average water production of wells within the area. Therefore, no new water supply entitlements are necessary to serve the proposed project as the onsite well has sufficient water supplies available to serve the project. Impacts are considered less than significant and no mitigation is required.
- e. *No Impact* – The project area does not presently have a wastewater treatment collection system or treatment provider. There is an existing septic tank that is connected to existing onsite bathroom facilities that is considered adequate to serve the proposed project. Therefore, there is no potential to adversely impact a wastewater treatment provider. No mitigation is required.
- f. *Less Than Significant Impact* – The proposed project is not anticipated to generate a substantial amount of waste during construction as much of the existing facilities within the project site will be used to support the Green Tech Park. The nearby Victorville Landfill has a maximum permitted capacity of 3,000 tons per day, and a remaining capacity of 81,510,000 CY, with a maximum permitted capacity of 83,200,000 CY according to CalRecycle. This is considered more than adequate to serve the minimal solid waste disposal needs of the proposed project. Furthermore, the provision of a new compost facility within the area actually reduces the impacts to local landfills by increasing the diversion of waste from nearby landfills. Therefore, given that the project will generate a negligible amount of construction or operational waste, it will have a less than significant impact on nearby landfills. No mitigation is required.
- g. *Less Than Significant Impact* – The proposed project consists of the development of a Compost Facility that will receive food and green wastes and process these wastes to eventually be sold as compost material. The Green Tech Park will be a California regulated composting Full Tier permitted Facility that will comply with Federal, State, and local requirements designed to responsibly and safely manage the materials proposed for processing on site. The operation of the facility is governed by the California Integrated Waste Management Board and will comply with the requirements for such facilities. As such, the project must comply with all Federal, state, and local statutes related to solid waste in order to receive a permit to operate the Circle Green “Green Tech” Facility. Additionally, as stated above, the development of the proposed composting facility will have a beneficial effect on the solid waste disposal system. Impacts under this issue are therefore considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

- a. *Less Than Significant With Mitigation Incorporated* – The Project has no potential to cause a significant impact any biological or cultural resources. The project has been identified as having no potential to degrade the quality of the natural environment, substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The project site previously served as a dairy, so no natural biological habitat exists within the Project site. Based on the historic disturbance of the site, and its current disturbed condition, the potential for impacting biological resources is low; however, mitigation measures were identified in order to protect cultural resources that might exist within the Project site. Therefore, with implementation of mitigation measures, the Project will not have the potential to 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, 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. Please see biological and cultural sections of this Initial Study.

- b. *Less Than Significant With Mitigation Incorporated* – The proposed project will not cause a significant impact on the environment once implemented or during construction with proper site design and mitigation. The nature of the Project as a new Compost Facility is such that without proper site design and mitigation, leaks and spills of organic matter could occur. However, with the implementation of a SWPPP and associated BMPs, as well as mitigation measure provided to prevent runoff of polluted materials, no significant long-term impacts to the environment would occur from Project operations. Based on the analysis in this Initial Study, any impacts under this issue are considered less than significant with mitigation incorporated.
- c. *Less Than Significant With Mitigation Incorporated* – The Project has nine (9) potential impacts that are individually limited, but may be cumulatively considerable. These are: Aesthetics, Air Quality, Biology, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, and Tribal Resources. The Project is not considered growth-inducing, as defined by *State CEQA Guidelines* (<http://ceres.ca.gov/ceqa/guidelines/>). These issues require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, would have a less than significant cumulative impact.
- d. *Less Than Significant With Mitigation Incorporated* – The proposed project includes activities that have a potential to cause direct substantial adverse effects on humans. The issues of Aesthetics, Air Quality, Geology and Soils, Hazards and Hazardous Materials, and Noise require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed project have been determined to be less than significant.

Conclusion

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

Based on the findings in this Initial Study, the Phelan Piñon Hills Community Services District (District) proposes to adopt a Mitigated Negative Declaration (MND) for the Circle Green “Green Tech” Project. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) will be issued for this project by the District. The Initial Study and NOI will be circulated for 30 days of public comment because this project does not involve the state as either a responsible or trustee agency. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the District for a possible adoption at a future District hearing, the date for which has not yet been determined. If you or your agency comments on the MND/NOI for this project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

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

Water Agency (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2016

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

SUMMARY OF MITIGATION MEASURES

Aesthetics

- AES-1 A facilities lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically indicate that the lighting doesn't exceed 1.0 lumen at the nearest residence to any lighting site within the project footprint. This plan shall be implemented by the Applicant with the approval of the District to minimize light or glare intrusion onto adjacent properties.

Air Quality

- AIR-1 Fugitive Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation during construction:
- Apply soil stabilizers such as hay bales or aggregate cover to inactive areas.
 - Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.
 - Stabilize previously disturbed areas if subsequent construction is delayed.
 - Water exposed surfaces and haul roads 3 times/day.
 - Cover all stock piles with tarps.
 - Replace ground cover in disturbed areas quickly.
 - Reduce speeds on unpaved roads to less than 15 mph.
 - Trenches shall be left exposed for as short a time as possible.
 - Identify proper compaction for backfilled soils in construction specifications.
- AIR-2 Off-road diesel equipment operators shall be required to shut down their engines rather than idle for more than five minutes and shall ensure that all off-road equipment is compliant with the CARB in-use off-road diesel vehicle regulation.
- AIR-3 All material transported off-site with dust blow off potential shall be sufficiently watered or securely covered to prevent excessive amounts of dust being generated.
- AIR-4 Prior to the issuance of a building permit, the project applicant shall prepare an Odor Minimization Plan (OMP). The OMP must also describe a protocol for handling community complaints and must require that when a complaint is received, a facility representative must conduct an odor survey of the surrounding community as soon as practical after receiving the complaint. The results of the survey must be recorded in a log describing the odor and odor intensity, weather conditions, and the source of the odor if it is identifiable. The OMP must describe a protocol for responding and resolving odor complaints received from the surrounding community. The facility must post a contact sign indicating a contact phone number at the facility to call for questions or complaints.

Biological Resources

- BIO-1 In compliance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) the Project proponent shall ensure that a pre-construction burrowing owl survey is conducted at least 30 days prior to any proposed development on the western 80 acres of the project site (west of the Eucalyptus trees that bisect the site).

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

Cultural Resources

- CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with District’s onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.
- CUL-2 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with District’s onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Geology and Soils

- GEO-1 All disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Green Tech Park is being installed; this measure shall be carried forth into the operation phase of the Green Tech Park.

Hazards and Hazardous Materials

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

Hydrology and Water Quality

- HYD-1 The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will be implemented to prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite. The SWPPP shall be developed with the goal of achieving a reduction in pollutants both during and following construction to control storm water runoff to the maximum extent practicable based on available, feasible best management practices.

The following BMPs or comparable measures shall be included in the SWPPP during construction:

- Stockpiled material should not be stored in areas which are subject to the erosive flows of water.
- Measures such as the use of straw bales, sandbags, silt fencing or detention basins shall be used to capture and hold eroded material for future cleanup.
- Rainfall will be prevented from entering material and waste storage areas and pollution-laden surfaces.
- Construction-related contaminants will be prevented from leaving the site and polluting waterways.
- A spill prevention control and countermeasures and remediation plan shall be in place and implemented to control release of hazardous substances.

Noise

- NOI-1 All construction vehicles and fixed or mobile equipment shall be equipped with properly operating and maintained mufflers.
- NOI-2 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.
- NOI-3 No construction activities shall occur during the hours of 7 PM through 7 AM, Monday through Friday, and 5 PM and 9 AM Saturdays; at no time shall construction activities occur on Sundays or holidays, unless a declared emergency exists.
- NOI-4 Equipment not in use for five minutes shall be shut off.
- NOI-5 Equipment shall be maintained and operated such that loads are secured from rattling or banging.
- NOI-6 Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.
- NOI-7 The District will require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities.
- NOI-8 If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation shall be taken into account), portable noise barriers shall be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds.
- NOI-9 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example on the north- or south-west corners of the project site.
- NOI-10 The Applicant shall use noise reducing barriers and other devices to reduce exterior noise levels at the nearest sensitive receptor (where they occur) to 60 CNEL or less during the night-time construction hours (in the event that any emergency night-time construction hours become necessary) and 65 CNEL or less during the daytime construction hours.
- NOI-11 The District will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. A sign

shall be placed where nearby residents can read it and identify a point of contact at the District to make a noise complaint. If the noise level exceeds an Ldn of 65 dBA exterior or an Ldn of 45 dBA interior at the receptor, the District will implement adequate measures to reduce noise levels to the acceptable thresholds, including scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

- NOI-12 Where the proposed Project will cause a significant noise level increase as defined by the County of San Bernardino Development Code, the proposed project shall implement supplemental noise controls designed to reduce noise level impacts below the applicable level of significance at all legal conforming use residential dwellings. Supplemental noise controls may include exterior noise walls or structural retrofits. Structural retrofits could include upgraded dual-paned windows, air conditioning, wall insulation or other methods acceptable to the property owner that can be demonstrated to reduce the noise impact below a level of significance.

REFERENCES

CRM TECH. Historical/Archaeological Resources Survey Report, Green Tech Park Proect, 17900 Sheep Creek Road, a portion of APN 0457-161-10, Phelan Piñon Hills Area, San Bernardino County, California” dated September 4, 2018

Giroux & Associates. *Air Quality and GHG Impact Analysis, Circle Green “Green Tech” Project, Phelan, California* dated July 25, 2018

Jericho Systems, Inc. “Biological Resources Assessment Circle Green “Green Tech” Project, 17900 Sheep Creek Road, San Bernardino County, California” dated September 5, 2018

San Bernardino County Development Code

San Bernardino County General Plan

Websites:

<https://www.epa.gov/sustainable-management-food/types-composting-and-understanding-process#aeratedturned>

<http://www.sbcounty.gov/Uploads/lus/CommunityPlans/PhelanPinonHillsCP.pdf>

<https://ca.water.usgs.gov/mojave/mojave-water-data.html>

<http://www.mojavewater.org/oeste-subarea-production.html>

<http://sbcounty.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=b3a8d3286a6b41d7ad2b80e871a4e048>

<http://www.quake.ca.gov/gmaps/RGM/sanbernardino/sanbernardino.html>

<http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGPtext20130718.pdf>

<https://www.scag.ca.gov/Documents/UnIncAreaSanBernardinoCounty.pdf>

<http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

<http://countywideplan.com/wp-content/uploads/2017/08/PhelanPinonHillsCommunityPlanDRAFT.pdf>

<http://www.gosbcta.com/sbcta/plans-projects/CMP/CMP16-Complete-061416.pdf>

<http://ceres.ca.gov/ceqa/guidelines/>)

FIGURES

FIGURE 1
Regional Location

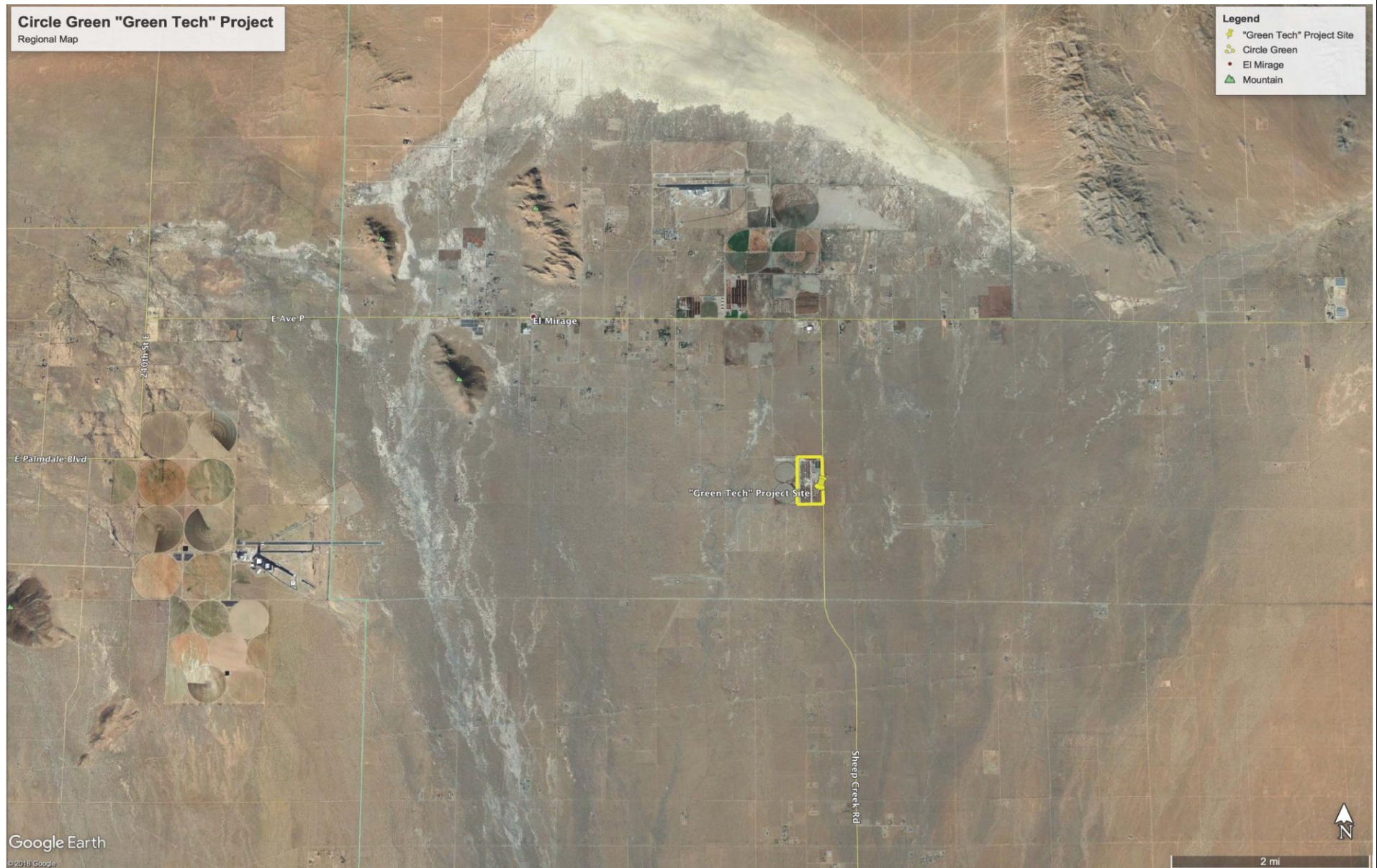


FIGURE 2
Site Location

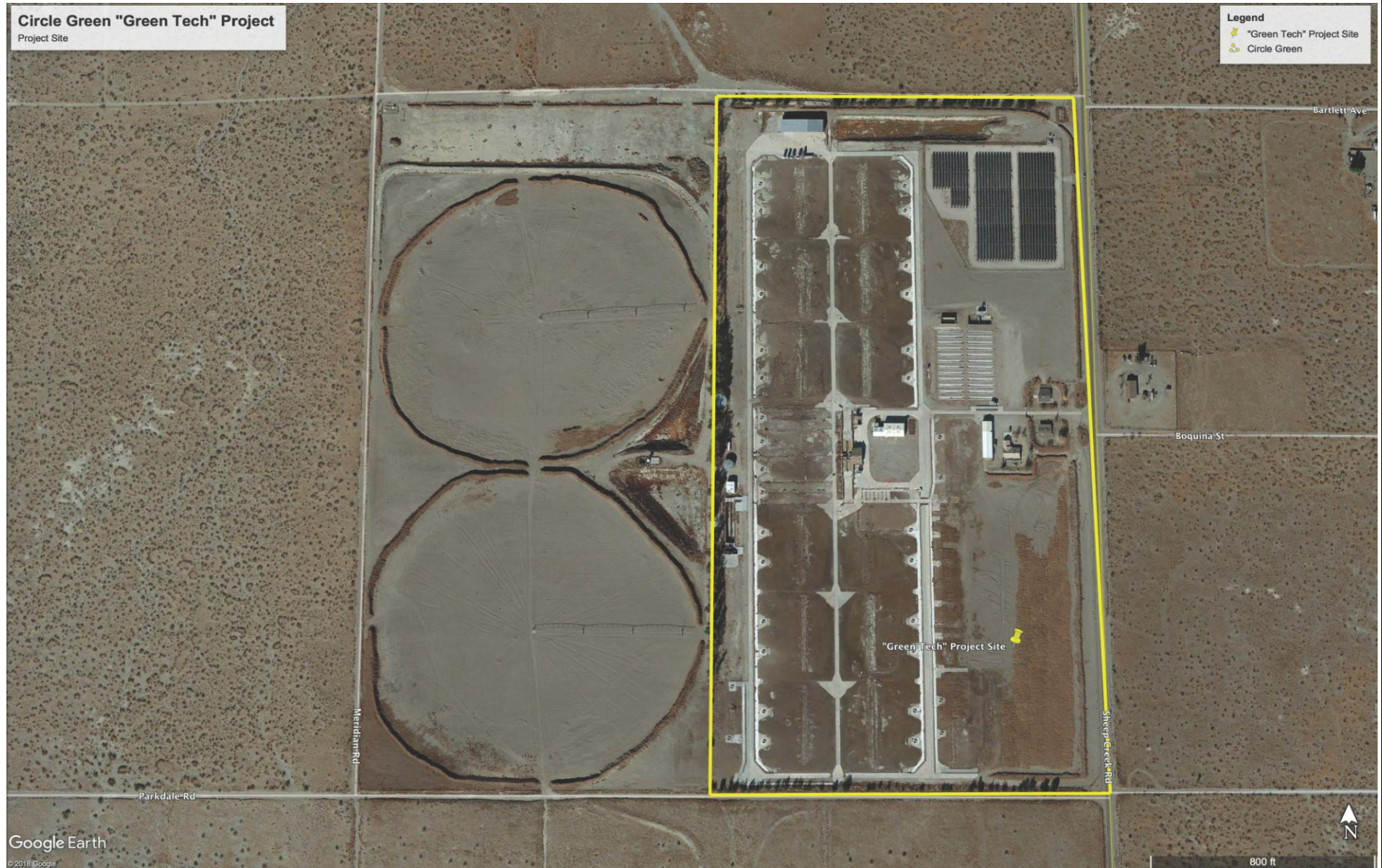
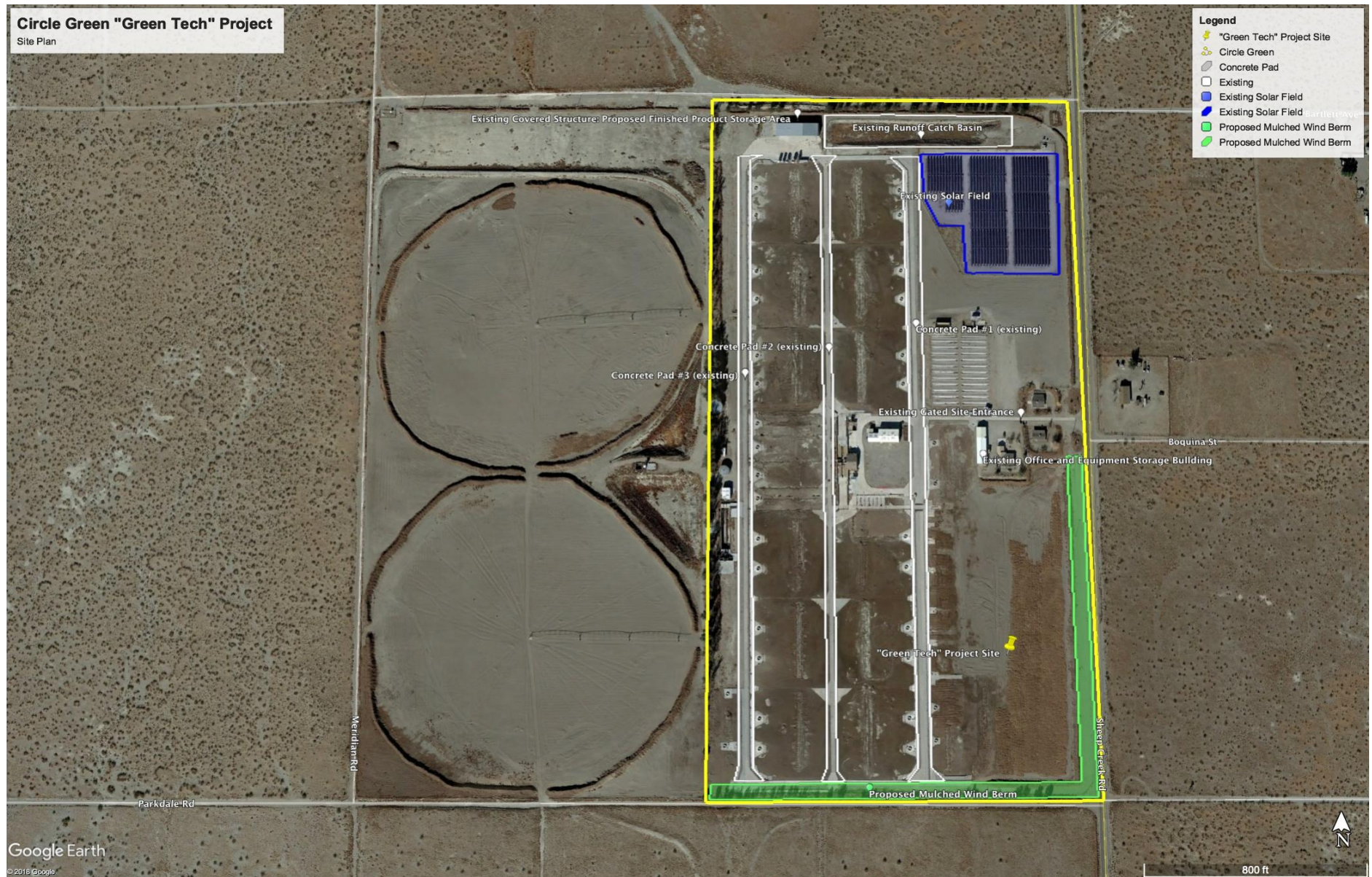
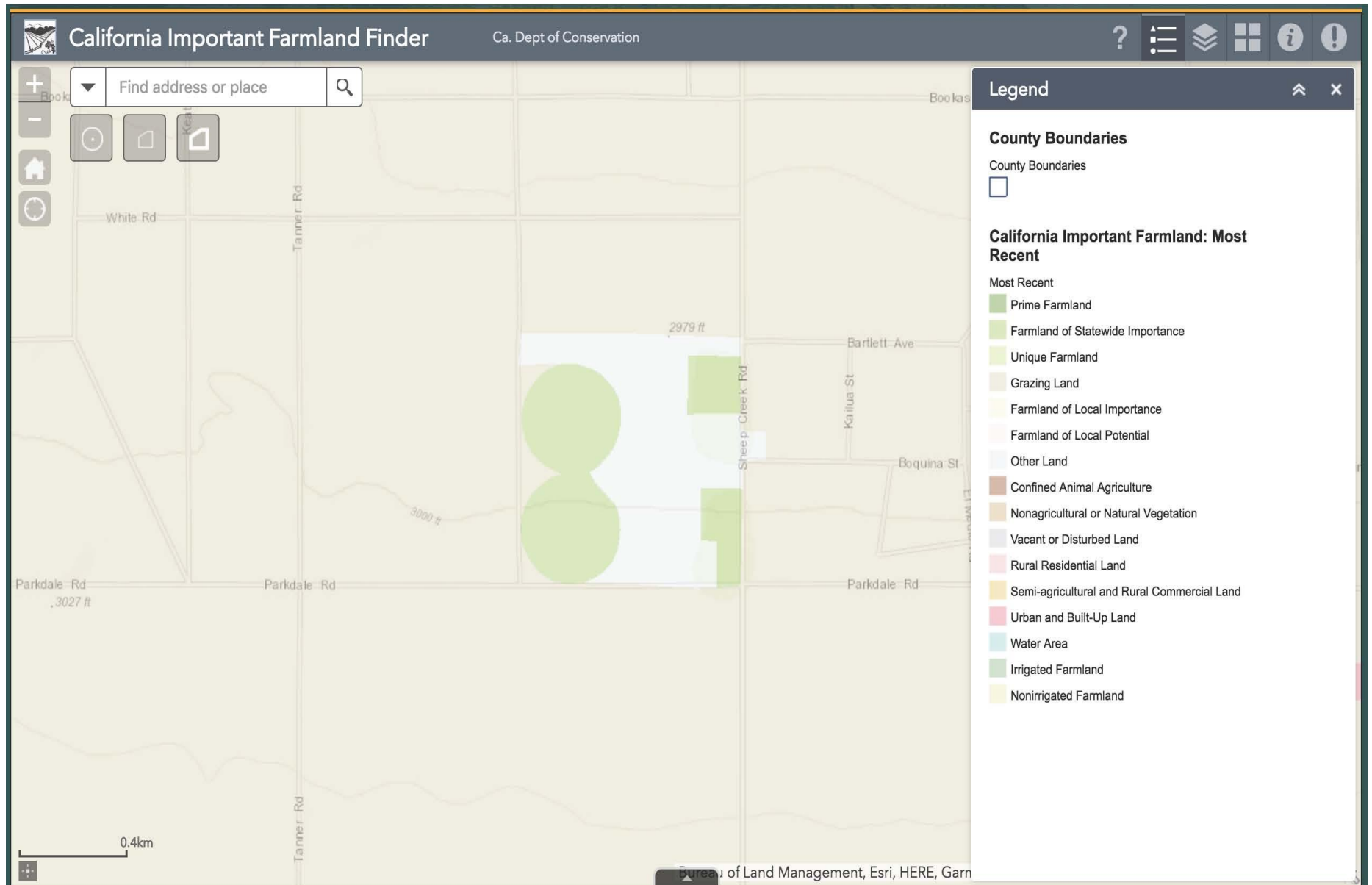


FIGURE 3 Site Plan



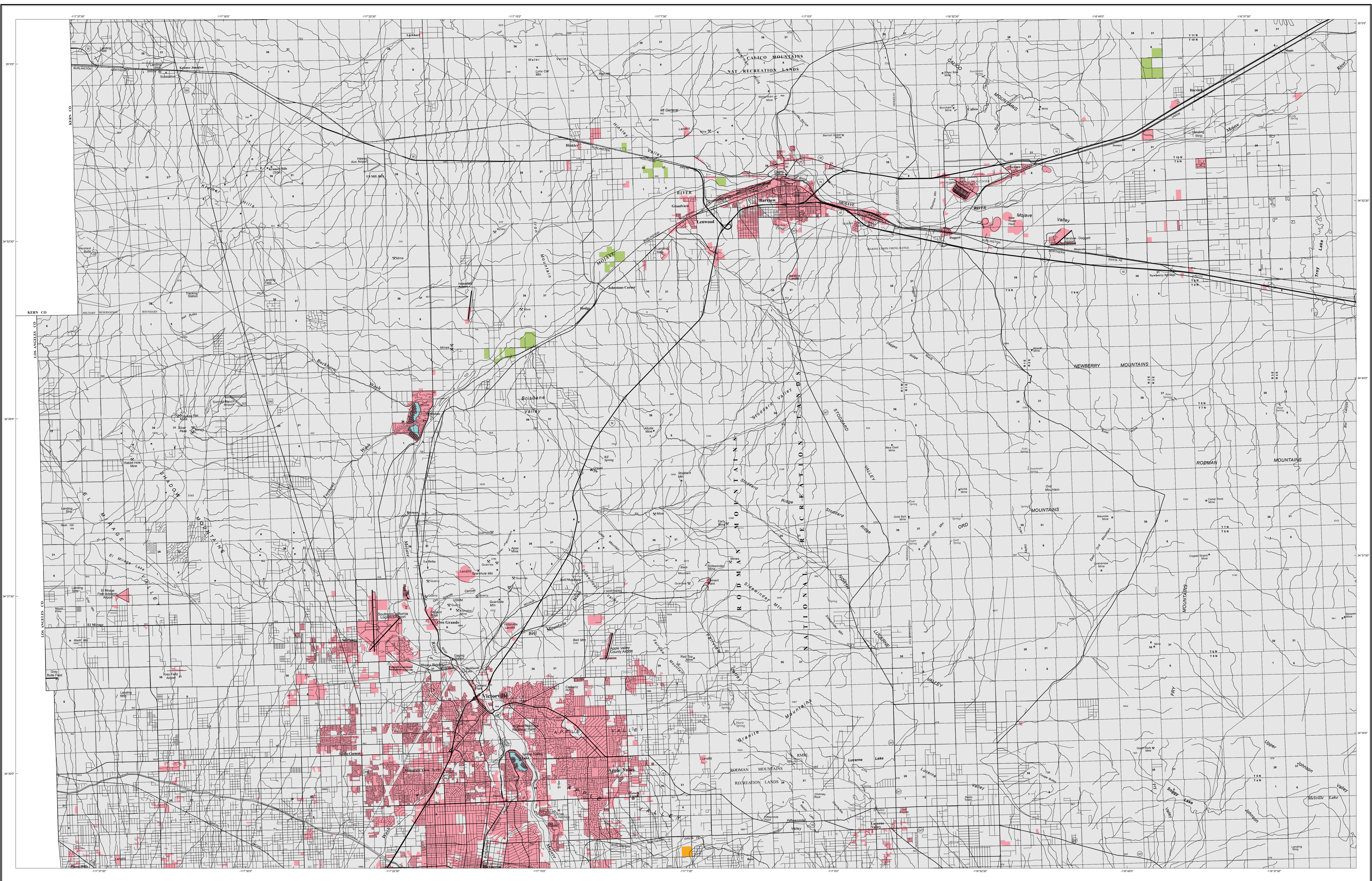
**FIGURE II-1
Farmland Map**





SAN BERNARDINO COUNTY WILLIAMSON ACT FY 2015/2016

SHEET 1 OF 2



WILLIAMSON ACT-MIXED ENROLLMENT AGRICULTURAL LAND
Enrolled lands containing a combination of Prime, Non-Prime, Open Space Easement, or other contracted or enrolled lands not yet delineated by the county.

WILLIAMSON ACT- NON-RENEWAL
Enrolled lands for which non-renewal has been filed pursuant to Government Code Section 51245. Upon the filing of non-renewal, the existing contract remains in effect for the balance of the period remaining on the contract. During the non-renewal process, the annual tax assessment gradually increases. At the end of the 9 year non-renewal period, the contract expires and the land is no longer enforceably restricted.

NON-WILLIAMSON ACT LAND
NON-ENROLLED LAND
Land not enrolled in a Williamson Act contract and not mapped by Farmland Mapping & Monitoring Program (FMMP) as Urban and Built-Up Land or Water.

URBAN AND BUILT-UP LAND
Urban and Built-Up Land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures. This definition and extent of mapping is derived from the latest Farmland Mapping and Monitoring Program Important Farmland Maps.

WATER
Perennial water bodies with an extent of at least 40 acres. This definition and extent of mapping is derived from the latest Farmland Mapping and Monitoring Program Important Farmland Maps.

SCALE: 1:100,000
1 inch represents approximately 1.6 miles
0 1 2 3 4 5 6 7 8 9 10 Miles

1 square mile = 640 acres
0 10 100 1000 Acres

San Bernardino County
SHEET 1 OF 2
Total County Area - 12,867,799 acres
Total Enrolled - 4,717 acres

The California Land Conservation Act of 1965 - commonly referred to as the Williamson Act - is the State's primary program for the conservation of private land in agricultural and open space use. It is a voluntary, locally administered program that offers preferential property taxes on lands which have enforceable restrictions on their use via contracts between individual landowners and local governments. For more information on the Williamson Act please contact:

Department of Conservation
Division of Land Resource Protection
803 K Street, MSB-115
Sacramento, CA 95814
Phone: (916) 324-0850;
email: dlrp@conservation.ca.gov
web page: www.conservation.ca.gov/dlrp/lca

Maps depicting Williamson Act enrollment are produced in cooperation with the participating counties and the California Department of Conservation's Division of Land Resource Protection using Geographic Information Systems. The information used to create these maps is provided by county planning agencies and/or assessor offices. For the most accurate and up to date information regarding the status of specific contracted lands, contact the county assessor or planning agency office as the status of enrolled lands may change throughout the year.

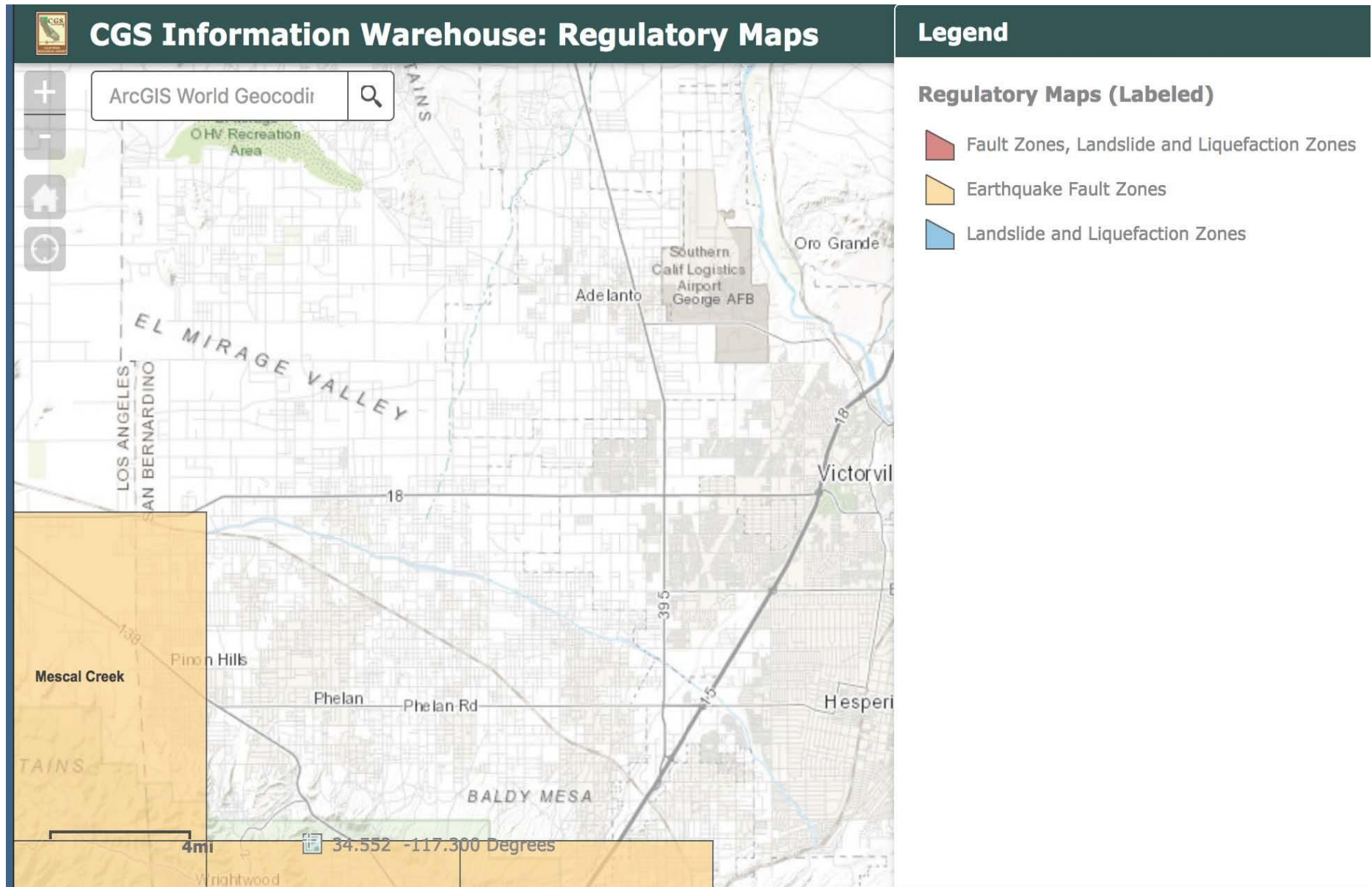
Cultural base information was derived from public domain data sets, based upon design of the U.S. Geological Survey, with updates generated by digitizing over current imagery.

The Department of Conservation makes no warranties as to suitability of this map for any particular purpose.

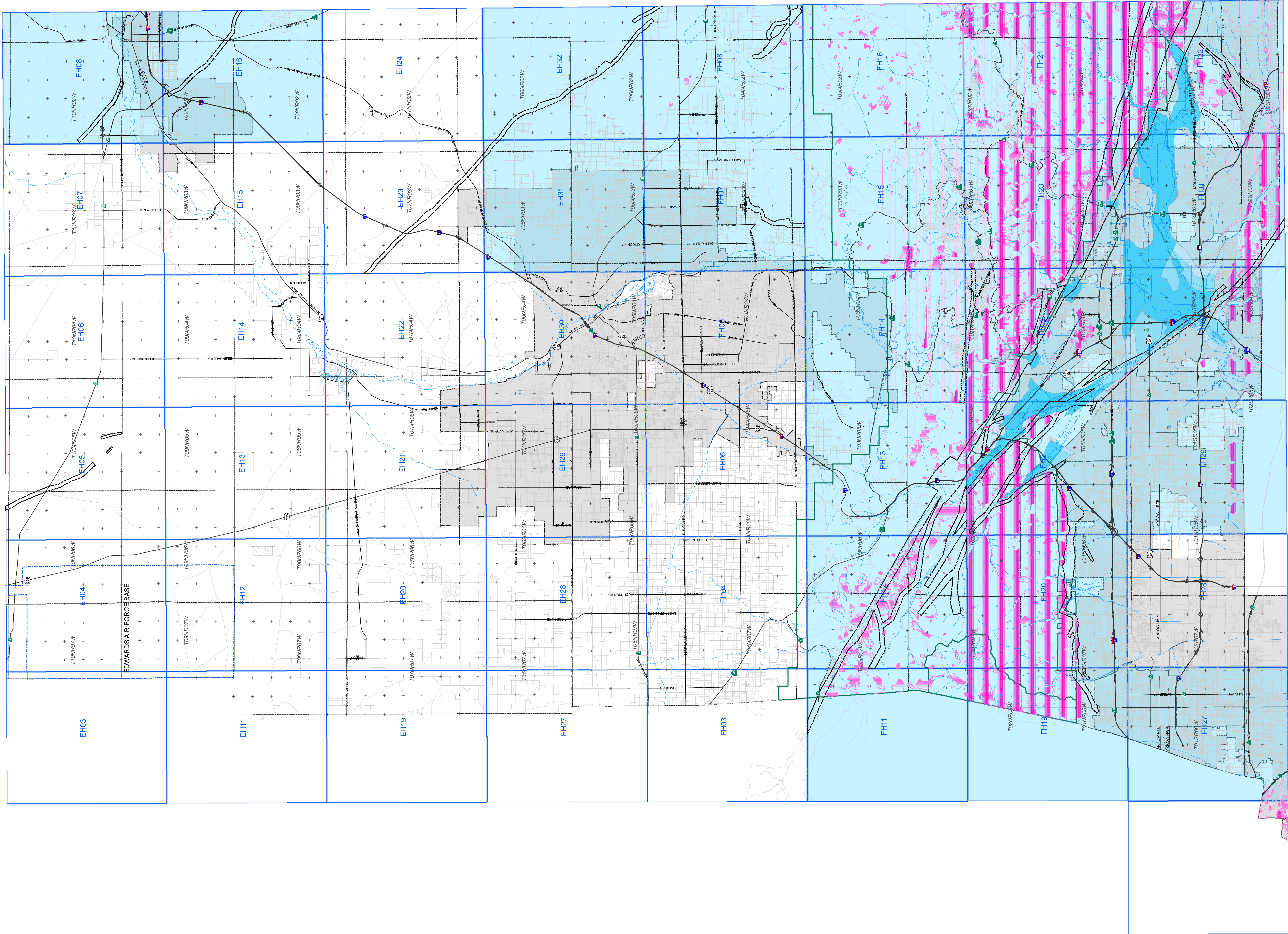
Copyright: California Department of Conservation, Division of Land Resource Protection, 2016.

FIGURE II-2

FIGURE VI-1
Alquist-Priolo Earthquake Fault Zone



See GH1 C



See GH1 C

San Bernardino County Land Use Plan
GENERAL PLAN
Geologic Hazard Overlays

Generalized Landside Susceptibility

Low to moderate
Moderate to high
High
Map of Landside Susceptibility
Potential Landslide Hazard Area
(From SBA Only)

Map data originally compiled on 1:40,000 scale maps by the U.S. Geological Survey, 1974 and 1975. The State Division of Geology and Mineral Resources, 1974, has updated the map data to reflect the latest available information. The map data is at best plus or minus 100 feet. Positional accuracy of map data is at best plus or minus 100 feet.

Zone of Suspected Liquefaction Susceptibility

Zone of Suspected Liquefaction Susceptibility
Critical

The Zone of Suspected Liquefaction Susceptibility was compiled by the San Bernardino County Geologist, 2009. Positional accuracy of map data is at best plus or minus 200 feet.

Generalized Liquefaction Susceptibility

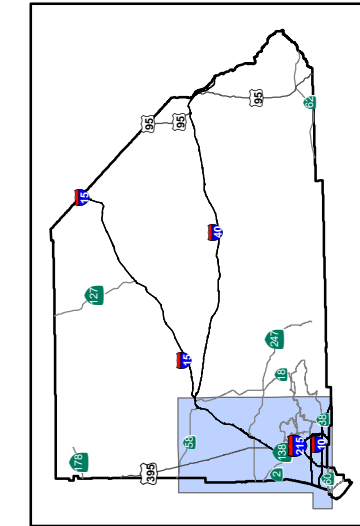
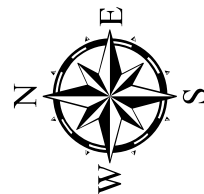
Low
Medium
High

Map data originally compiled on 1:40,000 scale maps by the U.S. Geological Survey, 1974 and 1975. The State Division of Geology and Mineral Resources, 1974, has updated the map data to reflect the latest available information. The map data is at best plus or minus 100 feet. Positional accuracy of map data is at best plus or minus 100 feet.

Earthquake Fault Zones

Earthquake Fault Zone Boundary
County Designated Fault Zones
Detail Quad Map

Map data originally compiled on 1:40,000 scale maps by the U.S. Geological Survey, 1974 and 1975. The State Division of Geology and Mineral Resources, 1974, has updated the map data to reflect the latest available information. The map data is at best plus or minus 100 feet. Positional accuracy of map data is at best plus or minus 100 feet.



EHFH C
VICTORVILLE/SAN BERNARDINO

FIGURE VI-2

FIGURE VIII-1
GeoTracker, page 1

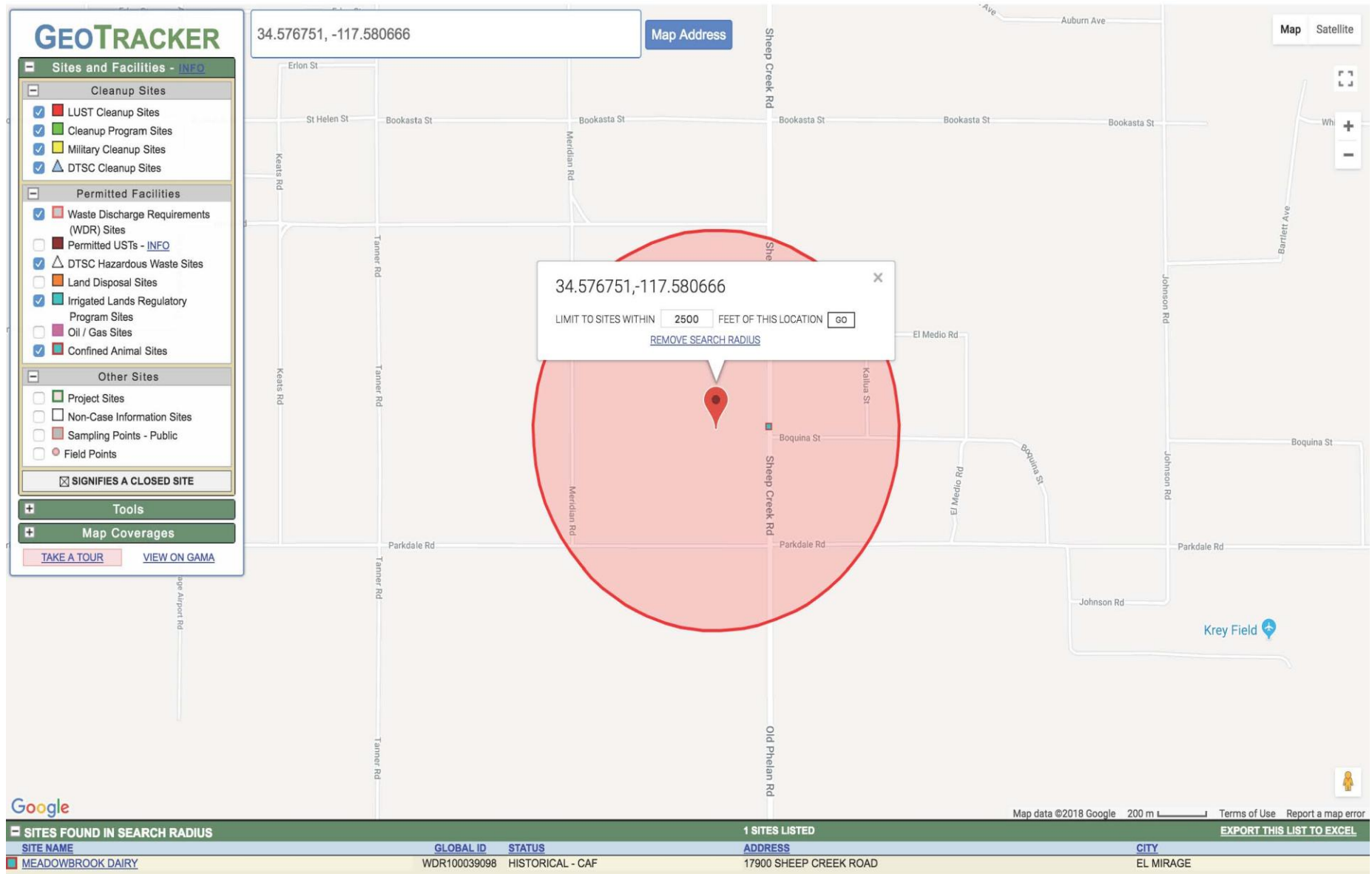




FIGURE VIII-2
GeoTracker, page 2



STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER

[Home](#) [Tools](#) [Reports](#) [UST Case Closures](#) [Information](#) 

MEADOWBROOK DAIRY (WDR100039098) - [\(MAP\)](#)

[SIGN UP FOR EMAIL ALERTS](#)

17900 SHEEP CREEK ROAD
EL MIRAGE, CA 92301
SAN BERNARDINO COUNTY
* **CONFINED ANIMAL FACILITIES (CAF)** [\(INFO\)](#)
[PRINTABLE CASE SUMMARY](#)

PROJECT OVERSIGHT AGENCIES
LAHONTAN RWQCB (REGION 6V) **(LEAD)**
CASEWORKER: [GHASEM POUR-GHASEMI](#)
[VIEW THIS CASE IN CIWQS](#)

[Summary](#) [Cleanup](#) [Action Report](#) [Regulatory Activities](#) [Environmental Data \(ESI\)](#) [Site Maps / Documents](#) [Community Involvement](#) [Related Cases](#)

Regulatory Profile

[PROJECT STATUS - DEFINITIONS](#)
HISTORICAL - CAF AS OF 4/10/2002 - [PROJECT STATUS HISTORY](#)
[USER DEFINED BENEFICIAL USE](#)
NONE SPECIFIED
[DWR GROUNDWATER SUB-BASIN NAME](#)
El Mirage Valley (6-043)

[DESIGNATED BENEFICIAL USE\(S\) - DEFINITIONS](#)
MUN, AGR, IND, FRSH
[CALWATER WATERSHED NAME](#)

[PRINTABLE CASE SUMMARY](#)

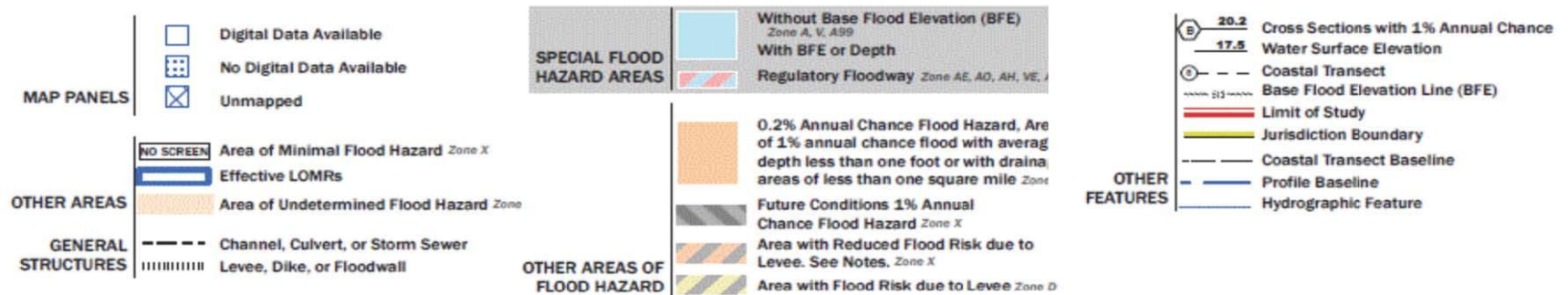
Site History

No site history available

[Back to Top](#) [Conditions of Use](#) [Privacy Policy](#) [Accessibility](#) [Contact Us](#)

Copyright © 2015 State of California

**FIGURE IX-1
FEMA Map**



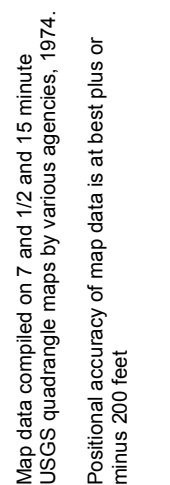


FIGURE IX-2

APPENDIX 1

AIR QUALITY and GHG IMPACT ANALYSES

**CIRCLE GREEN “GREEN TECH” PROJECT
CG-257**

PHELAN, CALIFORNIA

Prepared by:

Giroux & Associates
1820 E Garry St., #211
Santa Ana, CA 92705

Prepared for:

Tom Dodson & Associates
Attn: Kaitlyn Dodson
2150 N. Arrowhead Avenue
San Bernardino, California 92405

Date:

July 25, 2018

Project No.: P18-028 AQ

METEOROLOGY CLIMATE

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

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

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

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

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

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

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

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

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

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

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

TABLE 1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

See footnotes on next page ...

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

California Air Resources Board (5/4/16)

TABLE 1 (CONTINUED)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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

California Air Resources Board (5/4/16)

TABLE 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

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

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO₂ standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December 2012, the federal annual standard for PM-2.5 was reduced from 15 µg/m³ to 12 µg/m³ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

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

Of the standards shown in Table 1, those for ozone (O₃), and particulate matter (PM-10) are exceeded at times in the MDAB. They are called "non-attainment pollutants." Because of the variations in both the regional meteorology and in area-wide differences in levels of air pollution emissions, patterns of non-attainment have strong spatial and temporal differences.

BASELINE AIR QUALITY

Monitoring of air quality in the MDAB is the responsibility of the Mojave Desert Air Quality Management District (MDAQMD) headquartered in Victorville, California. The closest monitoring station to the project site is in Phelan. That station, however, only monitors Ozone. The nearest station that monitors the full spectrum of air pollutants is the Victorville Station at 14306 Park Avenue. Table 3 summarizes the last four years of monitoring data from the available data at the Phelan and Victorville monitoring stations. Findings are summarized below:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of five percent of all days in the last four years at the monitoring station closest to the project site and the 8-hour state standard was violated fifteen percent of all days. The Mojave Desert Air Basin does not generate enough ozone precursor emissions to substantially affect ozone levels. Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities.
2. PM-10 levels have exceeded the federal 24-hour standard on four days within the last four years near Victorville. The three times less stringent federal 24 hour-standard not been reported during this period. No significant trend can be seen in regard to maximum 24-hour PM-10 concentrations over the most recent years.
3. PM-10, however, is affected by construction, by unpaved road travel, by open fires and/or by agricultural practices. These emissions can be controlled to some extent, and are, therefore, components in a respirable range (10-micron diameter) particulate matter (PM-10) attainment plan developed by the Mojave Desert AQMD. An attainment plan for PM-10 was adopted in July 1995, for designated federal PM-10 non-attainment areas in the MDAB. Any project-related PM-10 generation activities require an enhanced level of controls consistent with the control measures that are part of that plan.
4. A fraction of PM-10 is comprised of fine diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). The 24-hour federal standard has been exceeded twice in the recent past.
5. More localized pollutants such as carbon monoxide and nitrogen oxides, etc. are generally very low near the project site because background levels in the Mojave Desert area never exceed allowable levels except perhaps during rare wildfire events such as in 2010. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS.

Table 3

Project Area Air Quality Monitoring Summary 2014-2017
(Estimated Days Standards Were Exceeded and Maximum Observed Levels)

Pollutant/Standard	2014	2015	2016	2017
Ozone				
1-Hour > 0.09 ppm (S)	18	9	15	33
8-Hour > 0.07 ppm (S)	61	42	51	66
8- Hour > 0.075 ppm (F)	36	22	27	47
Max. 1-Hour Conc. (ppm)	0.137	0.129	0.132	0.156
Max. 8-Hour Conc. (ppm)	0.100	0.092	0.109	0.118
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max 1-Hour Conc. (ppm)	0.067	0.012	0.010	0.057
Inhalable Particulates (PM-10)				
24-Hour > 50 µg/m ³ (S)	nr	nr	nr	nr
24-Hour > 150 µg/m ³ (F)	1	0	1	1
Max. 24-Hr. Conc. (µg/m ³)	246.2	96.1	226.5	182.5
Fine Particulates (PM-2.5)				
24-Hour > 35 µg/m ³ (F)	0	1	1	0
Max. 24-Hr. Conc. (µg/m ³)	24.1	50.2	41.5	27.2

nr = not reported

Source: Phelan: Ozone
and Victorville Air Monitoring Station Data www.arb.ca.gov/adam/

AIR QUALITY IMPACTS

STANDARDS OF SIGNIFICANCE

The Circle Green proposes a green and food waste composting facility. The majority of the materials received would be green materials, local cow manures and food waste. The project will utilize an existing office building that includes an attached equipment warehouse, existing shower /restroom facilities as well an employee lunch room. The project site also contains an equipment warehouse. The materials on site will be composted through the outdoor/open windrow composting method. Aerated or turned windrow composting is suited for large volumes of materials

The daily intake capacity of the proposed Green Tech Park facility would average approximately 1,500 tons per day. Once in operation, it is anticipated the Green Park will receive approximately 65-95 truckloads of food, manure, green waste and soil amendments per day, 7 days per week. Outbound finished products will typically be delivered by the same trucks dropping off green waste at the facility.

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

Carbon Monoxide (CO)	548 pounds/day	100 tons/year
Nitrogen Oxides (NO _x)	137 pounds/day	25 tons/year
Sulfur Oxides (SO _x)	137 pounds/day	25 tons/year
Reactive Organic Gases (ROG)	137 pounds/day	25 tons/year
Particulate Matter (PM-10)	82 pounds/day	15 tons/year
Particulate Matter (PM-2.5)	82 pounds/day	15 tons/year

ADDITIONAL INDICATORS

In its CEQA Handbook (2007), the MDAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators relevant to this project are as follows:

- Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds.
- Generate a violation of any ambient air quality standard when added to the local background
- Creates odors that could be considered a nuisance by any substantial number of people.
- Does not conform to applicable attainment or maintenance plans.

- Emits hazardous or toxic emissions that create an excess cancer risk of more than 10 in a million or a non-cancerous health index (HI) of more than 1.0.

Except in special circumstances, the CEQA Handbook notes that meeting the daily or annual emissions thresholds is normally sufficient to demonstrate a less-than-significant impact.

CONSTRUCTION ACTIVITY IMPACTS

The California Emissions Estimator Model (CalEEMod) was developed by the South Coast AQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The 160 acre site proposes utilizing the existing concrete pads and possibly constructing additional pads. The project will utilize the existing on-site buildings (warehouse, showers/restrooms, etc.) and no new buildings are anticipated. The existing buildings may be remodeled and repaired. Should expansion of the concrete pads be required this effort would require 845 cubic yards and would require up to 30 days and 85 concrete truck trips. Construction is expected to require no more than 20 employees per day.

On-site construction equipment emissions were calculated utilizing the CalEEMod2016.3.2 computer model. The modeled prototype construction equipment fleet and schedule is indicated in Table 4.

Table 4
Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Site Prep (30 days)	1 Dozer
	1 Loader/Backhoe
	20 Employees
Concrete Pad Installation (30 days)	4 Concrete Mixers
	2 Paving Equipment
	1 Paver
	2 Rollers
	20 employees
	80 concrete trucks

Utilizing this indicated equipment fleets shown in Tables 4 the worst case daily construction emissions are calculated by CalEEMod and are listed in Table 5. As shown in Table 5, daily construction related emissions would not exceed MDAQMD significance thresholds.

Table 5
2019 Construction Activity Maximum Daily Emissions (pounds/day)

Daily Emissions (lbs/day)	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
	1.6	17.1	14.7	0.0	6.5	4.1
Thresholds	137	137	548	137	82	82

Source: CalEEMod output in report appendix

Because the MDAQMD also has annual standards, the yearly totals were also compared to their respective thresholds in Table 6.

Table 6
2019 Construction Activity Maximum Daily Emissions (tons/year)

Annual Emissions (tons/year)	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
	0.05	0.47	0.34	0.00	0.13	0.07
Thresholds	25	25	100	25	15	15

Source: CalEEMod output in report appendix

As with daily emissions annual construction related emissions are well below their respective CEQA significance thresholds.

OPERATIONAL IMPACTS

When in full operation the project daily intake capacity of 1,500 tons is expected to arrive in 65-95 trucks. The same trucks that make a drop off will carry out finished product. There will be 15-20 employees per day. Diesel equipment required for site operation includes 2 wood grinders, 4 trommel screens, 2 excavators, 5 loaders and 3 water trucks. Equipment was assumed to run 12 - hours per day. Although some of this equipment may be electric powered, as a worst case it was all assumed to be diesel. For this analysis 90 truck trips and 20 employees were modeled with a one-way trip length of 40 miles (80 miles round trip).

Tables 7 and 8 compare operational emissions to MDAQMD thresholds. As shown, operational emissions will be below respective thresholds.

Table 7
Operational Activity Emissions (lbs/day)

	Operational Emissions (lbs/day)					
Source	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
Project Total	9.1	80.2	58.6	0.1	3.8	3.9
MDAQMD Threshold	137	137	548	137	82	82
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

Table 8
Operational Activity Emissions (tons/yr)

	Operational Emissions (tons/yr)					
Source	ROG	NOx	CO	SO₂	PM-10	PM-2.5
Project Total	1.19	10.43	7.62	0.02	0.50	0.47
MDAQMD Threshold	25	25	100	25	15	15
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

ODORS

The nearest sensitive uses to the project site are the Lake Los Angeles housing tract and Lake Los Angeles school which are more than 11-12 miles to the west. Most of the materials received would be green materials, local cow manures and food waste.

Odor is perhaps the most common problem associated with composting, and the failure to adequately address it has led to numerous neighbor complaints. Odor is a natural by-product of refuse handling and disposal. Odors may derive directly from the material being disposed (food waste, landscape material, etc.) or it may derive from the decay of organic material in chemical or biological processes. In most cases, the decay process generates the strongest or unpleasant odors. Factors affecting the odor include moisture, temperature, acidity, and oxygen supply. Since no container of refuse typically has an identical mix of waste, it does not have the identical set of odor-formation and therefore the resulting odors would vary greatly. In addition to the very complex character of refuse odor, people's odor sensitivity/acuity varies from person to person.

The project will utilize windrow composting which piles waste in long rows. To properly use a compost windrow turner, it is ideal to compost on a hard-surfaced pad as for this project which utilizes concrete pads.

Aeration is important to allow proper air flow and make oxygen available to the microorganisms in the raw material. This also helps to maintain the moisture and the temperature in the windrows at the appropriate levels. Aeration depends on the size of the particles in the compost mix. Larger particle sizes and loosely packed material makes a compost pile highly porous, which increases air flow and reduces the accumulation of moisture. Small particles will be more compacted, making the flow of air more difficult. Oversized windrows will cause mechanical compaction of the compost, resulting in reduced porosity leading to anaerobic conditions.

There are several means to mitigate odor. These include chemicals and masking agents which are sprayed over a site or specific odor sources, chemical scrubbers which absorb or oxidize odorous gases by passing emissions through scrubbing solutions and biofilters which utilize natural microbial activity to break down odorous compounds.

The following are some operational practices that can help in reducing anaerobic odors:

- **Mixing with coarse, dry bulking agents** helps to increase porosity and reduce moisture in the incoming material. If the materials accepted at a site are already anaerobic and odorous, they need to be combined promptly with coarse, dry bulking agents which will absorb any excess moisture, reduce the concentration of odoriferous material, and add porosity, which allows immediate oxygen penetration.
- **Turning the windrows** is very important for redistributing the moisture, providing aeration, and maintaining even temperatures. The optimum frequency of turning depends on how thoroughly materials are mixed initially, existing anaerobic conditions, and porosity of the windrows. Generally, windrows must be turned more frequently during the active stages of the composting process, especially if the moisture content is too high. On the other hand, excessive turning may reduce particle size, thus decreasing compost porosity and air flow.
- **Forced aeration** systems are utilized by some composting facilities to increase oxygen flow between turnings. Basically, these systems blow air deep into the windrows.
- **Sizing the windrows uniformly** facilitates oxygen diffusion and natural air convection. This practice is helpful whether using standard windrows or forced aeration windrow systems.
- **Placing an aerobic biofilter layer over the windrows** is a technique used to prevent the release of odors. Sometimes between turnings, pockets of anaerobic decomposition forms deep in the windrows. These pockets can cause odor problems when handling the composting material. The aerobic organisms in the biofilter layer will metabolize the compounds responsible for odors produced by the anaerobic organisms.
- **Enzymatic catalysts** can be used to degrade odorous compounds. These are normally applied to the surface of the compost windrow or sprayed in the airspace above it. These catalysts can be effective if incorporated evenly in the windrows and in low concentrations to prevent accidental kill of the aerobic microorganisms.

The success of any odor control system depends on the ability of the system to capture a high percentage of odorous emissions generated and the effectiveness of odor treatment. However, the potential for off-site odor impacts also depends on the dispersion patterns from an odor source. Dispersion is dependent on source parameters such as release height and atmospheric conditions including wind patterns. Odor emissions are diluted through atmospheric dispersion over large distances. For this project, given the 11 mile distance between the facility and sensitive uses it is unlikely that odors will cause a problem. Nevertheless, the following procedures are recommended:

- Prior to the issuance of a building permit, the project applicant shall prepare an Odor Minimization Plan (OMP). The OMP must also describe a protocol for handling community complaints. The rule requires that when a complaint is received, a facility representative is required to conduct an odor survey of the surrounding community as soon as practical after receiving the complaint. The results of the survey must be recorded

in a log describing the odor and odor intensity, weather conditions, and the source of the odor if it is identifiable. The OMP would be required to describe a protocol for responding and resolving odor complaints received from the surrounding community. The facility would be required to post a contact sign indicating a contact phone number at the facility to call for questions or complaints. With implementation of this measure and distance separation between the site and sensitive uses the project is not projected to result in a significant odor impact.

MITIGATION

CONSTRUCTION EMISSIONS MITIGATION

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

Dust Control

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

Operational Mitigation

- Off-road diesel equipment operators shall be required to shut down their engines rather than idle for more than five minutes and shall ensure that all off-road equipment is compliant with the CARB in-use off-road diesel vehicle regulation.
- All material transported off-site with dust blow off potential shall be sufficiently watered or securely covered to prevent excessive amounts of dust being generated.
- The project applicant shall prepare an Odor Minimization Plan (OMP) implemented by the site operator.

GREENHOUSE GAS EMISSIONS

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

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

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

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

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and

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

THRESHOLDS OF SIGNIFICANCE

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

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

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

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

The California Air Resources Board (ARB) has developed an interim significance guideline for industrial projects or 7,000 metric tons (MT) of CO₂-equivalent (CO₂(e)) per year. Composting is not strictly an “industrial” process. However, in the absence of any adopted significance thresholds, this screening level will be used in the following analysis.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

During project construction, the CalEEMod computer model predicts that the indicated activities could generate 66.8 MT CO₂(e) in 2019. For screening purposes, the temporary construction

activity GHG emissions were compared to the chronic operational emissions in the ARB's interim thresholds. The screening level operational threshold is 7,000 MT CO₂(e) per year. Worst year construction activities generating a total of 67 MT CO₂(e) are well below this threshold.

Operational Activity GHG Emissions

Operational emissions include on-site diesel equipment used for operations, employee commuting and on-road truck haul emissions. According to CalEEMod the annual emissions will be 1,408 CO₂(e). Again, this is less than the 7,000 CO₂(e) threshold.

APPENDIX

CalEEMod2016.3.2 Computer Model Output

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

Phelan Sheep Creek Composting Center
Mojave Desert Air Basin, Summer**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	160.00	User Defined Unit	160.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

Project Characteristics -

Land Use - 160 acre site

Construction Phase - 30 days prep and 30 paving pads

Operational Off-Road Equipment - 2 wd grinders, 2 excavators, 4 forklifts, 3 off-hwy truck, 4 trommel screens, 5 loaders

Fleet Mix - 20% auto, 80% HHD

Vehicle Trips - 90 trucks and 20 employees per day 40 mile trips

Off-road Equipment - prep 1 dozer, 1 loader/backhoe

Off-road Equipment - 1 paver, 2 rollers 4 mixers

Trips and VMT - 20 workers 85 concrete trucks, 10 haul trips/day prep

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	220.00	30.00
tblConstructionPhase	NumDays	120.00	30.00
tblConstructionPhase	PhaseEndDate	2/20/2034	5/10/2019
tblConstructionPhase	PhaseEndDate	3/23/2020	2/11/2019
tblConstructionPhase	PhaseStartDate	4/19/2033	4/1/2019
tblConstructionPhase	PhaseStartDate	10/8/2019	1/1/2019
tblFleetMix	HHD	0.10	0.80
tblFleetMix	LDA	0.53	0.20
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7510e-003	0.00
tblFleetMix	MCY	8.7220e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	1.2530e-003	0.00

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.6070e-003	0.00
tblFleetMix	SBUS	8.8700e-004	0.00
tblFleetMix	UBUS	2.1050e-003	0.00
tblLandUse	LotAcreage	0.00	160.00
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOperationalOffRoadEquipment	OperHorsePower	168.00	30.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	6.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	300.00
tblTripsAndVMT	HaulingTripNumber	0.00	85.00
tblTripsAndVMT	WorkerTripNumber	5.00	40.00
tblTripsAndVMT	WorkerTripNumber	23.00	40.00
tblVehicleTrips	CC_TL	7.30	40.00

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

tblVehicleTrips	CNW_TL	7.30	40.00
tblVehicleTrips	CW_TL	9.50	40.00
tblVehicleTrips	ST_TR	0.00	115.00
tblVehicleTrips	SU_TR	0.00	115.00
tblVehicleTrips	WD_TR	0.00	115.00

2.0 Emissions Summary

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.6416	17.1072	14.7247	0.0268	6.5261	0.7544	7.2804	3.4455	0.6943	4.1398	0.0000	2,590.8690	2,590.8690	0.6165	0.0000	2,606.2819
Maximum	1.6416	17.1072	14.7247	0.0268	6.5261	0.7544	7.2804	3.4455	0.6943	4.1398	0.0000	2,590.8690	2,590.8690	0.6165	0.0000	2,606.2819

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.6416	17.1072	14.7247	0.0268	2.8526	0.7544	3.6069	1.4263	0.6943	2.1205	0.0000	2,590.8690	2,590.8690	0.6165	0.0000	2,606.2819
Maximum	1.6416	17.1072	14.7247	0.0268	2.8526	0.7544	3.6069	1.4263	0.6943	2.1205	0.0000	2,590.8690	2,590.8690	0.6165	0.0000	2,606.2819

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	56.29	0.00	50.46	58.60	0.00	48.78	0.00	0.00	0.00	0.00	0.00	0.00

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	9.1371	80.2445	58.6116	0.1291		3.8272	3.8272		3.5788	3.5788		12,462.7677	12,462.7677	3.5333		12,551.0997
Total	9.1387	80.2446	58.6280	0.1291	0.0000	3.8272	3.8272	0.0000	3.5789	3.5789		12,462.8028	12,462.8028	3.5334	0.0000	12,551.1371

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	9.1371	80.2445	58.6116	0.1291		3.8272	3.8272		3.5788	3.5788		12,462.7677	12,462.7677	3.5333		12,551.0997
Total	9.1387	80.2446	58.6280	0.1291	0.0000	3.8272	3.8272	0.0000	3.5789	3.5789		12,462.8028	12,462.8028	3.5334	0.0000	12,551.1371

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

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	2/11/2019	5	30	
2	Paving	Paving	4/1/2019	5/10/2019	5	30	

Acres of Grading (Site Preparation Phase): 0

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

Acres of Grading (Grading Phase): 0**Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	4	8.00	9	0.56
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	40.00	0.00	300.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	40.00	0.00	85.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

3.2 Site Preparation - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.3674	14.4118	6.5868	0.0116		0.7448	0.7448		0.6852	0.6852		1,152.9703	1,152.9703	0.3648		1,162.0900
Total	1.3674	14.4118	6.5868	0.0116	6.0221	0.7448	6.7669	3.3102	0.6852	3.9954		1,152.9703	1,152.9703	0.3648		1,162.0900

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0607	2.5564	0.2969	8.3200e-003	0.1754	7.3300e-003	0.1827	0.0481	7.0200e-003	0.0551		872.5374	872.5374	0.0540		873.8872
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2135	0.1391	1.6440	3.5200e-003	0.3286	2.2500e-003	0.3308	0.0872	2.0700e-003	0.0892		350.0805	350.0805	0.0134		350.4162
Total	0.2742	2.6954	1.9408	0.0118	0.5040	9.5800e-003	0.5136	0.1353	9.0900e-003	0.1444		1,222.6179	1,222.6179	0.0674		1,224.3033

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

3.2 Site Preparation - 2019**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	1.3674	14.4118	6.5868	0.0116		0.7448	0.7448		0.6852	0.6852	0.0000	1,152.9703	1,152.9703	0.3648		1,162.0900
Total	1.3674	14.4118	6.5868	0.0116	2.3486	0.7448	3.0934	1.2910	0.6852	1.9762	0.0000	1,152.9703	1,152.9703	0.3648		1,162.0900

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0607	2.5564	0.2969	8.3200e-003	0.1754	7.3300e-003	0.1827	0.0481	7.0200e-003	0.0551		872.5374	872.5374	0.0540		873.8872
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2135	0.1391	1.6440	3.5200e-003	0.3286	2.2500e-003	0.3308	0.0872	2.0700e-003	0.0892		350.0805	350.0805	0.0134		350.4162
Total	0.2742	2.6954	1.9408	0.0118	0.5040	9.5800e-003	0.5136	0.1353	9.0900e-003	0.1444		1,222.6179	1,222.6179	0.0674		1,224.3033

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

3.3 Paving - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4017	13.5922	12.9966	0.0209		0.7292	0.7292		0.6754	0.6754		1,993.5696	1,993.5696	0.5878		2,008.2643
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4017	13.5922	12.9966	0.0209		0.7292	0.7292		0.6754	0.6754		1,993.5696	1,993.5696	0.5878		2,008.2643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0172	0.7243	0.0841	2.3600e-003	0.0497	2.0800e-003	0.0518	0.0136	1.9900e-003	0.0156		247.2189	247.2189	0.0153		247.6014
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2135	0.1391	1.6440	3.5200e-003	0.3286	2.2500e-003	0.3308	0.0872	2.0700e-003	0.0892		350.0805	350.0805	0.0134		350.4162
Total	0.2307	0.8634	1.7281	5.8800e-003	0.3783	4.3300e-003	0.3826	0.1008	4.0600e-003	0.1049		597.2994	597.2994	0.0287		598.0175

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

3.3 Paving - 2019**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4017	13.5922	12.9966	0.0209		0.7292	0.7292		0.6754	0.6754	0.0000	1,993.5696	1,993.5696	0.5878		2,008.2643
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4017	13.5922	12.9966	0.0209		0.7292	0.7292		0.6754	0.6754	0.0000	1,993.5696	1,993.5696	0.5878		2,008.2643

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0172	0.7243	0.0841	2.3600e-003	0.0497	2.0800e-003	0.0518	0.0136	1.9900e-003	0.0156		247.2189	247.2189	0.0153		247.6014
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2135	0.1391	1.6440	3.5200e-003	0.3286	2.2500e-003	0.3308	0.0872	2.0700e-003	0.0892		350.0805	350.0805	0.0134		350.4162
Total	0.2307	0.8634	1.7281	5.8800e-003	0.3783	4.3300e-003	0.3826	0.1008	4.0600e-003	0.1049		597.2994	597.2994	0.0287		598.0175

4.0 Operational Detail - Mobile

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	40.00	40.00	40.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.200000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.800000	0.000000	0.000000	0.000000	0.000000	0.000000

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

5.2 Energy by Land Use - NaturalGas**Unmitigated**

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

Mitigated

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

6.0 Area Detail**6.1 Mitigation Measures Area**

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374
Unmitigated	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374
Total	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374
Total	1.5500e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	9.0000e-005		0.0374

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Crushing/Proc. Equipment	2	12.00	260	85	0.78	Diesel
Rubber Tired Loaders	5	12.00	260	203	0.36	Diesel
Excavators	2	12.00	260	158	0.38	Diesel
Forklifts	4	12.00	260	89	0.20	Diesel
Off-Highway Trucks	3	6.00	260	402	0.38	Diesel
Other Material Handling Equipment	4	12.00	260	30	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Crushing/Proc. Equipment	1.6593	11.3975	13.0568	0.0211		0.7227	0.7227		0.7227	0.7227		1,993.5903	1,993.5903	0.1473		1,997.2737
Excavators	0.7350	7.2379	9.8034	0.0155		0.3506	0.3506		0.3226	0.3226		1,500.3553	1,500.3553	0.4853		1,512.4864
Forklifts	0.8641	7.7850	7.0816	9.1600e-003		0.5800	0.5800		0.5336	0.5336		888.1850	888.1850	0.2873		895.3664
Off-Highway Trucks	1.4920	14.2262	8.5727	0.0297		0.5183	0.5183		0.4768	0.4768		2,876.8995	2,876.8995	0.9305		2,900.1607
Other Material Handling Equipment	1.5812	6.5261	7.8314	6.8400e-003		0.5578	0.5578		0.5132	0.5132		665.0382	665.0382	0.2151		670.4154
Rubber Tired Loaders	2.8056	33.0718	12.2657	0.0469		1.0979	1.0979		1.0100	1.0100		4,538.6994	4,538.6994	1.4679		4,575.3971
Total	9.1371	80.2445	58.6116	0.1291		3.8272	3.8272		3.5788	3.5788		12,462.7677	12,462.7677	3.5333		12,551.0997

10.0 Stationary EquipmentFire Pumps and Emergency Generators

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Summer

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

Boilers

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

User Defined Equipment

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

11.0 Vegetation

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

Phelan Sheep Creek Composting Center
Mojave Desert Air Basin, Annual**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	160.00	User Defined Unit	160.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

Project Characteristics -

Land Use - 160 acre site

Construction Phase - 30 days prep and 30 paving pads

Operational Off-Road Equipment - 2 wd grinders, 2 excavators, 4 forklifts, 3 off-hwy truck, 4 trommel screens, 5 loaders

Fleet Mix - 20% auto, 80% HHD

Vehicle Trips - 90 trucks and 20 employees per day 40 mile trips

Off-road Equipment - prep 1 dozer, 1 loader/backhoe

Off-road Equipment - 1 paver, 2 rollers 4 mixers

Trips and VMT - 20 workers 85 concrete trucks, 10 haul trips/day prep

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	220.00	30.00
tblConstructionPhase	NumDays	120.00	30.00
tblConstructionPhase	PhaseEndDate	2/20/2034	5/10/2019
tblConstructionPhase	PhaseEndDate	3/23/2020	2/11/2019
tblConstructionPhase	PhaseStartDate	4/19/2033	4/1/2019
tblConstructionPhase	PhaseStartDate	10/8/2019	1/1/2019
tblFleetMix	HHD	0.10	0.80
tblFleetMix	LDA	0.53	0.20
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7510e-003	0.00
tblFleetMix	MCY	8.7220e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	1.2530e-003	0.00

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.6070e-003	0.00
tblFleetMix	SBUS	8.8700e-004	0.00
tblFleetMix	UBUS	2.1050e-003	0.00
tblLandUse	LotAcreage	0.00	160.00
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOperationalOffRoadEquipment	OperHorsePower	168.00	30.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	6.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	12.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	300.00
tblTripsAndVMT	HaulingTripNumber	0.00	85.00
tblTripsAndVMT	WorkerTripNumber	5.00	40.00
tblTripsAndVMT	WorkerTripNumber	23.00	40.00
tblVehicleTrips	CC_TL	7.30	40.00

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

tblVehicleTrips	CNW_TL	7.30	40.00
tblVehicleTrips	CW_TL	9.50	40.00
tblVehicleTrips	ST_TR	0.00	115.00
tblVehicleTrips	SU_TR	0.00	115.00
tblVehicleTrips	WD_TR	0.00	115.00

2.0 Emissions Summary

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

2.1 Overall Construction**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0482	0.4748	0.3425	7.4000e-004	0.1033	0.0223	0.1257	0.0531	0.0206	0.0737	0.0000	66.4720	66.4720	0.0143	0.0000	66.8291
Maximum	0.0482	0.4748	0.3425	7.4000e-004	0.1033	0.0223	0.1257	0.0531	0.0206	0.0737	0.0000	66.4720	66.4720	0.0143	0.0000	66.8291

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0482	0.4748	0.3425	7.4000e-004	0.0482	0.0223	0.0706	0.0229	0.0206	0.0435	0.0000	66.4719	66.4719	0.0143	0.0000	66.8290
Maximum	0.0482	0.4748	0.3425	7.4000e-004	0.0482	0.0223	0.0706	0.0229	0.0206	0.0435	0.0000	66.4719	66.4719	0.0143	0.0000	66.8290

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	53.32	0.00	43.85	57.00	0.00	41.06	0.00	0.00	0.00	0.00	0.00	0.00

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	0.2810	0.2810
2	4-1-2019	6-30-2019	0.2298	0.2298
		Highest	0.2810	0.2810

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.1878	10.4318	7.6195	0.0168		0.4975	0.4975		0.4653	0.4653	0.0000	1,469.784 3	1,469.784 3	0.4167	0.0000	1,480.201 6
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1880	10.4318	7.6210	0.0168	0.0000	0.4975	0.4975	0.0000	0.4653	0.4653	0.0000	1,469.787 1	1,469.787 1	0.4167	0.0000	1,480.204 7

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.1878	10.4318	7.6195	0.0168		0.4975	0.4975		0.4653	0.4653	0.0000	1,469.784 3	1,469.784 3	0.4167	0.0000	1,480.201 6
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.1880	10.4318	7.6210	0.0168	0.0000	0.4975	0.4975	0.0000	0.4653	0.4653	0.0000	1,469.787 1	1,469.787 1	0.4167	0.0000	1,480.204 7

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

3.0 Construction Detail**Construction Phase**

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	2/11/2019	5	30	
2	Paving	Paving	4/1/2019	5/10/2019	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	4	8.00	9	0.56
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	40.00	0.00	300.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	40.00	0.00	85.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

Water Exposed Area

3.2 Site Preparation - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2162	0.0988	1.7000e-004		0.0112	0.0112		0.0103	0.0103	0.0000	15.6894	15.6894	4.9600e-003	0.0000	15.8135
Total	0.0205	0.2162	0.0988	1.7000e-004	0.0903	0.0112	0.1015	0.0497	0.0103	0.0599	0.0000	15.6894	15.6894	4.9600e-003	0.0000	15.8135

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0391	4.9100e-003	1.2000e-004	2.5900e-003	1.1000e-004	2.7000e-003	7.1000e-004	1.1000e-004	8.2000e-004	0.0000	11.7026	11.7026	7.8000e-004	0.0000	11.7220
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7400e-003	2.3000e-003	0.0212	5.0000e-005	4.8400e-003	3.0000e-005	4.8700e-003	1.2900e-003	3.0000e-005	1.3200e-003	0.0000	4.3181	4.3181	1.6000e-004	0.0000	4.3222
Total	3.6700e-003	0.0414	0.0261	1.7000e-004	7.4300e-003	1.4000e-004	7.5700e-003	2.0000e-003	1.4000e-004	2.1400e-003	0.0000	16.0207	16.0207	9.4000e-004	0.0000	16.0442

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

3.2 Site Preparation - 2019**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2162	0.0988	1.7000e-004		0.0112	0.0112		0.0103	0.0103	0.0000	15.6893	15.6893	4.9600e-003	0.0000	15.8134
Total	0.0205	0.2162	0.0988	1.7000e-004	0.0352	0.0112	0.0464	0.0194	0.0103	0.0296	0.0000	15.6893	15.6893	4.9600e-003	0.0000	15.8134

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0391	4.9100e-003	1.2000e-004	2.5900e-003	1.1000e-004	2.7000e-003	7.1000e-004	1.1000e-004	8.2000e-004	0.0000	11.7026	11.7026	7.8000e-004	0.0000	11.7220
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7400e-003	2.3000e-003	0.0212	5.0000e-005	4.8400e-003	3.0000e-005	4.8700e-003	1.2900e-003	3.0000e-005	1.3200e-003	0.0000	4.3181	4.3181	1.6000e-004	0.0000	4.3222
Total	3.6700e-003	0.0414	0.0261	1.7000e-004	7.4300e-003	1.4000e-004	7.5700e-003	2.0000e-003	1.4000e-004	2.1400e-003	0.0000	16.0207	16.0207	9.4000e-004	0.0000	16.0442

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

3.3 Paving - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0210	0.2039	0.1950	3.1000e-004		0.0109	0.0109		0.0101	0.0101	0.0000	27.1280	27.1280	8.0000e-003	0.0000	27.3280
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0210	0.2039	0.1950	3.1000e-004		0.0109	0.0109		0.0101	0.0101	0.0000	27.1280	27.1280	8.0000e-003	0.0000	27.3280

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	0.0111	1.3900e-003	3.0000e-005	7.3000e-004	3.0000e-005	7.6000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	3.3157	3.3157	2.2000e-004	0.0000	3.3212
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7400e-003	2.3000e-003	0.0212	5.0000e-005	4.8400e-003	3.0000e-005	4.8700e-003	1.2900e-003	3.0000e-005	1.3200e-003	0.0000	4.3181	4.3181	1.6000e-004	0.0000	4.3222
Total	3.0000e-003	0.0134	0.0226	8.0000e-005	5.5700e-003	6.0000e-005	5.6300e-003	1.4900e-003	6.0000e-005	1.5500e-003	0.0000	7.6339	7.6339	3.8000e-004	0.0000	7.6434

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

3.3 Paving - 2019**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0210	0.2039	0.1950	3.1000e-004		0.0109	0.0109		0.0101	0.0101	0.0000	27.1280	27.1280	8.0000e-003	0.0000	27.3280
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0210	0.2039	0.1950	3.1000e-004		0.0109	0.0109		0.0101	0.0101	0.0000	27.1280	27.1280	8.0000e-003	0.0000	27.3280

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	0.0111	1.3900e-003	3.0000e-005	7.3000e-004	3.0000e-005	7.6000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	3.3157	3.3157	2.2000e-004	0.0000	3.3212
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7400e-003	2.3000e-003	0.0212	5.0000e-005	4.8400e-003	3.0000e-005	4.8700e-003	1.2900e-003	3.0000e-005	1.3200e-003	0.0000	4.3181	4.3181	1.6000e-004	0.0000	4.3222
Total	3.0000e-003	0.0134	0.0226	8.0000e-005	5.5700e-003	6.0000e-005	5.6300e-003	1.4900e-003	6.0000e-005	1.5500e-003	0.0000	7.6339	7.6339	3.8000e-004	0.0000	7.6434

4.0 Operational Detail - Mobile

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	40.00	40.00	40.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.200000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.800000	0.000000	0.000000	0.000000	0.000000	0.000000

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

[illegible]

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

Mitigated

[illegible]

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

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

Mitigated

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

6.0 Area Detail**6.1 Mitigation Measures Area**

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Unmitigated	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Total	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003
Total	1.4000e-004	1.0000e-005	1.4800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.8600e-003	2.8600e-003	1.0000e-005	0.0000	3.0500e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

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

7.2 Water by Land Use**Unmitigated**

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

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

7.2 Water by Land Use**Mitigated**

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

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

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

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

8.2 Waste by Land Use**Unmitigated**

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

Mitigated

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

9.0 Operational Offroad

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Crushing/Proc. Equipment	2	12.00	260	85	0.78	Diesel
Rubber Tired Loaders	5	12.00	260	203	0.36	Diesel
Excavators	2	12.00	260	158	0.38	Diesel
Forklifts	4	12.00	260	89	0.20	Diesel
Off-Highway Trucks	3	6.00	260	402	0.38	Diesel
Other Material Handling Equipment	4	12.00	260	30	0.40	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Crushing/Proc. Equipment	0.2157	1.4817	1.6974	2.7400e-003		0.0939	0.0939		0.0939	0.0939	0.0000	235.1121	235.1121	0.0174	0.0000	235.5465
Excavators	0.0955	0.9409	1.2745	2.0100e-003		0.0456	0.0456		0.0419	0.0419	0.0000	176.9429	176.9429	0.0572	0.0000	178.3736
Forklifts	0.1123	1.0121	0.9206	1.1900e-003		0.0754	0.0754		0.0694	0.0694	0.0000	104.7472	104.7472	0.0339	0.0000	105.5942
Off-Highway Trucks	0.1940	1.8494	1.1145	3.8600e-003		0.0674	0.0674		0.0620	0.0620	0.0000	339.2843	339.2843	0.1097	0.0000	342.0276
Other Material Handling Equipment	0.2056	0.8484	1.0181	8.9000e-004		0.0725	0.0725		0.0667	0.0667	0.0000	78.4306	78.4306	0.0254	0.0000	79.0648
Rubber Tired Loaders	0.3647	4.2993	1.5945	6.0900e-003		0.1427	0.1427		0.1313	0.1313	0.0000	535.2671	535.2671	0.1731	0.0000	539.5950
Total	1.1878	10.4318	7.6195	0.0168		0.4975	0.4975		0.4653	0.4653	0.0000	1,469.7843	1,469.7843	0.4167	0.0000	1,480.2016

10.0 Stationary EquipmentFire Pumps and Emergency Generators

Phelan Sheep Creek Composting Center - Mojave Desert Air Basin, Annual

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

Boilers

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

User Defined Equipment

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

11.0 Vegetation

APPENDIX 2



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

September 5, 2018

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

RE: BIOLOGICAL RESOURCES ASSESSMENT
CIRCLE GREEN "GREEN TECH PARK" PROJECT
17900 SHEEP CREEK ROAD
SAN BERNARDINO COUNTY, CA 92301

Dear Ms. Dodson,

Jericho Systems, Inc. (Jericho) is pleased to provide the results of the general biological resources assessment of the Circle Green "Green Tech Park" Project (Project). The purpose of the assessment was to identify biological resources that occur within or adjacent to the Project footprint and to determine if project-related impacts may result to those resources. This report is designed to address potential effects of the proposed Project to designated critical habitat and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS). This report is focused on species known to occur in the vicinity or region, which are specifically the State-threatened Mohave ground squirrel (*Xerospermophilus mohavensis*; MGS), State and federally-threatened desert tortoise (*Gopherus agassizii*; DT), and State Species of Special Concern burrowing owl (*Athene cuniculara*; BUOW).

PROJECT DESCRIPTION

The proposed Green Tech Park facility would be a California regulated composting Full Tier permitted Facility that will comply with Federal, State, and local requirements designed to responsibly and safely manage the materials proposed for processing on site. Circle Green proposes to create a green and food waste composting facility.

The project site contains an existing solar generation farm that will remain in place on the northeast corner of the site. The project site also includes an existing residence that is currently occupied and leased from Phelan Piñon Hills Community Services District (PPHCSD) that will remain occupied for the foreseeable future.

PROJECT LOCATION

The proposed Project is located at the former approximately 160-acre Meadowbrook Dairy within an unincorporated portion of San Bernardino County, within the PPHCSD service area. The former dairy is now owned by PPHCSD, and the Project proponent leases the Project site from the PPHCSD.

The Project is located in an unincorporated area in San Bernardino County, California (Appendix A; Figure 1). The project site is depicted on the *Shadow Mountain SE* quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Section 26, Township 6 North, Range 7 West. It is located on Assessor's Parcel Number 3064-491-14. It is located north of Highway 18, south of the El Mirage Road and east of the Highway 395 (Figure 2).

METHODS

Data regarding biological resources in the Project area were obtained through literature review and field investigations. Background information was gathered prior to visiting the site in order to determine which species would be expected in the Project vicinity. For the database search, the *Shadow Mountain SE* was used. The Project area's proximity to the *Shadow Mountain*, and *El Mirage* USGS 7.5-minute series quadrangle led to their inclusion in the database search as well.

The California Natural Diversity Database (CNDDDB) *Rarefind 5* and the CNPS *Electronic Inventory of Rare, Endangered, and Threatened Plants of California* (CNPSEI) were reviewed for USGS's *Shadow Mountain SE*, *Shadow Mountain* and *El Mirage* 7.5-minute quadrangles. These databases contain records of reported occurrences of State and/or federally-listed endangered or threatened species, proposed endangered or threatened species, California Species of Special Concern (SSC), or otherwise sensitive species or habitats that may occur within or in the immediate vicinity of the Project. Literature detailing biological resources previously observed in the vicinity of the Project and historical land uses were reviewed to understand the extent of disturbances to the habitats within the proposed project area.

The Project is also located in the County of San Bernardino's Biotic Resources Overlay for the following State sensitive species: Desert Tortoise and Mohave Ground Squirrel, and within 5 miles from the overlay for Burrowing Owl.

Field surveys were conducted on the Project site on August 22, 2018 by Jericho biologists Shannon Dye and Todd White. Plant communities were evaluated for their potential to support sensitive plant and wildlife species. The site was surveyed via pedestrian survey, with transects placed every 50 feet (15 meters) to ensure 100 percent visual coverage of the site. A 200-foot buffer was also surveyed to cover any adjacent occurrences. Particular attention was paid to burrows, which were evaluated with regards to size, tracks, and other markings for their potential to house sensitive species.

DATABASE RESULTS

According to the CNDDDB, 5 sensitive species (4 vertebrate species and 1 invertebrate species) have been documented to occur in the *Shadow Mountain*, *Shadow Mountain SE* and *El Mirage* USGS 7.5-minute series quadrangles. Refer to Appendix C, Potential to Occur Table, for a complete list of the sensitive species documented within the *Shadow Mountain*, *Shadow Mountain SE* and *El Mirage* quads. This also has an analysis of the potential of each species to occur on or near the project site.

Critical Habitat

There is no critical habitat present within the Project site. The nearest critical habitat is approximately 10 miles to the north.

FIELD RESULTS

Habitat

The entire 160-acre site is primarily characterized as bare ground, manure berms, piles and ground cover layers, concrete pads and footings. A north-south trending windrow of eucalyptus trees splits the site into western and eastern halves, each approximately 80 acres.

The western portion is primarily composed of two circular 25-acre circumference pivot irrigation fields, manure berms, two triangular catch basin reservoirs (each approximately 1.3 and 1.8 acres) situated between and just east of the irrigation fields, and a fallow 8.5-acre lot just north of the northern pivot irrigation field. This western half is almost exclusively bare ground with sparse weedy species (*Hirschfeldia incana*, *Salsola* sp.) distributed throughout.

The eastern half is also highly disturbed, with an approximately 1.4-acre catch basin reservoir, a residence and other structures including a solar farm and concrete pads. Approximately 80 percent of this section is composed of concrete pads with sparse weedy species (*Hirschfeldia incana*, *Salsola* sp.) growing within the cracks in the pads and in the catch basin. Bare ground and sparse weedy species constitute the remainder of this section.

Within the 200-foot buffer area around the site, the habitat is primarily composed of creosote bush scrub (*Larrea tridentata*) with varying degrees of disturbance along the north, south and west. The eastern boundary of the Project site is Sheep Creek Road. The north and south buffer areas have been partially cleared and impacted by vehicle traffic, with sparsely distributed creosote bush and weedy understory. The western buffer area is higher quality habitat overall although the buffer area immediately adjacent to the western edge of the Project site has been impacted by proximity to previous land uses at the site.

Several animal species were observed throughout the Project site during the survey which included ravens (*Corvus corax*), mourning dove (*Zenaida macroura*), great-horned owl (*Bubo virginianus*), side-blotched lizard (*Uta stansburiana*), and domestic dog.

Special Status Species

There would be no special status species that would occur on the Project site due to the level of development and disturbance.

Species of particular interest to the regulatory agencies that may occur within habitat similar to that found adjacent to the Project site include Mohave ground squirrel (MGS), desert tortoise (DT), and burrowing owl (*Athene cuniculara*; BUOW). These species are discussed below.

Burrowing Owl

BUOW are a State Species of Special Concern and are protected federally under the Migratory Bird Treaty Act. The pedestrian survey of the site was designed to visually detect BUOW and/or sign of BUOW use of the project site. No BUOW individuals or sign, including feathers, casting, whitewash, or burrows were observed in the survey. No suitable burrows were observed on the project site, however. Per the definition provided in the 2012 CDFG Staff Report on Burrowing Owl Mitigation, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of

year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey.”

Due to the lack of burrow surrogates or mammal dens, the Project site does not contain suitable habitat for this species. However, once the catch basins, agricultural areas and fallow areas are inactive, these areas may pose attractive habitat for other burrowing species such as California ground squirrel, in which case the habitat would then be potentially suitable for BUOW.

Mohave Ground Squirrel

MGS is listed as Threatened under the CESA. Although a focused Mohave ground squirrel trapping survey was not performed, Jericho conducted a Mohave ground squirrel habitat suitability assessment of the proposed project site. The pedestrian survey and review of reported occurrences of the MGS in the region combined with adherence to CDFW’s criteria for assessing potential impacts to the MGS. The criteria questions are as follows:

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

The Project site is located within the historic range of the MGS but is outside of any MGS Conservation Areas (Figure 3). The site is also identified as within the San Bernardino County Biotic Resources area for Mohave ground squirrel. As per the CNDDB, there are three historic MGS occurrences documented in the *Shadow Mountain SE*, *Shadow Mountain*, and *El Mirage* quads. The nearest and most recent occurrence of MGS is approximately 1.2 miles to the north of the Project site near the intersection of El Mirage and Sheep Creek Roads and was documented in 1972 (Figure 5).

The site is within the historic range of the MGS, however, the site is fully disturbed and does not have the diverse native shrub layer required to support this species. No native habitat occurs on site, and no MGS were observed within the Project site or buffer area and none are expected to occur.

Desert Tortoise

DT is listed as Threatened under both the CESA and the ESA. DT are known to occur in the general vicinity of the Project site. However, the Project site is fully disturbed, and no suitable habitat exists on the project. The survey of the project site did not locate any signs of DT. No burrows of sufficient size or appropriate aspect were observed during the survey. No DT are expected to occur on the Project site or within the buffer area.

CONCLUSIONS

Special Status Species

No listed species were observed on the project site and none are expected to occur. DT and MGS are not currently on the Project site and are not expected to occur. BUOW were not observed on the project site. No suitable burrows for any of these three species were observed within the project site boundaries or within the 200-foot buffer area. However, BUOW do have the potential to move into the project area, as

potentially suitable habitat exists onsite around the catch basins and fallow areas should species such as California ground squirrels move onto the site and create burrows.

Recommendation: Should future development occur on this site within the undeveloped areas of the western half of the site, a BUOW survey is recommended within 30 days prior to commencement of any construction activities to ensure no BUOW individuals have moved onto the site between the time of this survey and the time of construction.

Critical Habitat

No critical habitat exists on the project site. No action would be required.

Migratory Birds

Migratory birds that are may be sensitive to human disturbance have the potential to occur on the project site, and nesting habitat exists onsite.

Recommendation: Bird nesting season generally extends from February 1 through September 15 in southern California and specifically, April 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist will conduct pre-construction Nesting Bird Surveys (NBS) prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required. If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

JURISDICTIONAL WATERS DETERMINATION

The purpose of the jurisdictional delineation is to determine the extent of State and federal jurisdictional waters within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively. Federal CWA jurisdiction exists over every water body (including intermittent and ephemeral streams) determined to have a significant nexus with a traditionally navigable water. State jurisdiction exists over drainage features with a bed and bank that holds biological value for fish and wildlife resources as defined by Section 1602 of the FGC.

Prior to the field visit, aerial photographs of the site were viewed and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site.

No historical or current jurisdictional waters were identified during map and database searches for the Project site, and no jurisdictional features on, coming into, through, or out of the project site were identified during the field visit.

The three catch basins identified on site are man-made depressions designed to catch and collect the runoff and manure discharge from the former dairy cattle operations conducted on the site and do not meet any of the criteria necessary for a regulated waters feature.

CERTIFICATION

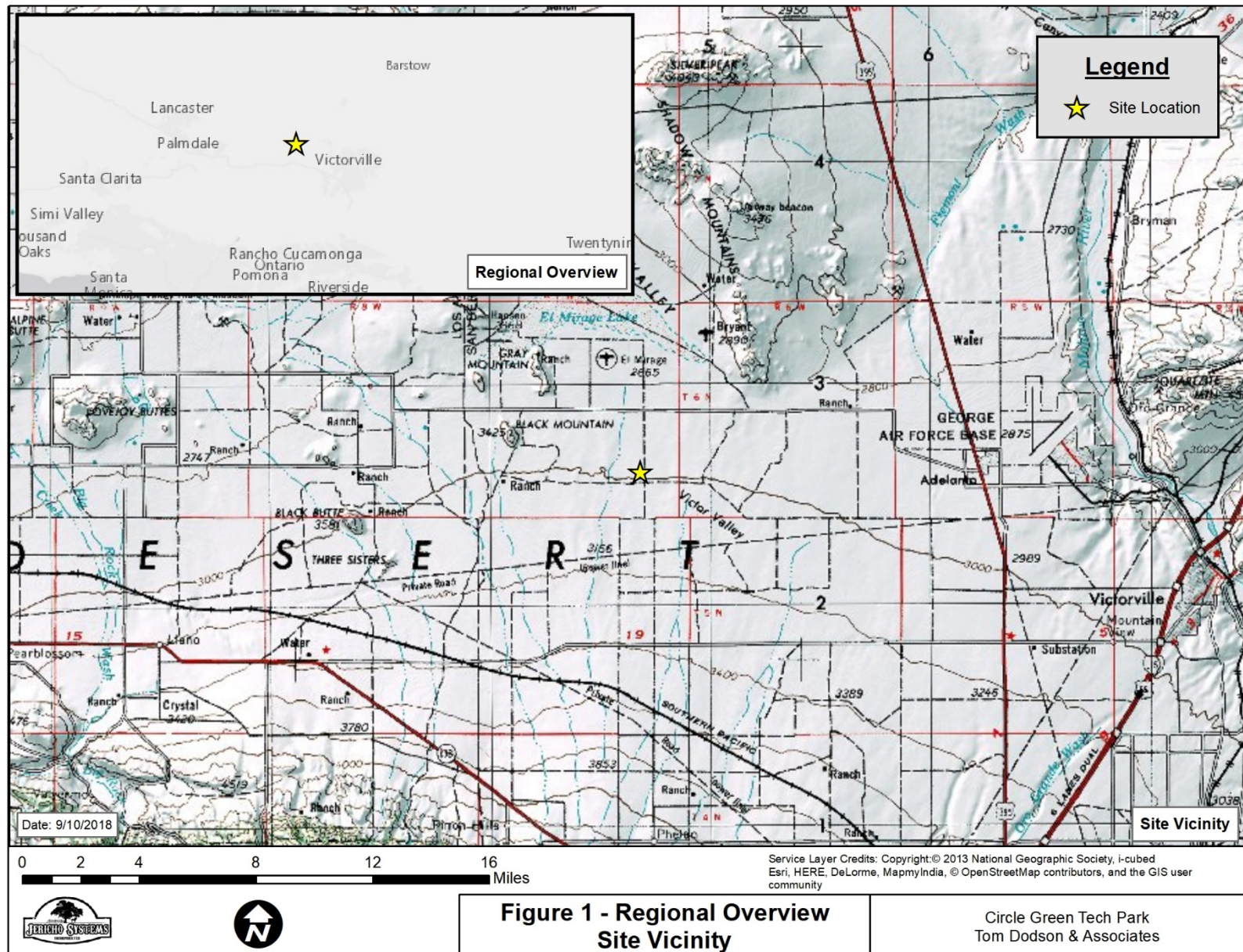
I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared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

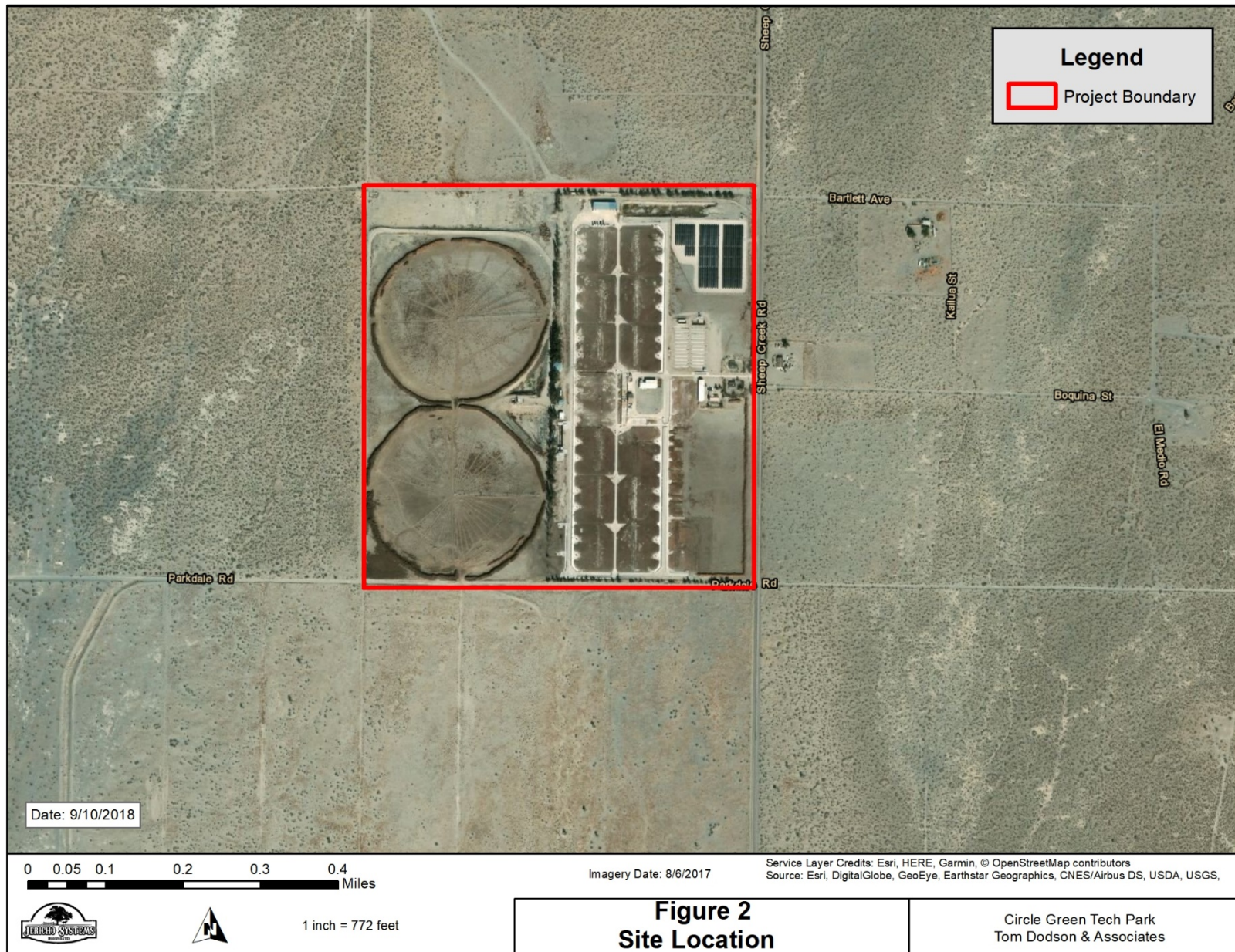


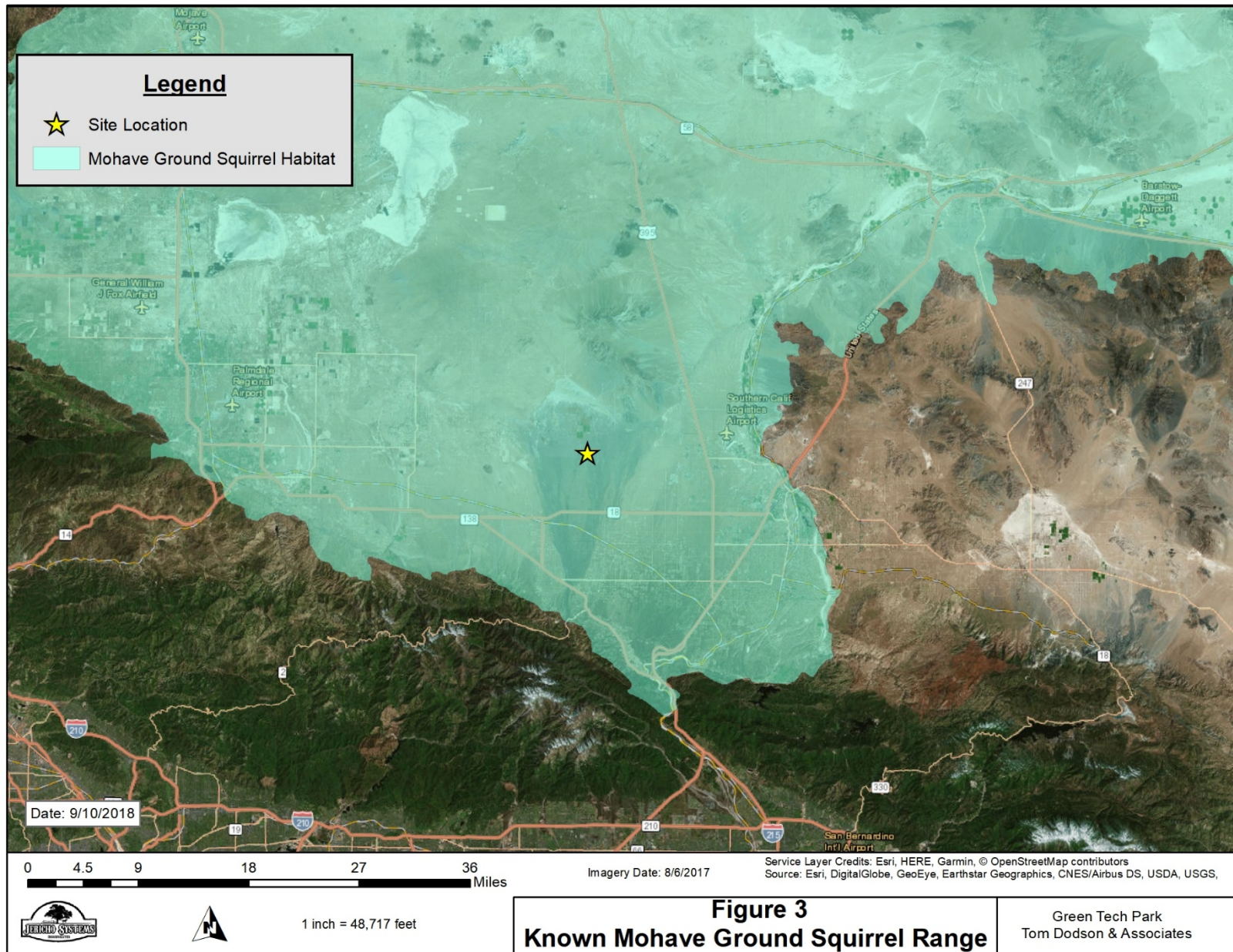
Shay Lawrey, Ecologist/Regulatory Specialist

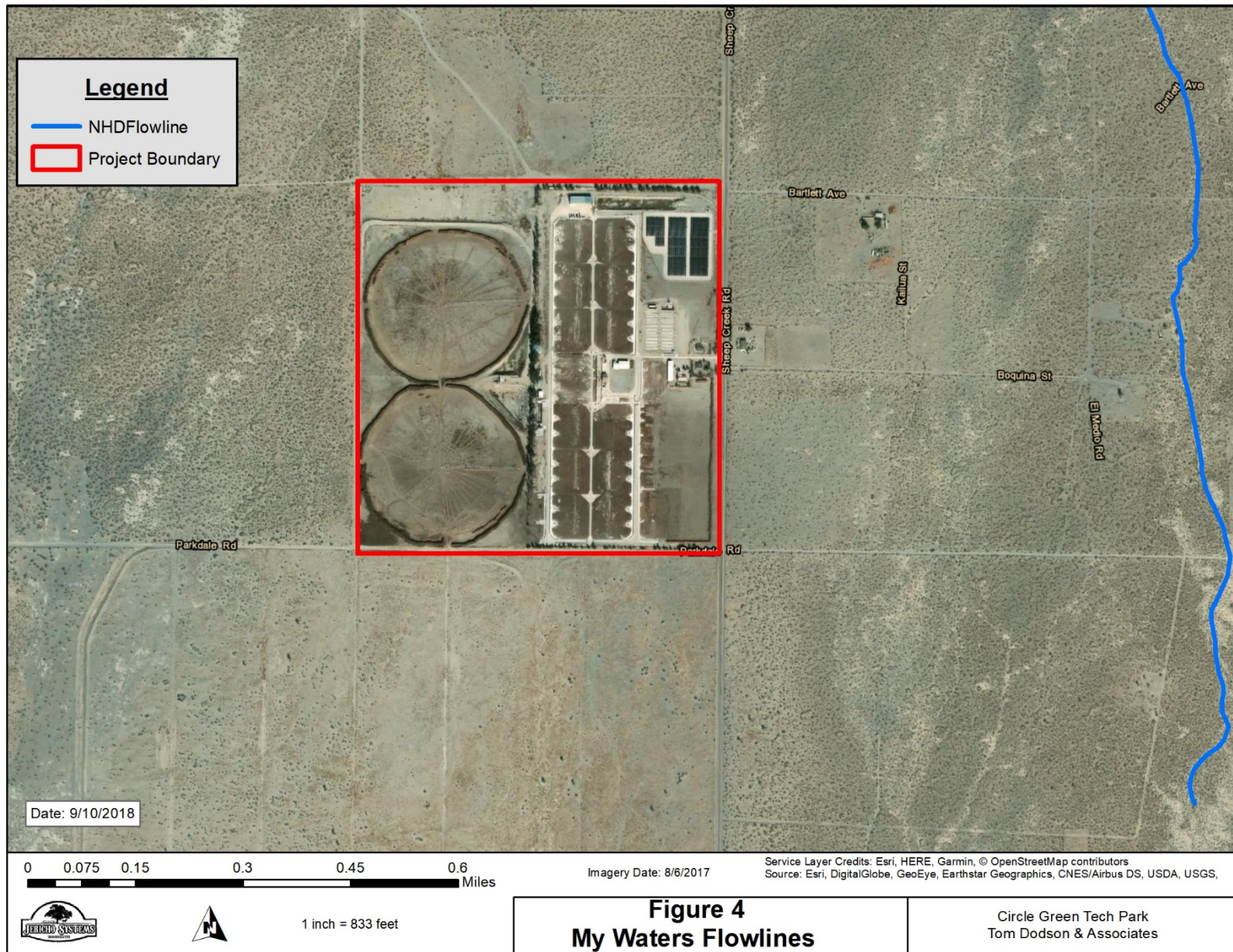
Appendices:

- Appendix A. Figures
- Appendix B. Site Photographs
- Appendix C. Potential to Occur Table









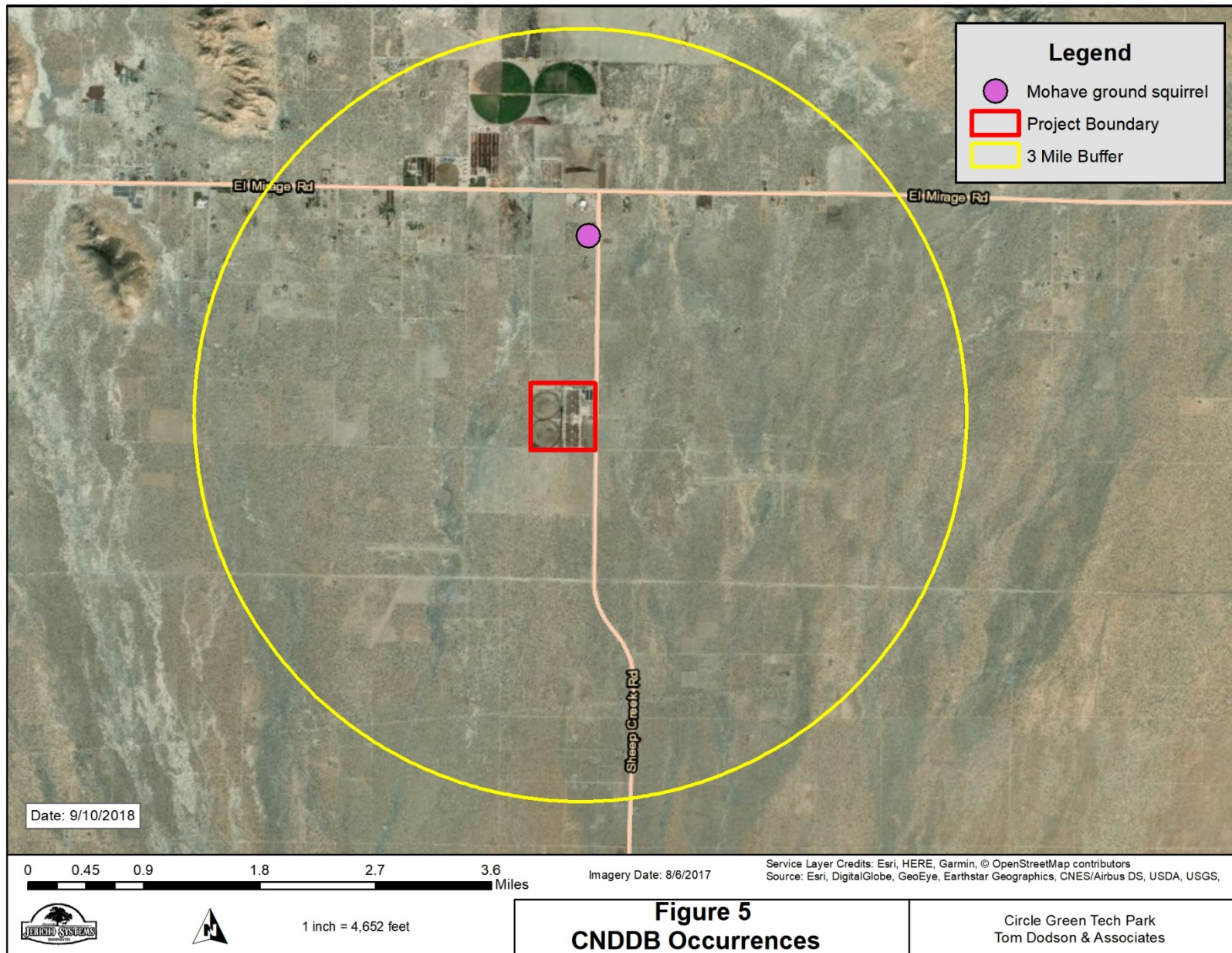




Photo 1. Looking west over southern catch basin adjacent to pivot irrigation fields.



Photo 2. Looking south along concrete and building infrastructure of former dairy



Photo 3.
Looking west
over the catch
basin just north
of the solar field.



Photo 4.
Degraded and
impacted
creosote bush
scrub habitat
along the buffer
area north of the
project site.



Photo 5.
Degraded and
impacted
creosote bush
scrub habitat
along the buffer
area south of the
project site.



Photo 6.
Aerial looking
west over catch
basin along
northern site
boundary



Photo 7.
Aerial looking
from northeast to
southwest over
the project site



Photo 8.
Aerial looking
from southeast to
northwest over
the project site



Photo 9.
Aerial looking
from south to
north over
eastern 80 acres
of project site



Photo 10.
Aerial looking
from eastern
center of project
site towards the
southwest.

Scientific Name	Common Name	State/Federal Ranking	Other Rankings	Habitat	Potential to Occur
<i>Bombus crotchii</i>	Crotch bumble bee	None/None	G3G4, S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Project site is fully disturbed. No suitable habitat to support this species occurs onsite. Potential to occur is low .
<i>Charadrius montanus</i>	mountain plover	None/None	G3, S2S3 SSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	Project site is fully disturbed. No suitable habitat to support this species occurs onsite. Potential to occur is low .
<i>Eumops perotis californicus</i>	western mastiff bat	None/None	G5T4, S3S4 SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Project site is fully disturbed. No suitable habitat to support this species occurs onsite. Potential to occur is low .
<i>Gopherus agassizii</i>	desert tortoise	Threatened/ Threatened	G3, S2S3	Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	Project site is fully disturbed. No suitable habitat to support this species occurs onsite. Potential to occur is low .
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	Threatened/ None	G2G3, S2S3	Open desert scrub, alkali scrub & Joshua tree woodland. Also feeds in annual grasslands. Restricted to Mojave Desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Project site is fully disturbed. No suitable habitat to support this species occurs onsite. Potential to occur is low .

APPENDIX 3

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

GREEN TECH PARK PROJECT

**17900 Sheep Creek Road, a Portion of APN 0457-161-10
Phelan-Piñon Hills Area, San Bernardino County, California**

For Submittal to:

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

Prepared for:

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

Prepared by:

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

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

September 4, 2018
CRM TECH Contract No. 3368

Title: Historical/Archaeological Resources Survey Report: Green Tech Park Project, 17900 Sheep Creek Road, a Portion of APN 0457-161-10, Phelan-Piñon Hills Area, San Bernardino County, California

Author(s): Bai “Tom” Tang, Principal Investigator/Historian
Terri Jacquemain, Historian/Report Writer
Daniel Ballester, Archaeologist/Field Director
Nina Gallardo, Archaeologist/Native American Liaison

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

Date: September 4, 2018

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

Prepared for: Kaitlyn Dodson
Tom Dodson and Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405
(909) 882-3612

USGS Quadrangle: Shadow Mountains SE, Calif., 7.5’ quadrangle (Section 26, T6N R7W, San Bernardino Baseline and Meridian)

Project Size: Approximately 88 acres

Keywords: Victor Valley, southwestern Mojave Desert; Phase I historical/ archaeological resources survey; no “historical resources” affected

MANAGEMENT SUMMARY

In July and August, 2018, at the request of Tom Dodson and Associates, CRM TECH performed a cultural resources study on approximately 88 acres of former dairy land in the unincorporated Phelan-Piñon Hills area of San Bernardino County, California. The subject property of the study consists of the east half of Assessor's Parcel No. 0457-161-10, located on the west side of Sheep Creek Road and between Bartlett Avenue and Parkdale Road, in the southeast quarter of Section 26, T6N R7W, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the Green Tech Park Project. The project sponsor, Circle Green, Inc., proposes to adapt existing facilities left on the property by the defunct Meadowbrook Dairy for use as a green and food waste composting facility. The Phelan Piñon Hills Community Services District (PPHCSD), as the property owner and the lead agency, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the PPHCSD with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and carried out an intensive-level field survey of the entire project area. Through the various avenues of research, this study did not encounter any "historical resources" within the project area. Therefore, CRM TECH recommends to the PPHCSD a finding of *No Impact* on cultural resources, pending the completion of Native American consultation process by the City pursuant to Assembly Bill 52 to ensure the proper identification of potential "tribal cultural resources."

In light of the results of the study, CRM TECH recommends no further cultural resources investigation for the project unless development plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered inadvertently during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds. Human remains discovered during the project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98.

TABLE OF CONTENTS

MANAGEMENT SUMMARY	i
INTRODUCTION	1
SETTING.....	4
Current Natural Setting	4
Cultural Setting	5
Prehistoric Context.....	5
Ethnohistoric Context	5
Historic Context	6
RESEARCH METHODS	7
Records Search.....	7
Native American Participation.....	7
Historical Research	8
Field Survey	8
RESULTS AND FINDINGS	8
Records Search.....	8
Native American Participation.....	9
Historical Research	9
Field Survey	11
DISCUSSION	11
CONCLUSION AND RECOMMENDATIONS	12
REFERENCES	13
APPENDIX 1: Personnel Qualifications	15
APPENDIX 2: Correspondence with Native American Representatives.....	21

LIST OF FIGURES

Figure 1. Project vicinity.....	1
Figure 2. Project location	2
Figure 3. Aerial view of the project area	3
Figure 5. The project area and vicinity in 1853-1856.....	9
Figure 6. The project area and vicinity in 1930-1937.....	10
Figure 7. The project area and vicinity in 1954-1955.....	10
Figure 8. Well 20 and 1959 date stamp	11

INTRODUCTION

In July and August, 2018, at the request of Tom Dodson and Associates, CRM TECH performed a cultural resources study on approximately 88 acres of former dairy land in the unincorporated Phelan-Piñon Hills area of San Bernardino County, California (Fig. 1). The subject property of the study consists of the east half of Assessor's Parcel No. (APN) 0457-161-10, located on the west side of Sheep Creek Road and between Bartlett Avenue and Parkdale Road, in the southeast quarter of Section 26, T6N R7W, San Bernardino Baseline and Meridian (Figs 2, 3).

The study is part of the environmental review process for the Green Tech Park Project. The project sponsor, Circle Green, Inc., proposes to adapt existing facilities left on the property by the defunct Meadowbrook Dairy for use as a green and food waste composting facility. The Phelan Piñon Hills Community Services District (PPHCSD), as the property owner and the lead agency, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the PPHCSD with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

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

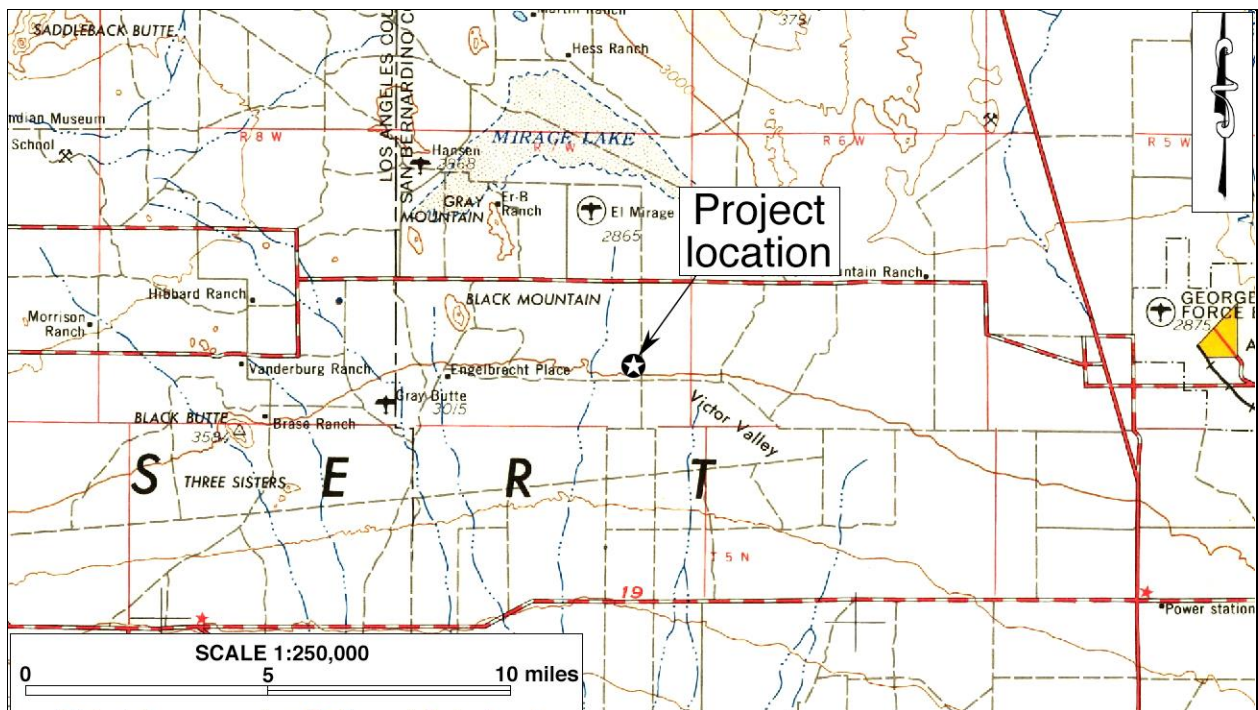


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 1:250,000 quadrangle [USGS 1969])

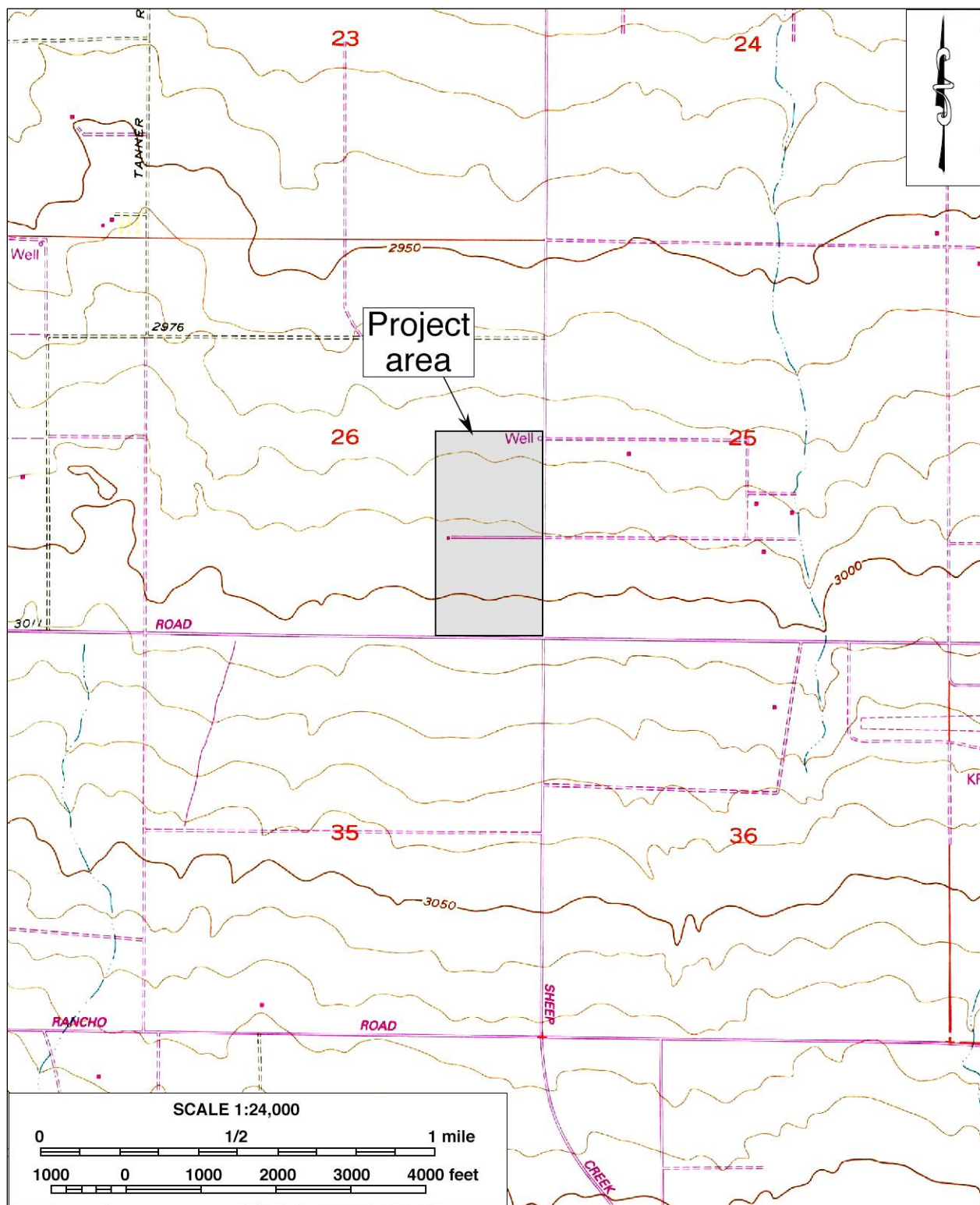


Figure 2. Project location. (Based on USGS Shadow Mountains SE, Calif., 1:24,000 quadrangle [USGS 1993])

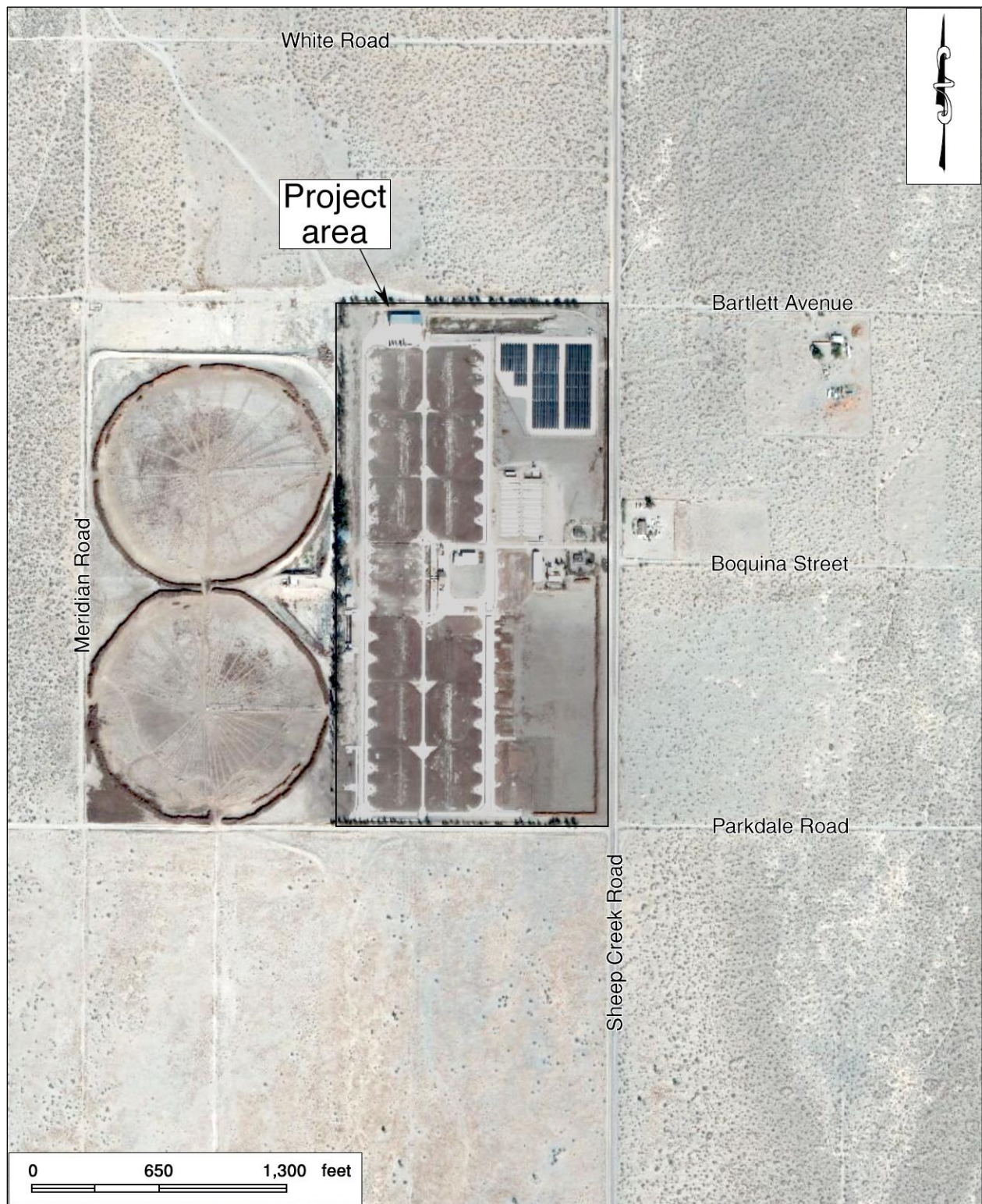


Figure 3. Aerial view of the project area.

SETTING

CURRENT NATURAL SETTING

The project area is situated in the western portion of the Victor Valley, which lies on the southwestern rim of the Mojave Desert, just to the north of the San Bernardino-San Gabriel mountain ranges. Dictated by this geographic setting, the climate and environment in the area is typical of the high desert country, so named because of its relatively higher elevation than the Colorado Desert region to the southeast. The climate is marked by extremes in temperature and aridity, with summer highs reaching well over 110°F and winter lows dipping below freezing. Average annual precipitation is less than five inches.

The project area occupies the eastern half of the former Meadowbrook Dairy property and contains a number of built-environment features associated with the dairy operation, such as an open hay barn, large grain and water tanks, water troughs, an industrial scale, and a number of concrete pads (Figs. 3, 4). Also present on the property are several buildings, including a residence, a modular office, and metal sheds of various sizes. Besides the former dairy, a solar farm and a PPHCSD well occupy the northeastern portion of the property. A power transmission line runs in a north-south direction along the eastern project boundary, and a row of eucalyptus trees separates the project area from fallowed agricultural fields on the western half of the 157.57-acre parcel.

The surrounding area consists predominantly of open desert land in a native state with a few scattered rural residential properties (Fig. 3). The terrain in the vicinity is relatively level, and the elevations within the project boundaries range from 2,973 feet to 3,013 feet above mean sea level, with a slight incline to the south. Native soils in the area are composed of a gray silty-sandy loam mixed with small rocks. However, the ground surface in the project area has been extensively disturbed by past dairy farming and construction activities and is now mostly covered by consolidated cow manure and/or imported gravel (Fig. 4). The sparse vegetation growth features



Figure 4. Overview of the project area, view to the east. (Photograph taken on July 24, 2018)

mainly tumbleweeds (Russian thistle) and the typical small desert grasses and shrubs with introduced landscaping plants near the buildings.

CULTURAL SETTING

Prehistoric Context

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

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

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

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

Ethnohistoric Context

The project area is a part of the homeland of the Vanyume people, linguistically a sub-group of the Serrano population immediately to the south. The traditional territory of the Serrano is centered in

the San Bernardino Mountains, but also includes portions of the San Bernardino Valley and the southern rim of the Mojave Desert. The Vanyume people settled mainly on the desert floor along the Mojave River and its tributaries. The basic written sources on Serrano and Vanyume culture are Kroeber (1925), Strong (1929), and Bean and Smith (1978). The following ethnographic discussion is based on these sources.

Prior to European contact, the Serrano were primarily hunter-gatherers and occasionally fishers. They were loosely organized into exogamous clans, which were led by hereditary heads, and the clans in turn, were affiliated with one of two exogamous moieties. The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit, the core of which was the patrilineage. There was no pan-tribal political union among the clans.

Families lived in circular, domed structures made from willow and tule thatching and containing a central fire pit. These homes were used mainly for sleep and storage, while most of the daily household activities occurred in the open or under the shade of a ramada. Other important structures in Serrano life were large ceremonial house, granaries and sweat lodges, the last being a circular semi-subterranean hut framed with willow, covered with earth, and having only one entrance. In terms of Serrano technology, shells, wood bone stone, and plant fibers were employed to create everyday household and tools, as well as fashion decorative baskets and blankets.

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano and Vanyume lifeways was negligible until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano territory. Between then and the end of the mission era in 1834, most of the Serranos were removed to the nearby missions, while the number of Vanyumes, never large, dwindled rapidly until the group virtually disappeared well before 1900. Today, most of the Serrano descendants are affiliated with the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, or the Serrano Nation of Indians.

Historic Context

The Victor Valley region received its first European visitor, the famed Spanish missionary and explorer Francisco Garcés, in 1776, and the first Euroamerican settlements appeared in the valley as early as 1860 (Peirson 1970:128). Despite these “early starts,” due to its harsh environment, development in the arid high desert country of southern California was slow and limited for much of the historic period, and the Victor Valley remained only sparsely populated until the second half of the 20th century.

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

Thanks to the availability of fertile lands and the abundance of ground water, agriculture played a dominant role in the early development of the Victor Valley area (McGinnis 1988). During the late 19th and early 20th centuries, settlers in the valley attempted a number of money-making staples, such as alfalfa, deciduous fruits, and poultry, with only limited success. Around the turn of the century, large deposits of limestone and granite were discovered, prompting cement manufacturing to become the leading industry in the valley (City of Victorville n.d.). During and after World War II, George Air Force Base, established in 1941, added a new driving force in the local economy with its 6,000 military and civilian employees. After being deactivated in 1992, the former base was converted for civilian use as the Southern California Logistics Airport.

Since the 1980s, development the Victor Valley has been characterized by the emergence of its leading urban enclaves as “bedroom communities” in support of the industrial and commercial centers in the Greater Los Angeles area. Spearheaded by the City of Victorville, the Town of Apple Valley, and the City of Hesperia on Interstate Highway 15, the desert valley has been one of the fastest growing regions in California over the last few decades. The Phelan-Piñon Hills area in the western Victor Valley, in contrast, has largely remained outside the influence of the recent suburban expansion, and to this day retains much of its rural character.

RESEARCH METHODS

RECORDS SEARCH

The records search for this study was based on information previously gathered from the South Central Coastal Information Center (SCCIC) for other projects in close proximity, which was last updated in February 2018 (Tang et al. 2014; 2016; 2018). Located on the campus of California State University, Fullerton, the SCCIC is the State of California’s official cultural resource records repository for the County of San Bernardino. During the records search, CRM TECH archaeologists Nina Gallardo and Ben Kerridge examined maps and records on file at the SCCIC for previously identified cultural resources and existing reports within a one-mile radius of the project area. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or San Bernardino County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

NATIVE AMERICAN PARTICIPATION

To aid in the identification of potential Native American cultural resources in the project vicinity, on July 6, 2018, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission’s sacred lands file (see App. 2). Following the NAHC’s recommendations and previously established consultation protocol, on July 16 CRM TECH further contacted representatives of three Native American tribes of Serrano heritage in writing for additional information on potentially significant Native American cultural resources in or near the project area. The correspondence between CRM TECH and the Native American representatives is summarized in the sections below, and a complete record of communications is attached to this report as Appendix 2.

HISTORICAL RESEARCH

Historical background research on the project area and the existing features on the property was conducted by CRM TECH historian Terri Jacquemain on the basis of the following sources:

- Published literature in local and regional history;
- U.S. General Land Office land survey plat maps dated 1856, on file the California Desert District of the U.S. Bureau of Land Management in Moreno Valley;
- U.S. Geological Survey (USGS) topographic maps dated 1937-1993, on file at the Science Library of the University of California, Riverside;
- Aerial photographs taken in 1952-2018, available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software;
- Real property information database of the San Bernardino County Assessor's Office;
- Genealogical databases available at Ancestry.com and other online databases;
- Personal communication with Sean Wright, PPHCSD Water Operations Manager.

FIELD SURVEY

On July 24, 2018, CRM TECH field director Daniel Ballester and project archaeologists Salvatore Boites and John Goodman II carried out the intensive-level field survey of the project area. The survey was completed on foot by walking a series of parallel north-south transects spaced 20 meters (approximately 65 feet) apart. Where the transect system was interrupted by buildings or structures, the survey crew stayed as close to the courses of the transects as possible and inspected the ground surface wherever it was exposed. In this way, the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older). Visibility of the native ground surface was poor (virtually 0%) where pavement, imported gravel, or dense vegetation were present but was good (80-100%) in the absence of such ground covers (Fig. 4).

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, three previous cultural resources studies have included portions of the project area. One of these occurred near the southeastern corner of the property for a telecommunication tower project in 2006 (Richard Brandman Associates 2006), a second one was conducted in 2014 on the 12-acre solar farm site in the northeastern portion of the property (Tang et al. 2014), and the most recent one, completed in 2016, entailed a linear survey along a dirt road running east-west across the middle of the project area (Tang et al. 2016). No cultural resources were identified within the project boundaries during any of these studies, and the rest of the property had not been surveyed systematically prior to this study.

Outside the project area but within the one-mile radius, at least three other surveys have evidently taken place, although the final reports for these surveys are yet to be submitted to or processed by the SCCIC, and two historical/archaeological sites have been identified as a result. One of the sites,

designated 36-010523, was a historic-period refuse scatter consisting primarily of metal cans, which was recorded about a half-mile to the north of the project location in 2000. The other site, 36-026771, represented a scatter of prehistoric—i.e., Native American—chipped-stone artifacts recorded in 2012 approximately three-quarters of a mile to the east. Since neither of these two sites was found in the immediate vicinity of the project area, they require no further consideration during this study.

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC reports in a letter dated July 10, 2018, that the Sacred Lands File identified no Native American cultural resources in the project area but recommends that local Native American groups be contacted for further information. For that purpose, the NAHC provided a list of potential contacts in the region (see App. 2). Upon receiving the NAHC's reply, CRM TECH sent written requests for comments to the three tribes with Serrano contingents on the referral list (see App. 2). In lieu of the individuals recommended by the NAHC, CRM TECH contacted the designated spokespersons on cultural resources issues for each tribe, as previously directed by the tribal government staff:

- Alicia Benally, Cultural Resource Specialist, Morongo Band of Mission Indians;
- Jessica Mauck, Cultural Resources Analyst, San Manuel Band of Mission Indians;
- Mark Cochrane, Chairperson, Serrano Nation of Indians.

As of this time, only Jessica Mauck of the San Manuel Band has provided a response. In an e-mail dated July 18, 2018, Ms. Mauck states that in light of the extent of previous ground disturbances on the property, the San Manuel Band of Mission Indians is unlikely to have any concerns regarding this project (see App. 2).

HISTORICAL RESEARCH

Historical sources consulted for this study suggest that the project area is low in sensitivity for cultural resources from the historic period. In the 1850s, when the U.S. government conducted the first systematic land survey in the Victor Valley area, no evidence of any human activities was observed in the project vicinity (Fig. 5). Nearly a century later, the project area and the adjacent properties remained largely unaltered by human activities in the 1930s-1950s, and the only man-made features known to be present within or adjacent to the project boundaries were two primitive dirt roads along the present-day alignments of Sheep Creek Road and Parkdale Road (Figs. 6, 7; NETR Online 1952; 1954).

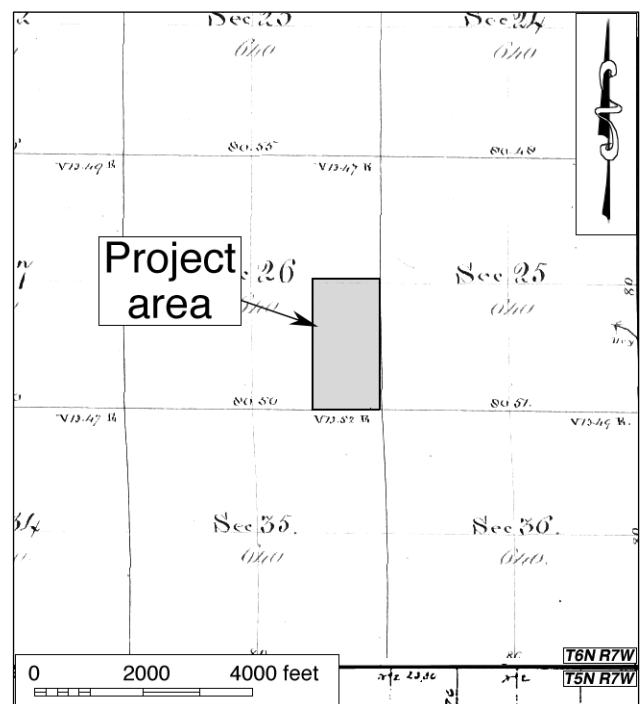


Figure 5. The project area and vicinity in 1853-1856.
(Source: GLO 1856a; 1856b)

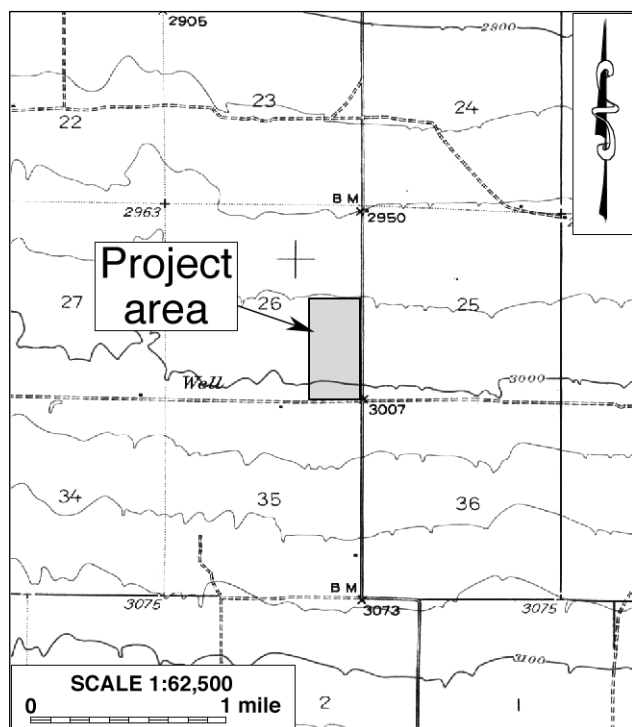


Figure 6. The project area and vicinity in 1930-1937.
(Source: USGS 1937)

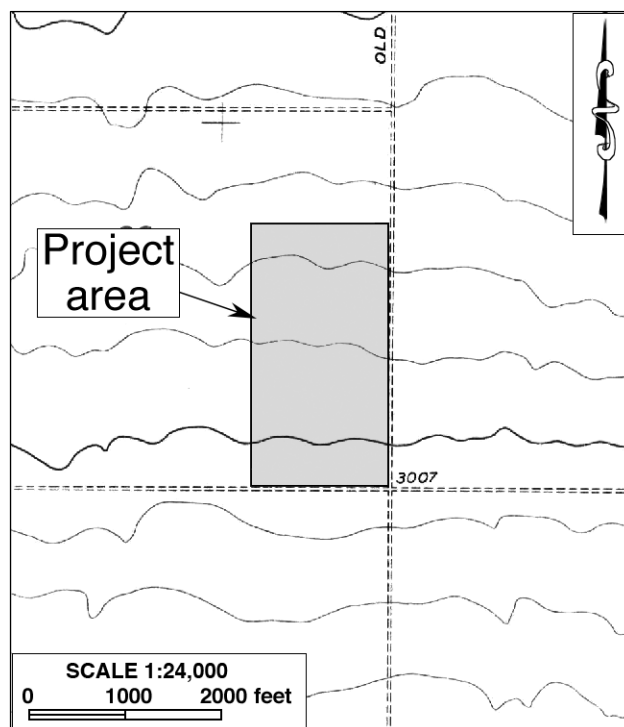


Figure 7. The project area and vicinity in 1954-1955.
(Source: USGS 1955)

As of 1968, the entire area within what is now APN 0457-161-10 was under cultivation as agricultural fields (NETR Online 1968). According to PPHCSD records, two wells were drilled somewhere on the parcel in 1957 and 1963 (Wright 2018), which suggests that the farming operations had begun at least a decade before 1968. Presumably, the well located in the northeastern corner of the project area today is one of them. Archival records indicate that the owner of APN 0457-161-10 in 1976 was “Pyramid” (County Assessor n.d.). Alfonso J. and Shirley Keel acquired the property around 1981 and in turn deeded it to Edward Alan Imsand in 1984 (*ibid.*).

In July 1984, Edward Imsand incorporated the Meadowbrook Dairy as a limited partnership (Corporationwiki n.d.). By 1994, the dairy farm was in full operation in the current project area, with a large number of the buildings and structures in place, including rows of metal canopies built over the concrete pads, while the western half of the parcel remained under cultivation (NETR Online 1994; Google Earth 1994; Tang et al. 2014:4). A native of San Bernardino, Imsand evidently also operated a second dairy in Inyokern (Ancestry n.d.; Bizapedia n.d.). In 2008, he organized the Meadowbrook Dairy Real Estate, LLC, which subsequently became the owner of the parcel (Bizapedia n.d.; County Assessor n.d.).

The PPHCSD acquired APN 0457-161-10 in 2012, and by March 2013 the dairy cows had been removed from the property (County Assessor n.d.; NETR Online 2012; Google Earth 2013). Over the next two years, many of the buildings in the project area were demolished, including all of the large metal canopies (Google Earth 2013; 2015). The solar farm in the northeastern portion of the project area was completed in 2015-2016 (Google Earth 2015; 2016). Since then, no major changes in land use have been observed in the project area (Google Earth 2016; 2017).

FIELD SURVEY

During the field survey, the well in the northeastern corner of the project area was found to be the only feature on the property that is more than 50 years of age. As mentioned above, the well is evidently one of the two drilled on APN 0457-161-10 in the 1957-1963 era. A nearby sign identifies it as PPHCSD Well #20, and a coupling on the apparatus bears a date stamp of 1959 (Fig. 8). The well apparatus is of standard design and a well-documented variety (Wright 2018), and does not exhibit any special or remarkable qualities.

No other buildings, structures, objects, sites, features, or artifacts more than 50 years of age were encountered during the survey. Historical data indicate that with the exception of the well, all existing buildings and other built-environment features in the project area postdate 1968, and the majority of them evidently postdate the establishment of the Meadowbrook Dairy in 1984 (see above). Field observations confirm that these features are clearly modern in origin, and their overall appearance is consistent to the post-1984 era.



Figure 8. Well 20 within the project boundaries. *Left*: overview to the west; *right*: pipe coupling stamped 1959. (Photographs taken on July 27, 2018)

DISCUSSION

The purpose of this study is to identify any cultural resources within the project area and to assist the PPHCSD in determining whether such resources meet the official definition of “historical resources,” as provided in the California Public Resources Code, in particular CEQA. According to PRC §5020.1(j), “‘historical resource’ includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

More specifically, CEQA guidelines state that the term “historical resources” applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for

the evaluation of historical significance, CEQA guidelines mandate that “generally a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

As discussed above, no potential “historical resources” were previously recorded within the project boundaries, and none were found during the present survey. Although a well on the property is known to be from the 1957-1963 era, such minor, common, and virtually ubiquitous infrastructure features of post-WWII origin and standard design demonstrate little potential for historic significance and require no further study. All other built-environment features in existence in the project area today are clearly modern in age. Based on these findings, and in light of the criteria listed above, the present study concludes that no “historical resources” exist within the project area.

CONCLUSION AND RECOMMENDATIONS

CEQA establishes that a project that may cause a substantial adverse change in the significance of a “historical resource” or a “tribal cultural resource” is a project that may have a significant effect on the environment (PRC §21084.1-2). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.”

In summary of the research results outlined above, no “historical resources,” as defined by CEQA and associated regulations, were encountered within the project area throughout the course of this study. Therefore, CRM TECH presents the following recommendations to the PPHCSD:

- A finding of *No Impact* on cultural resources appears to be appropriate for this project, pending the completion of Native American consultation process by the PPHCSD pursuant to Assembly Bill 52 to ensure the proper identification of potential “tribal cultural resources.”
- No further cultural resources investigation will be necessary for the proposed project unless development plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are discovered inadvertently during any earth-moving operations associated with the project, all work within 50 feet of the discovery should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.
- If human remains are discovered, HSC §7050.5 prohibits any further disturbance until the Riverside County Coroner has made the necessary findings as to the origin. Human remains of Native American origin will need to be treated per consultations among the Most Likely Descendant, the PPHCSD, and the project proponent in accordance with PRC §5097.98.

REFERENCES

Ancestry

- n.d. Genealogical database entries for Edward Imsand: California birth index (1905-1995), marriage records (1960-1985), and local directories (1993-2002). <http://www.ancestry.com>.

Bean, Lowell John, and Charles R. Smith

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

Beck, Warren A., and Ynez D. Haase

- 1974 *Historical Atlas of California*. University of Oklahoma Press, Norman.

Bizapedia

- n.d. Entry for Edward Imsand. <https://www.bizapedia.com/people/edward-imsand.html>.

City of Victorville

- n.d. City History. <http://www.ci.victorville.ca.us/Site/AboutVictorville.aspx?id=64>.

CorporationWiki

- n.d. Entry for Edward Imsand. <https://www.corporationwiki.com/California/San-Bernardino/meadowbrook-dairy-ltd-a-california-limited-partnership/45582722.aspx>.

County Assessor, San Bernardino

- n.d. Property Information Management Database. <http://www.sbcounty.gov/ARC/Main/Assessor/PropertyInformation.aspx>.

GLO (General Land Office, U.S. Department of the Interior)

- 1856a Plat Map: Township No. V North Range No. VII West, San Bernardino Meridian; surveyed in 1853-1855.

- 1856b Plat Map: Township No. VI North Range No. VII West, San Bernardino Meridian; surveyed in 1853-1856.

Google Earth

- 1994-2017 Aerial photographs of the project vicinity; taken in 1994, 2005-2007, 2009, 2013, and 2015-2017. Available through the Google Earth software.

Kroeber, Alfred L.

- 1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Government Printing Office, Washington, D.C.

Hall M.C.

- 2000 Archaeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California (Volume I). Report prepared by Archaeological Research Information Center, University of California, Riverside.

McGinnis, Myra

- 1988 *The Hesperia Story: Indian Territory to Cityhood*. Myra McGinnis, Hesperia, California.

NETR Online

- 1952-2012 Aerial photographs of the APE and vicinity; taken in 1952, 1954, 1968, 1994, 2005, 2009, 2010, and 2012. <http://www.historicaerials.com>.

NPS (National Park Service, U.S. Department of the Interior)

- 2001 National Historic Trail Feasibility Study and Environmental Assessment: Old Spanish Trail, New Mexico, Colorado, Utah, Arizona, Nevada, California. National Park Service, U.S. Department of the Interior, Washington, D.C.

Peirson, Erma

1970 The Mojave River and Its Valley. The Arthur H. Clarke Company, Glendale.

Richard Brandman Associates

2006 Cultural Resource Records Search and Site Visit Results for Cingular

Telecommunications Facility Candidate ES-0174-01 (Meadowbrook Dairy), 17900 Sheep Creek Road, El Mirage, San Bernardino County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Strong, William Duncan

1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology No. 26. Reprinted by Malki Museum Press, Banning, California, 1972.

Tang, Bai "Tom," Michael Hogan, and Mariam Dahdul

2014 Historical/Archaeological Resources Survey Report: 1.25-MV Solar Facility Project, a Portion of Assessor's Parcel No. 0457-161-10, Phelan Area, San Bernardino County, California. Report prepared by CRM TECH for Tom Dodson and Associates.

Tang, Bai "Tom," Michael Hogan, Jesse Yorck, and Harry M. Quinn

2016 Identification and Evaluation of Historic Properties: Phelan Piñon Hills Community Service District Water Blending Project, Phelan Piñon Hills Area, San Bernardino County, California. Report prepared by CRM TECH for Tom Dodson and Associates.

Tang, Bai "Tom," Michael Hogan, Deirdre Encarnación Slaughter, and Harry M. Quinn

2018 Supplementary Historical/Archaeological Resources Survey: Phelan Piñon Hills Community Service District Water Blending Project, Phelan-Piñon Hills Area, San Bernardino County, California. Report prepared by CRM TECH for Tom Dodson and Associates.

USGS (United States Geological Survey, U.S. Department of the Interior)

1937 Map: Shadow Mountains, Calif. (15', 1:62,500); surveyed in 1930-1937.

1955 Map: Shadow Mountains SE, Calif. (7.5', 1:24,000); aerial photographs taken in 1954, field-checked in 1955.

1969 Map: San Bernardino, Calif. (1:250,000); 1958 edition revised.

1993 Map: Shadow Mountains SE, Calif. (7.5', 1:24,000); 1955 edition photorevised in 1993.

Warren, Claude N.

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

Warren, Claude N., and Robert H. Crabtree

1986 Prehistory of the Southwestern Area. In Warren L.D'Azevedo(ed.): *Handbook of North American Indians*, Vol. 11: *Great Basin*; pp. 183-193. Smithsonian Institution, Washington, D.C.

Warren, Elizabeth von Till

2004 The Old Spanish National Historic Trail. http://www.oldspanishtrail.org/learn/trail_history.php.

Wright, Sean (Water Operations Manager, Phelan Piñon Hills Community Services District)

2018 Personal communication. August 20.

APPENDIX 1: PERSONNEL QUALIFICATIONS

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

Education

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

Professional Experience

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

Cultural Resources Management Reports

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

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

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST

Michael Hogan, Ph.D., RPA*

Education

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

- 2002 Section 106—National Historic Preservation Act: Federal Law at the Local Level.
UCLA Extension Course #888.
- 2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,
Historical Archaeologist.
- 2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the
Association of Environmental Professionals.
- 1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
- 1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

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

Research Interests

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

Cultural Resources Management Reports

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

Memberships

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

PROJECT HISTORIAN
Terri Jacquemain, M.A.

Education

- 2004 M.A., Public History and Historic Resource Management, University of California, Riverside.
2002 B.S., Anthropology, University of California, Riverside.

Professional Experience

- 2003- Historian/Report Writer, CRM TECH, Riverside/Colton, California.
 • Writer/co-author of cultural resources reports for CEQA and NHPA Section 106 compliance;
 • Historic context development, historical/archival research, oral historical interviews, consultation with local historical societies;
 • Historic building surveys and recordation, research in architectural history.
2002-2003 Teaching Assistant, Religious Studies Department, University of California, Riverside.
1997-2000 Reporter, *Inland Valley Daily Bulletin*, Ontario, California.
1991-1997 Reporter, *The Press-Enterprise*, Riverside, California.

Memberships

California Council for the Promotion of History.
Friends of Public History, University of California, Riverside.

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

Education

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

Professional Experience

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

Honors and Awards

- 2000-2002 Dean's Honors List, University of California, Riverside.

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

Education

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

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

Professional Experience

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

PROJECT ARCHAEOLOGIST
Salvadore Boites, M.A.

Education

2013 M.A., Applied Anthropology, California State University, Long Beach.
2003 B.A., Anthropology/Sociology, University of California, Riverside.

Professional Experience

2003- Project Archaeologist, CRM TECH, Riverside/Colton, California.
2010-2011 Adjunct Instructor, Anthropology etc., Everest College, Anaheim, California.
2001-2002 Teaching Assistant, Moreno Elementary School, Moreno Valley, California.
1999-2003 Research Assistant, Anthropology Department, University of California, Riverside.

PROJECT ARCHAEOLOGIST
John D. Goodman II, M.S.

Education

- 1993 M.S., Anthropology, University of California, Riverside.
1985 B.S., Anthropology, University of California, Riverside.
- 2005 Training Session on Senate Bill 18; sponsored by the Government Office of Planning and Research, Riverside, California.
- 2002 Protecting Heritage Resources under Section 106 of the National Historic Preservation Act; sponsored by the Advisory Council on Historic Preservation, Arcadia, California.
- 2000 Federal Historic Preservation Law for the Forest Service; sponsored by the Advisory Council on Historic Preservation, San Bernardino, California.
- 1994 National Environmental Policy Act workshop; Flagstaff, Arizona.

Professional Experience

- 2011- Project Archaeologist/Artifact Analyst, CRM TECH, Colton, California.
2008- Independent sub-contractor (faunal analyses and historical archaeology).
2006-2008 Project Director, Statistical Research, Inc., Redlands, California.
2003-2006 Project Manager/Principal Investigator, Stantec Consulting, Inc. (formerly The Keith Companies [TKC]), Palm Desert, California.
- 2000-2003 Supervisory Archaeologist, Heritage Resources Program, San Bernardino National Forest, United States Forest Service, Department of Agriculture.
- 1993-2000 Project Manager, Historical Archaeologist, Faunal Specialist, Human Osteologist, and Shell Specialist, SWCA Inc., Environmental Consultants, Flagstaff, Arizona.
- 1982-1993 Project Director, Staff Archaeologist, Physical Anthropologist, Faunal Specialist, and Lithic Specialist, Archaeological Research Unit, University of California, Riverside (part-time).

Research Interests

Subsistence practices and related technologies of both prehistoric and historical-period groups; special interest in Archaic sites of western states; ethnic/group markers; zooarchaeology/faunal analyses, lithic analyses, and historical archaeology.

Cultural Resources Management Reports

Co-author of many cultural resources management study reports since 1986.

Memberships

Society for American Archaeology.

PROJECT ARCHAEOLOGIST
Ben Kerridge, M.A.

Education

2014	Archaeological Field School, Institute for Field Research, Kephallenia, Greece.
2010	M.A., Anthropology, California State University, Fullerton.
2009	Project Management Training, Project Management Institute/CH2M HILL.
2004	B.A., Anthropology, California State University, Fullerton.

Professional Experience

2015-	Project Archaeologist/Report Writer, CRM TECH, Colton, California.
2009-2014	Publications Delivery Manager, CH2M HILL, Santa Ana, California.
2010-	Naturalist, Newport Bay Conservancy, Newport Beach, California.
2006-2009	Technical Publishing Specialist, CH2M HILL, Santa Ana, California.

Papers Presented

- *The Uncanny Valley of the Shadow of Modernity: A Re-examination of Anthropological Approaches to Christianity.* Graduate Thesis, California State University, Fullerton, 2010.
- *Ethnographic Endeavors into the World of Counterstrike.* 74th Annual Conference of the Southwestern Anthropological Association, 2003.

APPENDIX 2

**CORRESPONDENCE WITH
NATIVE AMERICAN REPRESENTATIVES***

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

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916)373-3710
(916)373-5471 (Fax)
nahc@pacbell.net

Project: Proposed Circle Green "Green Tech Park" Project; 17900 Sheep Creek Road (CRM TECH No. 3368)

County: San Bernardino

USGS Quadrangle Name: Shadow Mountains SE, Calif.

Township 6 North **Range** 7 West **SB BM; Section(s)** 26

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

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

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

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

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to develop 88 acres of land located along the west side of Sheep Creek Road, between Parkdale Road and Bartlett Road (at 17900 Sheep Creek Road), in the Phelan/Piñon Hills Area of San Bernardino County, California.

July 6, 2018

NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



July 10, 2018

Nina Gallardo

CRM Tech

Sent by Email: ngallardo@crmttech.us

Re: Circle Green Tech park 17900 Sheep Creek Road, San Bernardino County

Dear Ms. Gallardo,

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

Enclosed is a list of Native Americans tribes who may have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at 916-573-1033 or frank.lienert@nahc.ca.gov.

Sincerely,



Frank Lienert

Associate Governmental Program Analyst

Native American Heritage Commission

Native American Contacts

July 10, 2018

Big Pine Paiute Tribe of the Owens Valley Genevieve Jones. Chairperson P. O. Box 700 Big Pine , CA 93513 (760) 938-2003 (976) 938-2942 Fax	Paiute - Shoshone	Colorado River Indian Tribes of the Colorado River Indian Reservation Dennis Patch. Chairman 26600 Moiaive Road Parker , AZ 85344 crit.museum@yahoo.com (928) 669-9211 Tribal Office (928) 669-1925 Fax	Mojave Chemehuevi
Ramona Band of Cahuilla Joseph Hamilton. Chairman P.O. Box 391670 Anza , CA 92539 admin@ramonatribe.com (951) 763-4105 (951) 763-4325 Fax	Cahuilla	Gabrielino/Tongva San Gabriel Band of Mission Indians Anthony Morales. Chairperson P.O. Box 693 San Gabriel , CA 91778 GTTribalcouncil@aol.com (626) 483-3564 Cell (626) 286-1262 Fax	Gabrielino Tonava
Twenty-Nine Palms Band of Mission Indians Darrell Mike. Chairperson 46-200 Harrison Place Coachella , CA 92236 29chairman@29palmsbomi-nsn.gov (760) 863-2444 (760) 863-2449 Fax	Chemehuevi	Gabrielino /Tonava Nation Sandonne Goad. Chairperson 106 1/2 Judge John Aiso St., #231 Los Angeles , CA 90012 sgoad@gabrielino-tongva.com (951) 807-0479	Gabrielino Tonava
Chemehuevi Indian Tribe Charles F. Wood. Chairperson P.O. Box 1976 Havasup Lake , CA 92363 chairman@cit-nsn.gov (760) 858-4219 (760) 858-5400 Fax	Chemehuevi	San Manuel Band of Mission Indians Lee Clauss. Director-CRM Dept. 26569 Community Center Drive Highland , CA 92346 lclauss@sanmanuel-nsn.gov (909) 864-8933 (909) 864-3370 Fax	Serrano
Fort Moiaive Indian Tribe Timothy Williams. Chairperson 500 Merriman Ave Needles , CA 92363 (760) 629-4591 (760) 629-5767 Fax	Moiaive	Big Pine Paiute Tribe of the Owens Valley Danelle Gutierrez THPO P.O. Box 700 Big Pine , CA 93513 d.gutierrez@bigpinepaiute.org (760) 938-2003, ext. 228 (760) 938-2942 Fax	Paiute

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

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

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed

Circle Green Tech park 17900 Sheep Creek Road, San Bernardino County

Native American Heritage Commission

Native American Contacts

July 10, 2018

Aqua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA 92264
(760) 699-6800

(760) 699-6919 Fax

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road Cahuilla
Banning, CA 92220 Serrano
(951) 849-8807
(951) 755-5200
(951) 922-8146 Fax

Pechanga Band of Luiseño Indians
Mark Macarro, Chairman
P.O. Box 1477 Luiseno
Temecula, CA 92593
epreston@pechanga-nsn.gov
(951) 770-6000

(951) 695-1778 Fax

Serrano Nation of Mission Indians
Goldie Walker, Chairperson
P.O. Box 343 Serrano
Patton, CA 92369
(909) 528-9027
(909) 528-9032

Aqua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director, THPO
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA 92264
ACBCI-THPO@aguacaliente.net
(760) 699-6907
(760) 567-3761 Call
(760) 699-6924 Fax

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010
Lake Isabella, CA 93283 Tubatulabal
brobinson@jwvisp.com Kawaiisu
(760) 378-2915 Cell

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Luiseno
San Jacinto, CA 92581 Cahuilla
iontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544 ext 4137
(951) 654-4198 Fax

Gabrielino Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina, CA 91723
admin@gabrielenoindians.org
(626) 926-4131

Twentv-Nine Palms Band of Mission Indians
Anthony Madrial, Jr. THPO
46-200 Harrison Place Chemehuevi
Coachella, CA 92236
amadrial@29palmsbomi-nsn.
(760) 775-3259
(760) 625-7872 Call
(760) 863-2449 Fax

San Manuel Band of Mission Indians
Lynn Valbuena
26569 Community Center Dr. Serrano
Highland, CA 92346
(909) 864-8933

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

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

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed
Circle Green Tech park 17900 Sheep Creek Road, San Bernardino County

July 16, 2018

Alicia Benally, Cultural Resources Specialist
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

RE: Circle Green "Green Tech Park" Project
17900 Sheep Creek Road
88 Acres in the Phelan/Piñon Hills Area
San Bernardino County, California
CRM TECH Contract #3368

Dear Ms. Benally:

I am writing to bring your attention to an ongoing CEQA-compliance study for the proposed project referenced above, which entails construction of a green and food waste composting facility on approximately 88 acres that formerly was part of the Meadowbrook Dairy. The project area is located at 17900 Sheep Creek Road, along the west side of road between Parkdale Road and Bartlett Road, in an unincorporated area of the Phelan/Piñon Hills in San Bernardino County. The accompanying map, based on the USGS Shadow Mountains SE, Calif., 7.5' quadrangle, depicts the location of the project area in Section 26, T6N R7W, SBBM.

In a letter dated July 10, 2018, the Native American Heritage Commission reports that the sacred lands record search identified no Native American cultural resources within the project area, but recommends that local Native American groups be contacted for further information (see attached). Therefore, as part of the cultural resources study for this project, I am writing to request your input on potential Native American cultural resources in or near the project area.

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

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

Respectfully,

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

Encl.: NAHC response letter and project location map

From: Jessica Mauck <JMauck@sanmanuel-nsn.gov>
Sent: Wednesday, July 18, 2018 4:32 PM
To: ngallardo@crmtech.us
Subject: RE: NA Scoping Letter for the Proposed Circle Green "Green Tech Park" Project (17900 Sheep Creek Road) in the Phelan/Piñon Hills Area, San Bernardino County (CRM TECH #3368)

Hi Nina,

Thank you for reaching out to SMBMI. Given the extent of existing disturbance within the project location, Tribe is unlikely to have concerns with project implementation. I will keep an eye for a notice from the Lead Agency.

Regards,

Jessica Mauck
CULTURAL RESOURCES ANALYST
O: (909) 864-8933 x3249
M: (909) 725-9054
26569 Community Center Drive, Highland California 92346

APPENDIX 4


Soil Map—San Bernardino County, California, Mojave River Area
(Green Park)



Soil Map—San Bernardino County, California, Mojave River Area
(Green Park)


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 9, Sep 11, 2017

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

Date(s) aerial images were photographed: Dec 12, 2015—Mar 6, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
144	MANET COARSE SAND, 2 TO 5 PERCENT SLOPES	14.5	16.9%
146	MANET LOAMY SAND, LOAMY SUBSTRATUM, 0 TO 2 PERCENT SLOPES	71.5	83.1%
Totals for Area of Interest		86.0	100.0%