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County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

FILED
MAY 22 2019 TIME 1:30PM
FRESNO COUNTY CLERK
By Nina Lopez DEPUTY

For County Clerk's Stamp

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Notice is hereby given that the County of Fresno has prepared Initial Study Application (IS) No. 7439 pursuant to the requirements of the California Environmental Quality Act for the following proposed project:

> **INITIAL STUDY APPLICATION NO. 7439** and **UNCLASSIFIED CONDITIONAL USE PERMIT APPLICATION NO. 3607** filed by **FOREFRONT POWER**, proposing to allow a 5 megawatt solar photovoltaic power generation facility with related improvements on an approximately 47-acre portion of an 88.23-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) and AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone Districts. The project site is located on the east side of Shell Road, 0.4 miles northeast of its intersection with Oil City Road, and 2.6 miles north of the nearest city limits of the City of Coalinga (SUP. DIST. 4) (APN 070-020-07). Adopt the Mitigated Negative Declaration prepared for Initial Study Application No. 7439, and take action on UNCLASSIFIED CONDITIONAL USE PERMIT No. 3607 with Findings and Conditions.
>
> (hereafter, the "Proposed Project")

The County of Fresno has determined that it is appropriate to adopt a Mitigated Negative Declaration for the Proposed Project. The purpose of this Notice is to (1) provide notice of the availability of IS Application No. 7439 and the draft Mitigated Negative Declaration, and request written comments thereon; and (2) provide notice of the public hearing regarding the Proposed Project.

Public Comment Period

The County of Fresno will receive written comments on the Proposed Project and Mitigated Negative Declaration from May 27, 2019 through June 26, 2019.

Email written comments to DaCrider@fresnocountyca.gov, or mail comments to:

Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
Attn: Danielle Crider
2220 Tulare Street, Suite A
Fresno, CA 93721

IS Application No. 7439 and the draft Mitigated Negative Declaration may be viewed at the above address Monday through Thursday, 9:00 a.m. to 5:00 p.m., and Friday, 8:30 a.m. to

12:30 p.m. (except holidays), or at www.co.fresno.ca.us/initialstudies. An electronic copy of the draft Mitigated Negative Declaration for the Proposed Project may be obtained from Danielle Crider at the addresses above.

Public Hearing

The Planning Commission will hold a public hearing to consider approving the Proposed Project and the Mitigated Negative Declaration on June 27, 2019, at 8:45 a.m., or as soon thereafter as possible, in Room 301, Hall of Records, 2281 Tulare Street, Fresno, California 93721. Interested persons are invited to appear at the hearing and comment on the Proposed Project and draft Mitigated Negative Declaration.

For questions please call Danielle Crider, (559) 600-9669.

Published: May 27, 2019

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

NOTICE OF DETERMINATION

To: ☐ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

☒ County Clerk, County of Fresno
2221 Kern Street
Fresno, CA 93721

From: Fresno County Department of Public Works and Planning, Development Services and Capital Projects
2220 Tulare Street (corner of Tulare and "M") Suite "A", Fresno, CA 93721

Contact: Danielle Crider, (559) 600-9669

Subject: Filing of Notice of Determination in compliance with Section 21152 of the Public Resource Code

Project: Initial Study Application No. 7439, Unclassified Conditional Use Permit Application No. 3607

Location: This project is located approximately 0.2 miles east of Shell Road, 0.4 miles northeast of its intersection with Oil City Road, and 2.6 miles north of the nearest city limits of the City of Coalinga (SUP. DIST. 4) (APN: 070-020-07), County of Fresno.

Sponsor: ForeFront Power

Description: Allow a 5 megawatt solar photovoltaic power generation facility with related improvements on an approximately 47-acre portion of an 88.23-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) and AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone Districts.

This is to advise that the County of Fresno (☒ Lead Agency ☐ Responsible Agency) has approved the above described project on June 27, 2019, and has made the following determination:

1. The project [☐ will ☒ will not] have a significant effect on the environment.

2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.

4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.

5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.

6. Findings [☒ were ☐] were not made pursuant to the provisions of CEQA.

This is to certify that the Initial Study with comments and responses and record of project approval is available to the General Public at Fresno County Department of Public Works and Planning, 2220 Tulare Street, Suite A, Corner of Tulare and "M" Streets, Fresno, California.

_____ _____

Danielle Crider, Planner
(559) 600- 9669 / dacrider@fresnocountyca.gov

Date

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File original and one copy with:	Space Below For County Clerk Only.
Fresno County Clerk **2221 Kern Street** **Fresno, Californima 93721**	CLK-2046.00 E04-73 R00-00

Agency File No:	**LOCAL AGENCY MITIGATED NEGATIVE DECLARATION**	County Clerk File No:
IS 7439		**E-**

Responsible Agency (Name):	Address (Street and P.O. Box):	City:	Zip Code:
Fresno County	2220 Tulare St. Sixth Floor	Fresno	93721

Agency Contact Person (Name and Title):	Area Code:	Telephone Number:	Extension:
Danielle Crider, Planner	559	(559) 600-9669	N/A

Project Applicant/Sponsor (Name):	Project Title:
ForeFront Power	CUP 3607

Project Description:

Allow a 5 megawatt solar photovoltaic power generation facility with related improvements on an approximately 47-acre portion of an 88.23-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) and AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone Districts.

Justification for Negative Declaration:

Based upon the Initial Study prepared for Unclassified Conditional Use Permit Application No. 3607, staff has concluded that the project will not have a significant effect on the environment. It has been determined that there would be no impacts to Population and Housing, Public Services, and Recreation.

Potential impacts related to Agricultural and Forestry Resources, Air Quality, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Utilities and Service Systems, and Wildfire have been determined to be less than significant.

Potential impacts relating to Aesthetics, Biological Resources, Cultural Resources, Transportation, and Tribal Cultural Resources have determined to be less than significant with adherence to the listed mitigation measures.

FINDING:

The proposed project will not have a significant impact on the environment.

Newspaper and Date of Publication:	Review Date Deadline:
Fresno Business Journal – May 27, 2019	Planning Commission – June 27, 2019

Date:	Type or Print Signature:	Submitted by (Signature):
	Marianne Mollring Senior Planner	Danielle Crider Planner

State 15083, 15085

County Clerk File No.:_____

LOCAL AGENCY
MITIGATED NEGATIVE DECLARATION

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

INITIAL STUDY
ENVIRONMENTAL CHECKLIST FORM

1. **Project title:** CUP 3607

2. **Lead agency name and address:** Fresno County, 2220 Tulare Street, Fresno, CA 93721

3. **Contact person and phone number:** Danielle Crider, (559) 600-9669

4. **Project location:** Approximately 0.2 miles east of Shell Road, 0.4 miles northeast of its intersection with Oil City Road, and 2.6 miles north of the nearest city limits of the City of Coalinga (APN: 070-020-07).

5. **Project sponsor's name and address:** ForeFront Power, 100 Montgomery Street, Suite 1400, San Francisco, CA 94104

6. **General Plan designation:** Westside Rangeland

7. **Zoning:** AE-20 and AE-40 (Exclusive Agricultural, 20 and 40-acre minimum parcel sizes)

8. **Description of project:** Allow a 5 megawatt solar photovoltaic power generation facility with related improvements on an approximately 47-acre portion of an 88.23-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) and AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone Districts.

9. **Surrounding land uses and setting:** The land to the north and east rises into hills, the land to the south and west is flatter and is used for the cultivation of crops and rangeland.

10. **Other public agencies whose approval is required (*e.g.*, permits, financing approval, or participation agreement.)** San Joaquin Valley Air Pollution Control District and the Central Valley Regional Water Quality Control Board

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?** No consultation was requested.

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 21080.3.2.) 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.

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

DETERMINATION OF REQUIRED ENVIRONMENTAL DOCUMENT:

On the basis of this initial evaluation:

☐ I find that the proposed project **COULD NOT** have a significant effect on the environment. **A NEGATIVE DECLARATION WILL BE PREPARED**.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the Mitigation Measures described on the attached sheet have been added to the project. **A MITIGATED NEGATIVE DECLARATION WILL BE PREPARED.**

☐ I find the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required

☐ I find that as a result of the proposed project, no new effects could occur, or new Mitigation Measures would be required that have not been addressed within the scope of a previous Environmental Impact Report.

PERFORMED BY:

Danielle Crider

Danielle Crider, Planner

Date: 5-20-19

REVIEWED BY:

MMOLLRING

Marianne Mollring, Senior Planner

Date: 5-20-19

INITIAL STUDY
ENVIRONMENTAL CHECKLIST FORM
(Initial Study Application No. 7439 and Unclassified Conditional Use Permit Application No. 3607)

The following checklist is used to determine if the proposed project could potentially have a significant effect on the environment. Explanations and information regarding each question follow the checklist.

1 = No Impact

2 = Less Than Significant Impact

3 = Less Than Significant Impact with Mitigation Incorporated

4 = Potentially Significant Impact

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

_2_ a) Have a substantial adverse effect on a scenic vista?

_2_ b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

_2_ c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

_3_ d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

II. AGRICULTURAL 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 in Forest Protocols adopted by the California Air Resources Board. Would the project:

_2_ a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

_2_ b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?

_1_ c) Conflict with existing zoning for forest land, timberland or timberland zoned Timberland Production?

_1_ d) Result in the loss of forest land or conversion of forest land to non-forest use?

_2_ 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?

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

_2_ a) Conflict with or obstruct implementation of the applicable Air Quality Plan?

_2_ b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

_2_ c) Expose sensitive receptors to substantial pollutant concentrations?

_1_ d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES

Would the project:

_3_ 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?

_2_ 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?

_2_ c) Have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

_2_ 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?

_1_ e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

_1_ 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?

V. CULTURAL RESOURCES

Would the project:

_3_ a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

_3_ b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

_3_ c) Disturb any human remains, including those interred outside of formal cemeteries?

VI. ENERGY

Would the project:

_2_ a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

_2_ b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

VII. GEOLOGY AND SOILS

Would the project:

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

2 i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

2 ii) Strong seismic ground shaking?

2 iii) Seismic-related ground failure, including liquefaction?

2 iv) Landslides?

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

2 c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

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

1 e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

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

VIII. GREENHOUSE GAS EMISSIONS

Would the project:

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

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

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

2 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?

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

1 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, create a significant hazard to the public or the environment?

1 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, result in a safety hazard or excessive noise for people residing or working in the project area?

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

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

X. HYDROLOGY AND WATER QUALITY

Would the project:

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

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

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

2 i) Result in substantial erosion or siltation on or off site;

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

2 iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

2 iv) Impede or redirect flood flows?

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

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

XI. LAND USE AND PLANNING

Would the project:

1 a) Physically divide an established community?

2 b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

XII. MINERAL RESOURCES

Would the project:

2 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?

2 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?

XIII. NOISE

Would the project result in:

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

2 b) Generation of excessive ground-borne vibration or ground-borne noise levels?

1 c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposing people residing or working in the project area to excessive noise levels?

XIV. POPULATION AND HOUSING

Would the project:

1 a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and

businesses) or indirectly (for example, through extension of roads or other infrastructure)?

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

XV. PUBLIC SERVICES

Would the project:

1 a) Result in substantial adverse physical impacts associated with the provision of new or physically-altered governmental facilities, or the 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:

1 i) Fire protection?

1 ii) Police protection?

1 iii) Schools?

1 iv) Parks?

1 v) Other public facilities?

XVI. RECREATION

Would the project:

1 a) 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?

1 b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

XVII. TRANSPORTATION

Would the project:

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

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

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

2 d) Result in inadequate emergency access?

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

3 a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

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

3 ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.)

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

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

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

2 c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

2 d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

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

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

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

2 b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

2 c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

2 d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

3 a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

2 b) 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.)

3 c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Documents Referenced:

This Initial Study is referenced by the documents listed below. These documents are available for public review at the County of Fresno, Department of Public Works and Planning, Development Services and Capital Projects Division, 2220 Tulare Street, Suite A, Fresno, California (corner of M & Tulare Streets).

Fresno County General Plan, Policy Document and Final EIR
Fresno County Zoning Ordinance
Important Farmland 2014 Map, State Department of Conservation
Anderson Derrick Focused Air Quality and Greenhouse Gas Memorandum, Prepared by Urban Crossroads
Jurisdictional Delineation Report, Prepared by Phoenix Biological Consulting

DTC:
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EVALUATION OF ENVIRONMENTAL IMPACTS

APPLICANT: Forefront Power

APPLICATION NOS.: Initial Study Application No. 7439 and Unclassified Conditional Use Permit Application No. 3607

DESCRIPTION: Allow a 5 megawatt solar photovoltaic power generation facility with related improvements on an approximately 47-acre portion of an 88.23-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) and AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone Districts.

LOCATION: This project is located approximately 0.2 miles east of Shell Road, 0.4 miles northeast of its intersection with Oil City Road, and 2.6 miles north of the nearest city limits of the City of Coalinga (SUP. DIST. 4) (APN: 070-020-07).

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:

A. Have a substantial adverse effect on a scenic vista; or

B. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; or

C. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project area is surrounded by flat land, small hills and limited vegetation. There are existing utility poles, feedlots and a single-family residence nearby. California Highway 198 (CA 198) runs 1.5 miles southeast of the project site, and is eligible to be designated as state scenic highway. However, the topography and distance between this highway and the project site ensures that the proposed use will not impact any

scenic views from CA 198. Additionally, there are no historic structures or scenic resources in the project's vicinity.

The nearest public view is from Shell Road. However, the project will be set back approximately 0.2 miles from Shell Road behind an existing feedlot. The elevation of the feedlot and the solar facility are approximately the same, so the public view from this road will not be significantly impacted.

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

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

The reflection of sunlight off of solar panel surfaces would be the primary source of potential glare from the Project. Solar panels are constituted of many solar cells which are designed to capture solar energy in order to convert it into usable energy. Therefore, solar panels are designed to be as absorptive as possible in order to maximize the efficiency of energy production. Additionally, PV panels typically are covered with a tempered glass layer that is treated with an anti-reflective coating that further reduces the reflectivity of the panels. When compared to common reflective surfaces, solar panels without an anti-reflective coating are found to produce around the same amount of reflectivity as water, which is about half the amount of reflectivity as standard glass, commonly used in residential or commercial applications (Shields 2010). If an anti-reflective coating is applied to the solar panels, the reflectivity of the panels would be further reduced to significantly less than the reflectivity of water.

Lighting will be limited to small-scale lighting at the access point of the solar facility. To ensure that these lights do not affect the surrounding area, the following mitigation shall be incorporated.

***** ***Mitigation Measure***

1. *Exterior lighting from dusk until dawn shall be minimized through the installation of the lowest-wattage bulb necessary for safety purposes. All outdoor lighting shall also be hooded and directed downward so as not to shine upward or toward adjacent properties and public streets.*

II. AGRICULTURAL 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 Department 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 in Forest Protocols adopted by the California Air Resources Board. Would the project:

A. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project is located on farmland of local importance, but not on prime farmland, unique farmland, or farmland of state-wide importance (Department of Conservation, 2014).

B. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?

FINDING: LESS THAN SIGNIFICANT IMPACT:

Neither the subject parcel nor the northerly adjacent parcel, where the proposed solar panels will be connected to an existing substation, are subject to a Williamson Act Contract. The parcel is located in the AE-20 and AE-40 (Exclusive Agricultural, 20- and 40-acre minimum parcel size) Zone Districts. This proposal is not in conflict with the current agricultural zoning on the property because the proposed facility is an allowed use on land designated for agriculture, so long as it receives discretionary approval and adheres to applicable General Plan Policies. The approval of Conditional Use Permit No. 3607 would provide the necessary discretionary approval for the project. Additionally, this use is temporary (approximately 25-35 years), and at the end of the life of this solar facility, the land will be returned to its current condition or a new discretionary use permit will be acquired.

C. Conflict with existing zoning for forest land, timberland or timberland zoned Timberland Production; or

D. Result in the loss of forest land or conversion of forest land to non-forest use; or

FINDING: NO IMPACT:

The project is not located in an area of forest land, so no forest land will be affected.

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?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The proposed project only includes a solar generation facility; it will not create additional housing supply or otherwise affect population growth. A 50-foot or greater buffer around the project site will ensure that the project does not interfere with surrounding agricultural uses (this is required by the County-adopted Solar Facility Guidelines).

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district 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; or

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

FINDING: LESS THAN SIGNIFICANT IMPACT:

The County of Fresno is a non-attainment area for PM-2.5, PM-10, and Ozone. The San Joaquin Valley Air Pollution Control District (SJVAPCD) reviewed an Air Impact Assessment (AIA) submitted by the applicant for this project, and determined that it would produce less than two tons NOx per year and less than two tons PM10 per year. As a result, SJVAPCD determined that the project will have a less than significant impact on air quality and relevant air quality plans. To ensure that this is the case, the applicant will be required to adhere to the mandatory reporting guidelines set forth by the air district as a condition of project approval.

C. Expose sensitive receptors to substantial pollutant concentrations?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The only nearby sensitive receptor is a single-family residence over 650 feet from the proposed operation. The operation of the solar facility will only result in car emissions from one daily maintenance trip, but there will be additional traffic generated during the construction and decommissioning periods. These impacts were evaluated by Urban Crossroads, Inc. (April 2018) and determined to be below the established thresholds.

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

FINDING: NO IMPACT:

No other emissions, including those causing odors, will be released by the proposed solar facility. The area is also sparsely populated, and there are predominately agricultural operations in the vicinity.

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?

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

Review by the California Department of Fish and Wildlife (CDFW), US. Fish and Wildlife (USFW), and the County indicates that protected species could be present in the project area, and that these species could potentially be impacted by the proposed project. The potentially-present protected species include the San Joaquin Kit Fox (SJKF), Blunt-nosed Leopard Lizard (BNLL), Tricolored Blackbird, Nelson's Antelope Squirrel (NAS), Swainson's Hawk (SWHA), Burrowing Owl (BUOW), California Glossy Snake, Northern California Legless Lizard, Blainville's Horned Lizard, Western Pond Turtle, Short-nosed Kangaroo Rat (SNKR), San Joaquin Woolythreads, California Jewelflower, Showy Golden Madia, Pale-yellow Layia, and Recurved Larkspur.

The project disturbance area includes approximately 47 acres of land, which could create substantial habitat disturbance to creatures already living or foraging there. However, once construction has ceased, the solar panel arrays and exposed soil should be relatively habitable for creatures that live in the area, and would still provide foraging opportunities for species such as the Swainson's Hawk. There will be infrequent visits for maintenance purposes, but the proposed maintenance and operation should be substantially less threatening to the protected species of concern than previous agricultural activities, such as those allowed by right on this parcel according to the Fresno County General Plan. The following mitigation shall be adhered to in order to ensure that any potentially present, special-status species are identified and avoided during construction, operation, and decommissioning activities.

***** ***Mitigation Measure(s)***

1. *Species-specific preconstruction surveys shall be conducted by a qualified biologist and/or botanist prior to the onset of any construction-related activities (including initial construction and decommissioning) for the San Joaquin Kit Fox (SJKF), Blunt-nosed Leopard Lizard (BNLL), Tricolored Blackbird, Nelson's Antelope Squirrel (NAS), Swainson's Hawk (SWHA), Burrowing Owl (BUOW), California Glossy Snake, Northern California Legless Lizard, Blainville's Horned Lizard, Western Pond Turtle, and Short-nosed Kangaroo Rat (SNKR). These surveys shall include the gen-tie route, all areas of proposed ground disturbance and construction activities, any construction staging areas, any area in which equipment will be operated and any additional land used for ingress and egress during construction activities. Additionally, a 500-foot buffer around the defined area will be surveyed for the BUOW, SJKF, NAS, and BNLL; a 50-foot buffer area will be surveyed for the SNKR, California Glossy Snake, Western Pond Turtle, Blainville's Horned Lizard, Northern California Legless Lizard, and sensitive plants; and a 0.5-mile buffer around the defined area will be surveyed for SWHA nests and tricolored blackbirds. If these buffer areas cannot be maintained, consultation with California Department of Fish and Wildlife (CDFW) is required to determine how to avoid take.*

2. *If any species are identified in pre-construction surveys or during construction, operation, or decommissioning activities, the applicant shall notify CDFW immediately, cease all operation in the area, and consult with CDFW on how to minimize any potential impact to protected species.*

3. *If BNLL burrows are identified during the pre-construction survey(s), all burrow openings shall be flagged and mapped, and 50-foot no-disturbance buffer zones around all burrow openings shall be maintained for foraging habitat throughout the project.*

4. *If small mammal burrows suitable for BUOW are identified on the project site or within 250 feet of the project, additional BUOW surveys shall be conducted by a qualified biologist, and BUOW burrows shall be managed in accordance with the "Staff Report on Burrowing Owl Mitigation" (CDFG, 2012).*

5. *If any construction activities will occur between March 1 and September 15, the project area and a 0.5-mile buffer around the project area must be surveyed by a qualified biologist within 10 days of the onset of construction of activities to identify the presence of any Swainson's Hawk nests. If any nests are identified, no construction may take place within 0.5-miles of that nest until the end of breeding season (September 15) or until a qualified biologist determines that the young have fledged and are no longer dependent on the nest or parents for survival, and CDFW has provided written approval of the biologist's determination.*

6. *Implement the January 2011 "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance" for pre-construction survey protocol and avoidance measures, and maintain habitat permeability for SJKF on all perimeter and interior fencing.*

7. *If construction commences between January 1 and September 15 (bird nesting season) or lapses during this time for 10 or more days, a qualified biologist must survey for active bird nests within 10 days of the onset or resuming of construction activities to ensure that no active bird nests are in the project area that could be impacted by the construction. If nests are present, they must be monitored for the first 24 hours of any project-related activities, and continuously monitored after that so as to detect any behavioral changes that result from project impacts. If behavioral changes are observed, stop work that is causing this change and consult with CDFW for additional avoidance and minimization measures. In lieu of continuous monitoring, the applicant may choose to implement 250-foot no disturbance buffers around active nests of non-listed, non-raptor bird species until the breeding season is over or a qualified biologist has determined that the birds have fledged and are no longer dependent upon the nest or parental care for survival. Variance from these buffer zones may be granted on a case by case basis, but this decision must be supported by a qualified biologist and CDFW must be notified of this determination prior to construction activities that would otherwise require a no-disturbance buffer.*

8. *All vertical pipes associated with solar mounts and fencing must be capped immediately upon installation to avoid bird death or injury.*

9. *If special-status plant species are found, a no-disturbance buffer of at least 50-feet shall be implemented and delineated using flags, stakes, or other highly-visible materials, and it shall be maintained for the duration of the project. If this is not possible, alternative mitigation would have to be agreed upon by the applicant and CDFW.*

10. *No rodenticides, pesticides, or herbicides shall be used during construction, maintenance, or decommissioning of the proposed project.*

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; or

C. Have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or

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?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project site has historically been used for agricultural purposes, and has been tilled recently. There are no trees or vegetation indicative of a riparian habitat on site, and no permanent nearby water source to sustain a unique ecosystem. Additionally, no sensitive natural communities have been identified by local or regional plans in the area.

A Jurisdictional Delineation Report, prepared by Phoenix Biological Consulting, confirms that there are no wetlands or water courses running through, or within 500 feet of, the area of the parcel that will be improved or impacted by construction activities. The U.S. Fish and Wildlife Service (USFWS) Wetland Mapper does identify seasonal streams that run through the project impact area, but after a site visit was performed, subject matter experts concluded that there were no seasonal or permanent waterways under State or Federal jurisdiction that would run within 500 feet of the proposed development area. When this is considered with the nature of the proposed solar panels, it can be concluded that no wetland areas or their inhabitants will be impacted.

E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

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?

FINDING: NO IMPACT:

The project will not conflict with any local ordinances or conservation plans aimed at protecting biological resources.

V. CULTURAL RESOURCES

Would the project:

A. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5; or

B. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or

C. Disturb any human remains, including those interred outside of formal cemeteries?

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

The subject parcel has experienced regular agricultural ground disturbance in the past, and the proposed construction of solar arrays on the site should not require ground-disturbance activities substantially greater than an agricultural operation would.

All interested tribes were notified of the proposed project per California Assembly Bill No. 52, and no tribes expressed any concerns. Additionally, it has been determined through a cultural resources assessment and consultation with the Southern San Joaquin Valley Information Center that there are no known historic or cultural resources within one mile of the project site. The archaeological sensitivity of the site is unknown, and it has not been previously surveyed, so the following mitigation measure will ensure that no cultural resources are lost should they be encountered through the course of the proposed project.

*** <u>Mitigation Measure(s)</u>**

1. *In the event that cultural resources are unearthed during ground-disturbing activities, all work shall be halted in the area of the find. An Archeologist shall be called to evaluate the findings and make any necessary mitigation recommendations. If human remains are unearthed during ground-disturbing activities, no further disturbance is to occur until the Fresno County Sheriff-Coroner has made the necessary findings as to origin and disposition. All normal evidence procedures should be followed by photos, reports, video, etc. If such remains are determined to be Native American, the Sheriff-Coroner must notify the Native American Commission within 24 hours.*

VI. ENERGY

Would the project:

A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation; or

B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The proposed project will generate solar energy to be sold to power companies and used by consumers in lieu of non-renewable energy sources. It is compatible with the state's policies and goals for renewable energy, and will not result in wasteful, inefficient, or unnecessary energy consumption.

VII. GEOLOGY AND SOILS

Would the project:

A. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

1. 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; or

2. Strong seismic ground shaking; or

3. Seismic-related ground failure, including liquefaction; or

4. Landslides?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project is not located on or near an Alquist-Priolo Earthquake fault zone. The probabilistic seismic hazard (10% probability in 50 years) for the project area is 40-60%, and there are steep slopes in the general vicinity. Seismic activity and landslides are a possibility in this region, however the facility will be unmanned and no residential structures are proposed as a part of the project. Additionally, the solar panels are located at the base of the nearby hills, so construction-related ground disturbance will not further increase the risk of landslides. Risk of loss, injury, and death will not be significantly impacted as a result of the proposed project.

B. Result in substantial soil erosion or loss of topsoil; or

C. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

FINDING: LESS THAN SIGNIFICANT IMPACT:

Some grading will be completed as a part of the project to provide a level surface to mount the solar panels on, and this grading will be reviewed and permitted, as necessary, by the County of Fresno's Department of Public Works and Planning. This area is already relatively flat and at the base of the hills adjacent to the project site. As a result, any grading is unlikely to contribute to erosion, landslides, spreading, subsidence, liquefaction, or collapse.

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

FINDING: NO IMPACT:

The project is not proposed in an area of expansive soils (Fresno County General Plan Background Report [FCGPBR]).

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?

FINDING: NO IMPACT:

No septic systems are proposed as a part of this project.

F. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

As discussed in the Cultural Resources section, it is not anticipated that paleontological resources will be encountered or damaged during the development of this parcel. A Mitigation Measure will ensure that if resources are discovered, construction ceases and the proper entities are notified. See Mitigation Measure 1, Section V. C.

VIII. GREENHOUSE GAS EMISSIONS

Would the project:

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

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

FINDING: LESS THAN SIGNIFICANT IMPACT:

Greenhouse gas emissions will primarily be produced during construction activities, and will therefore be temporary. During operation, maintenance trips will be made less than once per day. As a result, there will be no long-term impacts related to greenhouse gas emissions. The applicant also provided analysis relating to greenhouse gas emissions, performed by Urban Crossroads, which quantified and corroborated this determination.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

A. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or

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?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The construction, operation, and decommissioning of the proposed facility would require the limited usage of hazardous materials. The Fresno County Department of Public Health, Environmental Health Division requires that facilities proposing to use and/or store hazardous materials and/or hazardous wastes meet the requirements set forth in the California Health and Safety Code (HSC), Division 20, Chapter 6.95, and the California Code of Regulations (CCR), Title 22, Division 4.5. Additionally, any business that handles a hazardous materials or hazardous waste may be required to submit a Hazardous Materials Business Plan pursuant to the HSC, Division 20, Chapter 6.95, and all hazardous waste shall be handled in accordance with requirements set forth in the California Code of Regulations (CCR), Title 22, Division 4.5. These requirements will be included as a Project Note. With adherence to these guidelines, the impact will be less than significant.

C. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter-mile of an existing or proposed school; or

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?

FINDING: NO IMPACT:

The proposed project is not located within one quarter-mile of a school, and it is not located on a known hazardous waste facility (NEPAssist).

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, result in a safety hazard or excessive noise for people residing or working in the project area?

FINDING: NO IMPACT:

The project is not located within an airport land use plan or in the vicinity of a private airstrip. The nearest airport is Coalinga Municipal, approximately four miles to the southwest.

F. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

G. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

FINDING: LESS THAN SIGNIFICANT IMPACT:

Neither the Fresno County Fire Department nor the Fresno County Sheriff's Department expressed concerns regarding this project's potential to impact emergency plans.

The project is in an area of moderate fire hazard, and is approximately 660 feet away from a designated wildland area. The proposed project is unmanned and will only result in minimal maintenance visits once operational. The only structures proposed are the solar arrays, and the project is not adjacent to any urbanized area. The proposed project will not have a significant impact on fire risk or loss.

X. HYDROLOGY AND WATER QUALITY

Would the project:

A. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The solar panels will be washed intermittently with a biodegradable panel cleaning solution that will be trucked in from off site. This solution will not be used within 500 feet of the seasonal stream delineated in the jurisdictional waters report, which runs to the southwest of the proposed parcel. Additionally, all water quality standards and waste discharge requirements will be adhered to.

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

FINDING: LESS THAN SIGNIFICANT IMPACT:

There are no existing wells on site, and none will be drilled for this project. No water will be consumed because biodegradable panel cleaner will be trucked in for panel washing instead of using onsite water, and there will be no onsite bathrooms.

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

1. Result in substantial erosion or siltation on or off site; or

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

3. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

4. Impede or redirect flood flows; or

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

FINDING: LESS THAN SIGNIFICANT IMPACT:

Some grading activity will occur, but it will not be within 500 feet of the seasonal stream identified in the Jurisdictional Delineation Report. This grading will level the area where the solar panels will be installed. The panels will be mounted on poles located approximately 10 feet apart, and the rest of the land will remain permeable. Therefore the permeability of the site will not be substantially altered.

Additionally, grading review and permits will be required prior to construction and drainage plans will be required at this time if more than one acre of soil is to be moved. Once the panels are installed, natural ground cover may return to the area, which would further assist in preventing erosion.

The project is not located in a flood zone (FEMA Panel 06019C3205H), and will not increase the volume or velocity of surface runoff, due to the nature of the proposed grading.

E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

FINDING: NO IMPACT:

No water will be used as a part of the proposed operation, so the project will not conflict with any water management plans.

XI. LAND USE AND PLANNING

A. Will the project physically divide an established community?

FINDING: NO IMPACT:

The project is located north of the community of Coalinga and will not divide any existing communities as it is not located in an existing community.

B. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The proposed use is allowed in the AE (Exclusive Agricultural) Zone District with approval of a Conditional Use Permit by the Fresno County Planning Commission, which is currently being evaluated.

XII. MINERAL RESOURCES

Would the project:

A. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or

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?

FINDING: LESS THAN SIGNIFICANT IMPACT:

According to Figure 7-7 of the Fresno County General Plan Background Report (FCGPBR), the project site is located on a known oil field and near known sand, gravel, and coal resources. Additionally, this site has been drilled for oil in the past. The proposed project will not impact the availability of oil because none will be extracted as a part of the project. It will not impact the accessibility of the oil, if present, because the solar facility is a temporary use, and because any potentially present oil beneath the panels could likely be accessed from somewhere else on the property. Additionally, if sand, gravel, or coal resources are extracted from the area in the future, this should not conflict with the proposed operation due to the minimal traffic generation and the nature of the solar operation.

XIII. NOISE

Would the project result in:

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

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project must comply with the Fresno County Noise Ordinance, but it is unlikely that a project of this nature would violate these standards during operation. Noise will be produced during construction, but the operation of solar panels produces little to no noise. The only development in the vicinity of the project is a single-family residence, over 800 feet away, and cattle operations.

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

FINDING: LESS THAN SIGNIFICANT IMPACT:

Minor vibration will be produced by equipment during construction, to include rubber tired dozers, tractors, loaders, backhoes, graders, cranes, forklifts, generator sets, welders, mortar mixers, pavers, and rollers. However, there will not be ground borne noise or vibration after construction is complete.

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

FINDING: NO IMPACT:

There are no airports or airstrips within a 2 mile radius of the project area. The nearest airport, Coalinga Municipal, is approximately 4 miles southwest of the site.

XIV. POPULATION AND HOUSING

Would the project:

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

B. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

FINDING: NO IMPACT:

No housing will be created or destroyed, and no employees will work on site. Population and housing will not be impacted.

XV. PUBLIC SERVICES

Would the project:

A. Result in substantial adverse physical impacts associated with the provision of new or physically-altered governmental facilities, or the 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 following public services:

1. Fire protection;

2. Police protection;

3. Schools;

4. Parks; or

5. Other public facilities?

FINDING: NO IMPACT:

The generation of solar energy on the subject parcel will not increase the number of residents or visitors in the area. Therefore, public facilities such as those listed will not be impacted. Additionally, the Fresno County Fire District and Sheriff's Office expressed no concerns regarding this project's impact upon their services.

XVI. RECREATION

Would the project:

A. 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; or

B. Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

FINDING: NO IMPACT:

The proposed project will not affect the population or demographics of the area. Recreational facilities will not be impacted.

XVII. TRANSPORTATION

Would the project:

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

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

The Fresno County General Plan Policy TR-A.7 states that, “The County shall assess fees on new development sufficient to cover the fair share portion of that development’s impacts on the local and regional transportation system.” Shell Road, the closest County road to the project site, which must be used for access to the property, is in poor condition and is also utilized by neighboring agricultural operations. Heavy truck traffic and the increased volume of lighter vehicle traffic during the construction period will further worsen the condition of this road. Therefore, it is necessary for the safety of workers, nearby landowners, and for compliance with the General Plan, that the applicant maintain the portion of Shell Road used to access the project site. The portion of Shell Road that will reasonably be used during construction activities runs from Oil City road to the project site (approximately 0.7 miles) or from State Route 33 to the project site (approximately 2.7 miles), and both stretches are currently unable to support the proposed traffic. Oil City Road is wider, striped, and in a much better condition than Shell Road, so no maintenance of this road would be required by the applicant. To minimize the use of roads that could be hazardous in large vehicles, and to minimize the amount of road improvement required by the applicant, the County will require all construction traffic use Oil City Road and the section of Shell Road southwest of the proposed facility. Additionally, the following mitigation measures will ensure traffic safety and compliance with TR-A.7.

* ***Mitigation Measure***

1. *All construction traffic must access the solar facility via the section of Shell road southwest of the facility, from Oil City Road.*

2. *Any oversize hauls on Shell Road shall be accompanied by pilot cars due to the narrowness of the road.*

3. *The applicant shall maintain Shell Road from Oil City Road to the project site turn-off throughout the construction period. Such maintenance includes periodic filling of potholes and shoulder edge restoration, and may include surface patches (overlays/dig-outs) for badly worn areas. Upon completion of the construction work, the applicant shall perform final maintenance on the road in order to bring the road back to its pre-existing condition prior to construction. Such maintenance shall be documented in the form of pavement condition index (PCI) analyses for the before and after final maintenance conditions.*

B. Be in conflict or be inconsistent with the California Environmental Quality Act (CEQA) Guidelines Section 15064.3, subdivision (b)?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project is relatively remote, with the closest city being Coalinga, approximately 4.5 miles south of the project. The County-adopted Solar Facility Guidelines require that labor and materials be sourced locally whenever possible. Once construction is complete, less than one maintenance trip will be made per day, so the proposed development will not generate a substantial number of vehicle miles travelled during

operation. Locating a use that generates so few trips in a remote location also allows for more heavily trafficked uses to be located closer to population centers.

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

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

The project will not impact the geometry of any existing roads and will not create any new roads. The increased volume of construction traffic will be temporary, and with the road improvements required in Section A, no dangerous traffic situations will result from this project.

D. Result in inadequate emergency access?

FINDING: LESS THAN SIGNIFICANT IMPACT:

Construction traffic will be intermittent and temporary, this increase in traffic volume will not be significant enough to result in inadequate emergency access.

XVIII. TRIBAL CULTURAL RESOURCES

Would the project:

A. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1. 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

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? (In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.)

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

The subject parcel has experienced regular agricultural ground disturbance in the past, and the proposed construction of solar arrays on the site should not require ground disturbance activities substantially greater than an agricultural operation would. All interested tribes were notified of the proposed project per California Assembly Bill No. 52, and no tribes expressed any concerns. Additionally, it has

been determined through a cultural resources assessment and consultation with the Southern San Joaquin Valley Information Center, that there are no known historic or cultural resources within one mile of the project site. The archaeological sensitivity of the site is unknown, and it has not been previously surveyed, so the mitigation measure included in Section V (Cultural Resources) will ensure that no cultural resources are lost should they be encountered through the course of the proposed project.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

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

B. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years; or

C. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project will result in the installation of approximately 47 acres of solar panels. The operation will use no water, it will not substantially impact permeability, and it will not impact population growth. It will produce electricity to be used by consumers, and this electricity will be directed to substations, which do have a finite capacity. However, the size of the project precludes it from substantially impacting the capacity of the nearest substation, or resulting in the development of a new substation.

D. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

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

FINDING: LESS THAN SIGNIFICANT IMPACT:

Construction activities will result in the generation of solid waste, but operation of the facility will not. The facility must comply with all regulations regarding waste management, but it will not contribute to a cumulative long-term increase of solid waste.

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

A. Substantially impair an adopted emergency response plan or emergency evacuation plan, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; or

B. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; or

C. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or

D. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

FINDING: LESS THAN SIGNIFICANT IMPACT:

The project is located approximately 850 feet from a state responsibility fire area. However, the site is only classified as having moderate and non-wildland/non-urban fire risk. The project is set back from of the nearest road and will not impair emergency response or evacuation plans. The project will not substantially impact the profile of the land and will not emit pollution during operation, it also is not located at the top of the slope, and it is unlikely that the presence of the facility would exacerbate wildfire risks in this sparsely populated area. Additionally, the facility will not have regular employees, so it will not increase the number of individuals exposed to fire.

A 1,300 foot-long power line will be built to connect the facility to the nearest substation. This is a very minor addition to the power lines already running through this area.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

A. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

Due to the remote location chosen, near undeveloped hills that provide habitat to threatened and endangered species and in an area with many seasonal streams, there

was potential for impacts to wetlands and special-status species. However, as discussed in Sections IV, V, VII, X, and XVII, significant impacts to fish, wildlife, and cultural resources will not occur with adherence to the prescribed mitigation measures.

B. 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)?

   FINDING: LESS THAN SIGNIFICANT IMPACT:

   Almost all impacts associated with this project: noise, traffic, greenhouse gases, air quality, grading, etc., are associated with the construction period of the project. Therefore, these impacts are predominantly short-term and will not contribute to cumulative environmental impacts in the County.

C. Have environmental effects which will cause substantial adverse effects on human beings either directly or indirectly?

   FINDING: LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED:

   Traffic safety, air quality, noise, fire safety, water quality, and seismic hazards all have the potential to impact human health and safety. However, these potential impacts were considered in their relevant sections, and determined to be less than significant with the incorporated mitigation.

CONCLUSION/SUMMARY

Based upon the Initial Study prepared for Unclassified Conditional Use Permit Application No. 3607, staff has concluded that the project will not have a significant effect on the environment. It has been determined that there would be no impacts to Population and Housing, Public Services, and Recreation.

Potential impacts related to Agricultural and Forestry Resources, Air Quality, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Utilities and Service Systems, and Wildfire have been determined to be less than significant.

Potential impacts relating to Aesthetics, Biological Resources, Cultural Resources, Transportation, and Tribal Cultural Resources have determined to be less than significant with adherence to the listed mitigation measures.

A Mitigated Negative Declaration is recommended and is subject to approval by the decision-making body. The Initial Study is available for review at 2220 Tulare Street, Suite A, street level, located on the southwest corner of Tulare and "M" Street, Fresno, California.

Pre-Application Submittal

Project: Derrick Solar

Scope: 5 MWac solar photovoltaic energy generation facility on a +/-47-acre portion of an 88.23-acre parcel.

Location: APN 070-020-07

Applicant's Representative:
EPD Solutions, Inc.
c/o Rafik Albert
2030 Main Street, Suite 1200
Irvine, Calif. 92614
(949) 794-1182
rafik@epdsolutions.com

Operational Statement

1. *Nature of the operation—what do you propose to do? Describe in detail.*
   The project is a solar photovoltaic power plant. The facility will generate electricity from the sun during daylight hours, and will be unmanned. The project will interconnect with the electrical grid at an existing substation about 950 feet north of the project site, via a collector power line about 1,300 feet in length.

2. *Operational time limits:*
   The facility will operate during daylight hours year-round. Operations would be automated and not require a staff presence.

3. *Number of customer or visitors:*
   The site would not receive customers or visitors.

4. *Number of employees:*
   The facility will be unmanned. Occasional site visits (generally less than one per day) would occur for security and maintenance.

5. *Service and delivery vehicles (number, type, frequency):*
   The facility would not receive any regular deliveries during operations. Service visits would occur periodically on an as-needed basis, and would generally require only a pick-up truck

6. *Access to the site (public road, private road, surface, unpaved/paved):*
   The site is accessible from Shell Road, a public, paved road, located 300 feet to the west.

7. *Number of parking spaces for employees, customers, and service/delivery vehicles:*
   As the facility will be unmanned and not receive customers or visitors, no parking is required or proposed.

8. *Are any goods to be sold on-site? If so, are these goods grown or produced on-site or at some other location?*
   No goods would be grown, produced, or sold on-site.

9. *What equipment is used (if appropriate, provide pictures or a brochure):*
   Equipment used on the site would include:
   - Solar modules mounted on trackers
   - Electrical equipment pad with switchgear

10. *What supplies or materials are used and how are they stored?*
    No supplies or materials would routinely be used at the site, and no storage would occur at the site. Any items required for periodic maintenance would be carried on maintenance vehicles.

11. *Does the use cause an unsightly appearance (noise, glare, dust, odor, if so explain how this will be reduced or eliminated):*
    The use is minimally impactful on the surrounding area. The proposed equipment will generate minimal noise. Solar panels do not generate substantial glare. The project will not generate any dust or odor during operations.

12. *List any solid or liquid wastes to be produced:*
    The facility will not generate solid or liquid wastes. No process wastewater is generated during energy generation from a photovoltaic facility. The site will be unmanned so no restrooms would be required and no sewer connection or septic system would be installed. Any solid wastes generated during maintenance activities would be removed by maintenance crews when they depart the site.

13. *Estimated volume of water to be used (gallons per day, source of water):*
    The site will be unmanned and no water use will be required. A commercially available biodegradable solution will be used for panel cleaning in lieu of water.

14. *Describe any proposed advertising including size, appearance, and placement:*
    No advertising is proposed.

15. *Will existing buildings be used or will new buildings be constructed (describe type of construction materials, height, color, etc. Provide floor plan and elevations, if appropriate):*
    The site contains no existing buildings, and no new habitable structures are proposed. New construction on the site would be limited to solar trackers and related electrical equipment and a perimeter fence. See enclosed plans.

16. *Explain which buildings or what portion of buildings will be used in the operation:*
    There are no existing buildings on the site and no new habitable structures are proposed.

17. *Will any outdoor lighting or an outdoor sound amplification system be used (describe and indicate when used):*
    Outdoor lighting would be limited to small-scale security lighting at the entry and any domestic fixtures required by Building Code or other Code requirements at electrical equipment, such as transformers.

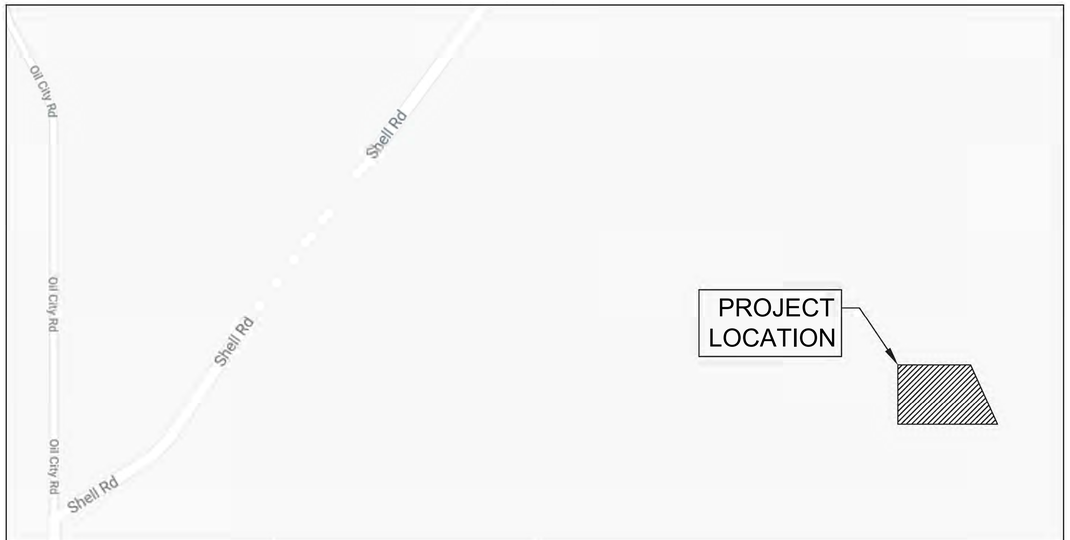
18. *Landscape or fencing proposed (describe type and location):*
    Fencing is proposed to consist of a perimeter chain link fence with barbed wire. No landscaping is proposed.

CA-SB43 DERRICK PV POWER PLANT

36.21767, -120.3418

FRESNO COUNTY, CA 93662

CUP SUBMITTAL



CIVIL SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-001	CIVIL TITLE SHEET
C-002	EXISTING CONDITIONS
C-003	CIVIL NOTES
C-004	EROSION □ SEDIMENT CONTROL NOTES
C-101	SITE PLAN
C-201	SECTIONS □ DETAILS
C-202	FENCE AND GATE DETAILS
C-301	GRADING PLAN
C-302	EROSION □ SEDIMENT CONTROL PLAN

PROJECT DEVELOPER

FOREFRONT POWER LLC
100 MONTGOMERY ST., SUITE 1400
SAN FRANCISCO, CA 94104
(626) 416-6275

PROJECT DEVELOPER:
PETE RODRIGUEZ
FOREFRONT POWER, INC.
PRODRIGUEZ□ FOREFRONTPOWER.COM

SITE CONTACT

TO BE DETERMINED
□ddre□□□
□t□□□□t□te□□□□□
□□□one□

SCOPE OF WORK

THIS DESIGN PACKAGE PROVIDES DRAWINGS FOR THE INSTALLATION OF A 7260 KW DC RATED PHOTOVOLTAIC SYSTEM AT 36.21767, -120.3418 IN FRESNO COUNTY, CA. ENVIRONMENTAL PLANS ARE NOT PART OF THE SCOPE OF THIS PLAN SET.

CIVIL ENGINEER

SAGE CONSULTING ENGINEERS, INC.
12 GEARY STREET
SAN FRANCISCO, CA 94108
(415) 890-5250

LICENSED ENGINEER: KIRSTEN HANSON
CA PE REG# C 60667
EXPIRATION: 12/31/2018

GEOTECHNICAL ENGINEER

GEOTEK, INC.
1548 NORTH MAPLE STREET
CORONOA, CA 92880
(751) 710-1160

LICENSED ENGINEER: ROBERT RUSSELL

CA GE REG# 2042
EXPIRATION: 12/31/2018

CONTRACTOR

TO BE DETERMINED
□ddre□□□
□t□□□□t□te□□□□□
□□□one□

CONTRACTOR'S LICENSE:

PROJECT DESCRIPTION

SYSTEM SIZE (DC)	7260kW
SYSTEM SIZE (AC)	5000kW, 1,942.92kW (CEC)
MODULE TYPE	(21060) REC SOLAR [XX] 340-DD14A 345 MODULES
INVERTER	(1) POWER ELECTRONICS [XX] (480V) (1) SUNGROW SG36KU(480V)
TRANSFORMER	(2) STEP-UP TRANSFORMERS
LATITUDE/LONGITUDE	36.2176°/-120.3418°
PROJECT AREA	82.41 ACRES

GENERAL PLAN SYMBOLS

REVISION CLOUD

PLAN SCALE (0, 60, 120 FEET)

CIRCLE CALL-OUT GENERAL

SECTION CUT REFERENCE (A / A-101)

KEYNOTE GENERAL

ELEVATION VIEW REFERENCE (A / A-101)

NORTH ARROW (N)

GRID COLUMN

DETAIL REFERENCE CALLOUT (1 / A-101)

MATCH LINE

APPLICABLE CODES AND STANDARDS

- CALIFORNIA FIRE CODE 2016 EDITION
- CALIFORNIA ENERGY CODE 2016 EDITION
- CALIFORNIA MECHANICAL CODE 2016 EDITION
- CALIFORNIA PLUMBING CODE 2016 EDITION
- CALIFORNIA ELECTRICAL CODE 2016 EDITION
- CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R (2015 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24, C.C.R.
- TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

ADDITIONAL DOCUMENTATION

- GEOTECHNICAL EVALUATION FOR PROPOSED GROUND-MOUNT PV ARRAYS DERRICK PROJECT
- PHASE 1 ENVIRONMENTAL SITE ASSESSMENT DERRICK PROJECT
- ----

FOREFRONT POWER
2017 FOREFRONT POWER, LLC AND ITS AFFILIATES, ALL RIGHTS RESERVED
100 MONTGOMERY ST. #1400
SAN FRANCISCO, CA 94104
(415) 776-8246
www.ForeFrontPowerLLC.com

SAGE Consulting Engineers, Inc.
12 Geary Street, Suite 407
San Francisco, CA 94108
(415) 890-5250
www.Sage-CE.com

STAMP:

CA-SB43 DERRICK PV POWER PLANT
FOREFRONT POWER LLC
36.21767, -120.3418
FRESNO COUNTY,CA,93662

PROJECT NUMBER:
CA-17-0100 / J0061

SHEET TITLE:
CIVIL TITLE SHEET

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)

0 ½" 1"

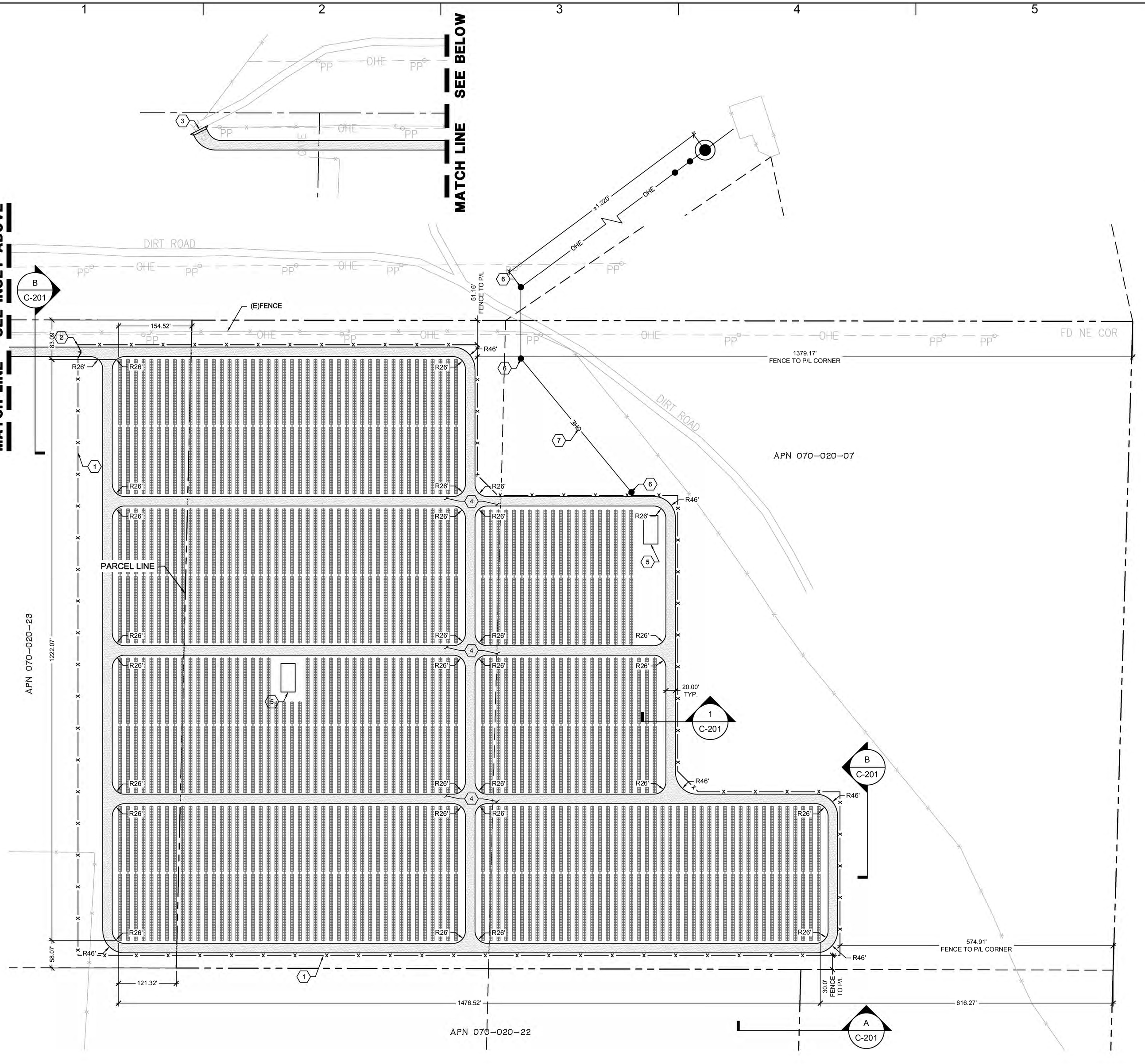
NO.	REVISION	DATE	NIT.

DATE: 01/11/18
DRAWN BY: RCS
ENGINEER: KMH
APPROVED BY: KMH

PROJECT PHASE:
CUP SUBMITTAL

SCALE:
1" = 100'

SHEET NO.:
C-001



LEGEND

- PROJECT PROPERTY LINE
- RIGHT-OF-WAY LINE
- SETBACK LINE
- EX. EASEMENT
- PRECISE PLAN LINE
- NEW INTERIOR ACCESS ROAD
- NEW PERIMETER FENCE

SHEET NOTES

1. SHOWS EXTENTS OF ALL CIVIL WORKS

ABBREVIATIONS

(E)	EXISTING
MIN.	MINIMUM
PM	PARCEL MAP
PP	POWER POLE
P/L	PROPERTY LINE
R	RADIUS
TYP.	TYPICAL

KEY NOTES

1. CONSTRUCT 7'-HIGH CHAIN LINK SECURITY FENCING (6' FENCE W/ 1' BARBED WIRE) — 4 / C-202
2. ACCESS GATE WITH CLEAR OPENING WIDTH OF 24' — 1 / C-202
3. ENTRANCE FROM DIRT ROAD AT EXISTING GATE
4. 20' WIDE ACCESS ROAD WITH COMPACTED NATIVE SOIL — 1 / C-201
5. CONCRETE PAD FOR ELECTRICAL EQUIPMENT, SEE ELECTRICAL SITE PLAN
6. NEW UTILITY POLE, SEE ELECTRICAL SITE PLAN
7. NEW OVERHEAD POWER LINES, SEE ELECTRICAL SITE PLAN

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FOREFRONT POWER LLC
36.21767, -120.3418
FRESNO COUNTY, CA, 93662

PROJECT NUMBER: CA-17-0100 / J0061

SHEET TITLE: SITE PLAN

SHEET SIZE: ARCH "D" 24" X 36" (610 x 914)

0 ½" 1"

NO.	REVISION	DATE	INIT.

DATE:	01/11/18
DRAWN BY:	RCS
ENGINEER:	KMH
APPROVED BY:	KMH

PROJECT PHASE: CUP SUBMITTAL

SCALE: 1" = 100'

SHEET NO.: C-101

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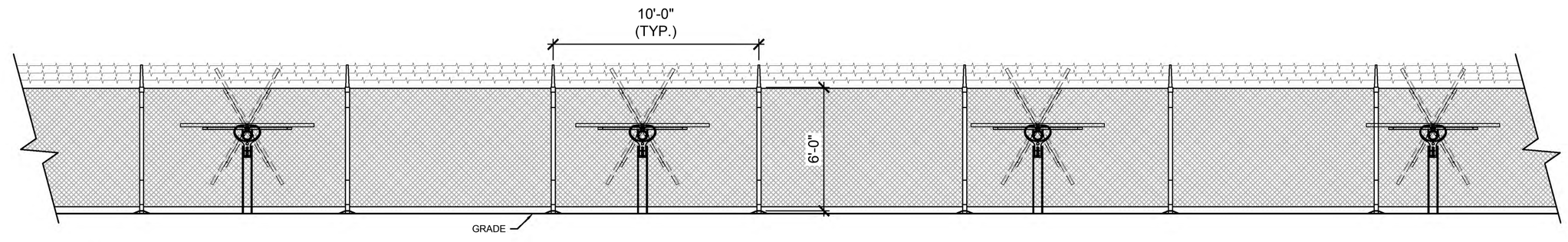
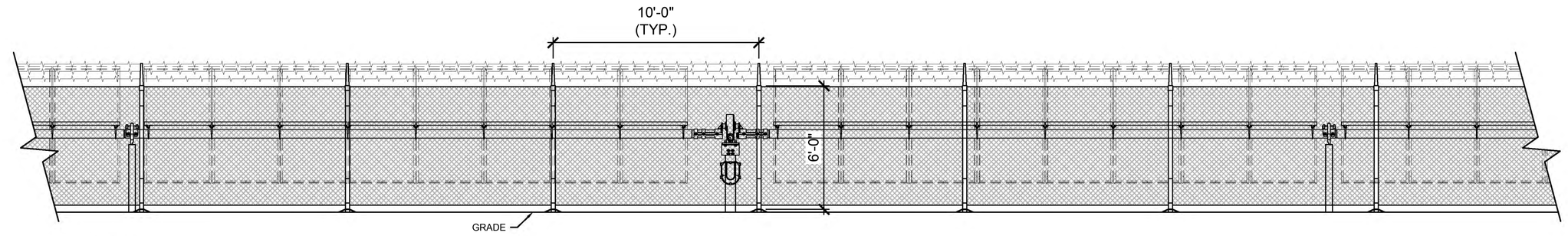
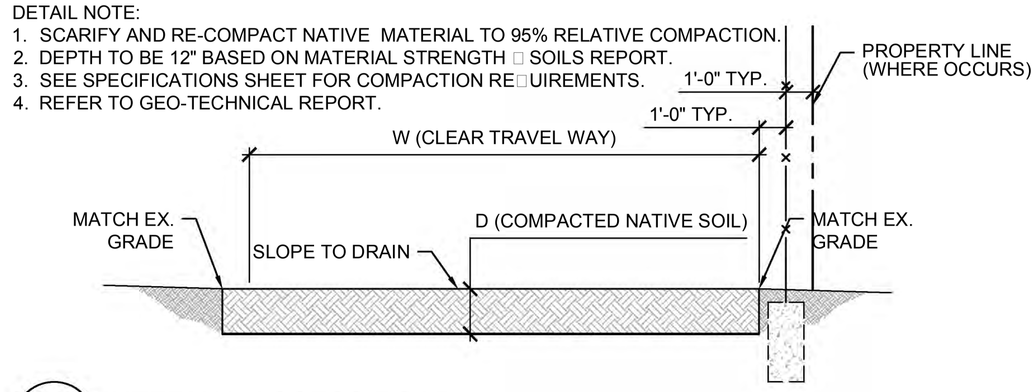


A NORTH-SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



B EAST-WEST ELEVATION
SCALE: 1/4" = 1'-0"

DETAIL NOTE:
1. SCARIFY AND RE-COMPACT NATIVE MATERIAL TO 95% RELATIVE COMPACTION.
2. DEPTH TO BE 12" BASED ON MATERIAL STRENGTH □ SOILS REPORT.
3. SEE SPECIFICATIONS SHEET FOR COMPACTION RE□UIREMENTS.
4. REFER TO GEO-TECHNICAL REPORT.



1 INTERNAL ACCESS ROAD
SCALE: 1/4" = 1'-0"

SHEET NOTES

1. □note□□

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FOREFRONT POWER LLC
36.21767, -120.3418
FRESNO COUNTY, CA, 93662

PROJECT NUMBER:
CA-17-0100 / J0061

SHEET TITLE:
SECTIONS □ DETAILS

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

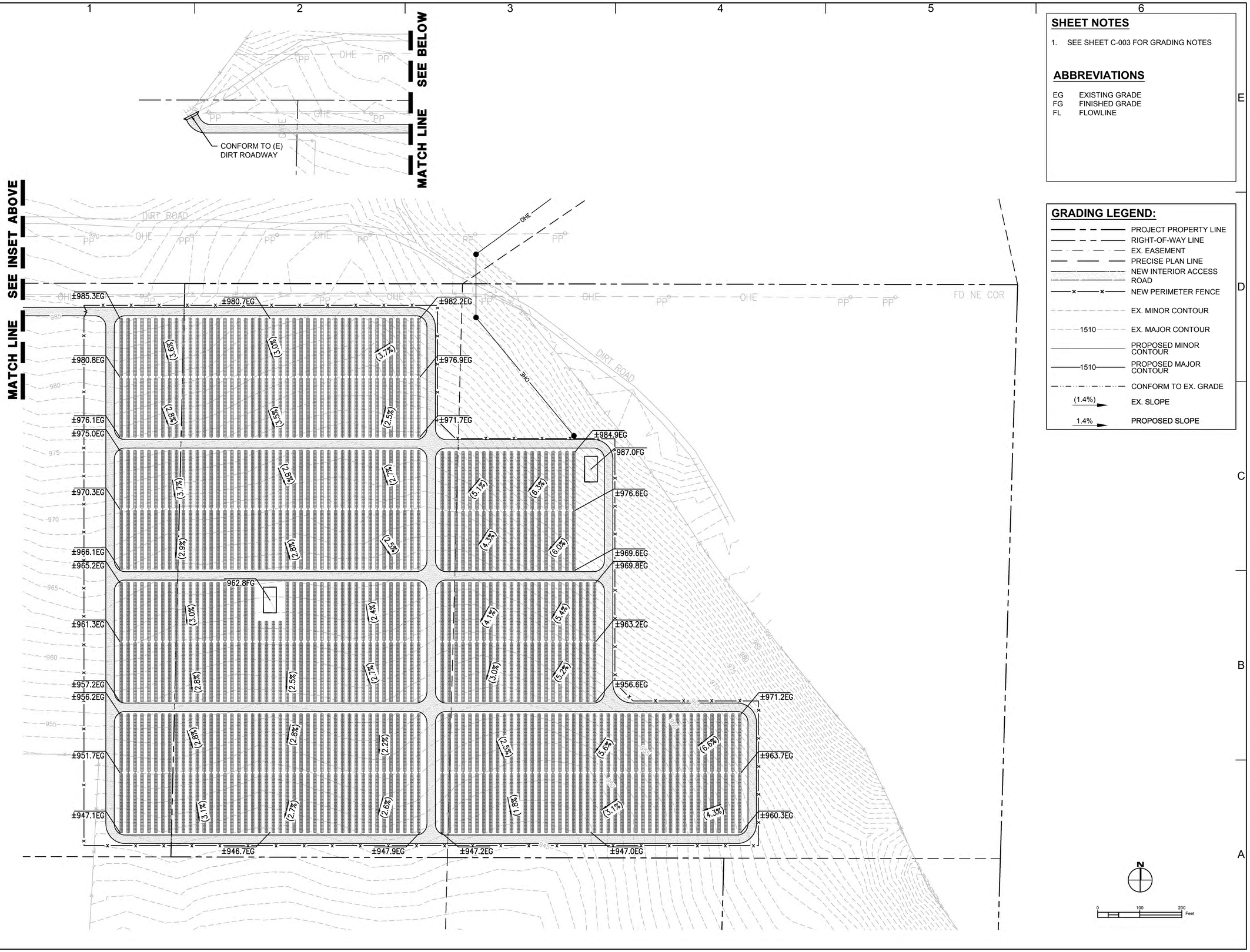
NO.	REVISION	DATE	INIT.

DATE:	01/11/18
DRAWN BY:	RCS
ENGINEER:	KMH
APPROVED BY:	KMH

PROJECT PHASE:
CUP SUBMITTAL

SCALE:
AS SHOWN

SHEET NO.:
C-201



SHEET NOTES

1. SEE SHEET C-003 FOR GRADING NOTES

ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
FL	FLOWLINE

GRADING LEGEND:

- PROJECT PROPERTY LINE
- RIGHT-OF-WAY LINE
- EX. EASEMENT
- PRECISE PLAN LINE
- NEW INTERIOR ACCESS ROAD
- NEW PERIMETER FENCE
- EX. MINOR CONTOUR
- 1510 EX. MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 1510 PROPOSED MAJOR CONTOUR
- CONFORM TO EX. GRADE
- (1.4%) EX. SLOPE
- 1.4% PROPOSED SLOPE

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SHEET TITLE:
GRADING PLAN

SHEET SIZE:
ARCH "D"
24" X 36" (610 x 914)
0 ½" 1"

NO.	REVISION	DATE	INIT.

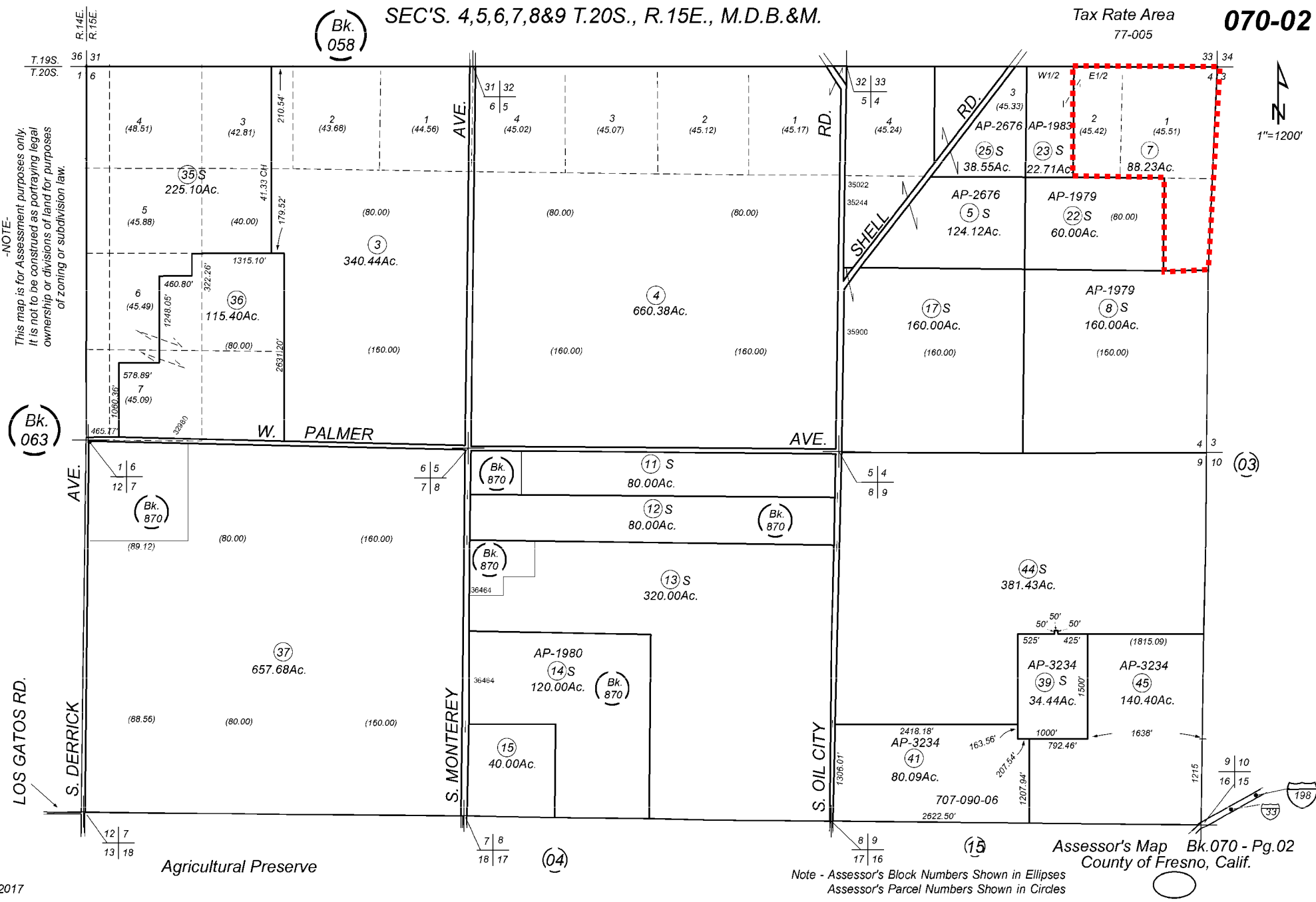
DATE:	01/11/18
DRAWN BY:	RCS
ENGINEER:	KMH
APPROVED BY:	KMH

PROJECT PHASE:
CUP SUBMITTAL

SCALE:
1" = 100'

SHEET NO.:
C-301

Printed: 1/11/2018 11:12 AM S:\3-Projects\J0061_FFP Derrick PV (Fresno)\5_Production\1_Drawings\2_Sheets\C-301 GRADING PLAN.dwg


SEC'S. 4,5,6,7,8&9 T.20S., R.15E., M.D.B.&M.
Tax Rate Area
77-005
070-02
Bk. 058
R.14E.
R.15E.
T.19S.
T.20S.
-NOTE-
This map is for Assessment purposes only. It is not to be construed as portraying legal ownership or divisions of land for purposes of zoning or subdivision law.
35 S 225.10Ac.
36 115.40Ac.
3 340.44Ac.
4 660.38Ac.
37 657.68Ac.
11 S 80.00Ac.
12 S 80.00Ac.
13 S 320.00Ac.
14 S 120.00Ac.
15 40.00Ac.
17 S 160.00Ac.
8 S 160.00Ac.
44 S 381.43Ac.
25 S 38.55Ac.
23 S 22.71Ac.
7 88.23Ac.
5 S 124.12Ac.
22 S 60.00Ac.
39 S 34.44Ac.
45 140.40Ac.
41 80.09Ac.
AP-2676
AP-1983
AP-1979
AP-1980
AP-3234
707-090-06
Bk. 870
Bk. 063
W. PALMER AVE.
S. DERRICK AVE.
S. MONTEREY
S. OIL CITY
LOS GATOS RD.
SHELL RD.
Agricultural Preserve
11/14/2017
Note - Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles
Assessor's Map Bk.070 - Pg.02
County of Fresno, Calif.
1"=1200'

Reclamation Plan

Derrick Solar Project
APN 070-020-07
County of Fresno

ForeFront Power, LLC
100 Montgomery St., Suite 1400
San Francisco, CA 94104

January 31, 2018

Table of Contents

List of Figures

1. Present use of the site

The Derrick Solar (project) site is located on an 88-acre parcel (APN 070-020-07) in unincorporated Fresno County, near the city of Coalinga. The project site is located on the north side of Palmer Avenue, 0.5 mile east of Oil City Road and 1 mile north of Highway 33 (Figures 1 and 2). The present General Plan land use designation is Westside Rangeland and the zoning is AE-20 and AE-40.

The project site is located at an elevation of about 950 feet, with a mild slope (less than 3 percent) downward from north to south. The site consists of agricultural land, with active production of common wheat. Surrounding land uses are predominantly agricultural to the south and southwest, with oil production to the north, east, and northwest.

2. Proposed alternate use of the land

ForeFront Power, LLC is proposing to develop and operate a 5-MWac solar photovoltaic energy generation facility on a 47-acre portion of the 88-acre parcel. Components of the facility will include a ground-mounted field of solar trackers and associated electrical equipment, including inverters and transformers; perimeter fencing; and interconnection to the electrical grid at an existing substation north of the site. The majority of the construction activities will occur above ground; however, there will be minimal subsurface construction for tracker piles, electrical conduit systems, and racking systems.

3. Duration

The project is being designed to have a functional operating life cycle of a minimum 25 years to a maximum of 35 years, contingent on the power off-take agreement and the operational date, currently targeted as June 2019. Under the current site control agreement, the project could remain in operation until June 2044.

4. Ownership of property

The subject property is subject to a 30-year lease between ForeFront Power, LLC (lessee) and James S. Anderson (property owner/lessor).

5. Reclamation plan

5-a) As the project is taken offline and permanently out of service, the reclamation process will commence to restore the project site to its previous agricultural condition. The entire reclamation of the site will be complete approximately 12 months after plant is taken off-line. As a result of the relatively basic design and minimal footprint of the project, the reclamation process will be simple to execute and will be completed in one phase. Demolition and reclamation will include removal of all above ground and subsurface equipment, structures, and

fences. All foundations will be demolished and removed from the site, and all necessary grading will be performed to return the site to its original grade. All removed and demolished infrastructure and components will be salvaged and recycled as available.

5-b) No hazardous chemicals or materials will be present at any time during normal site operations of the project. No additional precaution or handling methodologies will be necessary during the reclamation process. All transformers and high voltage electrical equipment will be recycled as per manufacturer requirements and coolant will be disposed of pursuant to California and Fresno County law.

5-c) All electrical equipment will be uninstalled and removed. Electrical equipment includes: inverters, PV modules, combiner boxes, transformers, switchgear, monitoring equipment, and any other on-site equipment and all affiliated cabling. The equipment will either be reused or recycled depending on its equipment, warranties, technical improvements, and market valuation. All mounting structures will be removed and recycled as possible. Any and all building improvements on the site will be demolished and removed.

5-d,e) AII below-grade foundations will be demolished and removed, including concrete, rebar, and associated debris. All subsurface conduit and cabling that is not deemed necessary by the utility will be uninstalled and recycled. Any below grade facilities deemed necessary by the utility will remain buried and marked for identification.

5-f) All requisite grading required to restore the site to its original condition. Due to the low impact of the disk-and-roll approach used during site preparation and the flat condition of the project parcel, it is anticipated that minimal re-grading will be required during reclamation.

5-g) During the reclamation process the site will be return to its previous agricultural state through de-compaction of the site, as needed. Due to the disc-and-roll site preparation technique, it is expected that requisite de-compaction will be limited. The reclamation process will involve the input of the landowner to consult on site restoration for agricultural use, as they were the original users of the site in its agricultural state.

5-h) There is no irrigation system currently present on the project site. No irrigation will be required during operations.

6. Site Plan

See Figure 3.

7. Engineering cost estimate

Civil Demolition	Quantity	Unit	Labor	TOTAL
Panel Removal	21,060	EA	$ 1.75	$ 36,855.00
Steel Structure Disassembly	1	LS	$ 16,000.00	$ 16,000.00
Driven Pile Foundation Removal	3,403	EA	$ 5.00	$ 17,015.00
Fencing Demolition	5,700	LF	$ 2.50	$ 14,250.00
Access Road Demolition	207,810	SF	$ 0.25	$ 51,952.50
			Total	$ 136,072.50

Electrical Demolition	Quantity	Unit	Labor	TOTAL
Removal of Wire & Grounding Rods (including dismantle & load)	1	LS	$ 15,000.00	$ 15,000.00
Inverters / Parallel Gear / Combinor Boxes (including dismantle, load & disposal	1	LS	$ 15,000.00	$ 15,000.00
			Total	$ 30,000.00

Hauling	Quantity	Unit	Unit Weight (lbs)	Total Weight (tons)	$/Load	TOTAL
Panel	21,060	EA	61.7	649.70	$ 300.00	$ 194,910.30
Driven Pile Foundations	3,403	EA	100	170.15	$ 250.00	$ 25,000.00
Tracker Structure Supports	3,403	EA	200	340.30	$ 250.00	$ 50,000.00
Copper (wire, inverter & parallel gear)	1	LS			$ 1,000.00	$ 1,000.00
					Total	$ 270,910.30

Disposal Fees	Quantity	Unit	Unit Price	TOTAL
Dump Fees (Panels)	649.7	ton	$ 35.00	$ 22,739.54
Dump Fees (Building waste)	-	ton	$ 25.00	$ -
Dump Fees (Concrete)	5.0	ton	$ 25.00	$ 125.00
			Total	$ 22,864.54

PRICES ARE SUBJECT TO CHANGE
PRICES WILL FLUCTUATE W/ MARKET CONDITIONS

Civil Demolition	$ 136,072.50
Electrical Demolition	$ 30,000.00
Hauling	$ 270,910.30
Disposal Fees	$ 22,864.54
Total Decomission Cost	$ 459,847.34
Salvage Value (%)	50.0%
Net Decommission Cost	$ 229,923.67

8. Financial assurances

ForeFront Power, LLC will provide the County of Fresno with a Letter of Credit in the amount of $459,847. The Letter of Credit will increase annually by 3%, or be tied to the Consumer Price Index (CPI) or other mechanism acceptable to the Fresno County Department of Public Works and Planning.

9. Evidence that all owners have been notified

A lease agreement with the property owner, James S. Anderson, is in place. The lease agreement authorizes ForeFront Power, LLC to construct, operate, maintain, and decommission the solar project on the project site.

Figure 1. Project Location

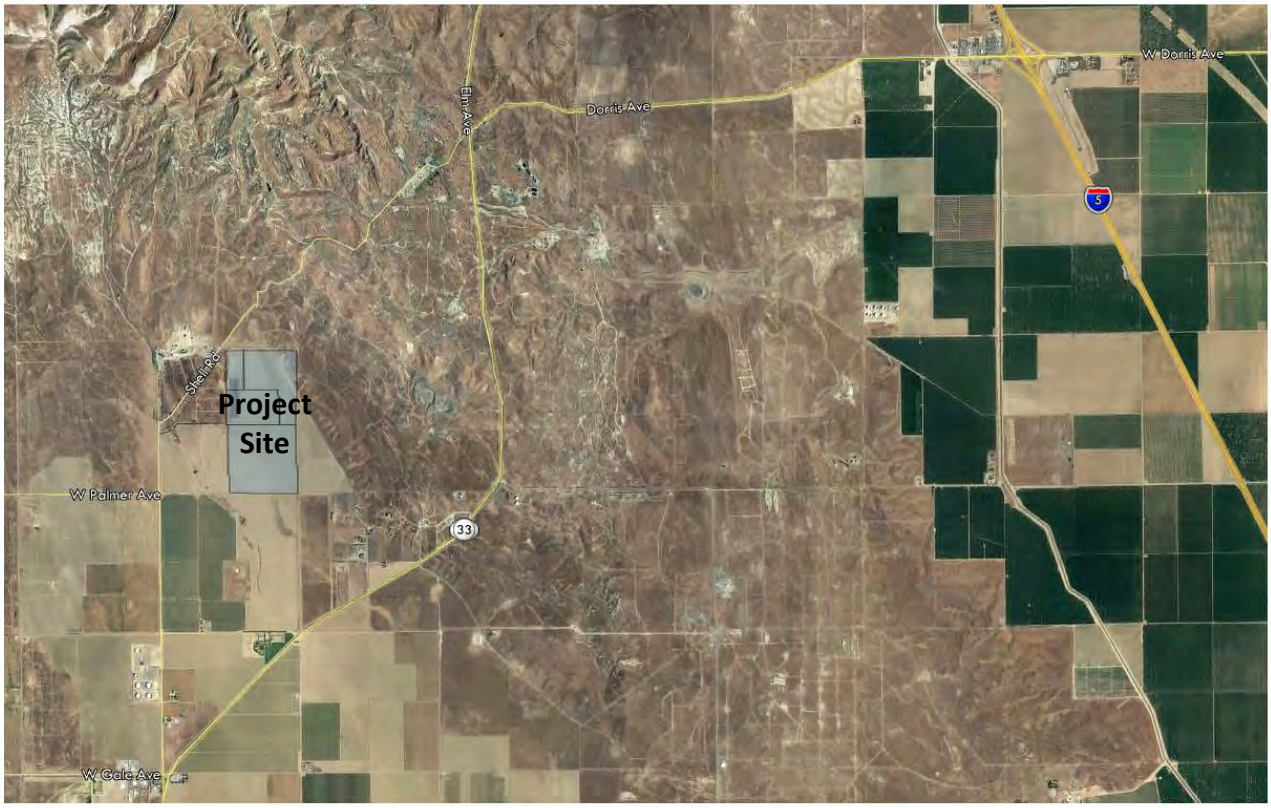
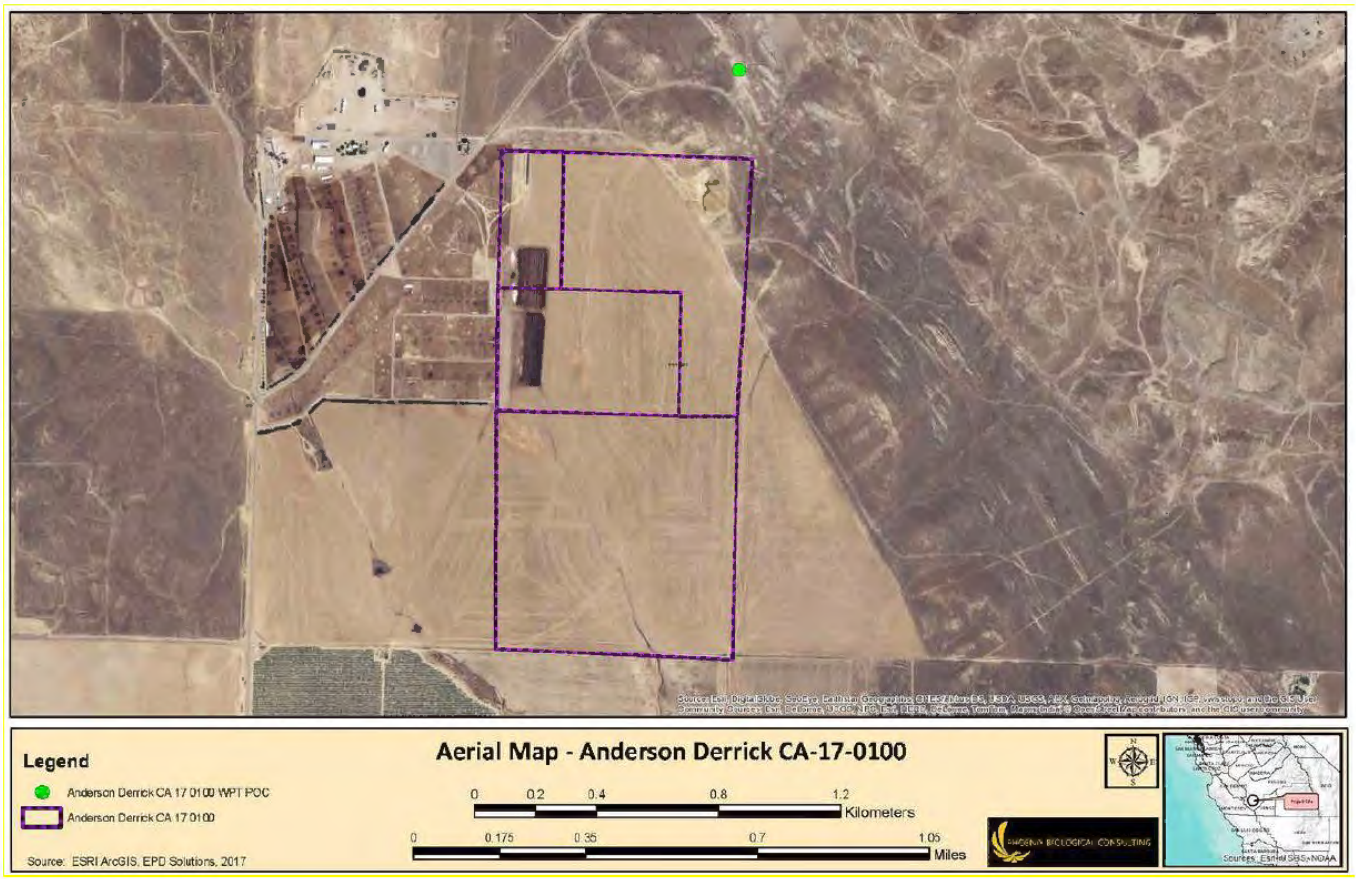


Figure 2. Site Aerial



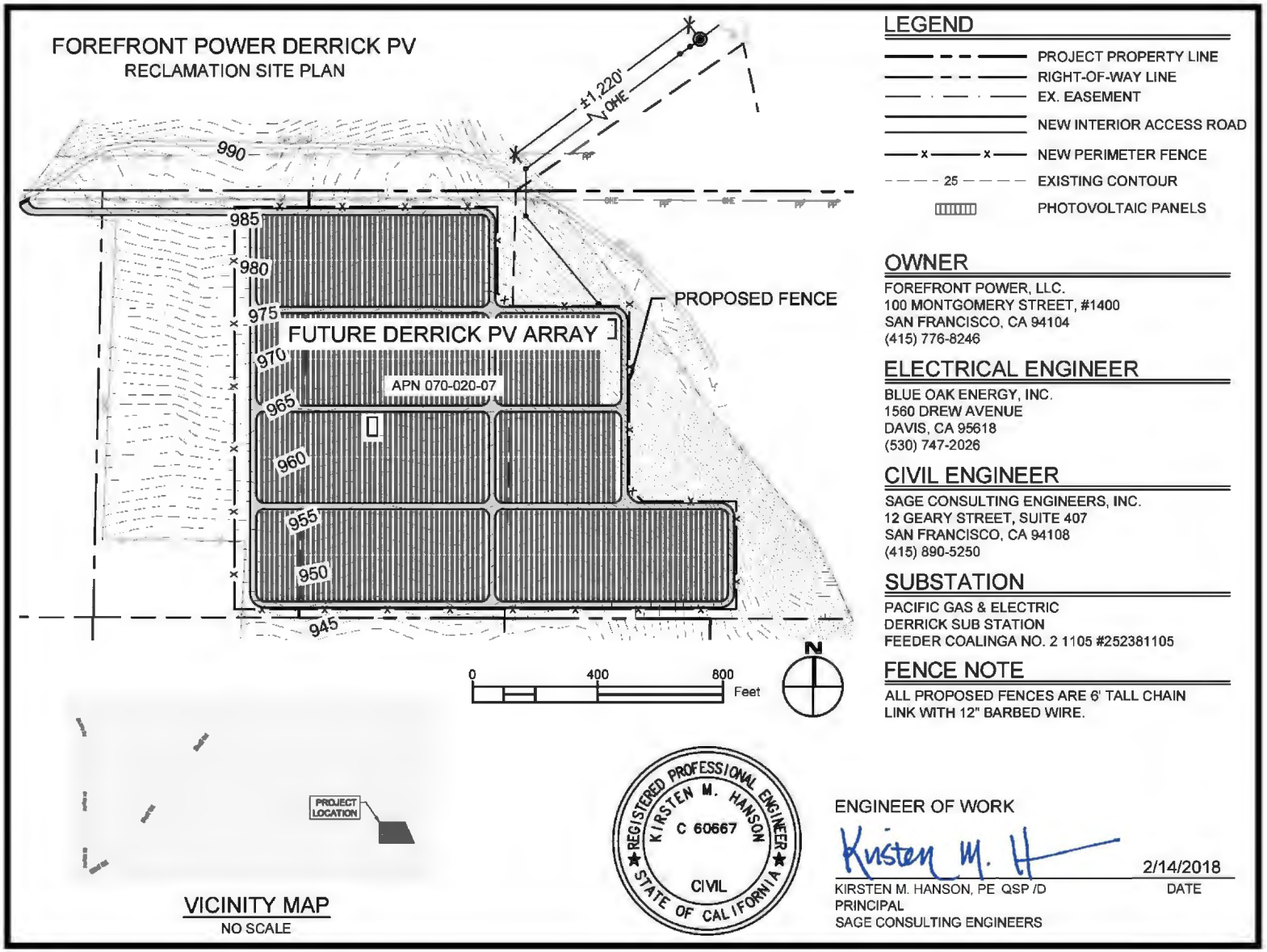


Figure 3. Reclamation Site Plan

Pest Management Plan

Derrick Solar Project
APN 070-020-07

ForeFront Power, LLC
100 Montgomery St., Suite 1400
San Francisco, CA 94104

August 7, 2018

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1.0 Project and Objectives

ForeFront Power, LLC is proposing to develop and operate a 5 MWac solar photovoltaic energy generation facility on a 47-acre portion of an 88-acre parcel (APN 070-020-07) in unincorporated Fresno County, near the city of Coalinga. The project site is located on the north side of Palmer Avenue, 0.5 mile east of Oil City Road and 1 mile north of Highway 33 (Figures 1 and 2). The project site is located at an elevation of about 950 feet, with a mild slope (less than 3 percent) downward from north to south. The site consists of agricultural land, with active production of common wheat. Surrounding land uses are predominantly agricultural to the south and southwest, with oil production to the north, east, and northwest. The proposed project site plan is depicted in Figure 3.

General site investigations of the 88-acre study area were conducted on September 1, 2017, during which the site and the surrounding area were evaluated for the presence of various plant and animal species, including rodents. The results of the site visit and a literature review are contained in Phoenix Biological Consulting (2017).

The purpose of this Pest Management Plan is to discuss potential pest problems that may occur within the boundaries of the project site during the life of the solar project. In addition, the Plan outlines the various methods for preventing and/or controlling potential pest problems that may arise during operation of the solar facility.

This Plan provides information on the various pests known to occur in the region that could potentially cause an infestation on the property. Available resources and various control measures are discussed below which will help to control any future pest problems, if they occur. As necessary, various measures will be implemented to control any rodent populations present on the site in such a manner as to ensure minimal impact to the environment.

2.0 Existing Site Conditions

2.1 Vegetation

The 88-acre study area consists of highly disturbed agricultural lands used for active production of common wheat (*Triticum aestivum*). The site visit indicated that the site has been recently disked and historical/current aerial photos confirm these observations. There are no true trees in or bordering the site. The soils consist of Milham and Cerini loams. The soils on the northeast corner on site consist of Milham sandy loam (2-5% slope). The soils center on site consist of Milham sandy loam (0-2% slope), and the southwest corner on site consist of Cerini sandy loam (0-2% slope). Existing vegetation is predominated by the cultivated wheat with remaining vegetation sparsely situated on the perimeter of the site. Plants identified on site during the site visit are listed in Table 1.

Table 1. Vascular Plants Detected during Site Visit

FAMILY Species	Common Name	Habit
CHENOPODIACEAE		
Salsola tragus	Russian thistle	non-native annual herb
EUPHORBIACEAE		
Eremocarpus setigerus	turkey mullein	native annual herb
POACEAE		
Bromus madritensis	red brome	non-native perennial grass
Avena sp.	wild oats	non-native perennial grass
Triticum aestivum	common wheat	native annual grass
LAMIACEAE		
Trichostema lanceolatum	vinegarweed	native annual herb

2.2 Wildlife

Table 2 lists wildlife identified on the site during the site visit.

Table 2. Vertebrates Detected during Site Visit

Birds
Common raven (*Corvus corax*)
Mourning Doves (*Zenaida macroura*)

Although not seen during the site visit, various small rodents are also known to inhabit the general region. These include:

Voles, Moles, and Pocket Gophers: There are six vole species that occur throughout California; the California vole (*Microtus californicus*) is the most common. California voles are typically found in grassland communities and wet meadows (CDFW, 1990). Voles frequently cause damage to a wide range of ornamental plants and may also damage other landscape plantings (University of California, 2010).

Moles (*Scapanus* sp.) are small mammals that are widely distributed throughout the dry regions of the Central Valley. The species lives entirely underground and normally has an extensive system of interconnecting tunnels. The greatest damage from mole activities is primarily from

their burrowing activities that can create mounds and ridges throughout an area and undermine support structures.

Pocket gophers (*Thomomys* sp.) are one of the more common mammals throughout California and population density can sometimes reach very high levels (60+ gophers per acre) (CDFW, 1990). Botta's gophers are the most common gopher species in the area and are most likely to occur on the project site. Gophers are prolific diggers and can do considerable damage within a relatively short time (University of California, 2009). The first sign of the species is usually numerous mounds of dirt scattered throughout the area.

Rats: Norway rats (*Rattus norvegicus*) and roof rats (*Rattus rattus*), which are species which were introduced to North America, have been observed throughout California, and create a significant amount of damage wherever they are present. They typically consume large amounts of food (i.e., grain, etc.) and are responsible for contaminating food that has been stored (University of California, 2003). In addition to the damage they can cause, they are the carriers of various diseases.

Mice: The common house mouse (*Mus musculus*) also occurs throughout California and is most commonly seen in association with structures (i.e., houses, sheds, barns, etc.). The house mouse is one of the more damaging rodents in the country and typically consumes and contaminates food wherever it is found (University of California, 2010). They thrive under a variety of conditions such as in and around houses and commercial structures as well as in open fields and on agricultural land. House mice consume and contaminate food meant for humans, pets, livestock, and other animals. In addition, they cause considerable damage to structures and property, and they can transmit pathogens and cause disease such as salmonellosis, a form of food poisoning.

California Ground Squirrels: This species of ground squirrel (*Spermophilus beecheyi*) is one of the more common ground squirrels and is associated with grassland habitats, particularly in disturbed areas and along roadsides (CDFW, 1990). Damage done by the species consists primarily due to excavation of burrows that could potentially undermine structures such as support poles and pilings.

3.0 Control Options and Removal Methods

3.1 Preventive Controls

Preventive controls are used to minimize rodent infestations in areas of concern and involve numerous approaches. As noted in Section 2.0, the main rodents likely to occur on the site include voles, rats, mice, gophers, and California ground squirrels. Preventive measures for each

of these species are somewhat different; however, there are several measures common to all that can be implemented for the project as needed. These measures are summarized below:

Managing Vegetation: Rodents typically occur in areas where vegetation is allowed to grow; therefore, the vegetative cover throughout the site should be controlled. This can be achieved through periodic mowing. Mowing will also be required to ensure plant growth does not create a fire hazard by interfering with solar panels.

Tilling: Plowing can be an effective measure in controlling rodents. Tilling must be performed on a regular basis to ensure control of rodent populations.

Fencing: Specialized fencing designed to exclude small mammals can sometimes be an effective measure in controlling animals, particularly in dealing with larger mammals such as California ground squirrels. However, fencing is most effective when utilized for relatively small projects. Installing specialized fencing would not be a cost-effective means in controlling small rodents for the proposed project.

Other Options: Various other measures are available for control of rodents such as commercial repellents, electromagnetic, and burrow fumigants; however, these measures have a very low success rate and may also be cost prohibitive for large sites such as this project.

Natural Control: Natural predators such as hawks and falcons do occur in the area and prey on voles, rats, and ground squirrels on a regular basis. Raptors are expected to utilize the site during hunting activities; however. it would be difficult to ensure frequent or constant “patrol” of the site by hawks and falcon.

3.2 Removal Methods

In the event a rodent infestation occurs on the site or in certain portions of the property, various removal methods may need to be used to remove or at least lower the number of pests present on the site. Construction of the proposed solar project will have the benefit of reducing the number of rodents which may presently occur on the site due to modification and removal of the existing vegetation present on the site. As part of the construction process, the site will be graded and all current vegetation will be removed. Some natural re-vegetation will occur over time and rodents will naturally be reintroduced; consequently, pests may need to be controlled through removal and/or extermination practices.

Trapping: Removal of various rodent species through trapping measures is an effective way to control populations of pests; however, trapping is labor intensive and can be relatively expensive.

Trapping is most effective when dealing with small projects and on those projects where the rodents are confined to a relatively small portion of the site.

Trapping may be an effective measure for the project if the rodent infestation problem is confined to a small area but if the rodents are evenly dispersed throughout the site, baiting (see below) may be a more effective measure. In the event an infestation problem does arise, the site operations manager should consult with a pest control expert to determine if trapping is suitable.

Baiting: The use of toxic bait is an effective means of controlling rodents when the infestation occurs over a large area of a project site. Baits are the quickest and most cost-effective means in controlling pest infestation; however, toxic substances can create a safety problem for children, pets, and other animals (livestock). Anticoagulants are the most common baits used to control rats and mice and are available as over-the-counter substances.

Anticoagulants are normally the safest bait around structures where children and pets may be present given the fact these substances are slow acting, and there are antidotes commonly available in the event humans or pets ingests the bait. The bait normally must be available to the rodent that is being targeted for several days and placement is also an important issue. Placing the bait near rodent runways or near their burrows is the most effective approach; however, when dealing with large areas, such as the proposed project, “broadcasting” the bait in the area where the infestation is occurring may be the most cost-effective approach. When broadcasting the bait over a large area, the bait should be evenly spread over the area. Three to four applications are normally the most effective in eliminating the rodent infestation. Normal application should be every other day for a total of three applications.

4.0 Conclusion

Pests are not expected to be an issue of significant concern for the solar project, as the project will not produce any crops or other plant materials that might attract the various rodents known to occur in the area. Vegetation management will be required to avoid interference of grasses with solar panels and electrical equipment; this will reduce the amount of useful habitat for pests on the site. In addition, mowing activities will keep the vegetation cover at a low level which will expose rodents to potential prey species such as hawks, falcons, and coyotes.

Managing the vegetation is the first line of defense against rodent infestation. However, if an infestation does occur during the operational phase of the project, a professional exterminator should be consulted to determine the rodents which are causing the problem, and to determine the best approach for dealing with the specific rodents present. The consultant will also be able to determine which baits can be used in accordance with local, State, and federal laws.

5.0 References

California Department of Fish and Game

1990. California Wildlife: Volume III (Mammals).

Phoenix Biological Consulting.

December 2017. Biological Habitat Assessment for Anderson Derrick.

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University of California

January 2003. Agriculture and Natural Resources: Statewide Integrated Pest Management Program. Pest Notes Publication 74106 (Rats).

September 2009. Agricultural and Natural Resources. Statewide Integrated Pest Management Program. Pest Notes 7433 (Pocket Gophers).

June 2010. Agriculture and Natural Resources: Statewide Integrated Pest Management Program. Pest Notes Publication 7439 Voles (Meadow Mice).

December 2012. Agricultural and Natural Resources: Statewide Integrated Pest Management Program. Pest Notes Publication 74115 (Moles).

Figure 1. Project Location

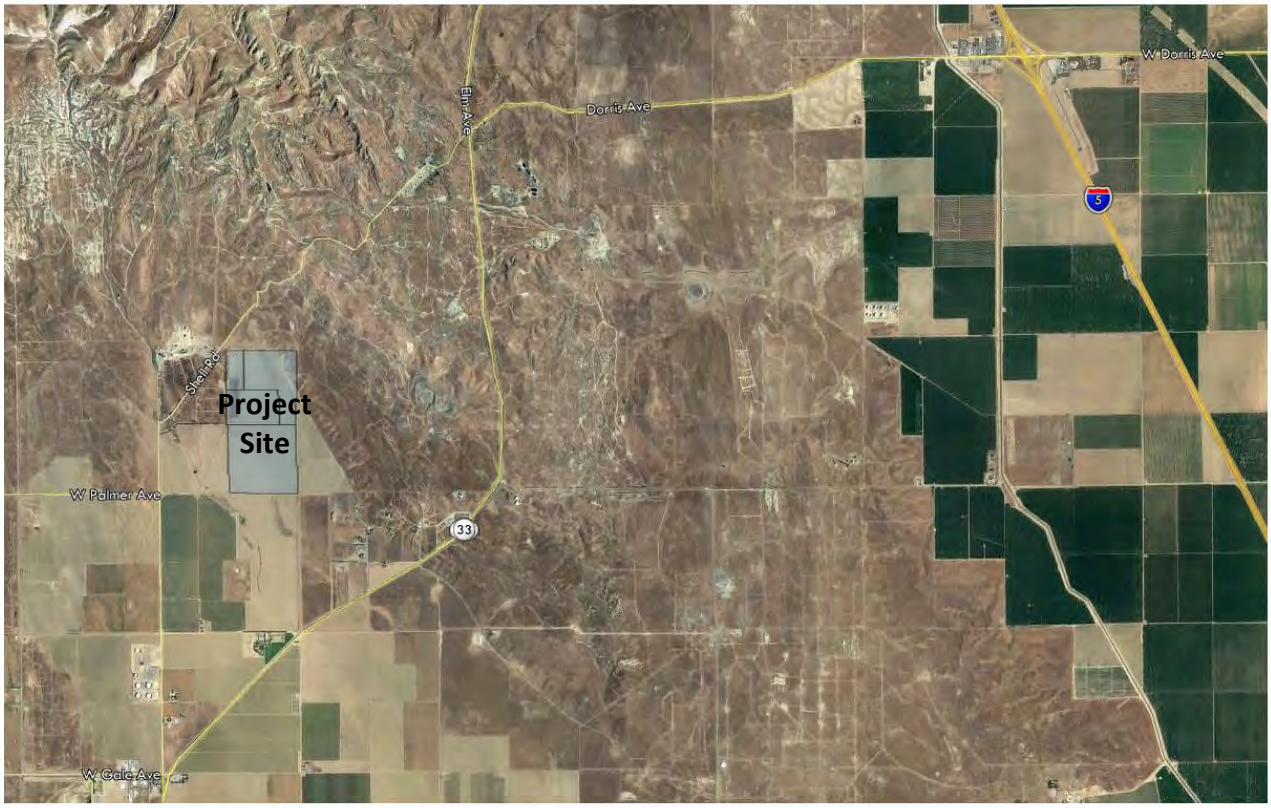


Figure 2. Site Aerial

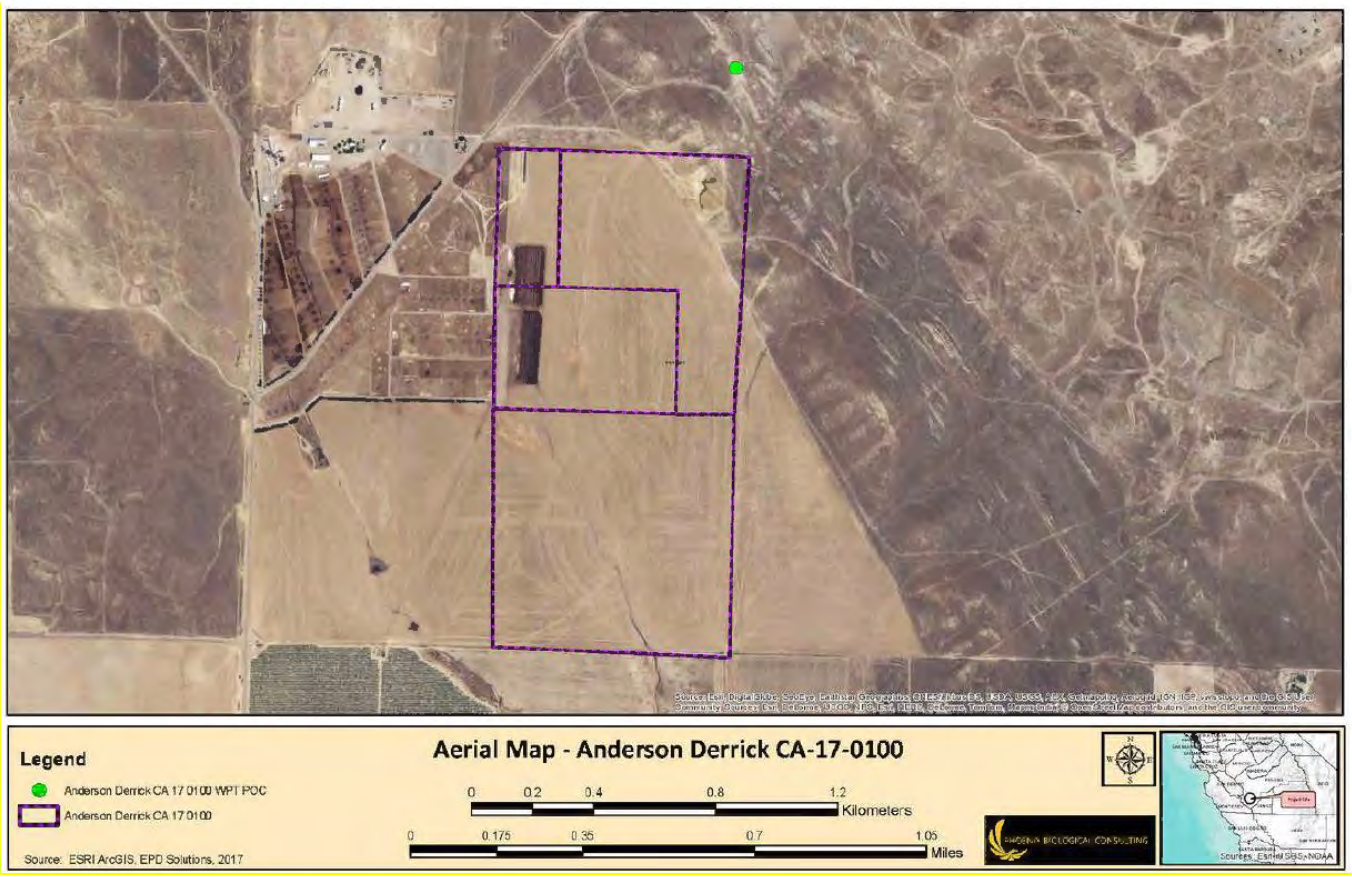
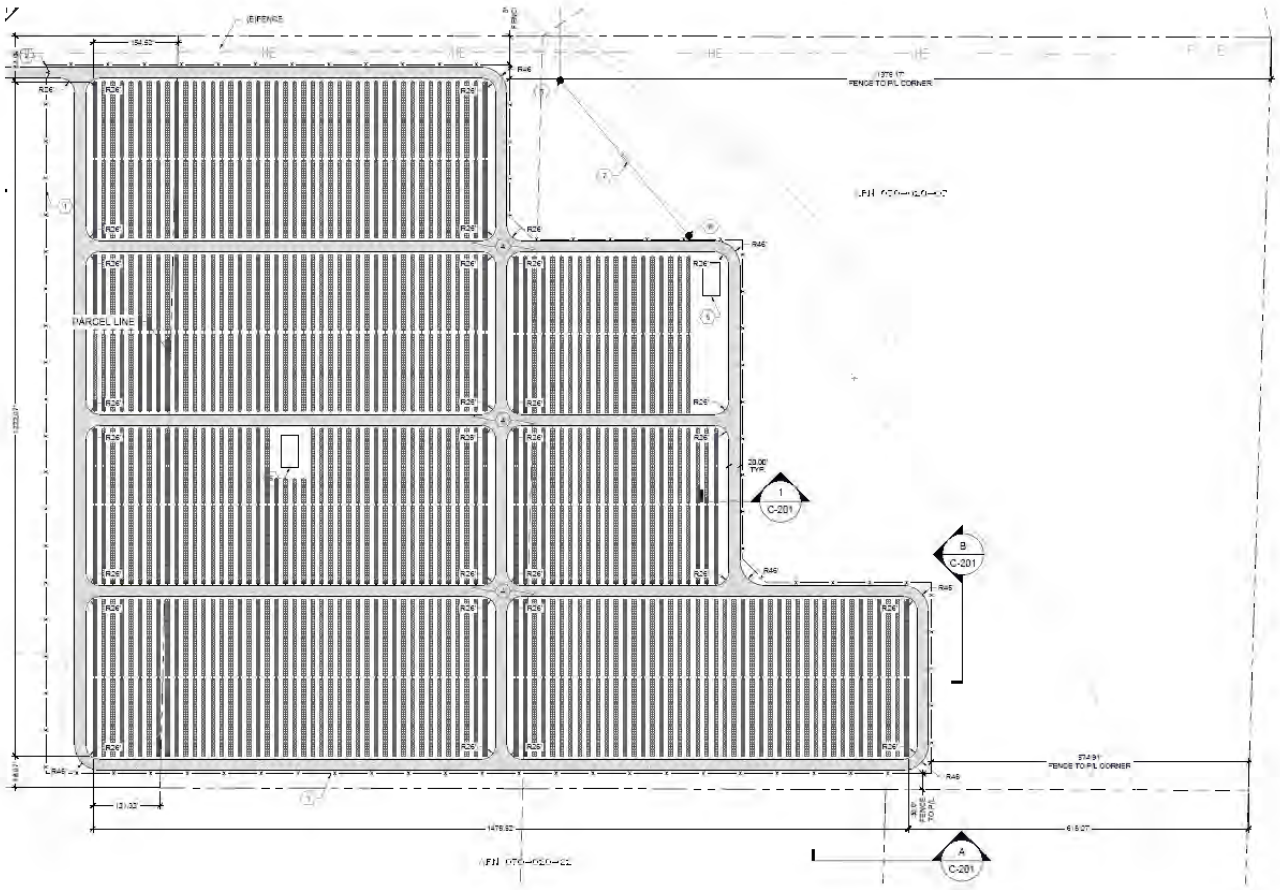


Figure 3. Site Plan



260 E. Baker St. | Suite 200 | Costa Mesa, CA 92626 | (949) 660-1994
urbanxroads.com

April 4, 2018

Mr. Rafik Albert
EPD Solutions, Inc.
2030 Main St., Suite 1200
Irvine, CA 92614

SUBJECT: ANDERSON DERRICK FOCUSED AIR QUALITY AND GREENHOUSE GAS MEMORANDUM

Dear Mr. Rafik Albert:

Urban Crossroads, Inc. is pleased to submit this Focused Air Quality and Greenhouse Gas Memorandum (Memo) to EPD Solutions, Inc. (Client) for the Anderson Derrick ("Project"), which is located east of Shell and west of California State Route 33 (CA-33) in an unincorporated area in the County of Fresno, as shown on Exhibit A.

SUMMARY OF FINDINGS

Results of the Memo indicate the construction and operations of the proposed Project would result in less than significant impacts associated with air quality and greenhouse gas emissions.

PROJECT DESCRIPTION

The proposed 47-acre, 5-megawatt (MW) solar power plant would occupy an 88.23-acre site, as shown on Exhibit B. For the purposes of this analysis, it has been assumed that the Project will be developed in one phase with an anticipated Opening Year of 2018. It should also be noted that the exact opening year is unknown. Notwithstanding, based on the required time for entitlements, the size of the Project, and the anticipated construction phases, the opening year is estimated to be 2018.

PROJECT-RELATED AIR QUALITY AND GREENHOUSE GASES

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (1). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Attachment "A".

AIR QUALITY

CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO. Construction related emissions are expected from the following construction activities: mobilization, site preparation and grading, on-site construction and panel installation, paving, and construction workers and vendors commuting.

The duration of construction activity was based on CalEEMod defaults and a 2018 opening year, as shown on Table 1. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[1] The associated construction equipment for all phases based on CalEEMod defaults, as shown on Table 2. Site specific construction fleet may vary due to specific project needs at the time of construction.

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on CalEEMod defaults. As a conservative measure, a worker and vendor trip length of 40 miles has been assumed. Table 2 summarizes the anticipated construction equipment list.

San Joaquin Valley Air Pollution Control District (SJVAPCD) Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 4101 (Visibility); Rule 4102 (Nuisance); Rule 8011 (General Requirements); Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities); Rule 8031 (Bulk Materials); Rule 8041 (Carryout and Trackout); Rule 8051 (Open Areas); Rule 8061 (Paved and Unpaved Roads); Rule 8071 (Unpaved Vehicle/Equipment Traffic Areas); and Rule 9510 (Indirect Source Review). It should be noted that Best Available Control Measures (BACMs) are not mitigation as they are standard regulatory requirements.

The estimated maximum annual construction emissions for the proposed Project are summarized on Table 3. Detailed construction model outputs are presented in Attachment "A". As shown, the proposed Project would not exceed the applicable SJVAPCD thresholds. As such, no impacts would occur and no mitigation is required.

[1] As shown in the California Emissions Estimator Model (CalEEMod) User's Guide Version 2013.2, Table 3.4 "OFFROAD Equipment Emission Factors" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

EXHIBIT A: SITE LOCATION

EXHIBIT B: SITE PLAN

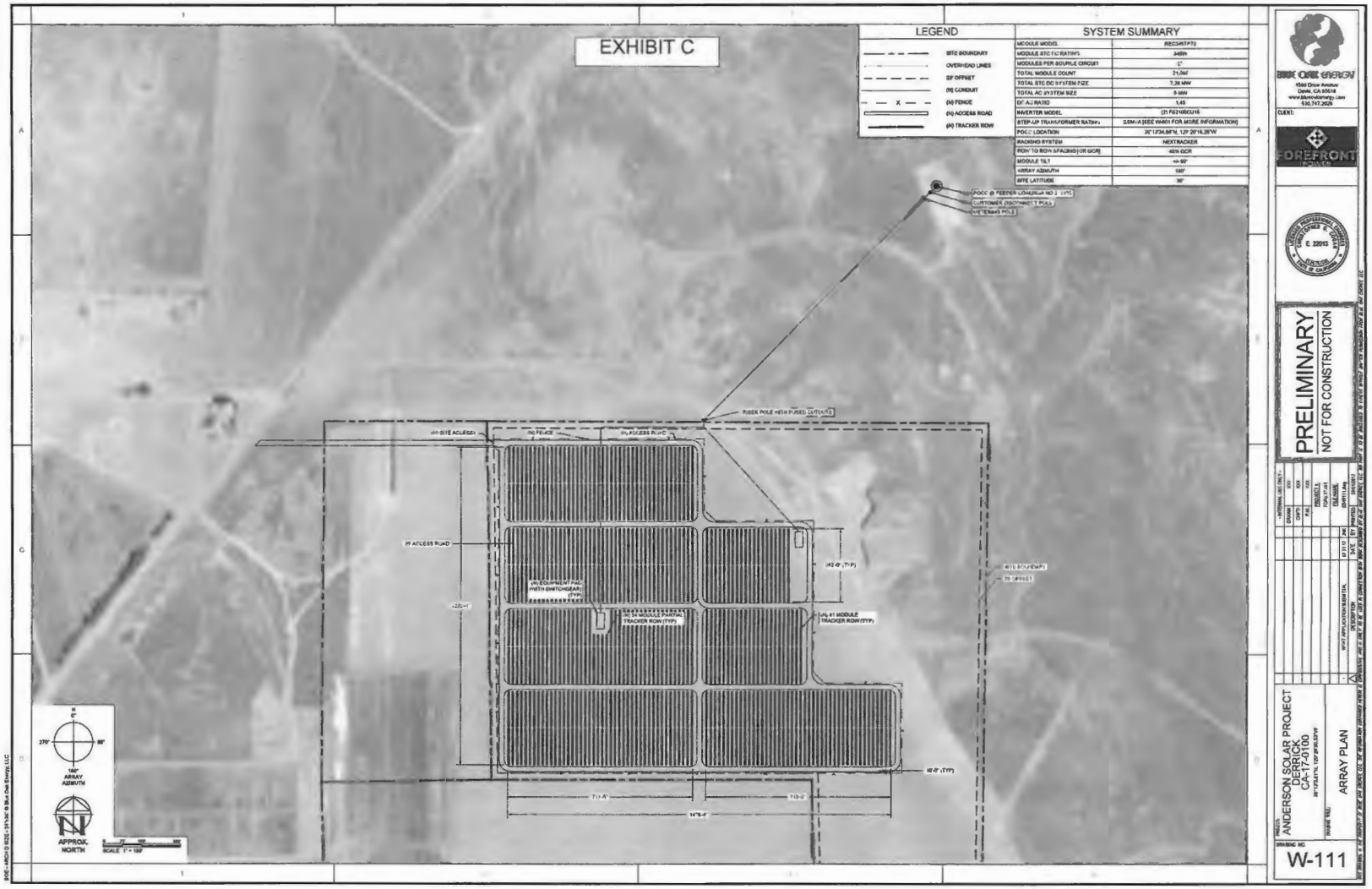


TABLE 1: CONSTRUCTION SCHEDULE

Phase Name	Start Date	End Date	Days
Mobilization	07/01/2018	07/28/2018	20
Site Preparation & Grading	07/29/2018	09/09/2018	30
On-Site Construction & Panel Installation	09/10/2018	11/30/2018	60
Paving	12/01/2018	12/30/2018	20

TABLE 2: CONSTRUCTION EQUIPMENT

Activity	Equipment	Number	Hours Per Day
Mobilization	Rubber Tired Dozers	3	8
	Tractors/Loaders/Backhoes	4	8
Site Preparation & Grading	Graders	1	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	2	8
On-Site Construction & Panel Installation	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Cement and Mortar Mixers	1	8
	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
	Tractors/Loaders/Backhoes	1	8

TABLE 3: PROPOSED PROJECT CONSTRUCTION EMISSIONS SUMMARY

Year	Emissions (tons per year)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Maximum Annual Emissions	0.31	2.74	1.90	5.90E-03	0.46	0.23
SJVAPCD Regional Threshold	10	10	100	27	15	15
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO. Operational related emissions are expected from the following primary sources: area source emissions, energy source emissions, and mobile source emissions.

Project mobile source emissions impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. As a conservative measure and for analytical purposes, it is assumed that 5 trip per day will be made to the site with a worker trip length of 40 miles.

The estimated operational-source emissions for the proposed Project are summarized on Table 4. Detailed operational model outputs are presented in Attachment "A". As shown, the proposed Project would result in emissions of NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO that would not exceed the applicable SJVAPCD thresholds. As such, no impacts would occur and no mitigation is required.

TABLE 4: OPERATIONAL EMISSIONS SUMMARY

Operational Activities	Emissions (tons per year)					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project	0.02	0.09	0.11	--	0.03	0.01
SJVAPCD Regional Threshold	10	10	100	27	15	15
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

-- = Negligible amount of emissions (CalEEMod does not report any emissions for these pollutants)

POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors.

Sensitive receptors near the Project site include existing residential homes. The closest residential home is located approximately 1,050 feet west of the Project site boundary. The proposed Project would not exceed any applicable criteria pollutant thresholds during construction and on-going operational activities, therefore, sensitive receptors would not be subjected to a significant air quality impact during Project construction.

ODORS

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

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. Project operational activities would be primarily associated with intermittent maintenance activities which would not generate any substantive odors. The proposed Project would also be required to comply with Rule 4102 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required.

GREENHOUSE GAS

In April 2017, the Environmental Protection Agency (EPA) released *Inventory of U.S. Greenhouse Gas Emissions and Sinks* which detailed the anthropogenic GHG emissions for the years 1990 to 2015. According to the report, emissions from electricity sector accounts for the largest portion of GHG emissions in the United States (3). Coal fired power plants have the highest GHG emission intensities on a lifecycle basis. Electricity generated from coal fired power plants currently accounts for approximately 70 percent of Carbon Dioxide (CO_2) emissions from the sector and only represents about 34 percent of the electricity generated in the country. The use of natural gas accounts for 32 percent of the electricity generated in the U.S. and is reported to display noticeably lower GHG emissions than processes that use coal combustion. Petroleum accounts for less than 1 percent of electricity generation and the remainder is produced through use of renewables such as biomass, nuclear, hydroelectric, wind, and solar photovoltaic sources (4). Renewable sources have lifecycle GHG emission intensities that are significantly lower than fossil fuel-based generation (5). Solar projects produce electricity with no GHG emissions at the point of generation and very low amounts of GHG emissions across their entire lifecycle (6). The majority of GHG emissions associated with the proposed Project is generated from short-term construction activities. Long-term operational emissions from occasional maintenance activities are negligible and are therefore considered less than significant.

CONSTRUCTION AND OPERATIONAL EMISSIONS

Construction activities associated with the proposed Project will result in emissions of CO_2 and CH_4 from construction activities. For the construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SJVAPCD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions. As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions.

GREENHOUSE GAS EMISSIONS SUMMARY

Climate Change Action Plan (CCAP)

In August 2008, the San Joaquin Valley Air Pollution Control District's Governing Board adopted the Climate Change Action Plan. The CCAP directed the Air Pollution Control Officer to develop guidance documents to assist land–use and other permitting agencies in addressing GHG emissions as part of the CEQA process, investigate the development of a greenhouse gas banking program, enhance the existing emissions inventory process to include greenhouse gas emissions reporting consistent with new state requirements, and administer voluntary greenhouse gas emission reduction agreements.

The use of best performance standards (BPS) is used to assess the significance of project-related GHG emissions. Projects implementing BPS are determined as having less than significant impacts. Implementing BPS is expected to equal or exceed a 29 percent reduction in GHG emissions from stationary sources and development project (6). The Project is consistent with the CCAP as electricity generation from solar energy sources will result in a reduction in GHG emissions in contrast to electricity generation from fossil fuels.

It is important to note that SJVAPCD has not adopted thresholds of significance for GHG emissions from an individual Project. The Air Resources Board (ARB) is currently using existing data from the industrial sector to formulate a proposed threshold. At this time, a significance threshold of 7,000 metric tons of CO_2 (Mt CO_2E) per year is being used for operational emissions. This threshold is based on the California Environmental Quality Act (CEQA) proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the G*uidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under* and the policy, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA.* SJVAPCD supports the use of the interim thresholds as established by CARB when adopted thresholds are not applicable (7).

The annual GHG emissions associated with the construction and operation of the proposed Project are estimated to be 61.16 $MTCO_2e$ per year as summarized in Table 5. Detailed construction and operational model outputs are presented in Attachment "A". The proposed Project would not exceed the 7,000 $MTCO_2e$ threshold. As previously stated, the majority of GHG emissions associated with the proposed Project is generated from short-term construction activities. Operational emissions are produced from

maintenance activities which occur occasionally. Long-term operational emissions are therefore considered less than significant.

Table 5 presents an annual comparison of GHG operational emissions for the proposed Project versus emissions associated with electrical use within the SJVAPCD. The project is Proposed to produce 5 MW of electricity, which would amount to approximately 13,687.5 megawatt hours (MWh) per year[2]. CalEEMod has assessed a CO_2 intensity factor of 641.35 pounds per MWh for projects serviced by Pacific Gas & Electric. GHG emissions from a facility that utilizes 5 MW of electricity is estimated to produce an estimated 4,380 metric tons of CO_2 (Mt CO_2E) per year[3]. In comparison, the net GHG displacement or off-set would therefore be the difference between the annual operational GHG emissions associated with the Anderson Derrick solar project and emissions associated with 5 MW of electrical use at a given facility. The project would result in a net GHG displacement of 4,318.84 Mt CO_2E per year and would therefore result in a substantial net reduction in GHG emissions in the region.

TABLE 5: OPERATIONAL GREENHOUSE GAS EMISSIONS SUMMARY (ANNUAL)

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual Construction-related Emissions amortized over 30 years	18.12	--	--	18.17
Project Operational Emissions	42.94	--	--	42.99
Total CO_2E (All Sources)	**61.16**			
SJVAPCD Regional Threshold	7,000			
Threshold Exceeded?	**NO**			
CO_2E Emissions Associated with Electricity Use	**4,380.00**			
Net Change	**-4,318.84**			
New Significant Impacts?	**NO**			

-- = Negligible amount of emissions (CalEEMod does not report any emissions for these pollutants)

[2] MWh is calculated by multiplying MW produced by Project by assumed hours of daylight (7.5 hours) and number of days in a year (365).

[3] GHG emissions for electrical use is calculated by converting intensity factor from pounds per MWh to metric tons per MWh then multiplying the result by the MWh produced by given project.

CONSISTENCY WITH CARB SCOPING PLAN

The Project will provide renewable energy and would consequently will assist the state in its goals for renewable energy as set forth by AB 32. As such, the Project would not conflict with the goals for AB 32 in reducing GHG emissions, and would result in a less than significant impact on global climate.

If you have any questions, please contact me directly at (949) 336-5987.

Respectfully submitted,

URBAN CROSSROADS, INC.

Haseeb Qureshi,
Senior Associate

REFERENCES

1. **South Coast Air Quality Management District.** California Emissions Estimator Model. [Online] 2016. [Cited: October 31, 2017.] http://www.caleemod.com/.
2. **Agency, U.S. Environmental Protection.** Inventory of U.S. Greenhouse Gas Emissions and SInks. [Online] April 2017. https://www.epa.gov/sites/production/files/2017-02/documents/2017_complete_report.pdf.
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6. **District, San Joaquin Vallet Air Pollution Control.** Final Staff Report Addressing Greenhouse Gas Emissions Impact Under the California Environmental Quality Act. [Online] December 2009, 2009. http://www.valleyair.org/Programs/CCAP/12-17-09/1%20CCAP%20-%20FINAL%20CEQA%20GHG%20Staff%20Report%20-%20Dec%2017%202009.pdf.
7. **District, San Joaquin Valley Air Pollution Control.** Final Staff Report Addressing Greenhouse Gas Emissions Impacts Under the California Environmental Quality Act. [Online] http://www.valleyair.org/Programs/CCAP/12-17-09/1%20CCAP%20-%20FINAL%20CEQA%20GHG%20Staff%20Report%20-%20Dec%2017%202009.pdf.

ATTACHMENT "A"

Anderson Derrick

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	47.00	User Defined Unit	42.30	0.00	0
Other Asphalt Surfaces	4.70	Acre	4.70	204,732.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Anderson Derrick - Fresno County, Annual

Project Characteristics -

Land Use - Lot acreage based on information provided by the Client.

Construction Phase - Construction Schedule adjusted as per Client.

Off-road Equipment - Hours are based on an 8-hour workday.

Off-road Equipment - Equipment List is based on similar solar projects.

Off-road Equipment - Equipment List is based on similar solar projects.

Off-road Equipment - Equipment List is based on similar solar projects.

Trips and VMT - An assumption of 40 miles will be used for both Worker and Vendor Trip Lengths.

Grading -

Vehicle Trips - It is assumed that there will be 5 workers required for maintenance of the site.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	740.00	60.00
tblConstructionPhase	NumDays	75.00	30.00
tblConstructionPhase	NumDays	55.00	20.00
tblConstructionPhase	NumDays	30.00	20.00
tblLandUse	LotAcreage	0.00	42.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripLength	7.30	40.00
tblTripsAndVMT	VendorTripNumber	34.00	64.00

tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripLength	10.80	40.00
tblTripsAndVMT	WorkerTripNumber	10.00	20.00
tblTripsAndVMT	WorkerTripNumber	86.00	162.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblVehicleTrips	CW_TL	9.50	40.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.11
tblVehicleTrips	SU_TR	0.00	0.11
tblVehicleTrips	WD_TR	0.00	0.11

2.0 Emissions Summary

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					
2018	0.3125	2.7433	1.9013	5.9000e-003	0.5109	0.1163	0.6272	0.2130	0.1083	0.3214	0.0000	543.5441	543.5441	0.0595	0.0000	545.0318
Maximum	**0.3125**	**2.7433**	**1.9013**	**5.9000e-003**	**0.5109**	**0.1163**	**0.6272**	**0.2130**	**0.1083**	**0.3214**	**0.0000**	**543.5441**	**543.5441**	**0.0595**	**0.0000**	**545.0318**

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					
2018	0.3125	2.7433	1.9013	5.9000e-003	0.3407	0.1163	0.4570	0.1216	0.1083	0.2300	0.0000	543.5439	543.5439	0.0595	0.0000	545.0316
Maximum	**0.3125**	**2.7433**	**1.9013**	**5.9000e-003**	**0.3407**	**0.1163**	**0.4570**	**0.1216**	**0.1083**	**0.2300**	**0.0000**	**543.5439**	**543.5439**	**0.0595**	**0.0000**	**545.0316**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**33.31**	**0.00**	**27.13**	**42.90**	**0.00**	**28.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2018	9-30-2018	1.4326	1.4326
		Highest	1.4326	1.4326

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0176	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2000e-004	9.2000e-004	0.0000	0.0000	9.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	6.9800e-003	0.0871	0.1046	4.6000e-004	0.0289	7.6000e-004	0.0296	7.7800e-003	7.2000e-004	8.5000e-003	0.0000	42.9404	42.9404	1.9700e-003	0.0000	42.9898
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0245**	**0.0871**	**0.1051**	**4.6000e-004**	**0.0289**	**7.6000e-004**	**0.0296**	**7.7800e-003**	**7.2000e-004**	**8.5000e-003**	**0.0000**	**42.9414**	**42.9414**	**1.9700e-003**	**0.0000**	**42.9908**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0176	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2000e-004	9.2000e-004	0.0000	0.0000	9.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	6.9800e-003	0.0871	0.1046	4.6000e-004	0.0289	7.6000e-004	0.0296	7.7800e-003	7.2000e-004	8.5000e-003	0.0000	42.9404	42.9404	1.9700e-003	0.0000	42.9898
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0245**	**0.0871**	**0.1051**	**4.6000e-004**	**0.0289**	**7.6000e-004**	**0.0296**	**7.7800e-003**	**7.2000e-004**	**8.5000e-003**	**0.0000**	**42.9414**	**42.9414**	**1.9700e-003**	**0.0000**	**42.9908**

	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	N20	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	7/1/2018	7/27/2018	5	20	
2	Grading	Grading	7/28/2018	9/7/2018	5	30	
3	Building Construction	Building Construction	9/8/2018	11/30/2018	5	60	
4	Paving	Paving	12/1/2018	12/28/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 15

Acres of Paving: 4.7

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

OffRoad Equipment

Anderson Derrick - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	0	8.00	81	0.73
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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	7	18.00	0.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	162.00	64.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2018

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0456	0.4820	0.2248	3.8000e-004		0.0258	0.0258		0.0237	0.0237	0.0000	34.7599	34.7599	0.0108	0.0000	35.0304
Total	**0.0456**	**0.4820**	**0.2248**	**3.8000e-004**	**0.1807**	**0.0258**	**0.2064**	**0.0993**	**0.0237**	**0.1230**	**0.0000**	**34.7599**	**34.7599**	**0.0108**	**0.0000**	**35.0304**

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	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	2.7200e-003	2.1300e-003	0.0201	5.0000e-005	5.3300e-003	3.0000e-005	5.3600e-003	1.4100e-003	3.0000e-005	1.4500e-003	0.0000	4.8006	4.8006	1.4000e-004	0.0000	4.8042
Total	**2.7200e-003**	**2.1300e-003**	**0.0201**	**5.0000e-005**	**5.3300e-003**	**3.0000e-005**	**5.3600e-003**	**1.4100e-003**	**3.0000e-005**	**1.4500e-003**	**0.0000**	**4.8006**	**4.8006**	**1.4000e-004**	**0.0000**	**4.8042**

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					0.0705	0.0000	0.0705	0.0387	0.0000	0.0387	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0456	0.4820	0.2248	3.8000e-004		0.0258	0.0258		0.0237	0.0237	0.0000	34.7599	34.7599	0.0108	0.0000	35.0304
Total	**0.0456**	**0.4820**	**0.2248**	**3.8000e-004**	**0.0705**	**0.0258**	**0.0962**	**0.0387**	**0.0237**	**0.0624**	**0.0000**	**34.7599**	**34.7599**	**0.0108**	**0.0000**	**35.0304**

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	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	2.7200e-003	2.1300e-003	0.0201	5.0000e-005	5.3300e-003	3.0000e-005	5.3600e-003	1.4100e-003	3.0000e-005	1.4500e-003	0.0000	4.8006	4.8006	1.4000e-004	0.0000	4.8042
Total	**2.7200e-003**	**2.1300e-003**	**0.0201**	**5.0000e-005**	**5.3300e-003**	**3.0000e-005**	**5.3600e-003**	**1.4100e-003**	**3.0000e-005**	**1.4500e-003**	**0.0000**	**4.8006**	**4.8006**	**1.4000e-004**	**0.0000**	**4.8042**

3.3 Grading - 2018

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0333	0.3742	0.1645	3.2000e-004		0.0182	0.0182		0.0168	0.0168	0.0000	29.3337	29.3337	9.1300e-003	0.0000	29.5620
Total	**0.0333**	**0.3742**	**0.1645**	**3.2000e-004**	**0.0983**	**0.0182**	**0.1165**	**0.0505**	**0.0168**	**0.0673**	**0.0000**	**29.3337**	**29.3337**	**9.1300e-003**	**0.0000**	**29.5620**

3.3 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	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	4.5300e-003	3.5500e-003	0.0335	9.0000e-005	8.8800e-003	5.0000e-005	8.9300e-003	2.3600e-003	5.0000e-005	2.4100e-003	0.0000	8.0011	8.0011	2.4000e-004	0.0000	8.0071
Total	**4.5300e-003**	**3.5500e-003**	**0.0335**	**9.0000e-005**	**8.8800e-003**	**5.0000e-005**	**8.9300e-003**	**2.3600e-003**	**5.0000e-005**	**2.4100e-003**	**0.0000**	**8.0011**	**8.0011**	**2.4000e-004**	**0.0000**	**8.0071**

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					0.0383	0.0000	0.0383	0.0197	0.0000	0.0197	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0333	0.3742	0.1645	3.2000e-004		0.0182	0.0182		0.0168	0.0168	0.0000	29.3337	29.3337	9.1300e-003	0.0000	29.5620
Total	**0.0333**	**0.3742**	**0.1645**	**3.2000e-004**	**0.0383**	**0.0182**	**0.0566**	**0.0197**	**0.0168**	**0.0365**	**0.0000**	**29.3337**	**29.3337**	**9.1300e-003**	**0.0000**	**29.5620**

3.3 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	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	4.5300e-003	3.5500e-003	0.0335	9.0000e-005	8.8800e-003	5.0000e-005	8.9300e-003	2.3600e-003	5.0000e-005	2.4100e-003	0.0000	8.0011	8.0011	2.4000e-004	0.0000	8.0071
Total	**4.5300e-003**	**3.5500e-003**	**0.0335**	**9.0000e-005**	**8.8800e-003**	**5.0000e-005**	**8.9300e-003**	**2.3600e-003**	**5.0000e-005**	**2.4100e-003**	**0.0000**	**8.0011**	**8.0011**	**2.4000e-004**	**0.0000**	**8.0071**

3.4 Building Construction - 2018

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	0.0855	0.7569	0.5632	8.6000e-004		0.0482	0.0482		0.0452	0.0452	0.0000	76.4975	76.4975	0.0191	0.0000	76.9746
Total	**0.0855**	**0.7569**	**0.5632**	**8.6000e-004**		**0.0482**	**0.0482**		**0.0452**	**0.0452**	**0.0000**	**76.4975**	**76.4975**	**0.0191**	**0.0000**	**76.9746**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0394	0.8601	0.1623	2.4400e-003	0.0695	0.0115	0.0810	0.0201	0.0110	0.0311	0.0000	232.4261	232.4261	8.6600e-003	0.0000	232.6427
Worker	0.0734	0.0575	0.5419	1.4300e-003	0.1438	8.9000e-004	0.1447	0.0382	8.2000e-004	0.0390	0.0000	129.6173	129.6173	3.8900e-003	0.0000	129.7146
Total	**0.1127**	**0.9176**	**0.7042**	**3.8700e-003**	**0.2133**	**0.0124**	**0.2257**	**0.0583**	**0.0119**	**0.0701**	**0.0000**	**362.0434**	**362.0434**	**0.0126**	**0.0000**	**362.3573**

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	0.0855	0.7569	0.5632	8.6000e-004		0.0482	0.0482		0.0452	0.0452	0.0000	76.4974	76.4974	0.0191	0.0000	76.9745
Total	**0.0855**	**0.7569**	**0.5632**	**8.6000e-004**		**0.0482**	**0.0482**		**0.0452**	**0.0452**	**0.0000**	**76.4974**	**76.4974**	**0.0191**	**0.0000**	**76.9745**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0394	0.8601	0.1623	2.4400e-003	0.0695	0.0115	0.0810	0.0201	0.0110	0.0311	0.0000	232.4261	232.4261	8.6600e-003	0.0000	232.6427
Worker	0.0734	0.0575	0.5419	1.4300e-003	0.1438	8.9000e-004	0.1447	0.0382	8.2000e-004	0.0390	0.0000	129.6173	129.6173	3.8900e-003	0.0000	129.7146
Total	**0.1127**	**0.9176**	**0.7042**	**3.8700e-003**	**0.2133**	**0.0124**	**0.2257**	**0.0583**	**0.0119**	**0.0701**	**0.0000**	**362.0434**	**362.0434**	**0.0126**	**0.0000**	**362.3573**

3.5 Paving - 2018

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	0.0197	0.2052	0.1744	2.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	24.1074	24.1074	7.4100e-003	0.0000	24.2926
Paving	6.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0259**	**0.2052**	**0.1744**	**2.7000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**24.1074**	**24.1074**	**7.4100e-003**	**0.0000**	**24.2926**

3.5 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	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	2.2600e-003	1.7800e-003	0.0167	4.0000e-005	4.4400e-003	3.0000e-005	4.4600e-003	1.1800e-003	3.0000e-005	1.2000e-003	0.0000	4.0005	4.0005	1.2000e-004	0.0000	4.0035
Total	**2.2600e-003**	**1.7800e-003**	**0.0167**	**4.0000e-005**	**4.4400e-003**	**3.0000e-005**	**4.4600e-003**	**1.1800e-003**	**3.0000e-005**	**1.2000e-003**	**0.0000**	**4.0005**	**4.0005**	**1.2000e-004**	**0.0000**	**4.0035**

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	0.0197	0.2052	0.1744	2.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	24.1073	24.1073	7.4100e-003	0.0000	24.2926
Paving	6.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0259**	**0.2052**	**0.1744**	**2.7000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**24.1073**	**24.1073**	**7.4100e-003**	**0.0000**	**24.2926**

3.5 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	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	2.2600e-003	1.7800e-003	0.0167	4.0000e-005	4.4400e-003	3.0000e-005	4.4600e-003	1.1800e-003	3.0000e-005	1.2000e-003	0.0000	4.0005	4.0005	1.2000e-004	0.0000	4.0035
Total	**2.2600e-003**	**1.7800e-003**	**0.0167**	**4.0000e-005**	**4.4400e-003**	**3.0000e-005**	**4.4600e-003**	**1.1800e-003**	**3.0000e-005**	**1.2000e-003**	**0.0000**	**4.0005**	**4.0005**	**1.2000e-004**	**0.0000**	**4.0035**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.9800e-003	0.0871	0.1046	4.6000e-004	0.0289	7.6000e-004	0.0296	7.7800e-003	7.2000e-004	8.5000e-003	0.0000	42.9404	42.9404	1.9700e-003	0.0000	42.9898
Unmitigated	6.9800e-003	0.0871	0.1046	4.6000e-004	0.0289	7.6000e-004	0.0296	7.7800e-003	7.2000e-004	8.5000e-003	0.0000	42.9404	42.9404	1.9700e-003	0.0000	42.9898

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
User Defined Industrial	5.17	5.17	5.17	75,275	75,275
Total	5.17	5.17	5.17	75,275	75,275

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Industrial	40.00	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.468366	0.035190	0.167801	0.140631	0.021453	0.005613	0.031137	0.118174	0.002382	0.001847	0.005495	0.001155	0.000758
User Defined Industrial	0.468366	0.035190	0.167801	0.140631	0.021453	0.005613	0.031137	0.118174	0.002382	0.001847	0.005495	0.001155	0.000758

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

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	tons/yr										MT/yr					
Other Asphalt Surfaces	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	0.0000
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	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**	**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	tons/yr										MT/yr					
Other Asphalt Surfaces	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	0.0000
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	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**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
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			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
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

	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	0.0176	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2000e-004	9.2000e-004	0.0000	0.0000	9.9000e-004
Unmitigated	0.0176	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2000e-004	9.2000e-004	0.0000	0.0000	9.9000e-004

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	4.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0132					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2000e-004	9.2000e-004	0.0000	0.0000	9.9000e-004
Total	**0.0176**	**0.0000**	**4.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.2000e-004**	**9.2000e-004**	**0.0000**	**0.0000**	**9.9000e-004**

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	4.2700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0132					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2000e-004	9.2000e-004	0.0000	0.0000	9.9000e-004
Total	**0.0176**	**0.0000**	**4.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.2000e-004**	**9.2000e-004**	**0.0000**	**0.0000**	**9.9000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	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			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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

8.2 Waste by Land Use

Unmitigated

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

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

JURISDICTIONAL DELINEATION REPORT

Anderson Derrick
CA-17-0100

(APN #070-020-07)
Coalinga 7.5 Minute Quadrangle,
Section 4, Township 20 S, Range 15 E
Coalinga, Fresno County, California

Prepared for

Forefront Power, LLC
100 Montgomery St., Suite 1400
San Francisco, CA 94104

Prepared by

Report Prepared by Ryan Young
Field Work Performed by Ryan Young
Phoenix Biological Consulting
PO Box 2238
Tehachapi, CA 93581
(949) 887 0859 cell

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
District	Snowline Joint Unified School District
EPA	Environmental Protection Agency
FAC	Facultative
FACU	facultative upland
FACW	facultative wetland
GIS	Geographic Information System
NL	not listed
NWI	National Wetlands Inventory
OBL	Obligate
OHWM	ordinary high water mark
Rapanos	Rapanos v. U.S. and Carabell v. U.S.
RPW	relatively permanent waterway
RWQCB	Regional Water Quality Control Board
SWANCC	Solid Waste Agency of Northern Cook County v. USACE
TNW	traditionally navigable waterway
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture, Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WSC	Waters of the State of California
WUS	Waters of the United States

1. PROJECT OVERVIEW

1.1 Introduction

At the request of Forefront Power, LLC (Forefront) Phoenix Biological Consulting (Phoenix) initiated a jurisdictional delineation survey to determine potential impacts to jurisdictional waters within an approximately 88 acre property (APN 070-020-07), of which approximately 40 acres will be developed into a 5 megawatt (MWac) photovoltaic (PV) solar energy generation facility (the Project).

This jurisdictional delineation report discusses the type and amount of potentially regulated aquatic resources occurring within the approximately project survey area for the site. The survey area is also synonymous with the delineation survey area.

This report presents regulatory framework, methods, and results of a delineation of jurisdictional waters, wetlands, and associated riparian habitat potentially impacted by the development of the proposed project. The purpose of performing a formal jurisdictional delineation is to identify the absence or presence (with their types, location, boundaries, and acreages) of potential jurisdictional waters of the U.S. and state (including wetlands) occurring within the project area. Waters of the U.S. are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), and the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA. Waters of the state are regulated by the RWQCB under the Porter Cologne Water Quality Control Act, and California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code. The Central Valley RWQCB (Region 5) is the applicable RWQCB for the project site.

As further described in this report, based on the results of the formal field delineation within the project survey area, we conclude that there are no potential jurisdictional waters of the U.S., and a total of 1 acres of potential jurisdictional waters that are governed by CDFW and RWQCB. None of the existing drainages will be impacted by the current solar facility location. These claims will need to be reviewed by ACOE, RWQCB and CDFW to confirm their validity.

1.2 Project Description

Forefront Solar is proposing to develop the site into a 5 megawatt (MWac) photovoltaic (PV) solar energy generation facility.

1.3 Project Location

The site is located southeast of Shell Rd and north of West Palmer Ave on the Coalinga 7.5-minute quadrangle topographic map (Figure 2). The legal description of the parcel is a portion of Section 4, Township 20 S, Range 15 E, City of Coalinga, and Fresno County. Representative photographs and maps of the site are included in this report.

2. ENVIRONMENTAL SETTING

2.1 Existing Conditions

The parcel is situated at approximately 950 feet at the perimeter of the Anticline Ridge. Agricultural production predominates south of the site. The area to the northwest of the site is used for oil production. Shell Rd borders the site to the northwest and runs southwest to northeast. The unimproved road, West Palmer Ave borders to the south of the site. The Anticline ridge lies to the north and east of the site.

The 88-acre study area consists of highly disturbed agricultural lands used for active production of common wheat (*Triticum aestivum*). The site visit indicated that the site has been recently disked and historical/current aerial photos confirm these observations (Figure 3, Appendix A). There are no trees in or bordering the site. The soils consist of Milham and Cerini loams. The soils on the northeast corner on site consist of Milham sandy loam (2-5% slope). The soils center on site consist of Milham sandy loam (0-2% slope), and the southwest corner on site consist of Cerini sandy loam (0-2% slope). Existing vegetation is predominated by the cultivated wheat with remaining vegetation sparsely situated on the perimeter of the site (Figure 7).

2.2 Hydrology

The average precipitation for the area is 8.27 inches per year (US Climate Data, 2019). The project site is situated within the Los Gatos Creek Hydrologic unit (HU10; 1803001206). The drainages within an adjacent to the site flow to the southeast into Pleasant Valley and lack any noticeable downstream connectivity to other drainages (Figure 1, 4 & 6). The climate in this region is characterized by an arid environment with low humidity and rainfall, strong fluctuations in daily temperatures, hot summers and cold winters, and generally clear skies. Wind is also a strong feature of this climatic regime, with dry winds in excess of 25 miles per hour in the late winter and early spring adding to increased evapo-transpiration and soil moisture depletion which can create a short-lived growing season and limited ponding environment.

2.3 Vegetation

The 88-acre study area consists of highly disturbed agricultural lands that may have been used for active production of common wheat (*Triticum aestivum*). During the time of the Jurisdictional Delineation the site was an active cattle lot with approximately 200 juvenile and sub adult beef cows on site. The site visit indicated that the site has been recently disked and historical/current aerial photos confirm these observations (Exhibit 3, 8 & 9). There are no trees in or bordering the site. The Jepson Desert Manual, Vascular Plants of California, 2nd Edition (Baldwin, 2012). When The Jepson Manual does not list a common name, common name nomenclature follows the United States Department of Agriculture, Natural Resources Conservation Service (USDA) Plants Database (USDA, 2013a).

2.4 Soils

The USDA online Web Soil Survey was consulted to determine the soil types mapped as occurring within the study area (Figure 7). The soils consist of Milham and Cerini loams, Kettleman-Delgado-Mercey Association and Milham-Polvadero Complex Organic. The soils on the northeast corner on site consist of Milham sandy loam (2-5% slope). The soils center on site consist of Milham sandy loam (0-2% slope), and the southwest corner on site consist of Cerini sandy loam (0-2% slope).

SOIL TYPES PRESENT WITHIN THE ENTIRE SITE

- Milham Sandy Loam (70.9%)
- Cerini Sandy Loam (21.0%)
- Kettleman-Delgado Mercey Association (6.3%)
- Milham-Polvadero Complex (1.7%)

2.5 National Wetlands Inventory

The United States Fish and Wildlife Service (USFWS) is the principal federal agency that provides information to the public on the extent and status of the nation's wetlands. The USFWS has developed a series of maps, known as the National Wetlands Inventory (NWI) to show wetlands, riverine and deepwater habitat. This geospatial information is used by federal, state, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. The NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE.

The NWI Mapper (USFWS, 2019) was accessed online to review mapped wetlands within the project study area. The results of the database are presented in the attached figures. The NWI mapper data for this project is inaccurate and depicts riverine features within parcel boundaries that are no longer active channels and would be considered relict channels due to absence of fluvial characteristics which is discussed in more detail in the results section (Figure 6).

3. REGULATORY FRAMEWORK

3.1 U.S. Army Corps of Engineers (USACE)

The USACE regulates the discharge of dredged or fill material in waters of the United States (WUS) pursuant to Section 404 of the CWA.

3.2 Waters of the U.S.

CWA regulations (33 CFR 328.3(a)) define WUS as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as WUS under the definition;
5. Tributaries of WUS;
6. The territorial seas;
7. Wetlands adjacent to WUS (other than waters that are themselves wetlands).

3.3 Wetlands and Other Special Aquatic Sites

Wetlands are defined at 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” However, in the arid southwest wetlands may not become inundated consistently or every year due to drought and low rainfall. The ACOE further clarifies arid southwest wetlands as ”Wetlands in general are inundated or saturated in most years (at least 5 years in 10, or 50 percent or higher probability) over a long-term record. However, many wetlands in the Arid West do not become inundated or saturated in some years and, during drought cycles, may not inundate or saturate for several years in a row” (ACOE, 2008).

Special aquatic sites are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes. They are defined in 40 CFR 230 Subpart E.

Federally regulated wetlands are identified based on the Wetlands Delineation Manual (USACE, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation

Manual: Arid West Region (USACE, 2008b). Three criteria must be fulfilled in order to classify an area as a wetland under the jurisdiction of the USACE: 1) a predominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) the presence of wetland hydrology. However, these criteria are problematic in the arid southwest as is explained in more detail. The details of these criteria are described below:

- Hydrophytic Vegetation. The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (USACE, 2008b). An OBL indicator status refers to plants that almost always are a hydrophyte, rarely in uplands (>99% probability of occurring in wetlands). A FACW indicator status refers to plants that usually are a hydrophyte (67-99% probability of occurring in wetlands) but are occasionally found in uplands. A FAC indicator status refers to plants that commonly occur as either a hydrophyte (34-66% probability of occurring in wetlands) or non-hydrophyte (ACOE, 2007b). Other wetland indicator statuses include facultative upland (FACU) which includes plants that occasionally are a hydrophyte but usually occur in uplands, upland (UPL) which refers to plants that rarely are a hydrophyte (<1% probability of occurring in wetlands), and are almost always in uplands, and plants that are not listed (NL) for plants that do not occur on the National Wetlands Plant List.
- Hydric Soils. The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors are evaluated using the Munsell Soil Color Charts (Gretag/Macbeth, 2000). Hydric soils indicators are problematic in the the arid southwest and are discussed in more detail below.
- Wetland Hydrology. The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE, 1987 and 2008b). In the arid southwest, the ACOE further defines this as "Wetlands in general are inundated or saturated in most years (at least 5 years in 10, or 50 percent or higher probability) over a long-term record. However, many wetlands in the Arid West do not become inundated or saturated in some years and, during drought cycles, may not inundate or saturate for several years in a row" (USACE, 2008).

3.4 Isolated Wetlands

Section 401 of the federal Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act (Porter-Cologne) provide the legal basis for the SWRCB's regulatory jurisdiction in California. The USACE has well-defined and formalized methods for delineating federal

wetlands and WOUS, whereas the SWRCB has not currently adopted a formal method for identifying and delineating isolated waters of the State (SWRCB, 2013).

The SWRCB preliminary draft wetland area protection and dredged or fill permitting policy wetland definition is the following:

> "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water, or both (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area either lacks vegetation or the vegetation is dominated by hydrophytes."

The above referenced document defines isolated wetlands as "a wetland with no surface water connection to other aquatic resources."

In general, areas meeting all three parameters would be designated as USACE wetlands, if adjacent to WOUS, or they would be classified as SWRCB isolated waterbodies.

3.5 Non-Wetlands and OHWM

The USACE delineates non-wetland waters in the Arid West Region by identifying the ordinary high water mark (OHWM) in ephemeral and intermittent channels (USACE, 2008a). The OHWM is defined in 33 CFR 328.3(e) as:

> "…that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

OHWM indicators are used to delineate the lateral jurisdictional extent of potential non-wetland waters of the U.S. Lateral jurisdictional limits were established for all drainage features/channels occurring within the project survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits. The OHWM of the drainage features/channels are identified on the basis of the following:

- Water marks within their respective channel banks established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the banks;
- Scour and shelving, local deposition, distinct and indistinct terraces, and changes in the character of soil;
- The presence of developed longitudinal bars within channel margins;

- Type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation, exposed roots, and the presence and absence of litter and debris within the ephemeral channels;
- Ephemeral channel configuration, estimated streamflow behavior, and other subtle geomorphic evidence indicative of regular flow levels;
- Consideration of precipitation patterns and lack of consistent flow;
- Geomorphic OHWM indicators (e.g., surface relief, cobblebars, benches, crested ripples, particle size distribution, mudcracks, gravel sheets, desert pavement, and dunes); and
- Pattern and location of relictual channels and discontinuous drainage features.

3.6 Supreme Court Decisions

3.6.1 Solid Waste Agency of Northern Cook County

On January 9, 2001, the Supreme Court of the United States issued a decision on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al*. with respect to whether the USACE could assert jurisdiction over isolated waters. The Solid Waste Agency of North Cook County (SWANCC) ruling stated that the USACE does not have jurisdiction over "non-navigable, isolated, intrastate" waters.

3.6.2 Rapanos/Carabell

In the Supreme Court cases of *Rapanos v. United States* and *Carabell v. United States* (herein referred to as Rapanos), the court attempted to clarify the extent of USACE jurisdiction under the CWA. The nine Supreme Court justices issued five separate opinions (one plurality opinion, two concurring opinions, and two dissenting opinions) with no single opinion commanding a majority of the Court. In light of the Rapanos decision, the USACE will assert jurisdiction over a traditional navigable waterway (TNW), wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are a relatively permanent waterway (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically at least three months per year) and wetlands that directly abut such tributaries. The USACE will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW: non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not RPWs, and wetlands adjacent to but that do not directly abut a non-navigable RPW.

Flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary indicate whether they significantly affect the chemical, physical and biological integrity of downstream TNWs. Analysis of potentially jurisdictional streams includes consideration of hydrologic and ecologic factors. The consideration of hydrological factors includes volume, duration, and frequency of flow, proximity to traditional navigable waters, size of watershed, average annual rainfall, and average annual winter

snow pack. The consideration of ecological factors also includes the ability for tributaries to carry pollutants and flood waters to a TNW, the ability of a tributary to provide aquatic habitat that supports a TNW, the ability of wetlands to trap and filter pollutants or store flood waters, and maintenance of water quality.

3.6.3 Regional Water Quality Control Board

Pursuant to Section 13000 et seq. of the California Water Code (CWC) (the 1969 Porter-Cologne), the RWQCB is authorized to regulate any activity that would result in discharges of waste and fill material into waters of the state, including "isolated" waters and wetlands. Waters of the state include any surface or groundwater within the boundaries of the state (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all waters of the state and directs the RWQCB to develop regional Basin Plans. CWC Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Water Quality Control Plan for the Central Valley (RWQCB Region 5) (1995, as amended RWQCB 2011a) is designed to preserve and enhance the quality of water resources. The purpose of the plan is to designate beneficial uses of the surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives within RWQCB Region 5.

3.6.4 California Department of Fish and Wildlife

Pursuant to CDFW Section 1600 et seq. of the CDFW regulates activities of an applicant's project that would *substantially* alter the flow, bed, channel, or bank of streams or lakes unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 et seq. as the "bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

In practice, the CDFW generally interprets their jurisdictional limits to include one or more of the following:

1. Intermittent, episodic and seasonal flow through a bed or channel which may include ephemeral streams, desert washes and watercourses that may also have a subsurface flow.
2. Drainages with bed and banks which also support fish, or other aquatic life.
3. A watercourse having a surface or subsurface flow regime that supports or that may have supported riparian vegetation.
4. Hydrogeomorphically distinct top-of-embankment to top-of-embankment limits.
5. Outer ground cover and canopy extents of typically riparian associated vegetation species that would be sustained by surface and/or subsurface waters of the watercourse.

6. Vegetated or unvegetated swales that connect downstream to a first order stream.
7. A watercourse which can be reasonably identified and defined by the physical and biological evidence of the stream's waters at the highest level of confinement.

For desert aquatic features, CDFW provides specific guidance concerning their regulatory administration in California Code of Regulations Title 14 Section 720 (Designation of Waters of Department Interest), which states:

> For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed of any river, stream or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds *which may have intermittent flows of water*, are hereby designated for such purpose (italics added).

4. METHODS

Prior to conducting delineation fieldwork, the following literature and materials were reviewed:

- Aerial photographs (from 1992 to 2019) of the project site at a scale of 1:480 with 1-foot elevation contours to determine the potential locations of USACE, RWQCB, and CDFW jurisdictional waters or wetlands;
- USGS topographic map (Figure 2) to determine the presence of any "blue line" drainages or other mapped water features;
- USFWS NWI maps to identify areas mapped as wetland features; and
- USDA Natural Resource Conservation Service Web Soil Survey (USFWS, NRCS 2016).

Field surveys of the study area were conducted by Phoenix biologist Ryan Young on February 1, 2016. Mr. Young has conducted over twenty-five delineations and has completed the ACOE Wetland Delineation Training in 2004 through Richard Chinn Environmental Training, Inc. Boulder, CO. The field effort consisted of walking the study area perimeter and through the middle of the parcels and identifying potentially jurisdictional water features. Visual observations of vegetation types and changes in topography and hydrology were used to locate areas for evaluation. Drainages were recorded using a Trimble GeoExplorer 6000 series sub-meter accuracy GPS device. Data was later post-processed for increased accuracy. Weather conditions during delineation fieldwork were conducive for surveying with cloudy skies and light winds (3-5 MPH).

USACE regulated WUS, including wetlands, and RWQCB WSC were delineated according to the methods outlined in and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE, 2008a). Additionally, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0; USACE, 2008b) was utilized as well. The extent of WUS was determined based on indicators of an OHWM; hydic soils test, hydrology and hydrophytic vegeation. The OHWM width was measured, at a minimum of twice per feature.

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code, A Field Guide to Lake and Streambed Alteration Agreements (CDFG, 1994), Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants (Brady, R.H. et al, 2013) and A Review of Stream Processes and Forms in Dryland Watersheds (CDFG, 2010). Specifically, CDFW jurisdiction was delineated by measuring the outer width and length boundaries of on-site streambeds which consisted of either the top of bank measurement (bankfull width) and/or the extent of associated riparian vegetation, whichever was greater.

To determine jurisdictional boundaries, the surveyor walked the perimeter of the drainage within the project area and recorded the total area with a sub-meter accuracy Trimble GeoXH global positioning system. The area of the channel, drainage, swales and isolated wetlands were determined by the OHWM, bankfull width measurements, evidence of hydrology/fluvial activity, changes in vegetation types and/or soil particle size at locations where transitions were apparent. Other data recorded included bank height, morphology, substrate type, and all vegetation within the streambed and riparian vegetation adjacent to the streambed. Upon completion of fieldwork and forms, all data collected in the field in data dictionaries was incorporated into a Geographic Information System (GIS) along with basemap data. The data was post-processed via Trimble GPS Pathfinder Office Software Version 5.4. The GIS data was then used to quantify the extent of jurisdictional waters.

The criteria for frequency and duration of the OHWM have not been defined under the CWA or under any guidance from USACE for field delineators; therefore, identifiable field indicators and characteristics of OHWM, best professional judgment, interpretation of 33 CFR 328.3(e), and appropriate RGLs were applied to determine the potential jurisdictional extent of OHWM within the project survey area. Fluvial channels occurring within the arid western region of the U.S. have recently been described as “ordinary” when they typically correspond to a 5- to 8-year event and typically have an active floodplain with sparse vegetation cover, shifts in soil texture, and occasional alignment with distinctive bed and bank features (USACE 2007a). However, modeling has shown that slightly larger events (5- to 10-year recurrence) may be necessary to engage the active floodplain in arid systems (USACE 2006).

5. RESULTS & FINDINGS

5.1 Field Delineations

One ephemeral, channel totaling 1.0 acres (3,987 linear feet) was identified within the parcels. This channel is identified as S1 in the Jurisdictional Delineation Map in Figure 3. The remaining potential drainages are relict channels lacking in fluvial signs. Relict channels are abandoned or old channels made by processes that no longer are locally operative and no longer part of an active fluvial process (Brady, R.H. et al, 2013). There were no signs of litter deposit, shelving, scouring, changes in vegetation or soil composition, water bars, mud cracking. The relict channels would likely be considered swales but they had no downstream connectivity nor any signs of fluvial activity. Photo point locations and representative photographs taken during the field delineation are included in Appendix A. The size and location of each wash and alkali sink is further described as follows:

Drainage Features and Isolated Wetlands

Channels

S1 – (3,987 Linear Feet, 1 Acre) This USGS, USFWS mapped, unnamed, discontinuous, ephemeral channel flows from northwest to southeast. This wash has an unconsolidated sandy-loam bottom with small, unvegetated banks. Bed and bank, scour marks and sheet flow were observed in and along the channel during the delineation. Dominant vegetation in the area is wheat. No plants were present in the drainage that differed from the surrounding area. No impacts are anticipated to this channel. Photo points: PP 5 & 6.

Table 1: Summary of Jurisdictional Features within All Parcels

Type of Potential Jurisdictional Waters	Type of Habitat (Holland 1986)	Type of Habitat (Cowardin et al. 1979)	Acres	Linear Feet	Regulatory Authority
Potential Jurisdictional Waters of the U.S.					
N/A	N/A	N/A	N/A	N/A	N/A
Subtotal Potential Waters of the U.S.			*0.0*	*0.0*	
Total Potential Jurisdictional Waters of the State					
Ephemeral Dry Wash	Vegetated Floodplain or Channel (Holland Code 36000)	Riverine; Intermittent; Unconsolidated, clay-sandy bottom.	1.0	3,987	CDFW and RWQCB

5.2 Federal Jurisdiction

Based on the results of the delineation and federal guidance outlined herein, this report was prepared to provide support to USACE in making a formal determination of all waters delineated within the survey area that are determined to be isolated waters and thus not regulated by the USACE. The basis for this finding is as follows:

- All ephemeral washes identified in the field survey, and described above, flow for less than three (3) months per year, and would therefore be classified as non-RPW by the USACE;
- The ephemeral washes on site lack any signs of OHWM; no signs of bed & bank, no scouring, no shelving, no litter deposition.
- There are no wetlands present.
- As non-RPWs, these ephemeral washes have no downstream connectivity to a TNW, and no nexus to interstate or foreign commerce;
- As non-RPWs, these ephemeral washes are not an (a)(3) water, and do not meet any of the i-iii criteria (no recreation or interstate commerce related to fisheries or industry).

The USACE, in combination with the Environmental Protection Agency (EPA), when necessary, reserves the ultimate authority in making the final jurisdictional determination of WUS. This report has been prepared to provide the necessary information to assist the USACE with that determination. An approved Jurisdictional Determination could be requested of the USACE to provide an analysis if waters of the US and/or wetlands are present on the site.

5.2 State Jurisdiction

As described above, the extent and distribution of the collective area of potential jurisdictional waters of the state occurring within the project area is approximately 1 acres of regulated waters of CDFW and 1 acres of regulate waters of RWQCB. However, the drainages on site will not be impacted by the current location of the solar facility.

5.3 Requisite Permitting

5.3.1 CDFW Permitting

By submitting a Notification for a Lake or Streambed Alteration Agreement (SAA) to the appropriate CDFW field office (Region 4 Fresno), CDFW will ascertain which (or all) of the delineated aquatic features occurring within the project area will be under its regulatory administration. The SAA Notification process also allows CDFW to determine whether aquatic features will become "substantially adversely affected" under CFGC Section 1602(a), and to provide guidance on requisite and appropriate compensatory mitigation for any unavoidable impacts to these aquatic resources as a result of the proposed project.

In the event drainages are impacted, as a potential requirement of the SAA, the development of a conceptual mitigation, maintenance, and monitoring plan may be required for creation, restoration, or enhancement mitigation which may be a requirement of the SAA. This plan should include details regarding site preparation (e.g., grading), planting specifications, and irrigation design, as well as maintenance and monitoring procedures. The plan should outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria. Any appropriate mitigation that cannot be achieved through on-site creation-restoration and enhancement should be performed off-site, typically per agency guidance within the same hydrologic unit (watershed) where impacts occur. Alternatively, the mitigation obligations may also be satisfied by participating in a fee-based mitigation program through an approved mitigation bank. Any proposed mitigation is subject to the resource agencies' review and discretion; thus, the mitigation obligations for the impacts to jurisdictional aquatic habitats may change from those recommended here.

Project compliance with state policy, i.e., California Wetlands Conservation Policy (EOW- 59-93), provides for "no overall net loss" of wetlands and achieving a "long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California." Therefore, a minimum 1:1 mitigation ratio would likely be applied toward any impacts to jurisdictional waters of the state. Project-specific mitigation ratios would be developed in consultation with CDFW.

CWC Section 13000 et seq. *(Porter-Cologne) Waste Discharge Requirement (or Waiver)*
The RWQCB regulates the "discharge of waste" to waters of the state. The definition of the waters of the state is broader than that for waters of the U.S. in that all waters are considered to be a water of the state regardless of circumstances or condition. The term "discharge of waste" is also broadly defined in Porter-Cologne, such that discharges of waste include fill, any material resulting from human activity, or any other "discharge" that may directly or indirectly impact waters of the state. As conditional to this permit, best management practices (BMPs) will be required to ensure compliance with state water quality standards. BMPs can also be specified by the RWQCB, based on the report of waste discharge (ROWD) (filed with the appropriate RWQCB by the applicant), which is authorized to regulate discharges of waste and fill material to waters of the state (including "isolated" waters and wetlands), through the issuance of a WDR. WDRs are commonly issued based on the threshold of allowable pollutants into waters of the state.

Under Porter-Cologne, all applicants proposing to discharge waste that could affect the quality of waters of the state, other than into a community sewer system, shall file with the appropriate RWQCB an ROWD containing such information and data as may be required by the RWQCB. The RWQCB will then respond to the ROWD by issuing a WDR in a public hearing, or by waiving WDRs (with or without conditions) for that proposed discharge. The RWQCB has a statutory obligation to prescribe WDRs, except where the RWQCB finds that a waiver (with or without conditions) of WDRs for a specific type of discharge is in the public interest. Therefore, all parties proposing to discharge waste that could affect waters of the state, but do not affect

federal waters (which requires authorization under CWA Section 404 and certification under CWA Section 401) must file an ROWD with the appropriate RWQCB prior to issuance of the WDR. The ROWD/WDR is also subject to the resource agencies' review and discretion for BMPs and mitigation.

6. CERTIFICATION

This concludes the jurisdictional delineation for the Forefront - Anderson Derrick Solar

Certification: I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Field work conducted by:

Date: February 8, 2019 Signature: _____

Ryan Young, President & Senior Biologist

Report Prepared by:

Date: February 8, 2019 Signature: _____

Ryan Young, President & Senior Biologist

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http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCLPA.

FIGURE 1 - REGIONAL LOCATION MAP – ANDERSON DERRICK

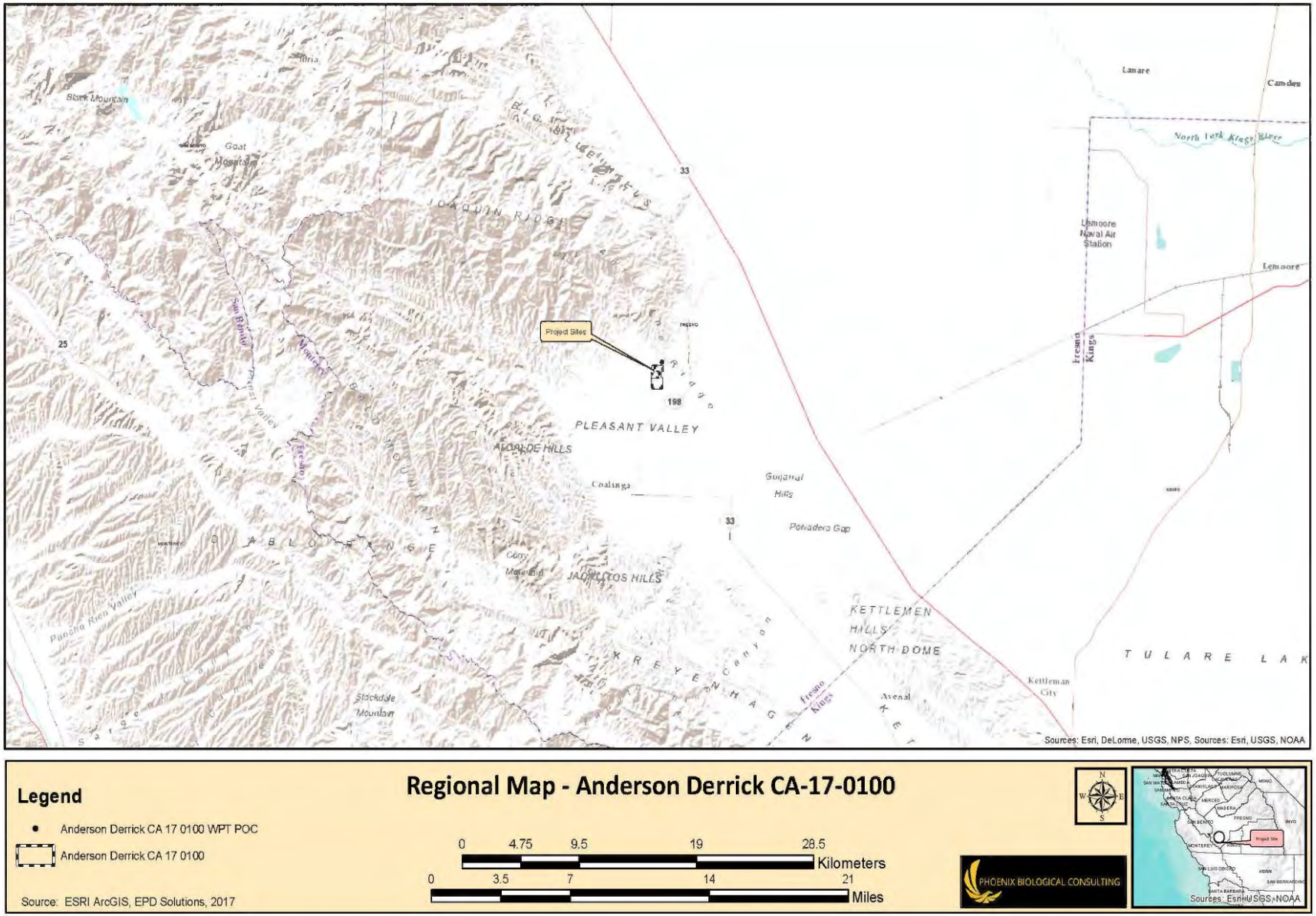


FIGURE 2 - TOPOGRAPHICAL MAP – ANDERSON DERRICK

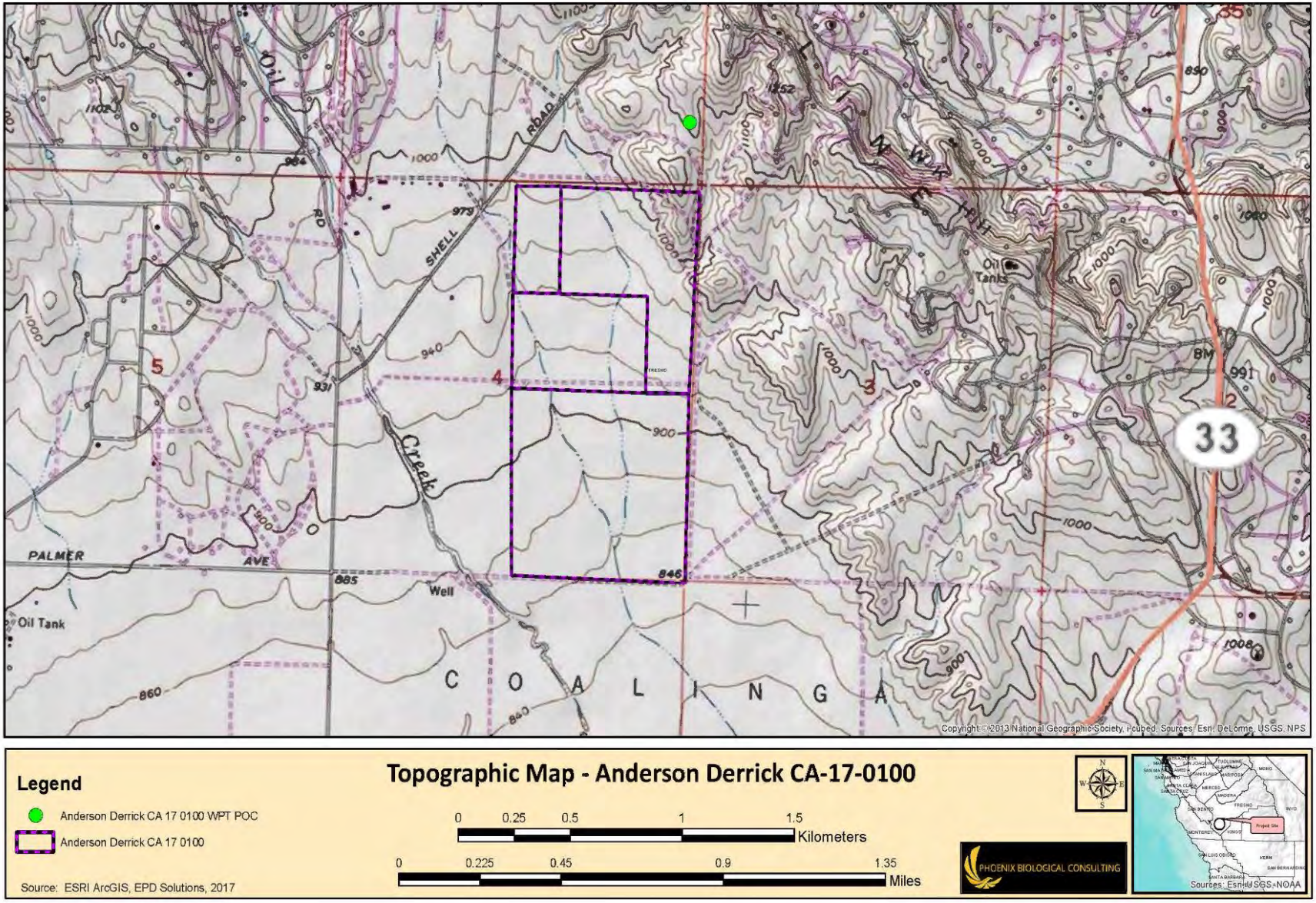


FIGURE 3 - PLAN VIEW, JURISDICTIONAL DELINEATION & PHOTOPOINTS OVERVIEW – ANDERSON DERRICK

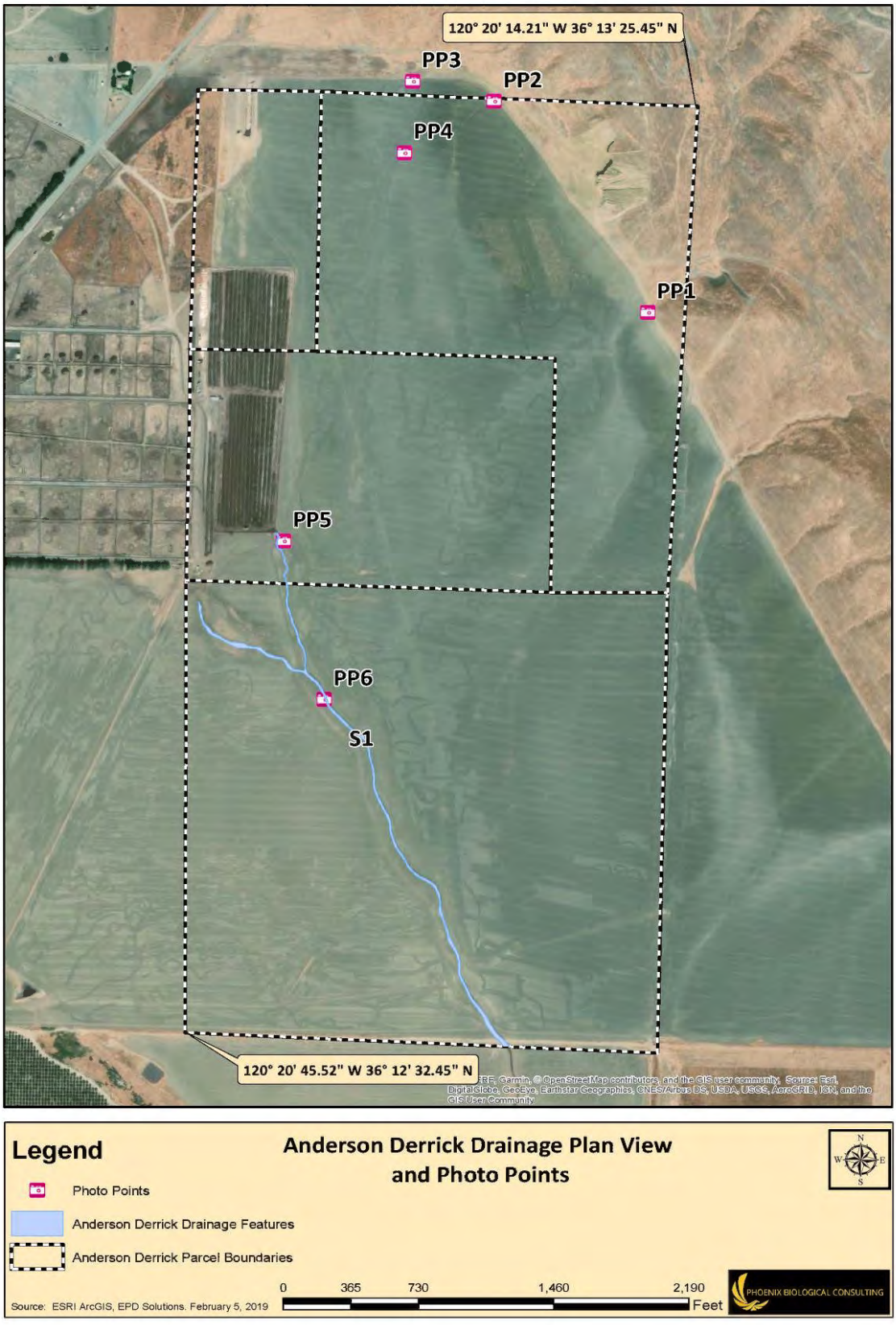


FIGURE 4 - HYDROLOGIC UNITS – ANDERSON DERRICK

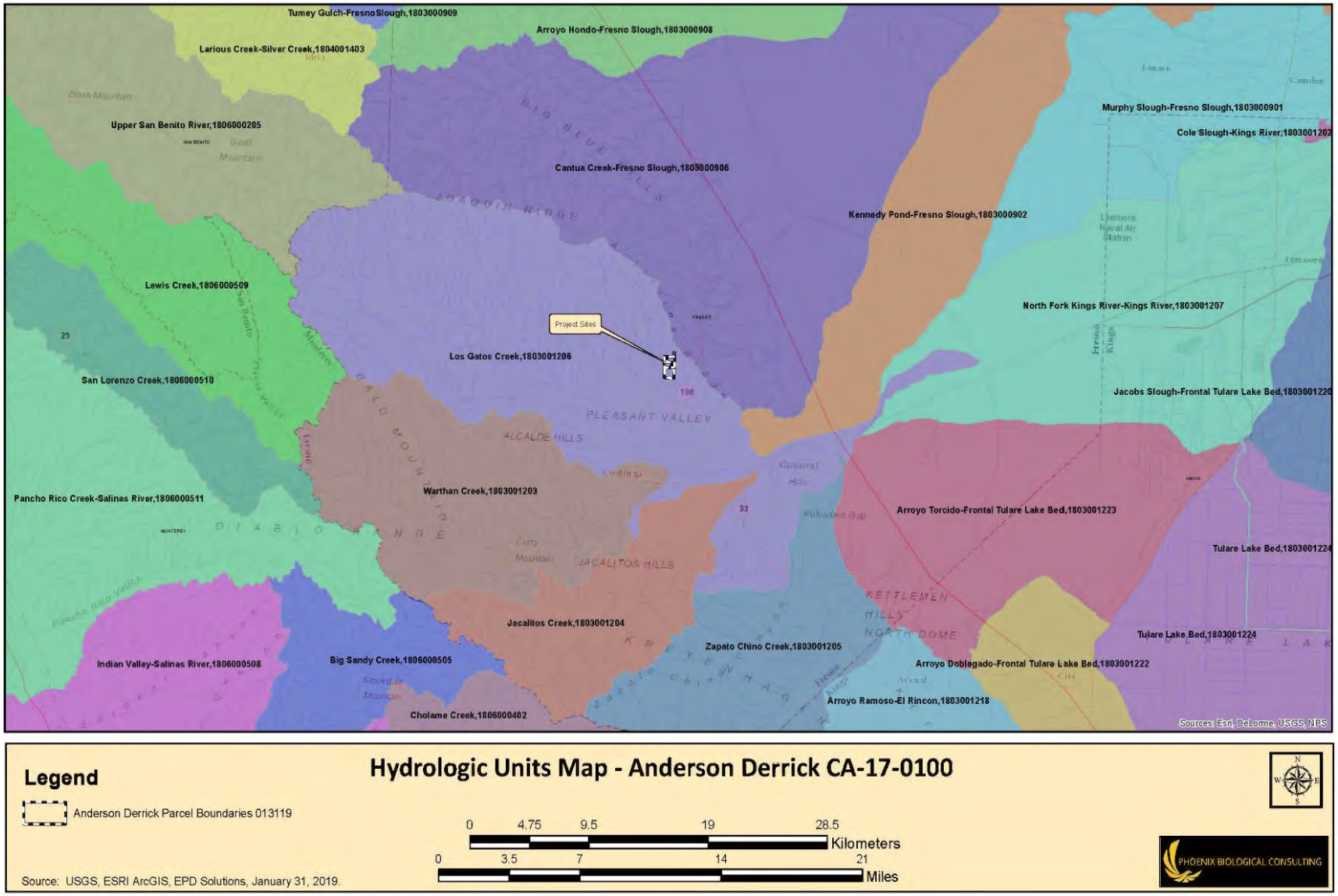


FIGURE 5 - 100 YEAR FEMA FLOODPLAIN – ANDERSON DERRICK

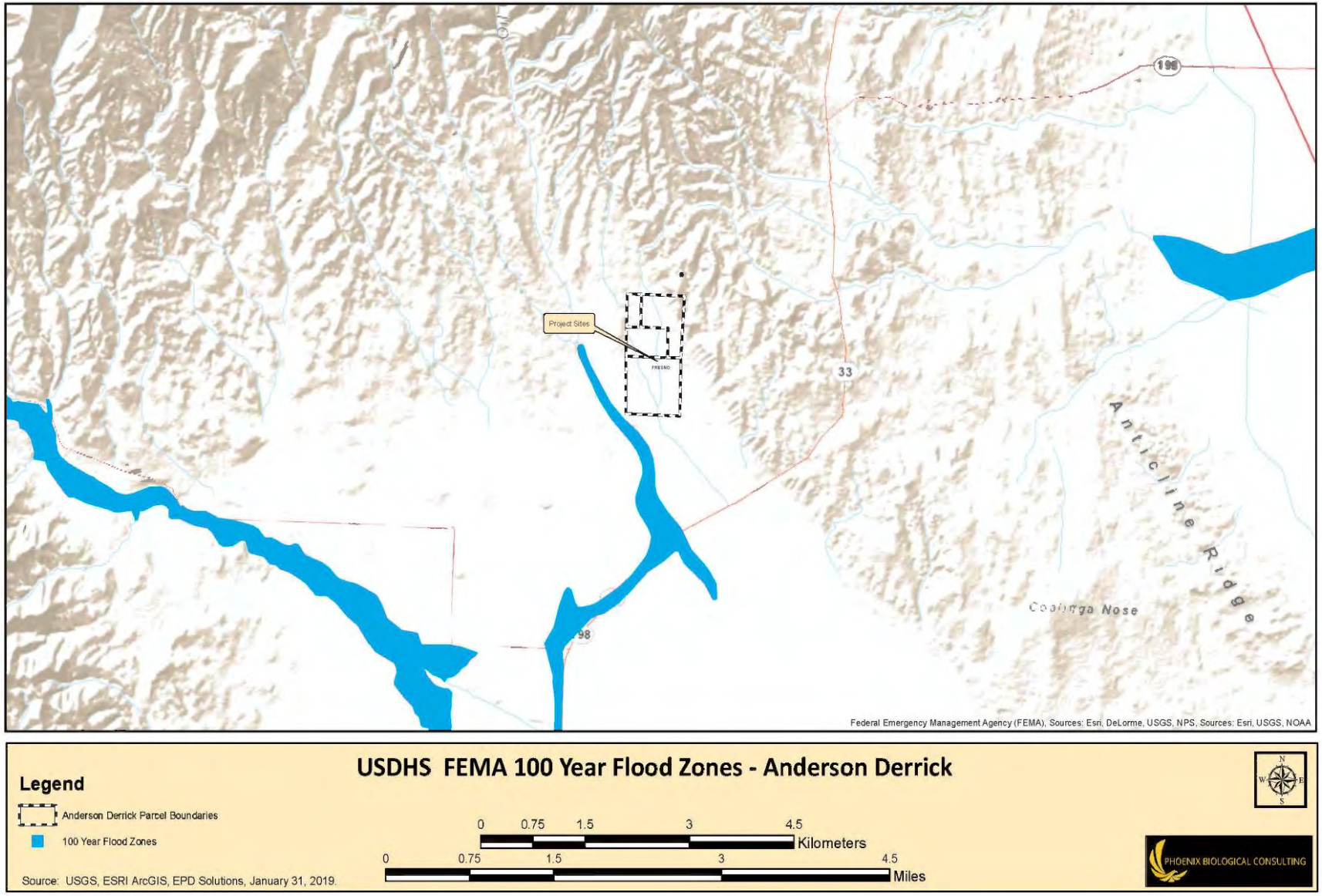


FIGURE 6 - USFWS NATIONAL WETLAND INVENTORY – ANDERSON DERRICK

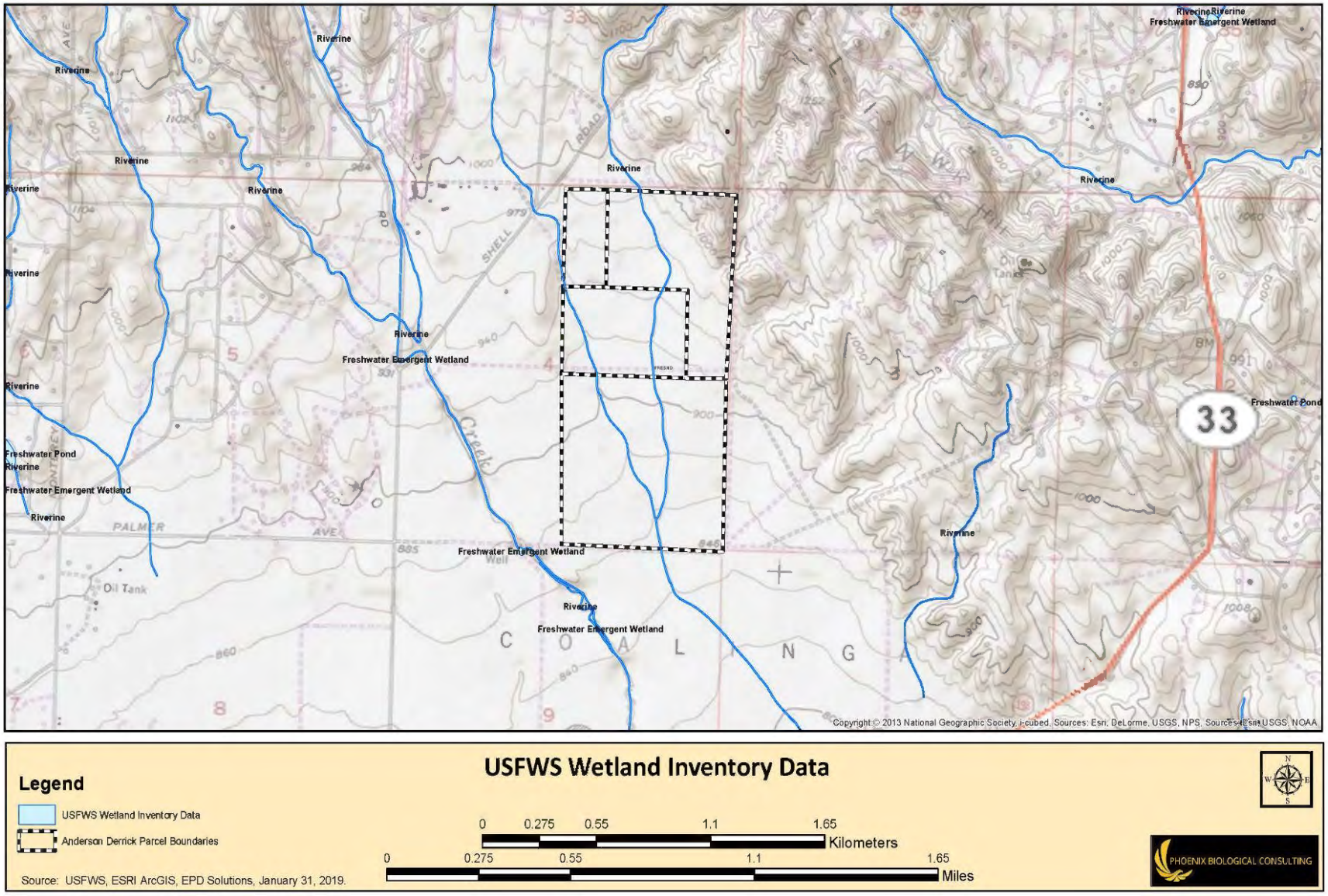
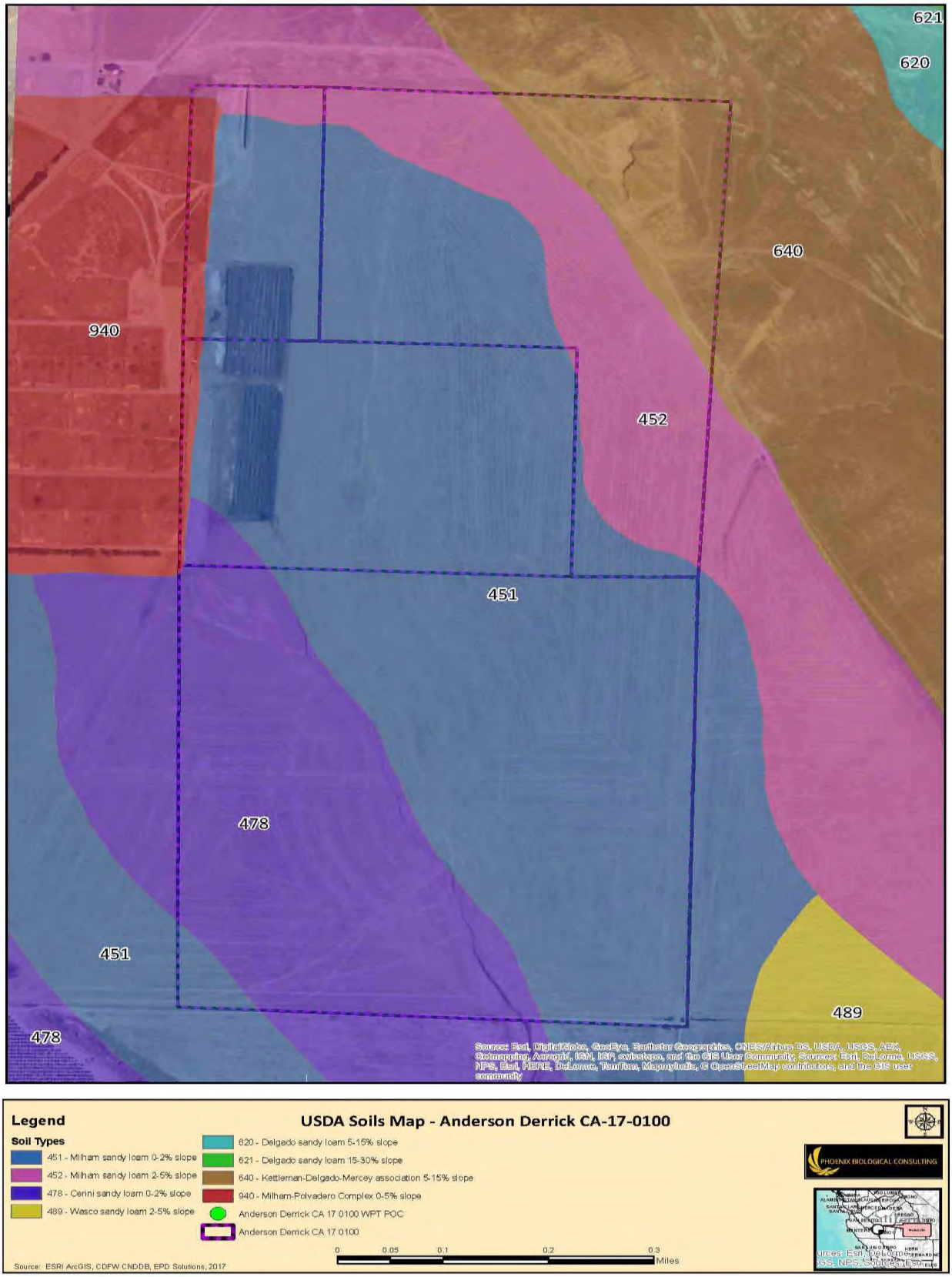


FIGURE 7 - USDA SOIL SURVEY DATA – ANDERSON DERRICK



APPENDIX A - SITE PHOTOGRAPHS

	**PP # 5. S1 Drainage. Facing West. Looking off site to cattle, feed lot. Source of onsite drainage.**
	**PP # 6. S1 Drainage. Facing East. Sign of scour marks and fluvial activity.**

	**Photo Point #1. Facing upslope Northeast. No sign of channel features.**
	**Photo Point #1. Facing downslope (Southwest) onto parcel. No sign of channel features.**

	**Photo Point #2. Facing NE off parcel boundary. Minor evidence of fluvial activity.**
	**Photo Point #2. Facing SW onto parcel boundary. Minor evidence of fluvial activity for 20-30 feet. Mostly discontinuous swale.**

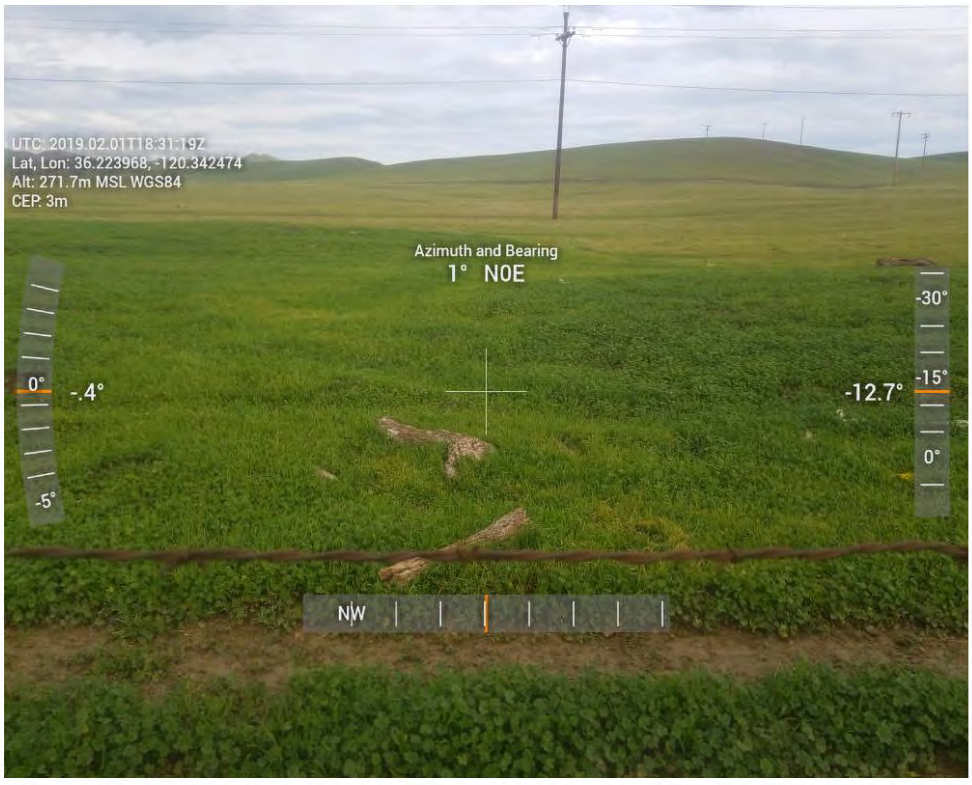
	**Photo Point #3. Facing SE onto parcel boundary. Swale visible but discontinuous and no fluvial sign.**
	**Photo Point #3. Facing NE off site. No sign of fluvial activity or swales.**

	**Photo Point #4. On Parcel. Facing NE. No sign of swale or fluvial activity.**
	**Photo Point #4. On Parcel. Facing SE. No sign of swales of fluvial activity.**

Biological Habitat Assessment For
Anderson Derrick
CA-17-0100

(APN #070-020-07)
Coalinga 7.5 Minute Quadrangle,
Section 4, Township 20 S, Range 15 E
Coalinga, Fresno County, California

Prepared for

Forefront Power, LLC
100 Montgomery St., Suite 1400
San Francisco, CA 94104

Prepared by

Report Prepared by Mikaila Negrete & Ryan Young
Field Work Performed by Mikaila Negrete
Phoenix Biological Consulting
PO Box 2238
Tehachapi, CA 93581
(949) 887 0859 cell

December 28, 2017

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Executive Summary:

At the request of Forefront Power, LLC (Forefront), Phoenix Biological Consulting (Phoenix) initiated a biological habitat assessment on the approximately 88-acre property, of which ~40 acres, assessor property (APN: #070-020-07) Forefront is developing up to a 5 megawatt (MWac) photovoltaic (PV) solar energy generation facility (the Project).

The site is located on agricultural land in Coalinga, Fresno County, California, south east of Shell Rd and north of West Palmer Ave. The site predominantly consists of active agricultural production of common wheat (*Triticum aestivum*). The northeast portion of the site is highly disturbed undeveloped land. Representative photographs and maps of the site are included in this report.

This report was completed following a site visit by Phoenix on September 1st, 2017. The entire site was evaluated for potential impacts from the proposed project, including sensitive plant and animal species as well as potential jurisdictional drainages that could be affected by the project.

The conclusions of this report are summarized as follows:

- The boundary of the parcel and the gen-tie line are considered low to medium potential or suitable habitat for nesting birds, blunt-nosed leopard lizard, burrowing owl, Nelson's antelope squirrel, short-nosed kangaroo rat, San Joaquin kit fox, and Swainson's hawk foraging habitat. Focused protocol surveys are recommended to determine the presence (if any) of blunt-nosed leopard lizard, burrowing owl, Nelson's antelope squirrel, short-nosed kangaroo rat, San Joaquin kit fox if impacts are expected along the perimeter of the site or along the gen-tie line where suitable habitat is present.
- The CNDDB search indicated the presence of two Swainson's hawk (*Buteo swainsoni*) occurrences within the CNDDB ten-mile radius search. The records are greater than 75 years old. Due to the age and lack of suitable nesting habitat on site, focused surveys would not be required for this species. Furthermore, no suitable nesting sites are present for Swainson's hawks.
- The proposed solar site boundary appears to beyond 500 feet from any existing drainage features. No waters of the state or the U.S. will be impacted with the current solar array configuration.
- Within the solar site boundary, the area is recently disked and historic agriculture practices have severely altered and impacted the habitat potential.

Recommended mitigation measures based on the results of this habitat assessment are provided at the end of this report.

Introduction and Purpose:

At the request of Forefront Power, LLC (Forefront), Phoenix Biological Consulting (Phoenix) initiated a biological habitat assessment on the approximately 88-acre property, of which ~40 acres, assessor property (APN: #070-020-07) Forefront is developing up to a 5 megawatt (MWac) photovoltaic (PV) solar energy generation facility (the Project).

The site is located on agricultural land in Coalinga, Fresno County, California, south east of Shell Rd and north of West Palmer Ave. The site predominantly consists of active agricultural production of common wheat (*Triticum aestivum*). The northeast portion of the site is highly disturbed undeveloped land. Representative photographs and maps of the site are included in this report.

Per the California Environmental Quality Act (CEQA), the lead agency requires a project proponent to initiate a habitat assessment to identify sensitive biological resources that may have the potential to occur within a site. This report was completed following a site visit by Phoenix on September 1st, 2017. The entire site was evaluated for potential impacts from the proposed project, including sensitive plant and animal species as well as potential jurisdictional drainages that could be affected by the project.

Several sensitive species that are known to occur within a 10-mile radius of the area were identified through the California Natural Diversity Database (CNDDB) literature/database search. The results of the habitat assessment indicate that portions of the site may have potential habitat for the nesting birds, blunt-nosed leopard lizard, burrowing owl, Nelson's antelope squirrel, short-nosed kangaroo rat, and San Joaquin kit fox.

Two Swainson's hawk (*Buteo swainsoni*) occurrences were detected through the CNDDB ten-mile radius search. The records are greater than 75 years old. Due to the age and lack of suitable nesting habitat on site, focused surveys would not be required for this species. The site does not provide suitable nesting habitat for raptors.

Project Description:

Forefront Power is proposing to develop up to 5-Megawatt MW AC photovoltaic (PV) solar energy generation facility (the Project) on approximately 40 acres, assessor property (APN:

#070-020-07) located in Coalinga, Fresno County. The project will generate renewable energy utilizing photovoltaic panels, which will be interconnected to the adjacent Southern California Edison distribution circuits.

Location:

The site is located southeast of Shell Rd and north of West Palmer Ave on the Coalinga 7.5-minute quadrangle topographic map (Exhibit 1). The legal description of the parcel is a portion of Section 4, Township 20 S, Range 15 E, City of Coalinga, and Fresno County.

Habitat and Land Use:

The parcel is situated at approximately 950 feet at the perimeter of the Anticline Ridge. Agricultural production predominates south of the site. The area to the northwest of the site is used for oil production. Shell Rd borders the site to the northwest and runs southwest to northeast. The unimproved road, West Palmer Ave borders to the south of the site. The Anticline ridge lies to the north and east of the site.

The 88-acre study area consists of highly disturbed agricultural lands used for active production of common wheat (*Triticum aestivum*). The site visit indicated that the site has been recently disked and historical/current aerial photos confirm these observations (Exhibit 3, 8 & 9). There are no true trees in or bordering the site. The soils consist of Milham and Cerini loams. The soils on the northeast corner on site consist of Milham sandy loam (2-5% slope). The soils center on site consist of Milham sandy loam (0-2% slope), and the southwest corner on site consist of Cerini sandy loam (0-2% slope). Existing vegetation is predominated by the cultivated wheat with remaining vegetation sparsely situated on the perimeter of the site. A complete list of vegetation and photos can be found on Table 4 & Exhibit 7-8.

Target Sensitive Species Natural History Description:

Burrowing Owl

Burrowing owls (*Athene cunicularia*) are a small, long-legged, ground-dwelling owl that occurs from British Columbia, throughout North America and portions of Central and South America. They are typically nocturnal but are also known to be crepuscular (active dawn and dusk). Typical prey items include invertebrates, small mammals, lizards, snakes and small birds. They nest underground in burrows and clutches range between 9-11 eggs. Burrow entrances and nests area adorned with cow chips, feathers, grass, food items and dog feces. They are

typically monogamous and tend to exist in colonies. They exhibit high nest fidelity and will return to the same burrow nest site for multiple years.

Burrowing owls occur in a variety habitat types throughout California; such as, annual and perennial grasslands, agriculture fields, deserts and scrublands characterized by low-growing vegetation (CBOC, 1993). Suitable owl habitat may also include areas with trees and shrubs where canopy cover is less than 30% of ground surface. Suitable burrows may include both artificial and natural burrows that provide shelter from the elements as well as protection from predators. Burrowing owls also use burrows for nesting during spring and early summer months. California ground squirrel (CGS; *Spermophilus beecheyi)* is known to provide suitable burrows as well as inactive coyote, kit fox, badger and desert tortoise burrows. Burrowing owls can also create and/or modify existing burrows. Artificial burrows may include culverts, concrete pipes, wood debris piles and openings beneath cement or asphalt.

In desert scrub habitat, they are usually associated with canid (i.e. fox and coyote) and CGS burrows along mounds that provide vistas for viewing prey and predators. They are also found along washes and wash banks where small mammal and invertebrate abundance is higher. Burrowing owls are a BLM sensitive species and a California species of special concern. They are also protected under the Migratory Bird Treaty Act (MBTA) and within sections 3503, 3503.5 and 3800 of the California Department of Fish and Game Code which prohibits the take, possession, or destruction of birds, their nests or eggs (CBOC, 1993).

San Joaquin Kit Fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally threatened and State-endangered species that is a permanent resident of arid grasslands or open scrubland in the San Joaquin Valley, where friable soils are present. Dens are required year-round for reproduction, shelter, temperature regulation, and protection from predators. They require open grassland and savannah habitats for foraging and dispersal. Historically their habitat included native alkali marsh and saltbush scrub of the valley floor, but the availability of such habitats has diminished markedly due to agricultural conversion. Grasslands with friable soils are considered the principal habitat for denning, foraging, and dispersal, while open oak woodlands provide lower quality foraging and dispersal habitat. Kit foxes will use habitats that have been extensively modified by humans, including grasslands and scrublands with active oil fields, wind turbines, and agricultural matrices.

Short-nosed Kangaroo Rat

The short-nosed kangaroo rat is one of three subspecies of *D. nitratoides*, the San Joaquin kangaroo rat, the only four-toed kangaroo rat in the San Joaquin Valley. TL averages 237 mm, BL 102 mm and weight is about 44 g. The short-nosed kangaroo rat is larger and has paler dorsal coloration than the other species of *D. nitratoides* in the San Joaquin Valley. Short-nosed

kangaroo rats are generally found on friable soils on flat or gently rolling terrain in grassland and desert-shrub vegetation (primarily *Atriplex sp.* and *Ephedra californica*). In the Soda Lake area of the Carrizo Plains, they also occur on alkaline soils. Burrows are located in friable soils in slightly elevated areas to reduce likelihood of seasonal flooding, including the berms of roads, canal embankments, railroad beds, and the bases of shrubs and fences where wind-blown soils accumulate above the level of surrounding terrain.

Blunt-nosed Leopard Lizard

The blunt-nosed leopard lizard is a relatively large lizard of the Iguanidae family. It has a long, regenerative tail; long, powerful hind limbs; and a short, blunt snout. Adult males are slightly larger than females, ranging in size from about 9 to 12 cm (3.4 to 4.7 inches) in length, excluding tail. Females are about 9 to 11 cm (about 3.4 to 4.4 inches) long. Males weigh about 37 to 43 g (1.3 to 1.5 ounces); and females weigh about 23 to 34 g (0.8 to 1.2 ounces).

Although blunt-nosed leopard lizards are darker than other leopard lizards, they exhibit tremendous variation in color and pattern on their backs. Their background color ranges from yellowish or light gray-brown to dark brown, depending on the surrounding soil color and vegetation. Their undersides are uniformly white. They have rows of dark spots across their backs, alternating with white, cream-colored or yellow bands.

Leopard lizards use small rodent burrows for shelter from predators and temperature extremes. Burrows are usually abandoned ground squirrel tunnels, or occupied or abandoned kangaroo rat tunnels. Each lizard uses several burrows without preference, but will avoid those occupied by predators or other leopard lizards. In areas of low mammal burrow density, lizards will construct shallow, simple tunnels in earth berms or under rocks.

Antelope Valley Swainson's hawk

The Swainson's hawk (*Buteo swainsoni*) is a slender buteo averaging 19 inches long with a wingspan of 51 inches. The coloring of Swainson's ranges from light to dark with many intermediate morphs. They are distinguishable in flight by white wing linings that contrast with dark flight feathers. Unlike other buteos, Swainson's migrate between North America and South America each year. Most of the California population winters in Argentina, however the wintering habits of the Antelope Valley population specifically are unknown. The California population has steadily decreased and was listed as threatened by the CDFW in 1983 (CDFG, 2010).

The breeding season begins in late March to early April when birds typically return to nest sites. Nest site fidelity is high for Swainson's hawk. Pairs form immediately and nest building occurs over a one to two week period. Both males and females are involved in nest building. Nests are usually easily identified as courtship displays involve circling the nesting site and frequent vocalizations. Antelope Valley Swainson's Hawk have historically nested in Joshua Trees. In other parts of California, cottonwood, oaks, sycamores and willows provide suitable

nesting habitat (Bloom, 1980). During the month of May incubation and hatching occurs. Females remain well-hidden in the nest. Males forage for hours and rarely return to nesting site to prevent predators from recognizing nest location. Clutch sizes vary from 2-5. Once hatched, hatchlings remain in the nest until July or August. Between June and mid-July both males and females leave the nest often as fledglings are relatively safe from predators. In July or August, fledglings leave the nest and migratory flocks begin to form in August and September. Migratory flocks usually reach wintering grounds by November.

Swainson's hawks are aerial foragers, soaring over foraging habitat in search of prey. Historically they have foraged in native desert scrub communities. Much of the historical foraging habitat has been lost to development or conversion to incompatible crop types. However, Swainson's hawks also forage in irrigated pastures and alfalfa fields that can support a suitable prey base. Throughout breeding season Swainson's prey on mostly ground squirrels, voles, and other small mammals. Unlike other buteos, Swainson's hawks also forage for insects such as grasshoppers and crickets during non-breeding season. The home range is indirectly proportional to abundance or ease of locating prey. For example, alfalfa fields provide cover, forage and water for small rodents; therefore home range grows to increase the ability of locating prey. The Swainson's hawk is listed as a California state threatened species under the California Endangered Species Act (CESA) under the California Department of Fish and Wildlife. They are also protected under the Migratory Bird Treaty Act (MBTA) and within sections 3503, 3503.5 and 3800 of the California Department of Fish and Game Code which prohibits the take, possession, or destruction of birds, their nests or eggs (CBOC, 1993).

Rare Plants

There is no rare plant that was identified in the CNDDB database and have suitable habitat on site.

CNDDB Rarefind Database and Literature Review Results:

A thorough California natural diversity database (CNDDB) literature review was conducted to determine which species occur within a ten-mile search radius of the site (Exhibit 4; Table 1). 31 sensitive species were detected within the ten-mile search radius. Multiple habitat types fall within the ten-mile radius; annual/ruderal grassland, valley oak woodland, pasture, cropland, vernal pool, alkali scrub, orchard-vineyard, and valley-foothill riparian. Therefore, several species fall out of range/habitat limits given the specific characteristics of the site (See Table 1 for habitat potential for all species).

Species that are known to occur within 10 miles, with potential habitat type on the site, include: blunt-nosed leopard lizard (*Gambelia sila*), burrowing owl (*Athene cunicularia*), Nelson's

antelope squirrel (*Ammospermophilus nelsoni*), short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*), and San Joaquin kit fox (*Vulpes macrotis mutica*).

Burrowing Owl

There are records for burrowing owl presence from the CNDDB search. The burrowing owl occurrences are located within proximity of the site and in multiple directions. Potential burrowing owl habitat does occur on site. Due to the proximity of CNDDB occurrences and the potential habitat that exists at this site, focused surveys for burrowing owl are recommended if disturbance is anticipated outside the solar array footprint or along the parcel boundary perimeter.

San Joaquin Kit Fox

The San Joaquin kit fox has 14 occurrences within the ten-mile search radius of the project. No burrows were observed on site. Suitable habitat does exist for the presence of the species. Focused surveys for San Juaquin kit fox are recommended if disturbance is anticipated outside the solar array footprint or along the parcel boundary perimeter.

Short-nosed Kangaroo Rat

The short-nosed kangaroo rat has several occurrences in close proximity to the site. potential habitat is present on-site due to the numerous small mammal burrows observed. Focused surveys for short-nosed kangaroo rat are recommended if disturbance is anticipated outside the solar array footprint or along the parcel boundary perimeter.

Blunt-nosed Leopard Lizard

15 occurrences are present within the ten-mile search radius of the site. Suitable habitat is present on site with the prevalence of small mammal burrows. Focused surveys will be required for blunt-nosed Leopard lizard are recommended if disturbance is anticipated outside the solar array footprint or along the parcel boundary perimeter.

Birds

Two Swainson's hawk (*Buteo swainsoni*) occurrences were detected through the CNDDB ten-mile radius search. The records are greater than 75 years old. Due to the age and lack of suitable nesting habitat on site, focused surveys would not be required for this species (Table 1, Exhibit 4). No other threatened or endangered avian species has suitable habitat present and CNDDB occurrences that are within 10 miles of the site.

There is some nesting habitat on the site and foraging habitat may exist. All nesting birds are covered under the Migratory Bird Treaty Act (MBTA). All potential bird species should be included in a nesting bird survey if the project occurs during the spring.

Mammals

One other mammal has the potential to be on site, Nelson's antelope squirrel (*Ammospermophilus nelsoni*). Due to the number of occurrences, proximity of occurrences, and presence of small mammal burrows there is a high potential for these species to occur on site. Surveys are recommended if disturbance is anticipated outside the solar array footprint or along the parcel boundary perimeter.

Wildlife Corridors

The site is relatively isolated due to surrounding agriculture land use, paved roads, Hwy 33 to the east, and urban land use practices to the southwest. Due to the limited, existing wildlife corridors present it is not anticipated that the project development will have a significant impact to wildlife corridors.

Rare plants

There were eleven rare plant species within the database, brittlescale (*Atriplex depressa*), California jewelflower (*Caulanthus californicus*), Lemmon's jewelflower (*Caulanthus lemmonii*), recurved larkspur (*Delphinium recurvatum*), Diablo Range hare-leaf (*Lagophylla diabolensis*), pale-yellow layia (*Layia heterotricha*), Panoche pepper-grass (*Lepidium jaredii ssp. album*), showy golden madia (*Madia radiata*), Indian Valley bush-mallow (*Malacothamnus aboriginum*), San Joaquin woollythreads (*Monolopia congdonii*), and prostrate vernal pool navarretia (*Navarretia prostrata*).

The California Native Plant Society (CNPS) has created 5 lists (or ranks) in an effort to categorize degrees of concern. Plants that fall under list 2 are plants that are rare, threatened, or endangered in California, but are more common elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. (Tibor, ed. 2001). It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a .1 to .3 ranking with .1 being the most threatened, .2 being fairly threatened, and .3 being not very threatened. The potential rare plant rankings for plants with suitable habitat and within the CNDDB database are provided on Table 1. Rare plants surveys

are recommended if disturbance is anticipated outside the solar array footprint or along the parcel boundary perimeter.

Rare plant surveys are conducted in accordance with the California Environmental Quality Act (CEQA), the California Endangered Species Act (CESA) and the Federal Endangered Species Act (FESA) and require two to three site visits during the spring flowering period of April through May, and a reference site visit to determine phenology.

Proximity to Conservation Areas

The Kern National Wildlife Refuge is situated approximately 45 miles to the southeast. Kern National Wildlife Refuge consists of 11,249-acres of natural desert uplands, a relict riparian corridor, and developed marsh. The objective of this wildlife refuge is to provide optimum wintering habitat for migratory birds with an emphasis on waterfowl and water birds including several endangered species. The site is not within nor does it border a conservation area.

Jurisdictional Drainages

The U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) collectively regulate jurisdictional waters of the U.S. and state. In the lower half of the survey area two ephemeral streams flow onto, merge, and flow off the property from northwest to southeast. A jurisdictional delineation is not anticipated as the drainage features are beyond 500 ft from the proposed solar array. These features are present in Exhibit 5.

Table 1: CNDDB Ten Miles Search Results & Habitat Potential

	Scientific Name	Common Name	Federal Status	State Status	CNPS Ranking	Habitat Potential
Reptiles	*Anniella alexanderae*	Temblor legless lizard	None	Species of Special Concern	N/A	Habitat is not present on site.
	Anniella sp. 1	California legless lizard	None	Species of Special Concern	N/A	Habitat is not present on site.
	Arizona elegans occidentalis	California glossy snake	None	Species of Special Concern	N/A	Potential habitat is present on site.
	Emys marmorata	western pond turtle	None	Species of Special Concern	N/A	Habitat is not present on site.
	Gambelia sila	blunt-nosed leopard lizard	Endangered	Endangered	N/A	Potential habitat is present on site.
	Masticophis flagellum ruddocki	San Joaquin coachwhip	None	Species of Special Concern	N/A	Habitat is not present on site.
	Phrynosoma blainvillii	coast horned lizard	None	Species of Special Concern	N/A	Habitat is not present on site.
Birds	*Agelaius tricolor*	tricolored blackbird	None	Species of Special Concern	N/A	Habitat is not present on site.
	Asio otus	long-eared owl	None	Species of Special Concern	N/A	Habitat is not present on site.
	Athene cunicularia	burrowing owl	None	Species of Special Concern	N/A	Potential habitat is present for this species. There are records in proximity and the site is within the species range.
	Buteo swainsoni	Swainson's hawk	None	Threatened	N/A	Nesting habitat is not present. Foraging habitat is present.
	Toxostoma lecontei	Le Conte's thrasher	None	Species of Special Concern	N/A	Habitat is not present on site.
Mammals	*Ammospermophilus nelsoni*	Nelson's antelope squirrel	None	Threatened	N/A	Potential habitat is present on site.
	Corynorhinus townsendii	Townsend's big-eared bat	None	Species of Special Concern	N/A	Habitat is not present on site.
	Dipodomys nitratoides brevinasus	short-nosed kangaroo rat	None	Species of Special Concern	N/A	Potential habitat is present on site.

	Eumops perotis californicus	western mastiff bat	None	Species of Special Concern	N/A	Habitat is not present on site.
	Taxidea taxus	American badger	None	Species of Special Concern	N/A	Habitat is not present on site.
	Vulpes macrotis mutica	San Joaquin kit fox	Endangered	Threatened	N/A	Potential habitat is present on site.
Amphibians	*Rana boylii*	foothill yellow-legged frog	None	Species of Special Concern	N/A	Habitat is not present on site.
	Spea hammondii	western spadefoot	None	Species of Special Concern	N/A	Habitat is not present on site.
Plants	*Atriplex depressa*	brittlescale	None	None	1B.2	Habitat is not present on site due to land use.
	Caulanthus californicus	California jewelflower	Endangered	Endangered	1B.1	Occurrence is extirpated.
	Caulanthus lemmonii	Lemmon's jewelflower	None	None	1B.2	Habitat is not present on site due to land use.
	Delphinium recurvatum	recurved larkspur	None	None	1B.2	Habitat is not present on site due to land use.
	Lagophylla diabolensis	Diablo Range hare-leaf	None	None	1B.2	Habitat is not present on site due to land use.
	Layia heterotricha	pale-yellow layia	None	None	1B.1	Habitat is not present on site due to land use.
	Lepidium jaredii ssp. album	Panoche pepper-grass	None	None	1B.2	Habitat is not present on site due to land use.
	Madia radiata	showy golden madia	None	None	1B.1	Habitat is not present on site due to land use.
	Malacothamnus aboriginum	Indian Valley bush-mallow	None	None	1B.2	Habitat is not present on site due to land use.
	Monolopia congdonii	San Joaquin woollythreads	Endangered	None	1B.2	Occurrence is extirpated.
	Navarretia prostrata	prostrate vernal pool navarretia	None	None	1B.1	Habitat is not present on site due to land use.

Habitat Assessment Results:

The results of the habitat assessment indicate that the proposed solar array is situated within highly disturbed agricultural land use. The site predominantly consists of active agricultural production of common wheat. There is no suitable nesting habitat for raptors.

Due to the land use, no suitable habitat is present for the 11 rare plant species listed on the CNDDB search within the ten-mile search radius.

San Joaquin kit fox habitat is present along the perimeter and the adjacent parcel. If impacts to the perimeter or gen-tie line occur, focused surveys would likely be required. Additionally, due to the suitable habitat along the perimeter and gen-tie, Nelson's antelope squirrel, and short-nosed kangaroo rat focused surveys would be recommended if impacts are anticipated in these areas.

There are numerous CNDDB occurrences of burrowing owl within the ten-mile radius of the site and the site may provide suitable habitat for burrowing owls. Focused burrowing owl surveys are recommended along the perimeter of the parcel and the gen-tie, if impacts are anticipated.

Blunt-nosed leopard lizard suitable habitat is present and due to the high number of CNDDB occurrences within the ten-mile search radius focused surveys are recommended along the perimeter of the parcel and the gen-tie, if impacts are anticipated.

A formal jurisdictional delineation is not required as the solar array is beyond 500 feet from any discernible drainages or channels.

Table 2: Survey Recommendations:

Below are survey recommendations based on the results of the habitat assessment.

Species	Federal Status	State Status	Survey Requirements	Legal Authority
Burrowing Owl	N/A	Species of Special Concern	14 day preconstruction take avoidance survey within the solar footprint. If impacts occur within undisturbed habitat: Conduct four site visits: First visit between 15th of February and 15th of April. Three additional visits, three weeks apart, between April 15th and July 15th with at least one visit after June 15th.	Fish and Game Code. Sections 3503, 3503.5, and 3800. Migratory Bird Species Act. California Environmental Quality Act.
Blunt-nosed leopard lizard	Endangered	Endangered	Surveys are not anticipated if impacts are confined to the solar array footprint. If impacts occur within undisturbed habitat: Pedestrian surveys are required within prescribed temperature and weather as outlined by DFG BNLL protocol revised May 2004	Fish and Game Code §5050. California Environmental Quality Act.
Nelson's antelope squirrel	None	Threatened	Surveys are not anticipated if impacts are confined to the solar array footprint. If impacts occur within undisturbed habitat: Conduct five consecutive diurnal trapping surveys with Sherman live traps by those individuals holding valid permit from the California Department of Fish and Wildlife (CDFW).	U.S. Fish and Wildlife Service 2013 Survey Protocol, California Environmental Quality Act.
Short-nosed kangaroo rat	None	Species of Special Concern	Surveys are not anticipated if impacts are confined to the solar array footprint.	U.S. Fish and Wildlife Service 2013 Survey Protocol, California

Species	Federal Status	State Status	Survey Requirements	Legal Authority
			If impacts occur within undisturbed habitat: Conduct five consecutive nocturnal trapping surveys with Sherman live traps by those individuals holding valid permit with the California Department of Fish and Wildlife (CDFW).	Environmental Quality Act.
San Joaquin kit fox	Endangered	Threatened	Surveys are not anticipated if impacts are confined to the solar array footprint. If impacts occur within undisturbed habitat: Surveys must be conducted on foot within prescribed parameters as outlined by U.S. Fish and Wildlife Service San Joaquin kit fox survey protocol for the northern range.	(The Endangered Species Act of 1973. California Environmental Quality Act.
Nesting Birds	N/A	Species of Special Concern	No ground disturbance to occur during nesting season (between February and August) without a clearance survey by a qualified biologist to ensure that no nesting birds are impacted.	Migratory Bird Species Act. California Environmental Quality Act.
JD survey	N/A	N/A	No jurisdictional delineation is needed since the drainageas are over 500 feet from the solar array footprint.	Army Corps of Engineers (404 Permit), Regional Water Quality Control Board (401 Permit), California Department of Fish and Wildlife (1600 Permit).

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This concludes the habitat assessment for the approximately 88-acre survey (Anderson Derrick Project; CA-070-020-07) within City of Coalinga, Fresno County, California.

Certification: *I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take of the any sensitive species.*

Field Work Performed BY:

Date: December 28, 2017

Signature: _____
Mikaila Negrete, Senior Biologist

Biological Technical Report Prepared BY:

Date: December 28, 2017

Signature: _____
Mikaila Negrete, Senior Biologist

Date: December 28, 2017

Signature: _____
Ryan Young, Senior Biologist

Exhibit 1: Topographic View

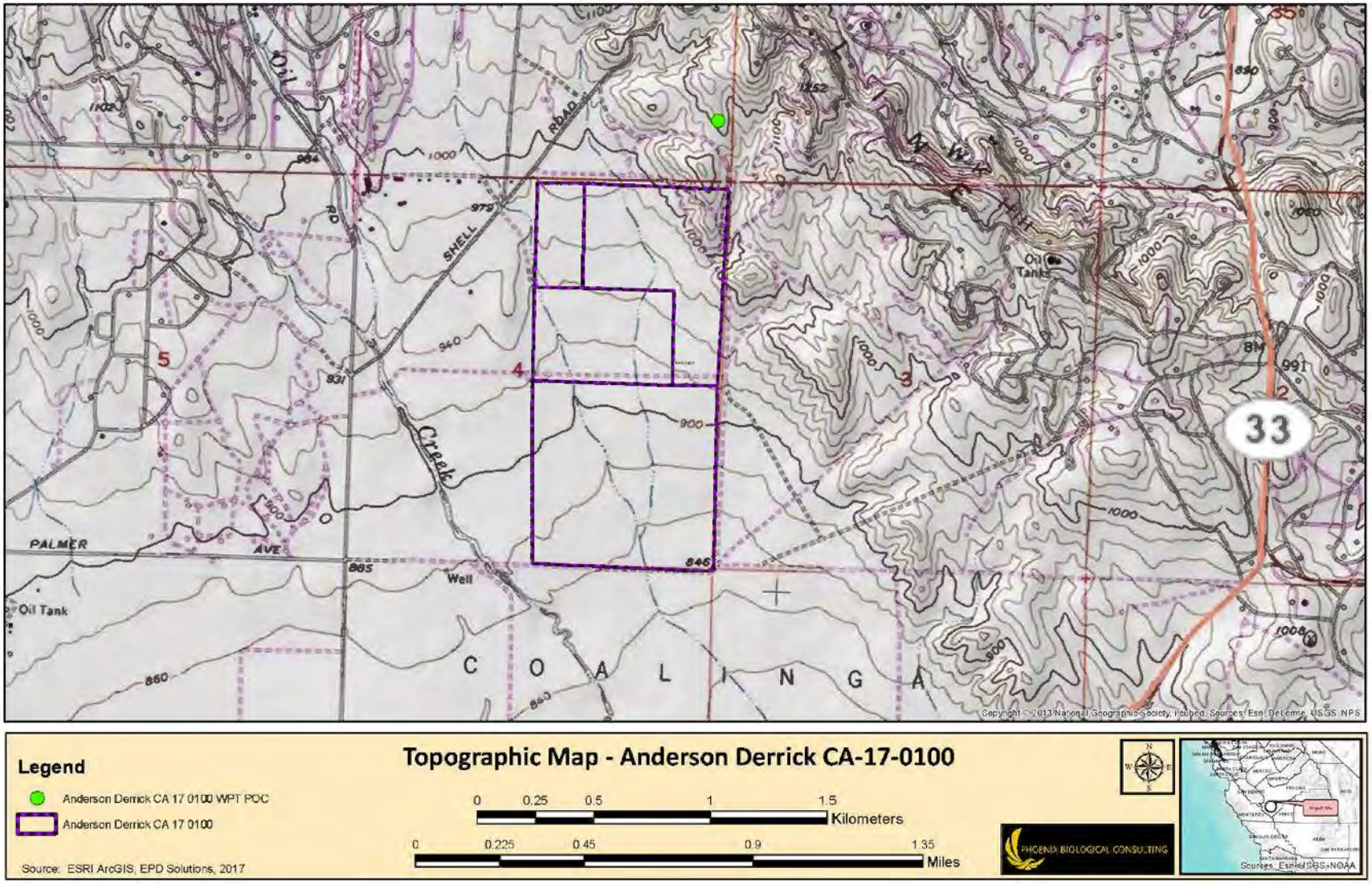

Exhibit 2: Regional View

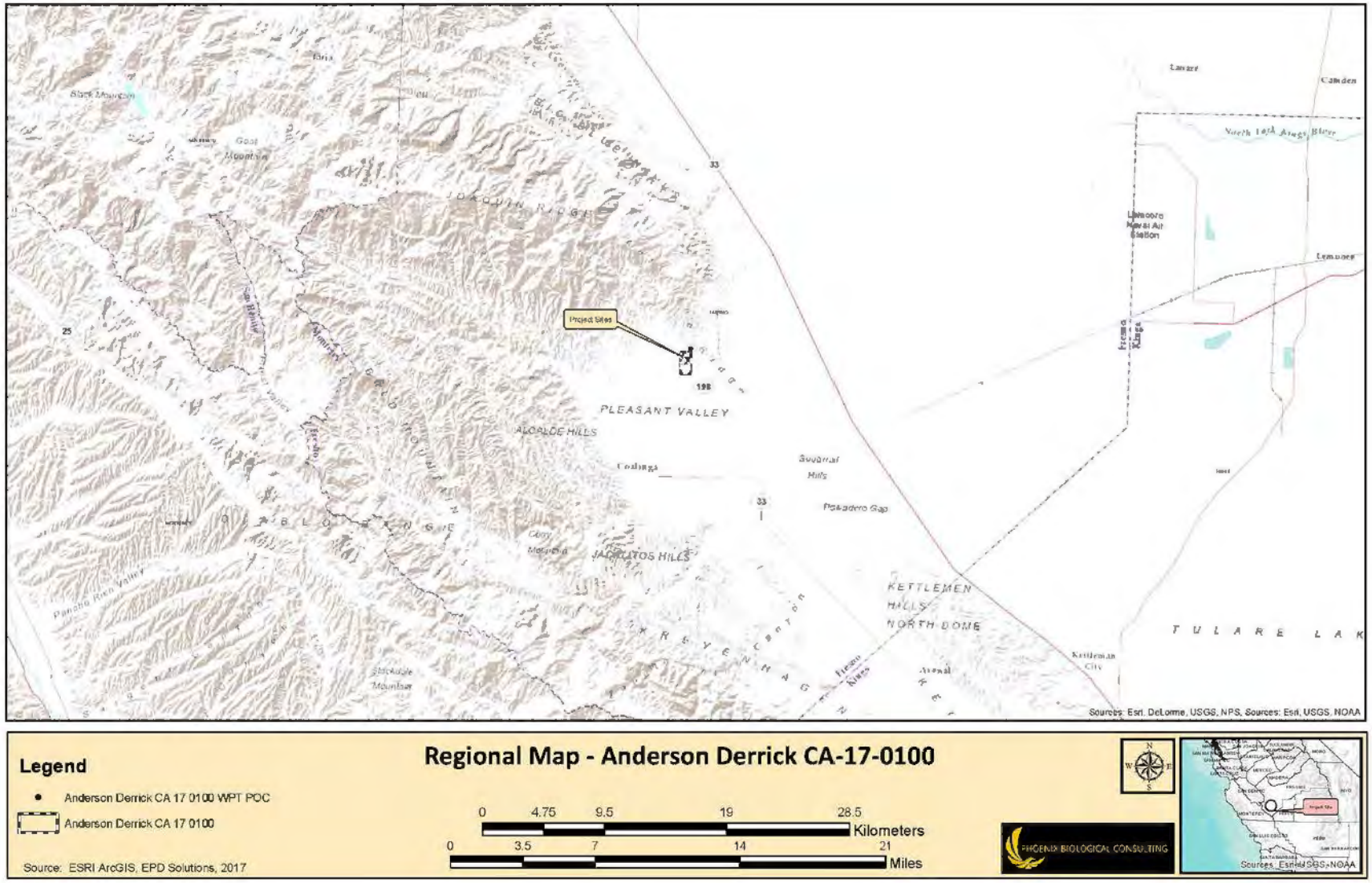

Exhibit 3: Aerial View

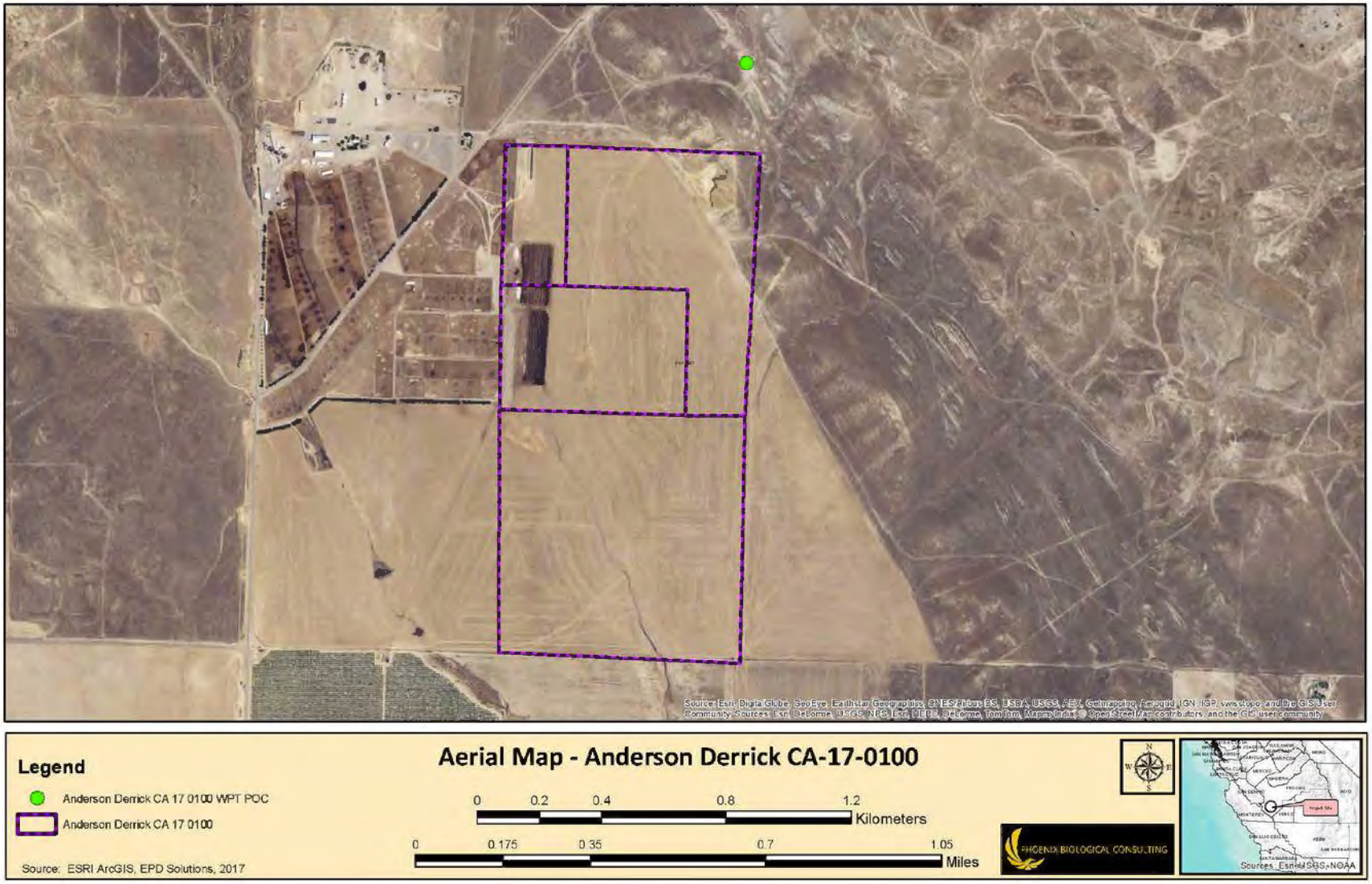

Exhibit 4: Soils Classification

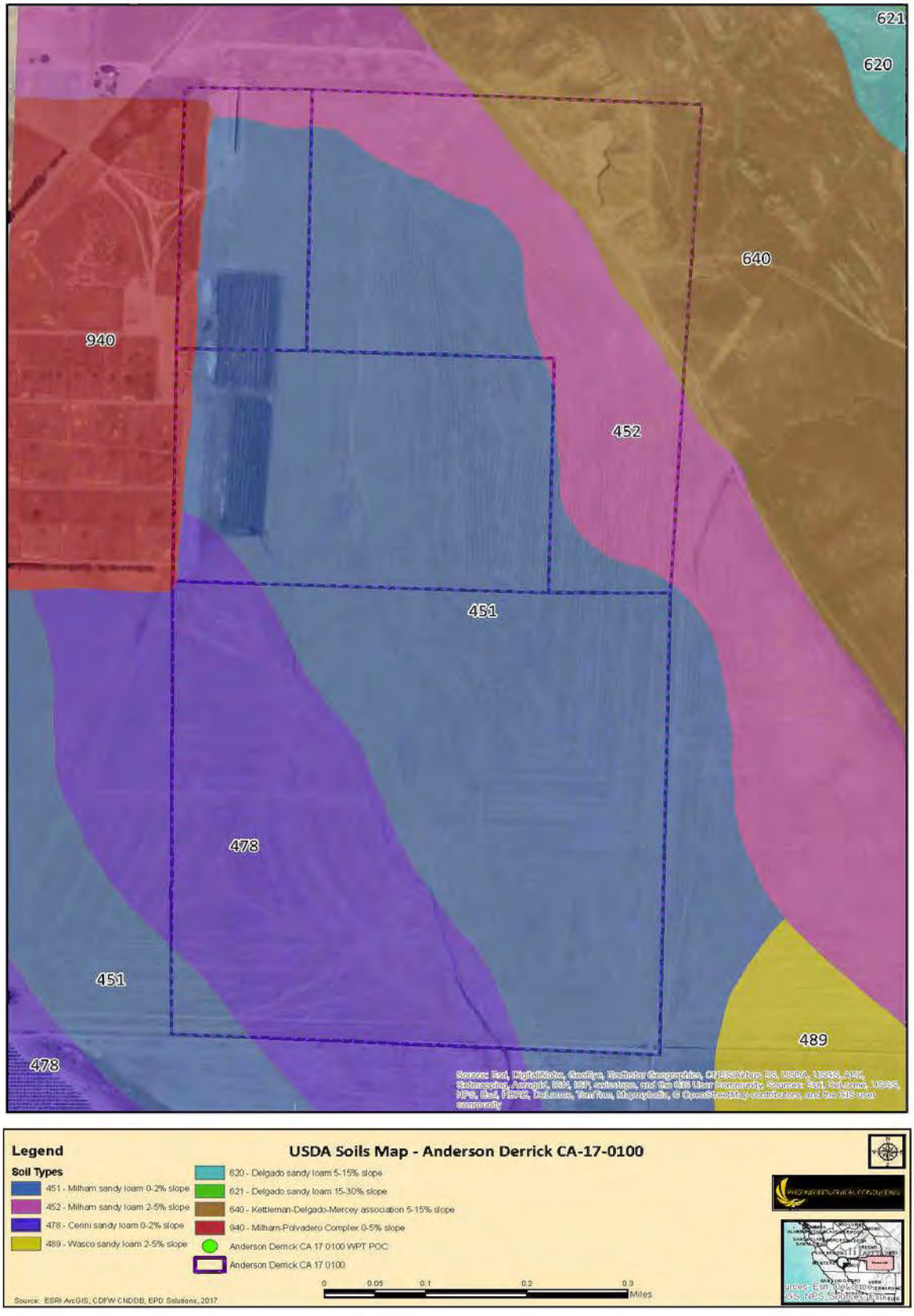

Exhibit 5: Drainage

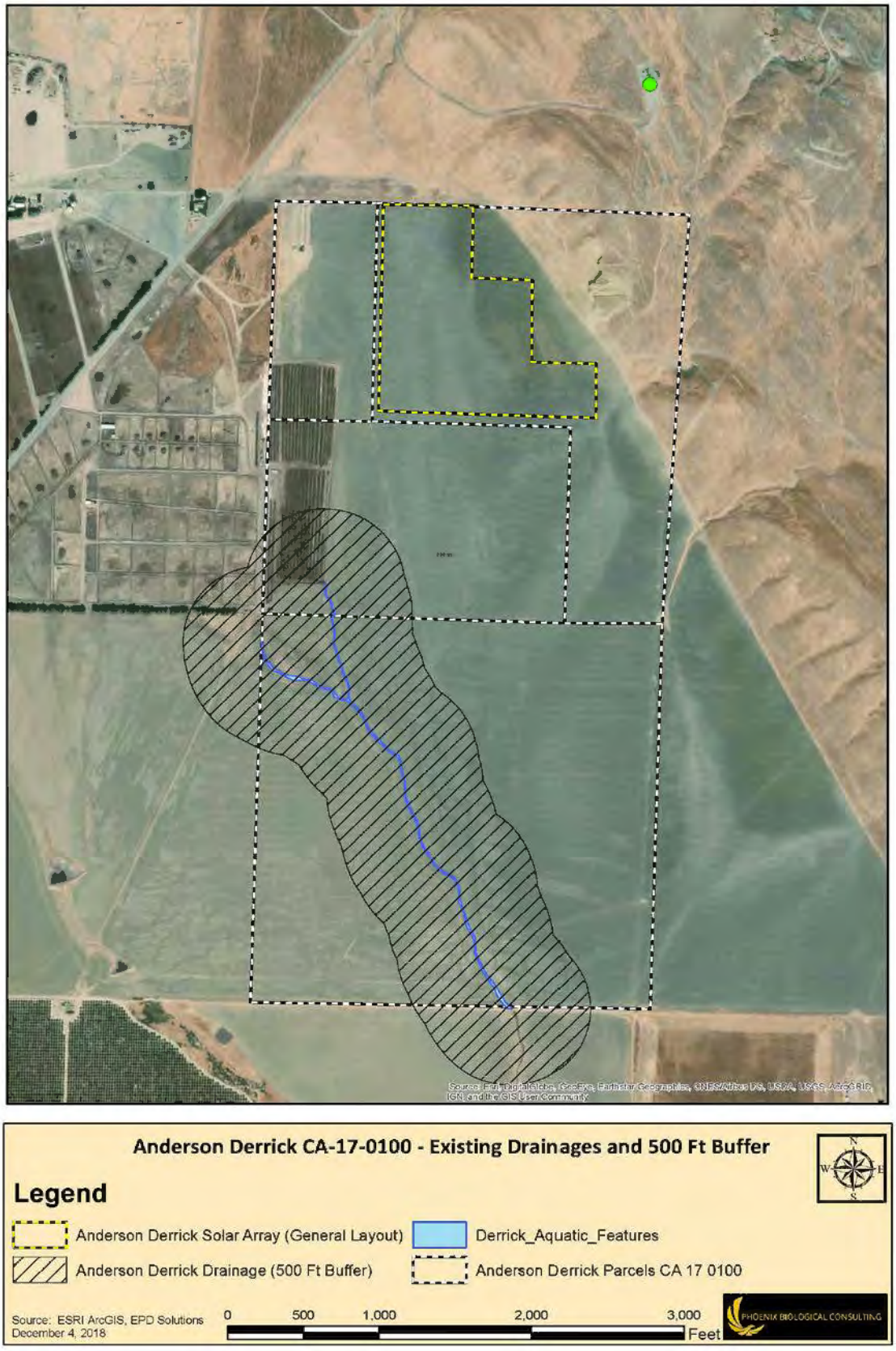

Exhibit 6: CNDDB Records

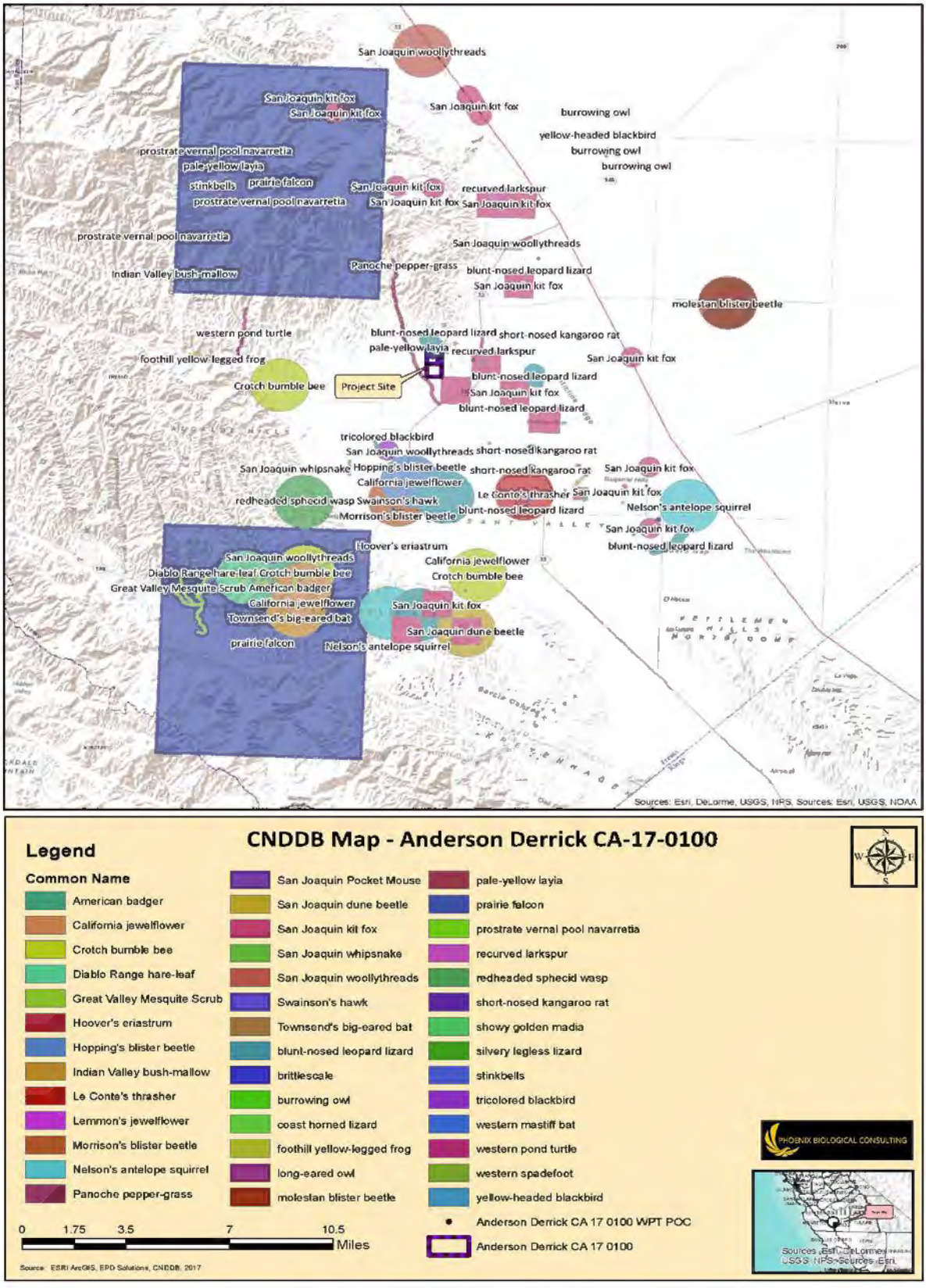

Exhibit 7: Proposed PV Array

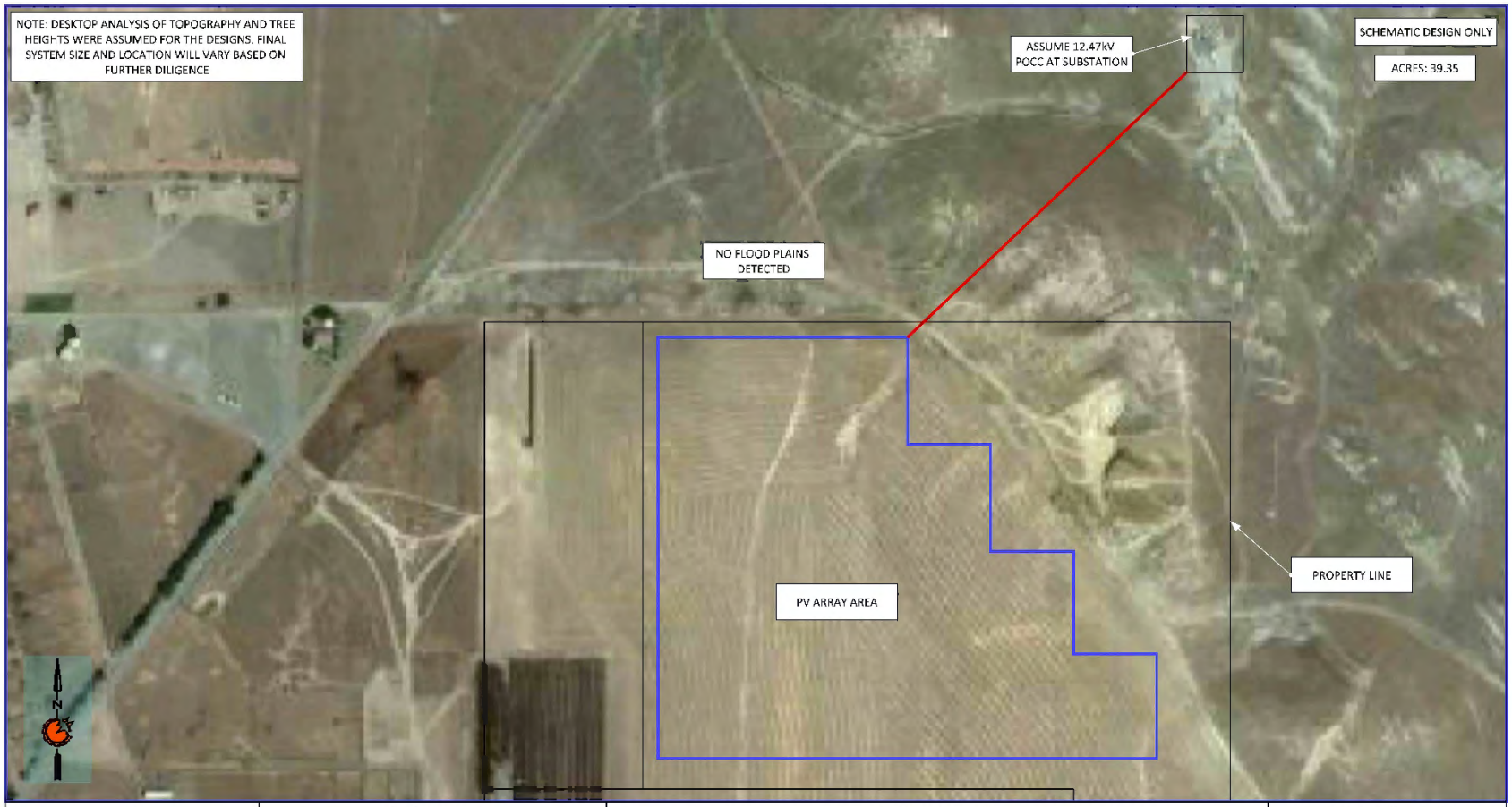

Exhibit 8: Site Photos

Photo 1: view looking southwest from northeast corner.

Photo 2: view looking southeast from northwest corner.

Exhibit 9: Site Photos

Photo 3: view looking northwest from southeast corner.

Photo 4: view looking northeast from southwest corner.

Table 3: Vertebrates Detected During Site Visit

Birds
Common raven (*Corvus corax*)
Mourning Doves (*Zenaida macroura*)

Table 4: Vascular Plants Detected During Site Visit

FAMILY Species	Common Name	Habit
CHENOPODIACEAE		
Salsola tragus	Russian thistle	non-native annual herb
EUPHORBIACEAE		
Eremocarpus setigerus	turkey mullein	native annual herb
POACEAE		
Bromus madritensis	red brome	non-native perennial grass
Avena sp.	wild oats	non-native perennial grass
Triticum aestivum	common wheat	native annual grass
LAMIACEAE		
Trichostema lanceolatum	vinegarweed	native annual herb