

Chapter 7

Response to Comments

SCH# 2019071059

Volume 4

BigBeau Solar Project
By BigBeau Solar, LLC/EDF Renewables Development, Inc.

ZCC 13, Map 215
ZCC 44, Map 232
CUP 13, Map 215
CUP 14, Map 215
CUP 15, Map 215
CUP 41, Map 232
CUP 42, Map 232
CUP 43, Map 232
GPA 4, Map 215
SPA 32, Map 232



Kern County
Planning and Natural Resources Department
Bakersfield, California

May 2020

Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: <http://kernplanning.com/>



**PLANNING AND NATURAL
RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations

May 1, 2020

File: ZCC 13, Map 215; ZCC 44, Map 232; CUP 13, Map 215; CUP 14, Map 215; CUP 15, Map 215; CUP 41, Map 232; CUP 42, Map 232; CUP 43, Map 232; GPA 4, Map 215; SPA 32, Map 232

S.D. #2 – Scrivner

Addressee List (see Distribution List)

RE: Response to Comments for Draft Supplemental Environmental Impact Report – BigBeau Solar Project by BigBeau Solar, LLC/EDF Renewables, Inc. (PP19161)

Dear Interested Party:

Enclosed is a document entitled *Volume 4 - Chapter 7 - Response to Comments*, for the above-referenced project. Section 15088 of the California Environmental Quality Act Guidelines requires the Lead Agency to evaluate comments on environmental issues received from persons who reviewed the Draft SEIR and prepare a written response addressing each comment. This document is Chapter 7 of the Final EIR.

A public hearing has been scheduled with the Kern County Planning Commission to consider this request on May 14, 2020 at 7:00 p.m. or soon thereafter, at the Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California.

Thank you for your participation in the environmental process for this project. If you have any questions regarding this letter, please contact Terrance Smalls at (661) 862-8607.

Sincerely,

A handwritten signature in black ink, appearing to read "Terrance Smalls".

Terrance Smalls, Supervising Planner
Advance Planning Division

COMMENTING AGENCIES AND INTERESTED PERSONS: California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CalGEM); California Department of Fish and Wildlife (CDFW); California State Lands Commission; Lahontan Regional Water Quality Control Board; Eastern Kern Air Pollution Control District; County of Kern Public Works Department, Administration and Engineering Division; County of Kern Public Works Department, Floodplain Management Section; Kern County Superintendent of Schools; Kern County Fire Department; Charles E. Ammann; Kern Audubon Society; National Audubon Society and Defenders of Wildlife; Law Offices of Adams Broadwell Joseph & Cardozo; Victor Conforti

California State Lands Commission
100 Howe Street, Suite 100-South
Sacramento, CA 95825-8202

Kern County Superintendent of Schools

California Regional Water Quality
Control Board/Lahontan Region
15095 Amargosa Road - Bld 2, Suite 210
Victorville, CA 92392

State Dept of Fish & Wildlife
1234 East Shaw Avenue
Fresno, CA 93710

East Kern Air Pollution
Control District

Kern County Public Works Department/
Building & Development/Development
Review

Kern County Public Works Department/
Building & Development/Floodplain

State Dept of Conservation
California Geologic Energy Management
Division
801 "K" Street, MS 18-01
Sacramento, CA 95814

Kern County Fire Department

Charles Ammann
5850 North Greenview Road
Calabasas, California 91302

Kern Audubon Society
P.O. Box 3581
Bakersfield, CA 93385

Audubon
4700 N. Griffin Ave.
Los Angeles, 90031

Adams Broadwell Joseph & Cardozo
601 Gateway Blvd, Suite 1000
South San Francisco, CA 94080-7037

Victor Conforti
11511 Davenport
Rossmoor, CA 90720

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Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370
(661) 862-8600

Technical Assistance by:

Environmental Science Associates
626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017
(213) 599-4300

May 2020

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7.1 Introduction

Purpose

As defined by Section 15050 of the *California Environmental Quality Act (CEQA) Guidelines*, the Kern County Planning and Natural Resources Department is serving as “Lead Agency” for the preparation of the Environmental Impact Report (EIR) for the BigBeau Solar Project (project or proposed project). The Final EIR presents the environmental information and analyses that have been prepared for the proposed project, including comments received addressing the adequacy of the Draft EIR, and responses to those comments. In addition to the responses to comments, clarifications, corrections, or minor revisions have been made to the Draft EIR. The Final EIR which includes the responses to comments, the Draft EIR, and the Mitigation, Monitoring, and Reporting Program, will be used by the Planning Commission and the Board of Supervisors in the decision-making process for the proposed project.

Environmental Review Process

A Notice of Preparation (NOP)/Initial Study (IS) (SCH No. 2019071059) was circulated for a 30-day public review period beginning on July 30, 2019 and ending August 30, 2020. Fifteen individual written comment letters were received and used in the preparation of the Draft EIR. The Draft EIR for the proposed project was circulated for a 45-day public review period beginning on January 28, 2020 and ending March 13, 2020. A total of sixteen comment letters were received on the Draft EIR.

Section 15088 of the *CEQA Guidelines* requires that the lead agency evaluate comments on environmental issues received from persons and agencies that reviewed the Draft EIR and prepare a written response addressing the comments received. The response to comments is contained in this document — Volume 4, Chapter 7 of the Draft EIR. Volumes 1, 2, 3 and 4 together constitute the Final EIR.

7.2 Revisions to the Draft EIR

The revisions that follow were made to the text of the Draft EIR. Amended text is identified by page number. Additions to the Draft EIR text are shown with underline and text removed from the Draft EIR is shown with ~~striketrough~~. The revisions, as outlined below, fall within the scope of the original project analysis included in the Draft EIR and do not result in an increase to any identified impacts or produce any new impacts. No new significant environmental impact would result from the changes or from a new mitigation measure proposed to be implemented. Therefore, no significant revisions have been made which would require recirculation of the Draft EIR pursuant to *CEQA Guidelines* Section 15088.5 (Recirculation of an EIR Prior to Certification).

Cover Letter, Page 1:

Kern County has prepared a Draft Environmental Impact Report (Draft EIR) for the above-noted land use applications to allow for the construction and operation of a solar photovoltaic power generating facility

and associated facilities that would generate a combined total of approximately 128 megawatts (MW) of renewable electrical energy and up to 60 MW of energy storage capacity on approximately 2,125 ~~2,735~~ acres of privately-owned land and 160 acres of land owned by The California State Lands Commission in unincorporated Kern County.

Chapter 1, Executive Summary, Page 1-1:

The BigBeau Solar Project (project), proposed by BigBeau Solar, LLC by EDF Renewables (project proponent/operator), would develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 128 megawatts (MW) (alternating current or “AC”) of renewable electrical energy and/or energy storage capacity and up to 60 MW of a Battery Energy Storage System (BESS). The project site encompasses a study area that includes both privately owned and publicly owned land. While the majority of the site (approximately 2,125 acres) have either been purchased or leased by the project proponent, one parcel (approximately 160 acres) is owned by the California State Lands Commission (Commission). A new 34.5 kV step-up conversion station and/or kV generation-tie (gen-tie) line would be constructed would be installed in conjunction with roads and panel arrays within the project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the substations, where transformers would increase the energy from 34.5 kV to 220 kV. The energy would then connect to the Valentine Solar, Catalina Solar Soleil, ~~or~~ Rose Meadow Substation(s), or the Antelope Valley Transmission Line, and ultimately the Southern California Edison’s (SCE) Whirlwind Substation.

Chapter 1, Executive Summary, Page 1-3:

This Draft Environmental Impact Report (EIR) has been prepared by Kern County which is ~~one of the Lead Agencies~~ under CEQA, ~~the other is the California State Lands Commission~~. The Draft EIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, State, and federal permitting agencies that are required to consider the project. The EIR will be used by Kern County to determine whether to approve the requested CUPs (CUP 13, Map 215; CUP 41, Map 232; CUP 14, Map 215; CUP 42, Map 232; CUP 15, Map 215; CUP 43, Map 215) required for the project.

Chapter 1, Executive Summary, Page 1-27:

Alternative 2: General Plan/Specific Plan and Zoning Build- Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	<ul style="list-style-type: none"> • Avoids need for CUPs and GPA • Similar impacts to biological resources, <u>hazards and hazardous materials</u>, and tribal cultural resources • Less impact to aesthetics, agricultural and forestry resources, and land use and planning • Greater overall impacts in all remaining environmental issue areas • Does not meet any of the project objectives
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Alternative 3: Reduced Acreage Alternative	Construction and operation of one solar facility on approximately 4,151 <u>987</u> acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 55 MW, with up to 26 MW of BESS due to the proportional reduction in project size. The project site would require approval of six CUPs, <u>GPA and Circulation Plan General Plan Amendment.</u>	<ul style="list-style-type: none"> • Similar impacts to energy, hazards and hazardous materials, land use and planning, public services, transportation, tribal cultural resources, and utilities and service systems • Greater overall impacts to GHG • Less impact in all remaining environmental issue areas • Does not meet all the project objectives
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 128 MW of PV solar distributed on rooftops throughout the Antelope Valley. Electricity generated would be for on-site use only.	<ul style="list-style-type: none"> • Avoids need for CUP and GPA at the project site but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, air quality, and biological resources, <u>and noise</u> • Greater impacts to GHG emissions <u>and</u> land use and planning, and noise • Similar impacts to cultural resources, energy, and tribal cultural resources • Less impact in all remaining issue areas • Does not meet the project objectives nor does this alternative account for BESS component of the project.

Chapter 1, Executive Summary, Page 1-30:

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the (up to) 128 MW PV solar facility or up to 60MW of battery energy storage and associated facilities on the 2,285-acre site would not occur. No gen-tie lines would be constructed.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-35 through 1-37:

MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall provide evidence for the following:

The project proponent/operator shall identify and submit a proposed color scheme and treatment plan that will ensure all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. blend in with the colors found in the natural landscape. Any color treatments shall result in matte or nonglossy finishes. The submitted color scheme and treatment plan shall be reviewed and approved by the Planning Director and the project shall continually comply with the approved plan.

MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of cleaning. All natural vegetation adjacent to the proposed project boundary shall remain in

place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

1. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be revegetated with a native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.
2. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides.
3. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).
4. Vegetation ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements.
5. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate temporarily disturbed areas prove in the second year to not be successful re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation - Measures, and Levels of Significance, Pages 1-39 through 1-44:

MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

- a) All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed

soils areas. Watering shall take place a minimum of three times daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.

- b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.
- c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.
- d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.
- e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
- f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.
- g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.
- h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.
- i) All active and inactive disturbed surface areas shall be compacted, where feasible.
- j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent

opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.

- m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.
- n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.
- p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.
- q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.
- r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.
- s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.
- t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.
- u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.
- v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or

contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.

- w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation - Measures, and Levels of Significance, Page 1-44:

Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	<p><u>Implement Mitigation Measures MM 4.3-1, MM 4.3-2, and;</u></p> <p>MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:</p> <ol style="list-style-type: none"> 1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations. 2. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground. 3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. 4. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying. 5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system. 6. Workers shall receive training to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department within 5 days of the training session. 	Less than significant
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7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.
 8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personnel, upon request. Evidence of training shall be provided to the Kern County Planning.

MM 4.3-4: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-64 and 1-65:

MM 4.5-3: During implementation of the project, the services of Native American Tribal Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows:

- a) ~~1.~~ All initial excavation and initial ground-disturbing activities within the project site, shall be monitored by archaeological and Native American monitors.
- b) ~~2.~~ The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Project documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, archaeological monitor, and Native American monitor.
- c) ~~3.~~ The archaeological monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of

discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act Guidelines (CEQA) Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.

Consistent with CEQA Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-70 and 1-71:

MM 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Page 1-72:

~~MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.~~

- ~~1. The hazardous materials business plan shall:
 - ~~a. Delineate hazardous material and hazardous waste storage areas.~~
 - ~~b. Describe proper handling, storage, transport, and disposal techniques.~~
 - ~~c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.~~
 - ~~d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.~~
 - ~~e. Establish public and agency notification procedures for spills and other emergencies, including fires.~~
 - ~~f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.~~~~
- ~~2. The project proponent shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.~~
- ~~3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.~~

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at <http://cers.calepa.ca.gov/> for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The Hazardous Materials Business Plan shall:

- a. Delineate hazardous material and hazardous waste storage areas.
- b. Describe proper handling, storage, transport, and disposal techniques.
- c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.
- d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.
- e. Establish public and agency notification procedures for spills and other emergencies, including fires.
- f. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release.

g. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.

The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted hazardous materials business plan from California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-76 through 1-78:

MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide a Decommissioning Plan for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a) An irrevocable letter of credit;
- b) A surety bond;
- c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or
- d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project

operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall ~~consult with~~ contact the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Page 1-85:

Impact 4.15-4: The proposed project would result in inadequate emergency access.	<u>Less than Significant</u> Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required	Less than significant
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Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-90 and 1-91:

MM 4.1-2: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall provide evidence for the following:

The project proponent/operator shall identify and submit a proposed color scheme and treatment plan that will ensure all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. blend in with the colors found in the natural landscape. Any color treatments shall result in matte or nonglossy finishes. The submitted color scheme and treatment plan shall be reviewed and approved by the Planning Director and the project shall continually comply with the approved plan.

MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of cleaning. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator

shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

1. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be revegetated with a native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.
2. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides.
3. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).
4. Vegetation ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements.
5. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate temporarily disturbed areas prove in the second year to not be successful re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation - Measures, and Levels of Significance, Pages 1-95 through 1-99:

MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

- a) All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is

being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.

- b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.
- c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.
- d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.
- e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
- f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.
- g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.
- h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.
- i) All active and inactive disturbed surface areas shall be compacted, where feasible.
- j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed

around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.

- m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.
- n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.
- p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.
- q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.
- r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.
- s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.
- t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.
- u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.
- v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or

contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.

- w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation - Measures, and Levels of Significance, Page 1-99:

Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.	Potentially significant	<p><u>Implement Mitigation Measures MM 4.3-1, MM 4.3-2, and;</u></p> <p>MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:</p> <ol style="list-style-type: none"> 1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations. 2. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground. 3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. 4. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying. 5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system. 6. Workers shall receive training to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department within 5 days of the training session. 	Less than significant
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7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.
 8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personnel, upon request. Evidence of training shall be provided to the Kern County Planning.

MM 4.3-4: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-119 and 1-120:

MM 4.5-3: During implementation of the project, the services of Native American Tribal Monitors, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor, on a full-time basis, ground-disturbing activities associated with project-related construction activities, as follows:

- a) ~~1.~~ All initial excavation and initial ground-disturbing activities within the project site, shall be monitored by archaeological and Native American monitors.
- b) ~~2.~~ The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Project documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, archaeological monitor, and Native American monitor.
- c) ~~3.~~ The archaeological monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield.

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of

discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act Guidelines (CEQA) Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.

Consistent with CEQA Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-125 and 1-126:

MM 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Page 1-127:

~~MM 4.9-1: Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.~~

- ~~1. The hazardous materials business plan shall:~~
 - ~~a. Delineate hazardous material and hazardous waste storage areas.~~
 - ~~b. Describe proper handling, storage, transport, and disposal techniques.~~
 - ~~c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.~~
 - ~~d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.~~
 - ~~e. Establish public and agency notification procedures for spills and other emergencies, including fires.~~
 - ~~f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.~~
- ~~2. The project proponent shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.~~
- ~~3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.~~

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at <http://cers.calepa.ca.gov/> for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The Hazardous Materials Business Plan shall:

- a. Delineate hazardous material and hazardous waste storage areas.
- b. Describe proper handling, storage, transport, and disposal techniques.
- c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.
- d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.
- e. Establish public and agency notification procedures for spills and other emergencies, including fires.
- f. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release.

- g. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.

The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted hazardous materials business plan from California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Pages 1-131 through 1-133:

MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide a Decommissioning Plan for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a) An irrevocable letter of credit;
- b) A surety bond;
- c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or
- d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project

operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall ~~consult with~~ contact the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

Chapter 1, Executive Summary, Table 1-8, Summary of Impacts, Mitigation Measures, and Levels of Significance, Page 1-141:

Impact 4.15-4: The proposed project would result in inadequate emergency access.	<u>Less than Significant</u> Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required	Less than significant
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Chapter 2, Introduction, Page 2-4:

CEQA requires lead agencies, in this case Kern County ~~and the Commission~~, to solicit and consider input from other interested agencies, citizen groups, and individual members of the public. CEQA also requires the project to be monitored after it has been permitted to ensure that mitigation measures are carried out.

CEQA requires the lead agency, in this case Kern County ~~and the Commission~~, to provide the public with a full disclosure of the expected environmental consequences of the project and with an opportunity to provide comments. In accordance with CEQA, the following steps constitute the process for public participation in the decision-making process...

Chapter 3, Project Description, Page 3-15:

The proposed project would include the development a solar facility and associated infrastructure with the capacity to generate up to 128 MW of electricity through solar power derived from either fixed-tilt or tracker technology and up to 60 MW of a BESS, on ~~2,285~~ 2,125 acres of privately-owned land, and one 160-acre

parcel owned by the State of California, in the southern portion of Kern County, west of the community of Rosamond. The proposed project consists of the following requests:

Chapter 3, Project Description, Page 3-26:

The combined project facilities would include the following components:

- Installation of up to 128-MW of solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis tracking system. The mounting systems for the modules would be mounted on steel support posts that would be pile driven into the ground;
- Installation of Battery Energy Storage Systems (BESS) and accessories that would provide storage capacity for up to 60 MW of energy for the electrical grid;
- A temporary concrete batch plant only for the duration of construction activities;

Section 4.1, Aesthetics, Page 4.1-27:

MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of clearing. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

1. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be revegetated with a native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.
2. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, and a clear prohibition of the use of toxic rodenticides.
3. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).
4. Vegetation/ground cover shall be continuously maintained on the site by the project operator to maintain fire safety requirements.

5. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate temporarily disturbed areas ~~soil~~ prove in the second year to not be successful, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Section 4.1, Aesthetics, Page 4.1-29:

MM 4.1-3: Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed. Where disturbance of natural vegetation is necessary that disturbance shall occur in the manner that results in the greatest retention of root balls and native topsoil with mowing being the preferred and primary method of clearing. All natural vegetation adjacent to the proposed project boundary shall remain in place. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below.

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decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate temporarily disturbed areas ~~soil~~ prove in the second year to not be successful, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Section 4.3, Air Quality, Pages 4.3-36 through 4.3-39:

MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

- a) All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.
- b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.
- c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.
- d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.
- e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
- f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of

three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.

- g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.
- h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.
- i) All active and inactive disturbed surface areas shall be compacted, where feasible.
- j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.
- m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.
- n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.
- p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.
- q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.
- r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.

- s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.
- t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.
- u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.
- v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.
- w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation.

Section 4.3, Air Quality, Pages 4.3-39 through 4.3-42:

MM 4.3-2: Implement Fugitive Dust Control Plan During Construction. To control fugitive PM emissions during construction, prior to the issuance of grading or building permits and any earthwork activities, the project proponent shall prepare a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department. The plan shall include all EKAPCD-recommended measures, including but not limited to, the following:

- a) All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soils areas. Watering shall take place a minimum of three times daily where soil is

being actively disturbed, unless dust is otherwise controlled by rainfall or use of a dust suppressant.

- b) Vehicle speed for all on site (i.e., within the project boundary) construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. Signs identifying construction vehicle speed limits shall be posted along onsite roadways, at the site entrance/exit, and along unpaved site access roads.
- c) Vehicle speeds on all offsite unpaved roads (i.e., outside the project boundary) construction vehicles shall not exceed 25 mph. Signs identifying vehicle speed limits shall be posted along unpaved site access roads and at the site entrance/exit.
- d) All onsite unpaved roads and offsite unpaved public project-site access road(s) shall be effectively stabilized of dust emissions using water or EKAPCD-approved dust suppressants/palliatives, sufficient to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. If water is used, watering shall occur a minimum of three times daily, sufficient to keep soil moist along actively used roadways. During the dry season, unpaved road surfaces and vehicle parking/staging areas shall be watered immediately prior to periods of high use (e.g., worker commute periods, truck convoys). Reclaimed (non-potable) water shall be used to the extent available and feasible.
- e) The amount of the disturbed area (e.g., grading, excavation) shall be reduced and/or phased where possible.
- f) All disturbed areas shall be sufficiently watered or stabilized by EKAPCD-approved methods to prevent excessive dust. On dry days, watering shall occur a minimum of three times daily on actively disturbed areas. Watering frequency shall be increased whenever wind speeds exceed 15 mph or, as necessary, to prevent wind-blown dust exceeding 20 percent opacity at nearby residences or public roads. Reclaimed (non-potable) water shall be used to the extent available and feasible.
- g) All clearing, grading, earth moving, and excavation activities shall cease during periods when dust plumes of 20 percent or greater opacity affect public roads or nearby occupied structures.
- h) All disturbed areas anticipated to be inactive for periods of 30 days or more shall be treated to minimize wind-blown dust emissions. Treatment may include, but is not limited to, the application of an EKAPCD-approved chemical dust suppressant, gravel, hydro-mulch, revegetation/seeding, or wood chips.
- i) All active and inactive disturbed surface areas shall be compacted, where feasible.
- j) Equipment and vehicle access to disturbed areas shall be limited to only those vehicles necessary to complete the construction activities.
- k) Where applicable, permanent dust control measures shall be implemented as soon as possible following completion of any soil-disturbing activities.
- l) Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate methods sufficient to reduce visible dust emissions to a limit of 20 percent opacity. If necessary and where feasible, three-sided barriers shall be constructed

around storage piles and/or piles shall be covered by use of tarps, hydro-mulch, woodchips, or other materials sufficient to minimize wind-blown dust.

- m) Water shall be applied prior to and during the demolition of onsite structures sufficient to minimize wind-blown dust.
- n) Where acceptable to the fire department and feasible, weed control shall be accomplished by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- o) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with California Vehicle Code Section 23114.
- p) Gravel pads, grizzly strips, or other material track-out control methods approved for use by EKAPCD shall be installed where vehicles enter or exit unpaved roads onto paved roadways.
- q) Haul trucks and off-road equipment leaving the site shall be washed with water or high-pressure air, and/or rocks/grates at the project entry points shall be used, when necessary, to remove soil deposits and minimize the track-out/deposition of soil onto nearby paved roadways.
- r) During construction paved road surfaces adjacent to the site access road(s), including adjoining paved aprons, shall be cleaned, as necessary, to remove visible accumulations of track-out material. If dry sweepers are used, the area shall be sprayed with water prior to sweeping to minimize the entrainment of dust. Reclaimed water shall be used to the extent available.
- s) Portable equipment, 50 horsepower or greater, used during construction activities (e.g., portable generators, temporary concrete batch plant) shall require California statewide portable equipment registration (issued by CARB) or an EKAPCD permit.
- t) The Fugitive Dust Control Plan shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust off site and to ensure compliance with identified fugitive dust control measures. Contact information for a hotline shall be posted on site should any complaints or concerns be received during working hours and holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the EKAPCD Compliance Division prior to the start of any grading or earthwork.
- u) Signs shall be posted at the project site entrance and written notifications shall be provided a minimum of 30 days prior to initiation of project construction to residential land uses located within 1,000 feet of the project site. The signs and written notifications shall include the following information: (a) Project Name; (b) Anticipated Construction Schedule(s); and (c) Telephone Number(s) for designated construction activity monitor(s) or, if established, a complaint hotline.
- v) The designated construction monitor shall document and immediately notify EKAPCD of any air quality complaints received. If necessary, the project operator and/or

contractor will coordinate with EKAPCD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.

- w) Prior to construction of any concrete batch plant, the project proponent shall provide EKAPCD with documentation ensuring that any concrete batch plants will be sited at least 1,000 feet from sensitive receptors, including places such as daycare centers, hospitals, senior care facilities, residences, parks, and other areas where people may congregate. The concrete batch plant shall implement typical control measures to reduce fugitive dust, such as water sprays, enclosures, hoods, curtains, shrouds, movable and telescoping chutes, central dust collection systems, and other suitable technology, to reduce emissions to be equivalent to the EPA AP-42 controlled emission factors for concrete batch plants. The contractor shall provide EKAPCD with documentation that each batch plant meets this standard during operation.

Section 4.3, Air Quality, Page 4.3-43:

Table 4.3-4, *Estimated Health Risk During Construction*, illustrates the cancer risk and non-cancer hazard index associated with both the project's unmitigated and mitigated (i.e., use of Tier 3 construction equipment) construction emissions. As shown therein, implementation of the project would not result in increased cancer risk or hazard index in excess of thresholds under either condition.

TABLE 4.3-4: ESTIMATED HEALTH RISK DURING CONSTRUCTION

Location	Cancer Risk (cases per million)	Chronic Hazard Index
<u>Unmitigated Construction Emissions</u>		
<u>Maximum Incremental Risk at Existing Receptors</u>	<u>2.88</u>	<u>0.004</u>
<u>Maximum Incremental Risk at Project Fence Line</u>	<u>7.33</u>	<u>0.011</u>
<u>Threshold</u>	<u>10.0</u>	<u>1.0</u>
<u>Is Threshold Exceeded?</u>	<u>No</u>	<u>No</u>
<u>Mitigated Construction Emissions</u>		
Maximum Incremental Risk at Existing Receptors	2.04	0.003
Maximum Incremental Risk at Project Fence Line	5.33	0.008
Threshold	10.0	1.0
Is Threshold Exceeded?	No	No

Source: ICF 2019.

Section 4.3, Air Quality, Pages 4.3-47 and 4.3-48:

Mitigation Measures

Valley Fever

Kern County

Implement Mitigation Measures MM 4.3-1, MM 4.3-2, and:

MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:

1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.
2. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground.
3. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.
4. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying.
5. All heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEP-filtered air system.
6. Workers shall receive training to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department within 5 days of the training session.
7. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.
8. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personnel, upon request. Evidence of training shall be provided to the Kern County Planning.

MM 4.3-4: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.

State Lands Commission**Implement Mitigation Measures MM 4.3-1, MM 4.3-2, and:**

MM 4.3-3: Minimize Exposure to Potential Valley Fever–Containing Dust. To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction:

1. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations.
2. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground.
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MM 4.3-4: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-~~13~~ and through MM 4.3-4, impacts would be less than significant.

Section 4.3, Air Quality, Page 4.3-50:

As discussed previously, the project would implement Mitigation Measure MM 4.3-1, which would require implementation of EPA Tier 3 or higher engines, among other measures, and Mitigation Measure MM 4.3-

2, which would require implementation of a Fugitive Dust Control Plan during construction of the project. While the implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce emissions of NO_x and PM₁₀ during construction of the project, these emissions would not be reduced below the EKACPD significance threshold, as illustrated in Table 4.3-7, Mitigated Annual Construction Emissions, provided below. Furthermore, it should be noted that under Mitigation Measure MM 4.3-1 the use of lower tier equipment for the project is allowed if Tier 3 equipment is not available locally. Thus, although the project applicant fully expects to obtain and use Tier 3 equipment during project construction, there may be times during the construction period when lower tier equipment is used in combination with Tier 3 equipment at the project site. Under these conditions, the annual emissions of NO_x and PM₁₀ generated by project construction would be higher than those presented in Table 4.3-7 but lower than the unmitigated emissions presented in Table 4.3-6. Nonetheless Therefore, the project would result in significant and unavoidable impacts from construction-related emissions of NO_x and PM₁₀.

Section 4.4, Biological Resources, Page 4.4-11:

Mojave Mixed Woody Scrub is characterized by a diversity of species, generally open, shallow soils with low water-holding capacity, and dominated by plants such as California buckwheat (*Eriogonum fasciculatum*), Joshua tree, and other woody plant species. This ~~type of elevation~~ plant community typically occurs at elevations between 2,000 and 5,000 feet. Mojave Mixed Woody Scrub occurs along the eastern base of the Sierra Nevada Mountains and around the Tehachapi, San Gabriel, San Bernardino, and San Jacinto mountain ranges. Under Option 4, this vegetation community occurs within the main project area, the access road, and the gen-tie route.

Section 4.4, Biological Resources, Pages 4.4-69 and 4.4-70:

Direct and indirect impacts to alkali mariposa lily and Mojave spineflower, silver cholla, and beavertail cactus would be considered significant. Similar direct and indirect impacts to golden goodmania, Peirson's morning-glory, white pygmy-poppy, Clokey's cryptantha, sagebrush loeflingia, Latimer's woodland-gilia, and recurved larkspur would also be considered significant. Joshua trees and protected cactus occur throughout the project site and removal will be mitigated by obtaining a harvest permit. Impacts to remaining sensitive plants would be mitigated to a level of less than significant through the implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1 through MM 4.4-6 ~~4.4-3~~.

Section 4.4, Biological Resources, Page 4.4-70:

With implementation of Mitigation Measures MM 4.4-1 through MM 4.4-6 ~~4.4-3~~, impacts to special-status plant species would be less than significant.

Section 4.4, Biological Resources, Page 4.4-71:

Loggerhead Shrike. The project site contains suitable nesting and foraging habitat for loggerhead shrike and this species was documented nesting onsite. The loggerhead shrike is regionally sensitive and is listed as special-status by CDFW as a species of special concern. In addition, the species is afforded protection as migratory species under the MBTA and during the nesting season as native birds protected under CFGC Section 3500. Direct impacts to loggerhead shrike and its habitat could occur as a result of project construction from removal of vegetation that provides suitable habitat for this species during the nesting season of February through August. The act of removing habitat may additionally result in destruction of nests and vehicular strikes to birds that are attempting to flee the disturbance, which could result in injuries

or mortality. Potential indirect effects on loggerhead shrike include impacts resulting from decreased suitability of habitat in the proposed project vicinity resulting from various factors such as increased noise from construction activities and vehicles, vehicle emissions, dust, and other human activity. Construction activities could disrupt breeding and foraging activities, and could prevent birds from attending to nests or could cause birds to flush from their nests, endangering eggs and chicks. Implementation of Mitigation Measures ~~MM 4.4-6~~ and MM 4.4-7 would reduce any potential impact to this species to a less than significant level through pre-construction surveys and nest avoidance.

Section 4.4, Biological Resources, Page 4.4-72:

Yellow-headed Blackbird. The project site does not contain suitable nesting habitat or foraging habitat for yellow-headed blackbird. Suitable foraging habitat does occur in the project survey area within the buffer outside of the project footprint within ruderal land cover and agricultural fields and marginally suitable breeding habitat may occur should suitable emergent vegetation and standing deep-water be present. This species was observed flying over the project site and foraging within the project study area along the proposed access roads in ruderal and agricultural fields during biological surveys conducted in 2018. The yellow-headed blackbird is listed as special-status by CDFW as a species of special concern. In addition, the species is afforded protection as migratory species under the MBTA and during the nesting season as native birds protected under CFGC Section 3500. Because this species is not expected to nest within the project limits of disturbance, direct impacts on yellow-headed blackbird and its habitat are not expected. Implementation of Mitigation Measures ~~MM 4.4-6~~ and MM 4.4-7 would reduce any potential indirect impact to this species to a less than significant level through pre-construction surveys and nest avoidance.

Desert Kit Fox. Desert kit fox sign and burrows were observed within and in the vicinity of the project site. Active natal den complexes were also noted during the 2018 Mohave ground squirrel surveys and two juveniles and four adults were incidentally observed within the project site during 2019 surveys. Direct impacts to the species and its habitat could include the loss of available habitat and potential burrows due to construction activities and increased human presence. Direct impacts on individuals could result from adults or young being crushed in dens or from collisions with vehicles, resulting in injury or death. These types of potential impacts to this species would be considered significant. Potential impacts would be avoided through impact minimization measures including preconstruction surveys to determine presence and avoidance or relocation to reduce potential impacts to the species per Mitigation Measure ~~MM 4.4-6~~ MM 4.4-4. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.9-2, which include worker training, general avoidance and protection measures, preconstruction surveys prior to initial grading activities, and applying non-toxic herbicide if burrows, dens, or nests are found. With implementation of these mitigation measures, impacts to desert kit fox would be less than significant.

Desert Tortoise. The primary direct impacts on desert tortoise as a result of the project would occur from the permanent removal of suitable habitat due to initial grading of the site, permanent project features (i.e., O&M facility, battery storage, substation, inverters, tower pads), and associated access and spur roads. The direct loss of habitat resulting from construction activities would reduce the available amount of habitat in the region for this species. If present on the project site at the time of construction activities, it is possible that tortoises could be injured or crushed by onsite equipment or vehicles or could experience dehydration if startled by project personnel (resulting in evacuation of their internal water supply). If any tortoises are in burrows and the burrows go undetected, tortoises or their eggs could be crushed during construction activities. Common ravens, a notable predator of juvenile desert tortoises, are common throughout the

project site and could injure or kill juvenile desert tortoise if present. However, given the negative results of the desert tortoise protocol surveys, it's unlikely that desert tortoise are present on the project site. Temporary indirect impacts on desert tortoise could occur from construction-related noise and ground vibration, construction-related dust, sedimentation, and habitat degradation. To reduce potential significant impacts to desert tortoise, Mitigation Measure ~~MM 4.4-3~~ MM 4.4-1 through ~~MM 4.4-6~~ MM 4.4-5 should be implemented. With the implementation of these mitigation measures which include monitoring, protocol-level preconstruction survey for desert tortoise, and general wildlife avoidance measures, impacts would be less than significant.

Section 4.5, Cultural Resource, Page 4.5-3:

~~4.5-14.5-2~~ Environmental Setting

Section 4.5, Cultural Resource, Page 4.5-18:

~~4.5-24.5-3~~ Regulatory Setting

Section 4.5, Cultural Resource, Page 4.5-23:

~~4.5-34.5-4~~ Impacts and Mitigation Measures

Section 4.5, Cultural Resources, Pages 4.5-27 and 4.5-29:

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act Guidelines (CEQA) Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.

Consistent with CEQA Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Section 4.7, Geology and Soils, Pages 4.7-23 and 4.7-25:

MM 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Section 4.9, Hazards and Hazardous Materials, Pages 4.9-19 and 4.9-20:

Kern County

~~**MM 4.9-1:** Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.~~

- ~~1. The hazardous materials business plan shall:~~
 - ~~a. Delineate hazardous material and hazardous waste storage areas.~~
 - ~~b. Describe proper handling, storage, transport, and disposal techniques.~~
 - ~~c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.~~
 - ~~d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.~~
 - ~~e. Establish public and agency notification procedures for spills and other emergencies, including fires.~~
 - ~~f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.~~

- ~~2. The project proponent shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.~~
- ~~3. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Natural Resources Department.~~

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at <http://cers.calepa.ca.gov/> for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The Hazardous Materials Business Plan shall:

- a. Delineate hazardous material and hazardous waste storage areas.
- b. Describe proper handling, storage, transport, and disposal techniques.
- c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.
- d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.
- e. Establish public and agency notification procedures for spills and other emergencies, including fires.
- f. Describe federal, state, or local agency coordination, as applicable, and clean-up efforts that would occur in the event of an accidental release.
- g. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.

The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted hazardous materials business plan from California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

Implement Mitigation Measure MM 4.17-1.

State Lands Commission

~~**MM 4.9-1:** Prior to the issuance of grading or building permits, the project proponent shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval.~~

- ~~1. The hazardous materials business plan shall:~~
 - ~~a. Delineate hazardous material and hazardous waste storage areas.~~
 - ~~b. Describe proper handling, storage, transport, and disposal techniques.~~

- ~~e. Describe methods to be used to avoid spills and minimize impacts in the event of a spill.~~
- ~~d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction.~~
- ~~e. Establish public and agency notification procedures for spills and other emergencies, including fires.~~
- ~~f. Include procedures to avoid or minimize dust from existing residual pesticide and herbicide use that may be present on the site.~~
- ~~2. The project proponent shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.~~
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The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted hazardous materials business plan from California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

Implement Mitigation Measure MM 4.17-1.

Section 4.10, Hydrology and Water Quality, Page 4.10-6:

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the “waters of the State,” file a report of waste discharge. Absent a potential effect on the quality of “waters of the State,” no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB 2016). Under this plan, applicable beneficial uses of local surface waters would be classified as “Industrial Service Supply”, which include beneficial uses of waters used for industrial activities.

Section 4.11, Land Use and Planning, Pages 4.11-34 through 4.11-36:

MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide a Decommissioning Plan for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company’s best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a) An irrevocable letter of credit;
- b) A surety bond;
- c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or
- d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and

support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve (12) months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall ~~consult with~~ contact the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

MM 4.11-1: Prior to issuance of any building permit, the project operator shall provide a Decommissioning Plan for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

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- d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall ~~consult with~~ contact the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

Section 4.12, Noise, Page 4.12-8:

There are no residences or other noise sensitive receptors on the project site. ~~Residential dwellings are scattered around the perimeter of the project site and are located at various distances from the project boundary. While three residential properties are adjacent to the project boundary, the remaining dwelling structures are generally farther away and are located at distances ranging from approximately 0.1 mile to beyond 1 mile of the project site boundary, as~~ Sensitive land uses in the project site vicinity that would be exposed to project construction noise levels include the sparsely distributed residential dwellings that are in the vicinity of the project site. As discussed previously, potential construction-related noise impacts resulting from the proposed project were assessed at nine representative sensitive receptors nearest to and

surrounding the project site (three of which are immediately adjacent to the project site boundary), including two locations that are located in proximity to both the project site and the proposed gen-tie routes located off site, as illustrated in **Figure 4.12-2, *Nearby Sensitive Receptors***, below. While existing dwelling structures have been identified in the project site vicinity, not all of these structures are habitable or occupied with residents. ~~In addition, residential dwellings are located within a quarter mile of each of the gen-tie route options.~~ Other sensitive noise receptors, such as schools, hospitals, rest homes, long-term care and mental care facilities, churches, libraries, and parks are not present within a 10-mile radius.

Section 4.12, Noise, Page 4.12-9:

Figure 4.12-2 is not applicable to the project discussion of noise impacts and has been replaced with Figure 4.12-2, *Nearby Sensitive Receptors*.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
BIG BEAU SOLAR PROJECT

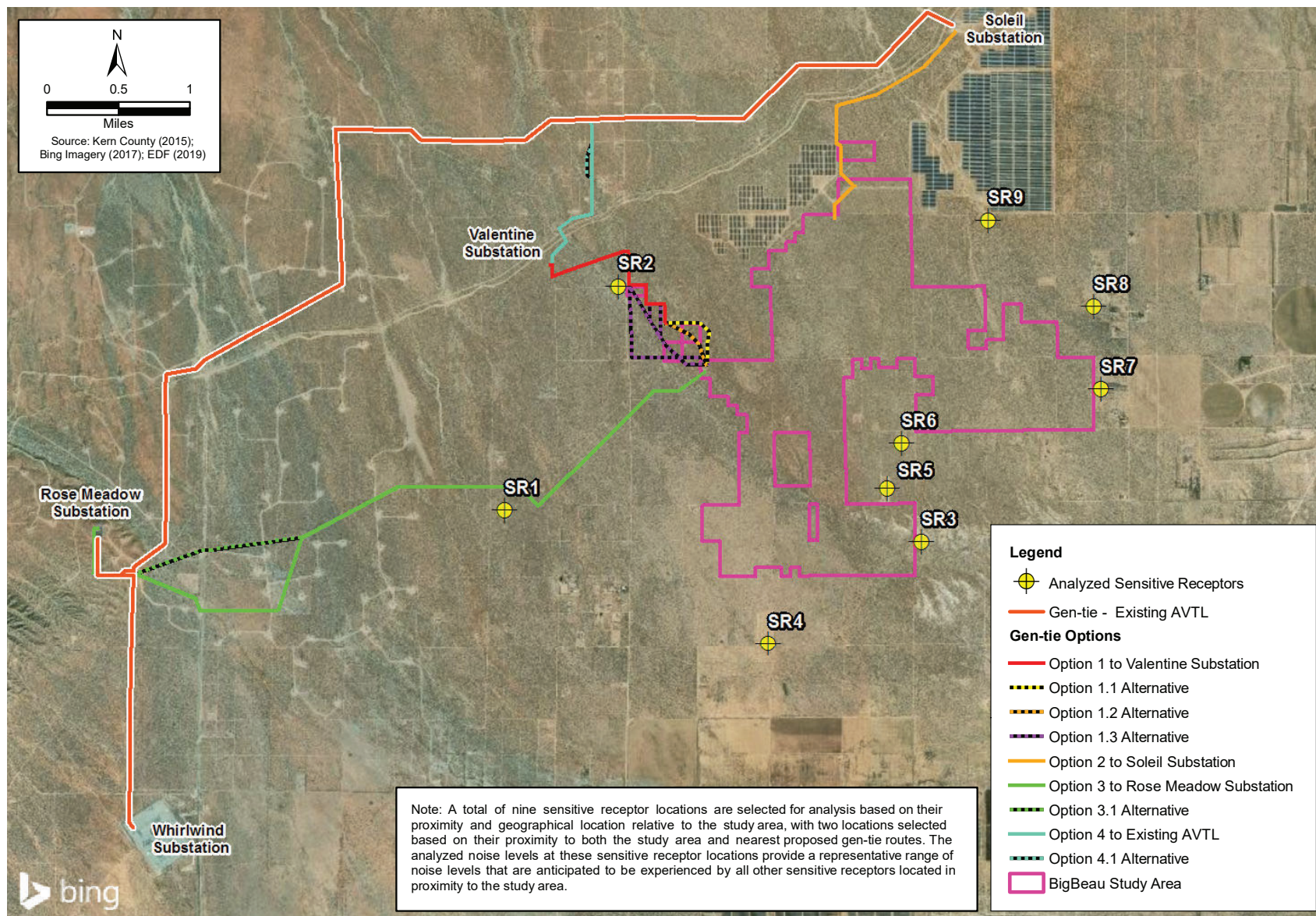


FIGURE 4.12-2: NEARBY SENSITIVE RECEPTORS

Section 4.12, Noise, Page 4.12-25:

As such, operational noise impacts from stationary equipment are assessed by determining if the proposed project would result in a substantial increase in ambient noise levels that would exceed the applicable County and WSSP noise standards at the outdoor activity area of the nearest noise-sensitive land use. The assessment of transportation impacts (i.e., roadway noise) is based on the average-daily noise metric (in dBA Ldn/CNEL).

Section 4.12, Noise, Page 4.12-31:

The daily maintenance vehicle trips at the project site would not create a substantial increase of vehicular noise along access roads to the project site. The proposed project would be operated from the onsite O&M facility and up to 12 full-time staff may be required for operation of the facility (site inspection, security, maintenance, and system monitoring purposes). The proposed project would also require bi-annual washing of the solar panels that would be typically carried out over a period of 10 days. The panel washing activities are expected to generate approximately 24 worker commute trips per day and 66 haul truck trips per day for the transport of water to the project site. As the daily vehicle and truck trips associated with panel washing activities would represent the highest generator of traffic during project operations, this scenario was used to assess the traffic noise levels generated by the project. Based on the estimated worker vehicle and truck trips for panel washing activities, the project's operational vehicle traffic would generate noise levels of approximately 52 dBA CNEL or less, at 50 feet from the center of the roadway. As such, the operational traffic noise levels at nearby land uses would not exceed the County's average-daily noise level of 65 dBA CNEL/Ldn. As assumed in the traffic analysis prepared for the project, the project would not result in a doubling of the traffic volumes on roadways accessing the project site, and therefore, the noise level increase would be substantially below a perceptible level of a 3 dBA increase. Additionally, operational traffic is not expected to exceed established thresholds identified within the Kern County General Plan and Willow Springs Specific Plan. As such Thus, operational traffic noise levels from operation of the project would be minimal, and impacts would be less than significant.

Chapter 6, Alternatives, Page 6-9:

Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative

Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.

- Avoids need for CUPs and GPA
- Similar impacts to biological resources, hazards and hazardous materials, and tribal cultural resources
- Less impact to aesthetics, agricultural and forestry resources, and land use and planning
- Greater overall impacts in all remaining environmental issue areas
- Does not meet any of the project objectives

Chapter 6, Alternatives, Page 6-10:

Alternative 4: No Ground-Mounted
Utility-Solar Development
Alternative – Distributed
Commercial and Industrial Rooftop
Solar Only

The construction of 128 MW of PV
solar distributed on rooftops
throughout the Antelope Valley.
Electricity generated would be for
on-site use only.

- Avoids need for CUP and GPA at the project site but may require other entitlements (such as a CUP or variance) on other sites
- Avoid significant and unavoidable impacts associated with aesthetics, air quality, ~~and~~ biological resources, and noise
- Greater impacts to GHG emissions and land use and planning, ~~and noise~~
- Similar impacts to cultural resources, energy, and tribal cultural resources
- Less impact in all remaining issue areas
- Does not meet all the project objectives

Chapter 6, Alternatives, Page 6-15:

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/ Specific Plan and Zoning Build- Out Alternative	Alternative 3: Reduced Acreage Alternative	Alternative 4: No Ground-Mounted Utility-Solar Alternative – Distributed Commercial and Industrial Rooftop Solar Only
Meet Project Objectives?	All	None	None	Partially	Partially
Reduce Significant and Unavoidable Impacts?	N/A	All	Some	None	All <u>Some</u>

7.3 Response to Comments

A list of agencies and interested parties who have commented on the Draft EIR is provided below. A copy of each numbered comment letter and a lettered response to each comment are provided following this list.

State Agencies

Letter 1 – California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CalGEM) (August 9, 2019)

Letter 2 – California Department of Fish and Wildlife (CDFW) (February 19, 2020)

Letter 3 – California State Lands Commission (March 12, 2020)

Letter 4 – Lahontan Regional Water Quality Control Board (February 11, 2020)

Local Agencies

Letter 5 – Eastern Kern Air Pollution Control District (February 11, 2020)

Letter 6 – County of Kern Public Works Department, Administration and Engineering Division (March 6, 2020)

Letter 7 – County of Kern Public Works Department, Floodplain Management Section (February 28, 2020)

Letter 8 – Kern County Superintendent of Schools (March 6, 2020)

Letter 9 – Kern County Fire Department (March 18, 2020)

Interested Parties

Letter 10 – Charles E. Ammann (March 4, 2020)

Letter 11 – Kern Audubon Society (March 18, 2020)

Letter 12 – Kern Audubon Society (March 12, 2020)

Letter 13 – National Audubon Society and Defenders of Wildlife (March 13, 2020)

Letter 14 – Adams Broadwell Joseph & Cardozo (March 24, 2020)

Letter 15 – Adams Broadwell Joseph & Cardozo (March 13, 2020)

Letter 16 – Victor Conforti (April 1, 2020)

Comment Letter No 1: California Department of Conservation



California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

Gavin Newsom, Governor
David Bunn, Director
801 K Street, MS 18-05
Sacramento, CA 95814
T: (916) 445-9686

08/09/2019

County: Kern - Kern County Planning and Natural Resources Department
Alana Crown
Alana.Crown@conservation.ca.gov

Construction Site Well Review (CSWR) ID: 1011647

Assessor Parcel Number(s): 47413103, 47413104, 47413106, 47413112, 47413118, 47413119, 47413120, 47413121, 47413122, 47413125, 47413202, 47413203, 47413204, 47413205, 47413206, 47413207, 47413208, 47413209, 47413210, 47413212, 47413213, 47413214, 47415325, 47423101, 47423102, 47423103, 47423104, 47423105, 47423107, 47423108, 47423109, 47423110, 47423111, 47423113, 47423114, 47423115, 47423116, 47423117, 47423119, 47423120, 47423121, 47423123, 47423424, 47423126, 47423127, 47423128, 47423129, 47423130, 47423131, 47423132, 47423133, 47423134, 47423135, 47423137, 47423201, 47423203, 47423204, 47423205, 47423206, 47423207, 47423208, 47423209, 47423210, 47423211, 47423212, 47423213, 47423214, 47423216, 47423217, 47423218, 47423220, 47423221, 47423222, 47423223, 47423224, 47423225, 47423226, 47423227, 47423228, 47423229, 47423230, 47423231, 47423232, 47423233, 47423234, 47423235, 47417122, 47517123, 47517124, 47517125, 35801001, 35805102, 35806101, 35806102, 35806104, 35806105, 35806106, 35806107, 35806108, 35806109, 35806110, 35806111, 35806112, 35806113, 35806114, 35806115, 35806116, 35806117, 35806119, 35806120, 35806121, 35806122, 35806123, 35806124, 35806125, 35806126, 35806127, 35806130, 35806131, 35806132, 35806133, 35806136, 35806137, 35806138, 35806140, 35806141, 35806142, 35806143, 35806144, 35806146, 35806147, 35808101, 35808102, 35808103, 35808104, 35808105, 35808106, 35808107, 35808108, 35808109, 35808110, 35808111, 35808112, 35808113, 35808115, 35808116, 35808117, 35808118, 35808119, 35808120, 35808121, 35808122, 35808123, 35808124, 35808125, 35808126, 35808127, 35808128, 35808129, 35808130, 35808132, 35808133, 35808134, 35810101, 35810102, 35810104, 35810105, 35810106, 35810107, 35810108, 35810109, 35810111, 35810112, 35810113, 35810115, 35810116, 35810117, 35810118, 35810119, 35810120, 35810121, 35810203, 35810205, 35810209, 35810210, 35810212, 35810213, 35810214, 35810215, 35810216, 35810218, 35810219, 35810221, 35810222, 35810223, 35810224, 35810225, 35810226, 35810227, 35810229, 35810228, 35810230, 35810231, 35810232, 35810233, 35810235, 35810236, 35810237, 35810239, 35810240, 35810241, 35810243, 35810247, 35810245, 35810249, 35810250, 35810251, 35810252, 35810253, 35810254, 35811201, 35811202, 35811203, 35811204, 35811205, 35811206, 35811207, 35811209, 35811210, 35811211, 35811212, 35811213, 35811214, 35811215, 35811216, 35811217, 35811218, 35811219, 35811220, 35811222, 35811224, 35811225, 35811226, 35811228, 35811229, 35811230, 35811231, 35811232, 35814116, 35814119, 35814120, 35814121, 35814127, 35814128, 35814129, 35814131, 35814130, 35814132, 35814133, 35814134, 35814135, 35814136, 35814140, 35814141, 35814142, 35824005, 35824006, 35824008, 35824028, 35824029, 35824031, 35824032, 35824033, 35824034, 35824035, 35824036, 35824037, 35824038, 47413126, 47413128, 47413127, 47413201, 35805110, 47423219

Property Owner(s): BigBeau Solar

Project Location Address: West of Willow Springs Community, Rosamond, California, 93560



California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

Gavin Newsom, Governor
David Bunn, Director
801 K Street, MS 18-05
Sacramento, CA 95814
T: (916) 445-9686

Project Title: BigBeau Solar Renewables Development (PP19161)

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

The Division of Oil, Gas, and Geothermal Resources (Division) has received and reviewed the above referenced project dated 8/7/2019. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Kern County, within the boundaries of the following fields:

Our records indicate there are 0 known oil or gas wells located within the project boundary as identified in the application.

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Inland district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

1-A

1-B



California
Department of Conservation
Division of Oil, Gas, and Geothermal Resources

Gavin Newsom, Governor
David Bunn, Director
801 K Street, MS 18-05
Sacramento, CA 95814
T: (916) 445-9686

Should you have any questions, please contact me at (661) 326-6016 or via email at
Victor.Medrano@conservation.ca.gov

Sincerely,

For C. Campbell
Cameron Campbell
District Deputy

Response to Comment Letter 1: California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (CalGEM) (August 9, 2019)

- 1-A:** This comment notes the project site is outside of CalGEMS's oil administrative boundaries. The comment states there are no known oil, gas, or geothermal wells located within the project boundary and, therefore, no further review is required by CalGEM. This comment has been noted for the record.
- 1-B:** The comment notes that if during development activities, any previously unknown wells are discovered, the project proponent shall immediately notify the CalGEM's Inland District office for consultation as remedial plugging and abandonment operations may be required. As stated in the NOP/IS prepared for this project, there are no mineral resources of regional or statewide significance or mining districts located within the project area. Additionally, although some properties in the areas surrounding the project site support aggregate mining operations (i.e., Golden Queen Mine, Bobtail Mines, Middle Butte Mines), neither the Kern County General Plan nor the Willow Springs Specific Plan designate the site for mineral and petroleum resources activities (Map Code 8.4).

Furthermore, in the event any abandoned or unrecorded wells are uncovered, discovered, or damaged during excavation or grading activities, all work shall cease in the vicinity of the well, and CalGEM, shall be contacted for requirements and approval. The Lead Agency is proposing a conditional of approval for all of the Conditional Use Permit requests, requiring that if any previously unknown oil, gas or injection wells are discovered, work in the area of discovery shall be stopped and the Department of Conservation/Division of Oil, Gas, and Geothermal Resources/Bakersfield office contacted by the project proponent to obtain information on the requirements of, and approval to perform, remedial operations implemented prior to resumption of work in the area of discovery. This comment has been noted for the record and revisions to the Draft EIR are not necessary.

Comment Letter No. 2: California Department of Fish and Wildlife



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



February 19, 2020

Terrance Smalls
Kern County Planning Department
2700 "M" Street, Suite 100
Bakersfield, California 93301

Subject: BigBeau Solar Project (Project)
Draft Environmental Impact Report (DEIR)
SCH No. 2019071059

Dear Mr. Smalls:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DEIR from the Kern County Planning Department for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through exercise of our own regulatory authority under the Fish and Game Code.

2-A

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in our trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

2-B

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. For example, to the extent implementation of the Project as proposed may result in “take” as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required. Also, the Project may be subject to CDFW’s lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.).

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

2-B

PROJECT DESCRIPTION SUMMARY

Proponent: BigBeau Solar, LLC/EDF Renewables Development, Inc.

Objective: The Project is a proposed photovoltaic electrical generating facility with capacity to generate up to 128 megawatt hours (MW) of renewable electric energy and store up to 60 MW energy in a Battery Storage System (BESS). The proposed Project is situated on approximately 2,185 acres of privately-owned land and 160 acres of land owned by the California State Lands Commission. Implementation of the Project as proposed would include the following: (a) Zoning Classification Changes (ZCC) involving a total of approximately 1,367.6 acres; (b) two (2) Conditional Use Permits, each to allow for the construction and operation of a solar photovoltaic electrical generating facility; (c) two (2) Conditional Use Permits, each to allow for the construction and operation of a communication tower; (d) two (2) Conditional Use Permits, each to allow the construction of operation of a concrete batch plant; (e) amendment to the Circulation Element of the Kern County General Plan to remove sections and midsection line road reservations; (f) amendment to the Willow Spring Specific Plan to remove sections and midsection line road reservations; and (g) vacation of existing public easements on the Project site. The Project’s permanent facilities would include service roads, a communication tower, communication cables, overhead and underground transmission lines, an electrical switching station, Project substations, operations and maintenance facilities, PV panels, BESS, fencing, a meteorological station, microwave/communication tower, a power collection system, electrical switchyards and gen-tie line on the Project site. The Project would be supported by a 220-kV overhead transmission corridor.

2-C

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Location: The proposed project site is located in the south-eastern portion of Kern County near the unincorporated community of Rosamond; west on Rosamond Boulevard, north of 140th Street West, and east on either side of the Avenue of the Stars.

Timeframe: Unspecified.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Kern County Planning Department in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

There are many special-status resources present within the Project location and these resources may need to be evaluated and addressed prior to any approvals that would allow vegetation- or ground-disturbing activities. CDFW have previously submitted a comment letter dated August 29, 2019, for this Project regarding potential impacts to special-status species including, but not limited to, the following special-status species: the State Species of Special Concern burrowing owl (*Athene cunicularia*, BUOW), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), Le Conte's thrasher (*Toxostoma lecontei*), American badger (*Taxidea taxus*), coast horned lizard (*Phrynosoma blainvillii*), and mountain plover (*Charadrius montanus*), the State threatened Swainson's hawk (*Buteo swainsoni*, SWHA), the State and federally endangered Bakersfield cactus (*Opuntia basilaris*), the State fully protected golden eagle (*Aquila chrysaetos*), the State threatened Mohave ground squirrel (*Spermophilus mohavensis*, MGS), the State and federally threatened desert tortoise (*Gopherus agassizii*), and desert kit fox (*Vulpes macrotis ssp. macrotis*) which is protected under California Code of Regulations (CCR), Title 14, Chapter 5, Section 460. CDFW appreciates that some of CDFW's recommendations in the August 29, 2019 comment letter were incorporated into the DEIR.

CDFW recommends the Project proponent consult with CDFW regarding obtaining an incidental take permit (ITP) to comply with CESA well before the anticipated start of Project construction. CDFW also recommends the Project proponent consult with the United States Fish and Wildlife Service (USFWS) who administers the federal Endangered Species Act.

2-C

2-D

2-E

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I. Environmental Setting and Related Impact

Would the Project 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 CDFW or USFWS?

COMMENT 1: Desert Tortoise

Issue: The Project site is within the range of desert tortoise and based on aerial imagery the site contains a desert wash and desert scrub habitat which is suitable habitat for desert tortoise (CDFW 2020). Desert tortoise are most common in desert scrub, desert wash, and Joshua tree habitats (CDFW 2018). The availability of habitat on the Project site demonstrates that desert tortoise may have the potential to be onsite and impacted by Project activities.

Specific impact: Potentially significant impacts that may result from Project-related activities include loss of foraging habitat, habitat degradation and fragmentation, burrow destruction, and direct mortality.

Evidence impact is potentially significant: Human impacts to desert tortoise include habitat conversion to agriculture and urban lands, degradation of habitat by off-highway vehicles (OHV), intentional killing of tortoises, and killing by cars and OHV (Doak et al. 1994). Project activities may result in the loss of potential desert tortoise habitat through conversion, may increase habitat fragmentation, and expand urbanization into the area.

Recommended Potentially Feasible Mitigation Measure(s)

To evaluate potential Project-related impacts to desert tortoise, CDFW recommends conducting the following evaluation of the Project site, incorporating the following mitigation measures into the Environmental Impact Report (EIR) prepared for this Project, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 1: Desert Tortoise Surveys

CDFW agrees with Mitigation Measure 4.4-5 in the DEIR that a qualified biologist conduct surveys following the protocol contained in "Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*)" (USFWS 2010) to determine the potential for desert tortoise to use the Project site and surrounding area. However, CDFW recommend the surveys be conducted within a year of the start of ground-disturbing activities and during the appropriate survey period when desert tortoise are more likely detectable. Survey results are

2-F

2-G

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advised to be submitted to both CDFW and the USFWS. Please note that CDFW considers desert tortoise surveys to be valid for one year.

2-G

Recommended Mitigation Measure 2: Perimeter/Exclusion Fence

Mitigation Measure 4.4-5 in the DEIR proposes the potential use of a permanent tortoise proof exclusion fence prior to the initiation of earth disturbing activities. As stated in our previous letter, CDFW recommends that all perimeter fencing be raised seven (7) to eight (8) inches above ground for the length of the fencing with the bottom fencing material knuckled back to maintain movement and habitat connectivity for desert tortoise. CDFW recommends that exclusion fencing is installed after desert tortoise and Mohave ground squirrel surveys are completed and no desert tortoise or Mohave ground squirrels are detected on-site to avoid take of these species. Fish and Game Code section 86 defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CDFW considers animals trapped within exclusion fencing to be captured and if this occurs absent the acquisition of a State ITP, unauthorized take has occurred in violation of CESA. Alternatively, if the Project acquires an ITP, installation and maintenance of exclusion fencing should follow the requirements of the ITP.

2-H

COMMENT 2: Swainson's Hawk (SWHA)

Issue: SWHA have the potential to nest near the Project site, and forage within the Project site. SWHA have been documented to occur near the Project site (CDFW 2020), and SWHA surveys conducted for the Project in a letter dated August 10, 2018 have demonstrated three (3) SWHA nests between one and five miles from the Project site.

Specific impacts: Without appropriate avoidance and minimization measures for SWHA, potential significant impacts that may result from Project activities include: nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

2-I

Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the Antelope Valley and the Kern County portion of the Mohave Desert limits their local distribution and abundance (CDFW 2016). Approval of the Project may lead to subsequent ground-disturbing activities that involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment and loss of foraging habitat, significantly impacting local nesting SWHA.

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Recommended Potentially Feasible Mitigation Measure(s)

Because suitable foraging habitat for SWHA is present throughout the Project site, CDFW recommends conducting the following evaluation of the Project site, incorporating the following mitigation measures into the EIR prepared for this Project, and that these measures be made conditions of approval for the Project.

Recommended Mitigation Measure 3: No-disturbance Buffer

If ground-disturbing activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends pre-activity surveys in addition to surveys described in "Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California" (CEC & CDFG 2010). These pre-activity surveys for active nests within a ½-mile of the Project be conducted by a qualified biologist in addition to the protocol surveys no more than 10 days prior to the start of Project implementation to ensure that SWHA have not moved into nesting habitat features between the end of protocol surveys and the start of Project Implementation. CDFW agrees with Mitigation Measure 4.4-7 of the DEIR that a minimum no-disturbance buffer of ½-mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

2-J

Recommended Mitigation Measure 4: SWHA Take Authorization

In the event an active SWHA nest is detected during surveys and cannot avoid the nest by a minimum ½-mile buffer, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the issuance of an ITP, pursuant to Fish and Game Code section 2081(b) is necessary to comply with CESA.

2-K

Recommended Mitigation Measure 5: Loss of SWHA Foraging Habitat

CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's "Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California" (CEC & CDFG 2010) to reduce impacts to foraging habitat to less than significant. The SWHA survey protocol recommends that plans for mitigating loss of SWHA foraging habitat be mitigated by providing HM lands within the Antelope Valley SWHA breeding range at a minimum 2:1 ratio for such habitat impacted within a five-mile radius of active SWHA nest(s). CDFW considers a nest active if it was used one or more times within the last 5 years

2-L

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Recommended Mitigation Measure 6: SWHA Nest Trees

CDFW recommends that the removal of known raptor nest trees, even outside of the nesting season, be replaced with an appropriate native tree species planting at a ratio of 3:1 at or near the Project area or in another area that will be protected in perpetuity to reduce impacts resulting from the loss of nesting habitat.

2-M

COMMENT 3: Mohave Ground Squirrel (MGS)

Issue: MGS have the potential to occur on the Project site. Surveys following CDFW's MGS guidelines (CDFW 2010) were conducted in 2018 for the Project, and no MGS were captured. According to Condition 11 of CDFW's MGS survey guidelines, if a survey conducted according to the guidelines result in no capture or observation of the Mohave ground squirrel on a project site, this is not necessarily evidence that the Mohave ground squirrel does not exist on the site or that the site is not actual or potential habitat of the species. However, in the circumstance of such a negative result, CDFW will stipulate that the project site harbors no Mohave ground squirrels. This stipulation will expire one year from the ending date of the last trapping on the project site conducted according to these guidelines (CDFW 2010).

Specific impact: Without appropriate avoidance and minimization measures for MGS, potential significant impacts associated with the Project's construction include burrow collapse, inadvertent entrapment, reduced reproductive success, and mortality of individuals.

2-N

Evidence impact is potentially significant: Major threats to the MGS are drought, habitat destruction, habitat fragmentation, and habitat degradation (Gustafson 1993). MGS is restricted to a small geographic range and the greatest habitat loss has occurred near desert towns including California City (Gustafson 1993). Natural cycling is anticipated in MGS populations, therefore, the true indicators of the status of the species are the quantity, pattern of distribution, and quality of habitat (Gustafson 1993). Project activities may result in the loss of potential MGS habitat through conversion into solar fields, may increase habitat fragmentation, and expand urbanization into the area.

Recommended Potentially Feasible Mitigation Measure(s)

To evaluate potential Project-related impacts to MGS, CDFW recommends conducting the following evaluation of the Project site, incorporating the following mitigation measures into the EIR prepared for this Project, and that these measures be made conditions of approval for the Project.

2-O

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Recommended Mitigation Measure 7: Mohave Ground Squirrel Surveys

CDFW recommends that a qualified permitted biologist conduct protocol surveys for MGS following the methods described in the "Mohave Ground Squirrel Survey Guidelines" (CDFG 2010) during the appropriate survey season prior to Project implementation, including any vegetation- or ground-disturbing activities. Please note that guidelines indicate that a visual survey and up to three trapping sessions may need to be conducted (CDFG 2010). Results of the MGS surveys are advised to be submitted to the CDFW. As indicated above, MGS surveys are valid for one year and CDFW recommend surveys be conducted within a year from the start of ground-disturbing activities.

2-O

Recommended Mitigation Measure 8: Mohave Ground Squirrel Take Authorization

If MGS are found within the Project site during protocol surveys, preconstruction surveys, or construction activities, consultation with CDFW is recommended to discuss how to implement the Project and avoid take; or if avoidance is not feasible, to acquire an ITP prior to any ground-disturbing activities, pursuant Fish and Game Code section 2081(b). Alternatively, the applicant can assume presence and acquire an ITP prior to initiating Project implementation as proposed in Section IV – Biological Resources subsection (a).

2-P

II. Editorial Comments and/or Suggestions

Nesting Birds: CDFW encourages Project construction occur during the bird non-nesting season (September 16 through January 31). However, if ground-disturbing activities must occur during the breeding season (February 1 through September 15), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above.

2-Q

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by the project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends a qualified biologist conduct 24-hours of monitoring to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends a qualified biologist continuously monitor nests to detect behavioral changes resulting from the project. If

2-R

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behavioral changes occur, CDFW recommends the work causing that change cease and CDFW consulted for additional avoidance and minimization measures.

2-R

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. Consult with CDFW if the nest of a listed species is found to determine appropriate avoidance measures or if avoidance is not possible to obtain an ITP. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

2-S

Federally Listed Species: CDFW recommends consulting with the USFWS on potential impacts to federally listed species including, but not limited to Bakersfield cactus and desert tortoise. Take under the federal Endangered Species Act (ESA) is more broadly defined than CESA; take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS, in order to comply with ESA, is advised well in advance of any ground-disturbing activities.

2-T

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database that may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

2-U

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FILING FEES

CDFW has determined that the Project will impact fish and/or wildlife; therefore, an assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

2-V

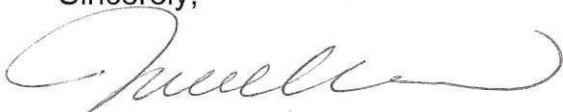
CONCLUSION

CDFW appreciates the opportunity to comment on the Project to assist the Kern County Planning Department in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). Questions regarding this letter or further coordination should be directed to Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 254, or by electronic email at Jim.Vang@wildlife.ca.gov.

2-W

Sincerely,



Julie A. Vance
Regional Manager

Attachment

cc: Ray Bransfield (Ventura Office)
United States Fish and
Wildlife Service
2493 Portola Road, Suite B
Ventura, California 93003

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REFERENCES

- California Department of Fish and Game (CDFG). 2010. Mohave Ground Squirrel Survey Guidelines. California Department of Fish and Game, July 2010.
- California Department of Fish and Wildlife (CDFW). 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*). California Department of Fish and Wildlife. April 11, 2016.
- CDFW. 2020. Biogeographic Information and Observation System (BIOS). <https://www.wildlife.ca.gov/Data/BIOS>. Accessed February 19, 2020.
- California Energy Commission and California Department of Fish and Game (CEC & CDFG). 2010. Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California. California Department of Fish and Game. 2 June 2010.
- Doak, D., Kareiva, P. and Kleptka, B., 1994. Modeling Population Viability for the Desert Tortoise in the Western Mojave Desert. Ecological Applications, August 1994.
- Gustafson, J., 1993. Report to the Fish and Game Commission: A Status Review of the Mohave Ground Squirrel (*Spermophilus mohavensis*). California Department of Fish and Game, March 1993.
- USFWS, 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). United States Fish and Wildlife Service, July 2010.

Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM
(MMRP)**

PROJECT: BigBeau Solar Project

SCH No.: 2019071059

RECOMMENDED MITIGATION MEASURE	STATUS/DATE/INITIALS
<i>Before Disturbing Soil or Vegetation</i>	
Recommended Mitigation Measure 1: Desert Tortoise Surveys	
Recommended Mitigation Measure 2: Perimeter/Exclusion Fence	
Recommended Mitigation Measure 3: No-disturbance Buffer	
Recommended Mitigation Measure 4: SWHA Take Authorization	
Recommended Mitigation Measure 5: Loss of SWHA Foraging Habitat	
Recommended Mitigation Measure 6: SWHA Nest Trees	
Recommended Mitigation Measure 7: Mohave Ground Squirrel Surveys	
Recommended Mitigation Measure 8: Mohave Ground Squirrel Take Authorization	

Response to Comment Letter 2: California Department of Fish and Wildlife (CDFW) (February 19, 2020)

2-A: This is an introductory comment thanking Kern County for the opportunity to comment on the Draft EIR. The County acknowledges receipt of the CDFW comment letter and detailed responses to each comment are provided below.

2-B: The comment clarifies the CDFW's jurisdiction as Trustee Agency for fish and wildlife resources. As a Trustee Agency, the CDFW holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). In their trustee capacity, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802.). The comment clarifies that CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) and that CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, stating for example that to the extent that implementation of the project as proposed may result in "take," as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required. The project may also be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.).

The County acknowledges CDFW's role and responsibilities as a CEQA Trustee Agency and a Responsible Agency pursuant to CEQA Guidelines as summarized in this comment. Furthermore, the County acknowledges that CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird). The comment has been noted for the record and revisions to the Draft EIR are not necessary.

2-C: The comment provides a brief summary of the proposed project's objectives, location, and timeframe. This comment does not raise an issue related to the adequacy of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

2-D: The comment discusses CDFW comments and recommendations to assist Kern County Planning and Natural Resources Department in adequately identifying and/or mitigating the project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. It also states that editorial comments or other suggestions are included to improve the document. The comment states that there are many special-status resources present within the project location and the resources may need to be evaluated and addressed prior to any approvals that would allow vegetation- or ground-disturbing activities. The comment states that CDFW has previously submitted a comment letter dated August 29, 2019 for this project regarding potential impacts to special-status species protected under California Code of Regulations (CCR), Title 14, Chapter 5, Section 460 and that CDFW appreciates that some of CDFW's recommendations in the August 29, 2019 comment letter were incorporated into the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

2-E: The comment states that CDFW recommends the project proponent consult with CDFW regarding obtaining an incidental take permit (ITP) to comply with CESA well before the anticipated start of project construction and that CDFW also recommends the project proponent consult with the United States Fish and Wildlife Service (USFWS) who administers the federal Endangered Species Act.

The County acknowledges the need for early consultation for take of listed species; however, no CDFW or USFWS consultation is anticipated as no state or federally-listed species were present during protocol surveys and no take of listed species is expected prior to, or during, construction. Mitigation Measure MM 4.4-4 identifies that if state and/or federally-listed species are detected during pre-construction surveys, then consultation with CDFW and/or USFWS will commence. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-F:** The comment addresses environmental setting and related impacts relative to the following CEQA Threshold for desert tortoise: Would the project 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 CDFW or USFWS?

The comment identifies that the project site is located within the range of desert tortoise and based on aerial imagery the site contains a desert wash and desert scrub habitat which is suitable habitat for desert tortoise. The comment notes that desert tortoise are most common in desert scrub, desert wash, and Joshua tree habitats. The comment states that the availability of habitat on the project site demonstrates that desert tortoise may have the potential to be onsite and impacted by project activities. The comment further states potentially significant impacts that may result from project-related activities include loss of foraging habitat, habitat degradation and fragmentation, burrow destruction, and direct mortality.

The County acknowledges the range of desert tortoise and suitable habitats that can be occupied by the species including habitat within the project limits. Sightings of desert tortoise or signs of tortoise presence in the general region include two sightings falling within a 5-mile radius of the site. An adult tortoise was found in 2006 approximately 2.5 miles northeast of the project footprint, and a series of tortoise burrows were found approximately 5 miles west of the project footprint. In addition, two adult tortoises were reported occurring approximately 2 miles northeast of the project footprint during desert tortoise protocol surveys conducted in 2009 for Catalina Solar 1. As described in Section 4.4, *Biological Resources*, of the Draft EIR, protocol surveys for desert tortoise were completed for the project in April and May, 2018 as well as for additional/refined proposed project linears and substation in April, 2019 and were negative. Protocol surveys and pre-construction surveys were also completed for the adjacent Valentine Solar Project and were negative. Desert tortoise fencing with portals was included in the Valentine Solar Project and no ITP was necessary. Mitigation Measure MM 4.4-5, Preconstruction Clearance Surveys, will ensure that no impacts to desert tortoise will occur. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-G:** The comment states that CDFW agrees with Mitigation Measure MM 4.4-5 in the Draft EIR that a qualified biologist conduct surveys following the protocol contained in "Preparing for any action that may occur within the range of the. Mojave desert tortoise (*Gopherus agassizii*)" to determine the potential for desert tortoise to use the project site and surrounding area. However, the comment by CDFW also recommends that desert tortoise surveys be conducted within a year of the start of ground-disturbing activities and during the appropriate survey period when desert tortoise are more likely detectable. The comment also advises that survey results should be submitted to both CDFW and the USFWS, noting that CDFW considers desert tortoise surveys to be valid for one year.

As described in Section 4.4, *Biological Resources*, of the Draft EIR, the County acknowledges protocol surveys for desert tortoise were completed for the project in April and May, 2018 as well as for additional/refined proposed project linears and substation in April, 2019, and were negative. Protocol surveys and pre-construction surveys were also completed for the adjacent Valentine Solar Project and nearby Catalina Solar II Project and were negative. Desert tortoise fencing with portals was included in the Valentine Solar Project and no ITP was necessary. Mitigation Measure MM 4.4-5, Preconstruction Clearance Surveys, will ensure that no take of desert tortoise will occur. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-H:** The comment states that Mitigation Measure MM 4.4-5 in the Draft EIR proposes the potential use of a permanent tortoise proof exclusion fence prior to the initiation of earth disturbing activities. The comment notes that in a previous letter, CDFW recommends that all perimeter fencing be raised 7 to 8 inches above ground for the length of the fencing with the bottom fencing material knuckled back to maintain movement and habitat connectivity for desert tortoise. The comment states that CDFW recommends that exclusion fencing be installed after desert tortoise and Mohave ground squirrel surveys are completed and no desert tortoise or Mohave ground squirrels are detected on-site to avoid take of these species. Fish and Game Code section 86 defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The comment notes that CDFW considers animals trapped within exclusion fencing to be captured and if this occurs absent the acquisition of a State ITP, unauthorized take has occurred in violation of CESA. Alternatively, the comment states that if the project acquires an ITP, installation and maintenance of exclusion fencing should follow the requirements of the ITP.

The project would include construction fencing installed after pre-construction surveys are completed for desert tortoise, Mojave ground squirrel, and other sensitive species. During operation, wildlife-friendly fencing will be in place that will have portals as well as a design that includes knuckles and wrapped material as recommended (detailed in Mitigation Measure MM 4.4-10). As described in Section 4.4, *Biological Resources*, of the Draft EIR, the County acknowledges the definition of take and the studies conclude that the project will not incur unauthorized take. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-I:** This comment pertains to Swainson's Hawk (SWHA). The comment identifies that SWHA have the potential to nest near the project site, and forage within the project site; SWHA have been documented to occur near the project site; and SWHA surveys conducted for the project in a letter dated August 10, 2018 have demonstrated three SWHA nests between one and five miles from the project site.

The County acknowledges this comment and understands that any take without prior authorization is a violation of CESA. Based on surveys completed in 2018 and 2019, no nesting individuals were found within 0.5 mile of the project site. Pre-construction surveys identified in Mitigation Measure MM 4.4-7 will ensure no take of SWHA will occur. Furthermore, Adams Broadwell Joseph & Cardozo, Defenders of Wildlife and the National Audubon have all provided letters indicating their support of the project with consideration of EDF Renewables' (EDFRs') efforts relative to the Swainson's hawk. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-J:** The comment notes that if ground-disturbing activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends pre-activity surveys in addition to surveys described in "Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California". Further, the comment states that these pre-activity surveys for active nests within a 0.5-mile of the project should be conducted by a qualified biologist in addition to the protocol surveys no more than 10 days prior to the start of project implementation to ensure that SWHA have not moved into nesting habitat features between the end of protocol surveys and the start of project implementation. The comment notes that CDFW agrees with Mitigation Measure MM 4.4-7 of the Draft EIR that a minimum no-disturbance buffer of 0.5-mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Construction is expected to commence approximately Fall 2020/Winter 2021 outside of the breeding season when SWHA are not in the region. As described in Section 4.4, *Biological Resources*, of the Draft EIR, protocol surveys were completed in 2018, as well as in 2019 for revised project linear and proposed substation, and did not observe active nests within 0.5 mile of the project. As described in Section 4.4, *Biological Resources*, of the Draft EIR, the project site

also has poor habitat for SWHA nesting and foraging. In addition, SWHA show very strong site fidelity, and due to no observed nests within 0.5 mile of the project, it is not anticipated that SWHA will nest within 0.5 mile of the project. During the nesting season, Mitigation Measure MM 4.4-7 will be utilized to avoid take of SWHA. As noted above, Adams Broadwell Joseph & Cardozo, Defenders of Wildlife and the National Audubon have all provided letters indicating their support of the project with consideration of the project applicant's efforts relative to the Swainson's hawk. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-K:** The comment states that in the event an active SWHA nest is detected during surveys and the project cannot avoid the nest by a minimum 0.5-mile buffer, consultation with CDFW is warranted to discuss how to implement the project and avoid take. The comment notes that if take cannot be avoided, take authorization through the issuance of an ITP, pursuant to Fish and Game Code section 2081 (b) is necessary to comply with CESA.

The County acknowledges that if take of SWHA cannot be avoided, then an ITP would be required. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-L:** The comment states that CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's "Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California" to reduce impacts to foraging habitat to less than significant. The comment notes that the SWHA survey protocol recommends that plans for mitigating loss of SWHA foraging habitat be mitigated by providing Habitat Management lands within the Antelope Valley SWHA breeding range at a minimum 2:1 ratio for such habitat impacted within a five-mile radius of active SWHA nest(s). The comment states that CDFW considers a nest active if it was used one or more times within the last 5 years.

Although Swainson's hawks occur in the area, the project site has a low potential for nesting for this species, which has a decreasing presence in this area and recently has nested around agricultural areas in the Antelope Valley. Although the project site may contain some suitable nesting habitat for Swainson's hawk in the onsite Joshua trees, it is unlikely that this species would nest at the project site. Swainson's hawk forage in suitable habitat adjacent to their nest sites and show nest site fidelity. In addition, as described in Section 4.4, *Biological Resources*, of the Draft EIR, protocol surveys completed in 2018, as well as in 2019 for revised project linears and proposed substation, did not observe active nests within approximately 1 mile of the proposed project. Although site development would result in the permanent loss of Mojave Creosote Bush Scrub with Joshua Trees, this loss is expected to have a minimal effect, if any, on this species' habitat availability in the immediate area and this reduction in habitat would not be considered a significant impact. Implementation of Mitigation Measure MM 4.4-7 will ensure that no take of SWHA or other raptor nests will occur. The conclusions of the Draft EIR are that: 1) no significant unavoidable impact has been identified to biological resources as a result of implementation of the proposed project; and 2) the project's contribution to the cumulative impact to biological resources including SWHA would be cumulatively considerable. The conclusion of the project's contribution to a cumulatively considerable impact is related to a cumulative loss of low-quality foraging habitat for SWHA and other sensitive species. Furthermore, Adams Broadwell Joseph & Cardozo, Defenders of Wildlife and the National Audubon have all provided letters indicating their support of the project with consideration of EDFR's efforts relative to the Swainson's hawk. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-M:** The comment notes that CDFW recommends that the removal of known raptor nest trees, even outside of the nesting season, be replaced with an appropriate native tree species planting at a ratio of 3:1 at or near the project area or in another area that will be protected in perpetuity to reduce impacts resulting from the loss of nesting habitat.

No known SWHA nesting trees are proposed for removal as no active nests were observed during protocol surveys, as described in Section 4.4, *Biological Resources*, of the Draft EIR. The site also

provides low quality foraging habitat and does not contain the preferred nesting habitat of SWHA in the region (i.e., mature trees adjacent to agricultural areas), and, thus, it is not expected that SWHA would nest at the project site. As a result, tree replacement is not proposed or warranted. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-N:** This comment is specific to Mojave Ground Squirrel (MSG) and states that MGS have the potential to occur on the project site. Surveys following CDFW's MGS guidelines were conducted in 2018 for the project, and no MGS were captured. The comment states that according to Condition 11 of CDFW's MGS survey guidelines, if a survey conducted according to the guidelines results in no capture or observation of the Mohave ground squirrel on a project site, this is not necessarily evidence that the Mohave ground squirrel does not exist on the site or that the site is not actual or potential habitat of the species. However, in the circumstance of such a negative result, the comment notes that CDFW will stipulate that the project site harbors no Mohave ground squirrels, and the stipulation will expire one year from the ending date of the last trapping on the project site conducted according to these guidelines.

The County acknowledges the 1-year validity of MGS surveys; however, based on the negative results of protocol MGS surveys conducted in 2018 for the proposed project, in addition to negative protocol surveys and video trapping conducted for the Valentine Solar Project, no additional protocol surveys are proposed as take of MGS is not expected. The project will implement Mitigation Measure MM 4.4-4 and conduct pre-construction surveys, as well as video trapping for MGS, to ensure no take of MGS occurs as a result of the project. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-O:** The comment states that to evaluate potential project-related impacts to MGS, CDFW recommends conducting the following evaluation of the project site, incorporating recommended mitigation measures into the EIR prepared for this project, and that these measures be made conditions of approval for the project.

The comment states that CDFW recommends that a qualified permitted biologist conduct protocol surveys for MGS following the methods described in the "Mohave Ground Squirrel Survey Guidelines" during the appropriate survey season prior to project implementation, including any vegetation- or ground-disturbing activities. The comment notes that guidelines indicate that a visual survey and up to three trapping sessions may need to be conducted and that results of the MGS surveys are advised to be submitted to the CDFW. The comment also notes that MGS surveys are valid for one year and that CDFW recommends that surveys be conducted within a year from the start of ground-disturbing activities.

Please see Response to Comment 2-N. The proposed project could result in adverse direct and indirect impacts to MGS if present in the project area. These impacts, including injury or mortality of individuals resulting from vehicle strikes, grading, and collapsing and filling of burrows, would be considered significant. However, with implementation of Mitigation Measure MM 4.4-4 potential impacts on MGS would be reduced to less than significant and take of MGS would not occur. Therefore, no additional protocol surveys are proposed. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-P:** The comment states that if MGS are found within the project site during protocol surveys, preconstruction surveys, or construction activities, that consultation with CDFW is recommended to discuss how to implement the project and avoid take; or if avoidance is not feasible, to acquire an ITP prior to any ground-disturbing activities, pursuant Fish and Game Code section 2081 (b). The comment further states that alternatively, the applicant can assume presence and acquire an ITP prior to initiating project implementation as proposed in Section 4.4, *Biological Resources*, of the Draft EIR.

The County acknowledges that an ITP would be required for take of MGS. As noted in Response to Comment 2-N, surveys for MGS were performed and were negative. Implementation of

Mitigation Measure MM 4.4-7 and video trapping will also ensure that no take of MGS will occur as a result of the project. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-Q:** This comment addresses nesting birds. The comment notes that CDFW encourages project construction to occur during the bird non-nesting season (September 16 through January 31). The comment further states that if ground-disturbing activities must occur during the breeding season (February 1 through September 15), the project applicant is responsible for ensuring that implementation of the project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above.

The project is currently scheduled to begin construction outside of the breeding season. During construction within the breeding season, implementation of Mitigation Measure MM 4.4-7 will ensure that no take of active nests occurs. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-R:** The comment states that to evaluate project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted are detected. The comment also notes that CDFW recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by the project. The comment states that in addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. The comment notes that prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct 24-hours of monitoring to establish a behavioral baseline of all identified nests. The comment further notes that once construction begins, CDFW recommends a qualified biologist continuously monitor nests to detect behavioral changes resulting from the project and that if behavioral changes occur, CDFW recommends the work causing that change cease and that CDFW be consulted for additional avoidance and minimization measures.

The project will implement Mitigation Measure MM 4.4-7 utilizing a qualified wildlife biologist to ensure no take, either direct or indirect, of nesting birds and raptors will occur. Biological monitors will also survey prior to and during initial ground disturbance and during the duration of construction. With the implementation of Mitigation Measure MM 4.4-7, no take of nesting birds will occur. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-S:** The comment states that if continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. The comment notes that consultation with CDFW should occur if the nest of a listed species is found to determine appropriate avoidance measures or if avoidance is not possible to obtain an ITP. The comment states that these buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. The comment notes that variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. The comment states that CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

Please see Response to Comment 2-R. For areas within CDFW jurisdiction (e.g., streambeds), buffer sizes will follow the stipulations outlined in the Lake and Streambed Alteration Agreement permits. For the remainder of the site, appropriate buffers for non-listed species will be determined by the qualified biologist onsite. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-T:** Related to federally listed species: the comment states that CDFW recommends consulting with the USFWS on potential impacts to federally listed species including, but not limited to Bakersfield cactus and desert tortoise. Take under the federal Endangered Species Act (ESA) is more broadly defined than CESA; take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. The comment notes that consultation with the USFWS, in order to comply with ESA, is advised well in advance of any ground-disturbing activities.

The County acknowledges the need for early consultation for take of listed species; however, no USFWS consultation is anticipated as no federally-listed species were present during protocol surveys and no take of listed species is expected prior to, or during, construction. Mitigation Measure MM 4.4-4 identifies that if federally-listed species are detected during pre-construction surveys, then consultation with USFWS will commence. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-U:** The comment notes that CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database that may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-V:** The comment notes that CDFW has determined that the project will impact fish and/or wildlife; therefore, an assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.) The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 2-W:** The comment notes that CDFW appreciates the opportunity to comment on the project to assist the Kern County Planning Department in identifying and mitigating the project's impacts on biological resources. The County appreciates the CDFW's comprehensive review of the project and appreciates their recommendations to the County in thoroughly assessing the potential direct and indirect impacts on biological resources and mitigating these impacts to avoid take of protected species.

CALIFORNIA STATE LANDS COMMISSION

100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202



Established in 1938

JENNIFER LUCCHESI, Executive Officer
(916) 574-1800 Fax (916) 574-1810
California Relay Service TDD Phone 1-800-735-2929
from Voice Phone 1-800-735-2922

Contact Phone: (916) 574-1890

March 12, 2020

File Ref: SCH # 2019071059

Kern County Planning and Natural Resources Department
Attn: Terrance Smalls
2700 M Street, Suite 100
Bakersfield, CA 93301-2323

VIA REGULAR & ELECTRONIC MAIL (SmallsT@kerncounty.com.)

**Subject: Draft Environmental Impact Report (EIR) for the BigBeau Solar Project,
Kern County**

Dear Mr. Smalls:

The California State Lands Commission (Commission) staff has reviewed the Draft EIR for the BigBeau Solar Project (Project), which is being prepared by the Kern County Planning and Natural Resources Department (Kern County). BigBeau Solar, LLC/EDF Renewables Development, Inc. is the Project proponent proposing to carry out the Project, and Kern County is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Commission will act as a responsible agency because of its duty as the trustee of school lands to monitor projects that could directly or indirectly impact these lands. Commission staff requests that Kern County consult with Commission staff on preparation of the Draft EIR as required by CEQA section 21153, subdivision (a), and the State CEQA Guidelines section 15086, subdivisions (a)(1) and (a)(2).

Commission Jurisdiction and School Lands

In 1853, the U.S. Congress granted to California nearly 5.5 million acres of land for the specific purpose of supporting public schools. In 1984, the State Legislature passed the School Land Bank Act (Act), which established the School Land Bank Fund (SLBF) and appointed the Commission as its trustee (Pub. Resources Code, § 8700 et seq.). The Act directed the Commission to develop school lands into a permanent and productive resource base for revenue generating purposes. The Commission manages approximately 462,830 +/- acres of school lands still held in fee ownership by the state and the reserved mineral interests on an additional 790,000± acres where the surface estates have been

3-A

sold. Revenue from school lands is deposited in the State Treasury for the benefit of the Teachers' Retirement Fund (Pub. Resources Code, § 6217.5).

The proposed Project includes lands under the jurisdiction of the Commission encompassing 160 acres of school lands in Section 34 of Township 10 North, Range 14 West; as such, a lease from the Commission will be required for the Project. This parcel has been identified and nominated for significant environmental values for desert tortoise and recreation activities, pursuant to Public Resources Code section 6370 and California Code of Regulations, title 2, section 2952. This nomination ensures the protection of the resources identified within the parcel for the two values. The Commission is entrusted to the protection of these resource values within the parcel and requests any proposed design for the solar array consider these two resource values. During its review of the proposed Project, the Commission will evaluate whether the Project would be consistent with these desert tortoise and recreation activity protections. While the EIR could support the Commission's significant lands values analysis, this review is distinct from CEQA and need not be prepared in the EIR.

3-A
(cont.)

Project Description

The Project being proposed by BigBeau Solar, LLC, under EDF Renewables Development, Inc., is a proposed photovoltaic electrical generating facility with capacity to generate up to 128 megawatt hours (MW) of renewable electrical energy and store up to 60 MW energy in a Battery Storage System (BESS). The proposed Project is situated on approximately 2,290 acres of privately-owned land and 160 acres of state-owned school land managed by the Commission as identified above.

3-B

The Project would be supported by a 220-kV overhead transmission corridor. Permanent facilities for the Project would include photovoltaic (PV) panels, BESS, fencing, a meteorological station, microwave/communication tower, service roads, a power collection system, communication cables, overhead and underground transmission lines, electrical switchyards, substations, and operations and maintenance facilities.

Environmental Review

Commission staff requests that the County consider the following comments prior to certifying the Draft EIR.

General Comments

1. Project Description: A thorough and complete Project Description should be included in the Draft EIR in order to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives. The Project Description should not identify the Commission as a co-lead CEQA agency. Under the State CEQA Guidelines section 15051, subdivision (b)(1) and (c), the agency with general governmental powers, such as a city or county, will be the lead agency not an agency with one specific approval action.

3-C

Biological Resources

2. Sensitive Species: The parcel identified having area encompassed by the Project includes habitat for several sensitive or special status species that could be affected by construction depending on the time of year, including desert tortoise. Although preliminary surveys of the proposed Project have not produced sign of any sensitive or special status species identified in the Draft EIR, Kern County should conduct preconstruction and continued surveys for these sensitive and special status species.

3-D

Cultural Resources

3. Title to Resources: The EIR should also mention that the title to all archaeological sites and historic or cultural resources on state lands of California is vested in the state and under the jurisdiction of the California State Lands Commission (Pub. Resources Code, § 6313). Commission staff requests that County staff consult with Staff Attorney Jamie Garrett, should any cultural resources on state lands be discovered during construction of the proposed Project. In addition, Commission staff requests that the following statement be included in the EIR's Mitigation Monitoring and Reporting Program (MMRP): "The final disposition of archaeological, historical, and paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission."

3-E

Environmental Justice

4. The Draft EIR does not state whether the County intends to discuss and analyze potential environmental justice related issues, including an assessment of public access and equity implications and who would bear the burdens or benefits from the proposed Project. Commission staff believes the Draft EIR, as an informational public document, is an appropriate vehicle to disclose and discuss how the proposed Project would attain or be consistent with the County's and other agency's equity goals and statewide policy direction.

3-F

Prior to final action on the EIR, Kern County must adopt a MMRP pursuant to State CEQA Guidelines section 15097. The MMRP must include methods for coordination, timing for implementation of mitigation measures and list all parties and/or agencies, in addition to the County, responsible for ensuring compliance and enforcement through permit conditions, agreements or other measures during each phase of the Project.

3-G

Thank you for the opportunity to comment on the Draft EIR for the Project. As a trustee and responsible agency, Commission staff requests that you consult with us on this Project and keep us advised of changes to the Project Description and all other important developments. Please send additional information on the Project to the Commission staff listed below as the Draft EIR is being reviewed and certified by the County. Specifically, please provide the certified EIR, MMRP, Notice of Determination, Findings, Statement of Overriding Considerations (if required), and approving resolution by the County.

3-H

Please refer questions concerning environmental review to Christopher Huitt, Senior Environmental Scientist, at (916) 574-2080 or christopher.huitt@slc.ca.gov. For questions

concerning archaeological or historic resources under Commission jurisdiction, please contact Staff Attorney Jamie Garrett, at (916) 574-0398 or jamie.garrett@slc.ca.gov. For questions concerning Commission leasing jurisdiction, please contact Randy Collins, Public Lands Manager, at (916) 574-0900 or randy.collins@slc.ca.gov.

↑
3-H
(cont.)

Sincerely,



Eric Gillies, Acting Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
P. Huber, Commission
J. Garrett, Commission
R. Collins, Commission
C. Huitt, Commission

Response to Comment Letter 3: California State Lands Commission (March 12, 2020)

- 3-A:** The comment clarifies that the California State Lands Commission will act as a responsible agency for the project due to its duty as the trustee of school lands to monitor projects that could directly or indirectly impact these areas. The commenter provides background information regarding the State Lands Commission and its founding purpose. The proposed project includes lands under the jurisdiction of the State Lands Commission and the comment states that the State Lands Commission would be responsible for reviewing and approving the project based-on an evaluation of whether or not the project would be consistent with the State Lands Commissions goals and policies. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record.
- 3-B:** This comment provides a brief summary of the proposed project and its characteristics in relation to the State Lands Commission's jurisdiction and authority. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record.
- 3-C:** The commenter suggests that a thorough and complete Project Description be included in the Draft EIR to facilitate meaningful environmental review. Consistent with the *CEQA Guidelines*, Chapter 3, *Project Description*, of the Draft EIR provides a thorough description of the proposed project in compliance with the applicable regulations. Furthermore, the comment states that the Project Description should not identify the State Lands Commission as a co-lead CEQA agency per *CEQA Guidelines* Section 15051, subdivision (b)(1) and (c). In response to this comment the Draft EIR has been revised as follows:

Chapter 1, Executive Summary, Page 1-3:

This Draft Environmental Impact Report (EIR) has been prepared by Kern County which is ~~one of the Lead Agencies under CEQA, the other is the California State Lands Commission.~~ The Draft EIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, State, and federal permitting agencies that are required to consider the project. The EIR will be used by Kern County to determine whether to approve the requested CUPs (CUP 13, Map 215; CUP 41, Map 232; CUP 14, Map 215; CUP 42, Map 232; CUP 15, Map 215; CUP 43, Map 215) required for the project.

Chapter 2, Introduction, Page 2-4:

CEQA requires lead agency~~ies~~, in this case Kern County ~~and the Commission~~, to solicit and consider input from other interested agencies, citizen groups, and individual members of the public. CEQA also requires the project to be monitored after it has been permitted to ensure that mitigation measures are carried out.

CEQA requires the lead agency, in this case Kern County ~~and the Commission~~, to provide the public with a full disclosure of the expected environmental consequences of the project and with an opportunity to provide comments. In accordance with CEQA, the following steps constitute the process for public participation in the decision-making process:

- 3-D:** The commenter states that the project site includes habitat for several sensitive or special status species, including the desert tortoise, that could be affected by project construction depending on the time of year. The comment suggests that Kern County conduct preconstruction and continued surveys for sensitive and special status species in order to protect existing habitat for these species.

As described in Section 4.4, *Biological Resources*, of the Draft EIR, Mitigation Measure MM 4.4-1 requires that the project proponent/operator retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by U.S. Fish and Wildlife Service (USFWS) to oversee compliance with protection measures for all listed and other special-status species. The Lead Biologist would be on the project site during construction of perimeter fencing and grading activities throughout the construction phase. Furthermore, implementation of Mitigation Measures MM 4.4-2 through 4.4-4 and MM 4.4-6, which include worker training, avoidance and protection of biological resources, preconstruction surveys to identify any active or potential habitat that may require avoidance and protection, would reduce the potential impacts. Thus, the proposed project would comply with these recommendations. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 3-E:** The commenter requests that the County staff consult with the State Lands Commission should any cultural resources on state lands be discovered during construction of the proposed project. In response to this comment, Mitigation Measure MM 4.5-4, in Section 4.5, *Cultural Resources*, and Mitigation Measure MM 4.7-3, in Section 4.7, *Geology and Soils*, of the Draft EIR, have been revised as follows:

Section 4.5, Cultural Resources, Pages 4.5-27 and 4.5-29:

MM 4.5-4: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor. The Lead Archaeologist in consultation with the Native American monitor, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act Guidelines (CEQA) Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.

Consistent with CEQA Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Diagnostic archaeological materials with research potential recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources

Department and to the southern San Joaquin Valley Information Center at California State University, Bakersfield. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Section 4.7, Geology and Soils, Pages 4.7-23 and 4.7-25:

MM 4.7-3: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

- 3-F:** The commenter states that the Draft EIR does not discuss or analyze potential environmental justice related issues, including an assessment of public access and equity implications. While the adopted Kern County Appendix G *CEQA Guidelines* do not require that an EIR discuss or evaluate environmental justice related issues, the Draft EIR does include an analysis of population and housing impacts resulting from project implementation. As stated in Section 4.13, *Population and Housing*, of the Draft EIR, the project site consists of largely undeveloped lands and is primarily vacant surrounded by solar developments to the immediate north and west and further south. Residential dwellings are scattered around the perimeter of the project site and are located at various distances from the project boundary. There are no residences on the project site. While there are scattered rural residences in the project vicinity, they are not a part of the project site; thus, no people or housing would be displaced. In addition, as analyzed in Section 4.11, *Land Use and Planning*, of the Draft EIR, the proposed project would be consistent with the County's General Plan, the Willow Springs Specific Plan, and other applicable County goals, policies, and objectives. Furthermore, the proposed project would be in compliance with all applicable Chapters of the Kern County Land Division Ordinance, and thus, would ensure that all easements are kept open, clear, and free from any obstructions. Thus, the proposed project would not block public access and would comply with these recommendations. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 3-G:** The commenter states that Kern county must adopt an MMRP pursuant to *CEQA Guidelines* Section 15097 prior to final action on the EIR. In compliance with this request, the County will prepare and adopt an MMRP pursuant to the applicable *CEQA Guidelines* before considering the project for approval. Thus, the proposed project would comply with this recommendation. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record.
- 3-H:** The commenter expresses thanks for the opportunity to comment on the Draft EIR for the proposed project and discusses the State Lands Commission's role as a responsible agency in the decision making process. The State Lands Commission also requests that all future information relevant to

the proposed project be sent to Commission staff for review. In compliance with this request, the County will send all future information relevant to the proposed project to the Commission for review. Thus, the proposed project would comply with this request. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record.



Lahontan Regional Water Quality Control Board

February 11, 2020

File: Environmental Doc Review
Kern County

Carlos E. Rojas
Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301
CRojas@kerncounty.com

Comments on the Draft Environmental Impact Report for BigBeau Solar Project, Kern County, State Clearinghouse No. 2019071059

Lahontan Regional Water Quality Control Board (Water Board) staff received the Draft Environmental Impact Report (EIR) for the above-referenced Project (Project) on January 28, 2020. The EIR was prepared by the Kern County Planning and Natural Resources Department (County) and submitted in compliance with provisions of the California Environmental Quality Act (CEQA). Water Board staff, acting as a responsible agency, is providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations (CCR), title 14, section 15096. We thank the County for providing Water Board staff the opportunity to review and comment on the EIR. Based on our review, we recommend the following: (1) natural drainage channels and flow paths should be maintained through the Project site to ensure no net loss of function and value of waters of the state; (2) specify the hydrology and water quality mitigations incorporated into the Project to avoid or minimize significant affects; (3) identify post-construction storm water management as a significant Project component; and (4) identify and list the beneficial uses of all water resources within the Project area. Our comments are outlined below.

4-A

4-B

WATER BOARD'S AUTHORITY

All groundwater and surface waters are considered waters of the State. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the United States. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the United States.

4-C

PETER C. PUMPHREY, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. The Basin Plan can be accessed via the Water Board's web site at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml.

4-C

SPECIFIC COMMENTS

We recommend the following be considered in the environmental review.

1. In general, the installation of Photovoltaic (PV) grid systems for these types of projects has the potential to hydrologically modify natural drainage systems. Of particular concern is the collection of onsite storm water runoff and the concentrated discharge of that storm water to natural drainage channels. Design alternatives that are compatible with low impact development (LID) should be considered. LID components include: maintaining natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge; managing runoff as close to the source as possible; and maintaining vegetated areas for storm water management and onsite infiltration. We recommend natural drainage channels and flow paths be maintained through the Project site to avoid no net loss of function and value of waters of the state as a result of Project implementation.
2. The EIR should list hydrology and water quality mitigations that are being incorporated into the Project to avoid or minimize significant affects such as those included in a Storm Water Pollution Prevention Plan (SWPPP) or a Water Quality Management Plan. Details regarding how these mitigations will protect water quality should be included in the EIR.
3. The EIR should identify post-construction storm water management as a significant Project component, and a variety of best management practices (BMPs) that effectively treat post-construction storm water runoff, particularly maintaining native vegetation, should be evaluated as part of the Project. Based on our experience with other solar developments in the Mojave Desert, native vegetation is the most efficient and cost-effective post-construction BMP to treat storm water runoff. Because revegetating disturbed soils in the desert is particularly challenging due to low rainfall, extreme climatic conditions, and relatively slow growth rates, we strongly encourage Project proponents to maintain and mow existing vegetation rather than clear and grub the entire site during construction. For those projects where native vegetation is maintained, we have observed that the need to implement temporary BMPs is greatly minimized and the costs associated with implementation and maintenance of post-construction BMPs is significantly reduced.

4-D

4-E

4-F

Carlos E. Rojas

- 3 -

February 11, 2020

4. The Project is located within the Antelope Hydrologic Unit (Hydrologic Unit No. 626.00) and overlies the Antelope Valley groundwater basin (Basin No. 6-44). The beneficial uses of these waters are listed either by watershed (for surface waters) and by groundwater basin (for groundwater) in Chapter 2 of the Basin Plan. The proposed Project should identify and list the beneficial uses of all water resources within the Project area.

4-G

PERMITTING REQUIREMENTS FOR INDIVIDUAL PROJECTS

A number of activities associated with the proposed Project may have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Resources Control Board (State Water Board) or Lahontan Water Board. The required permits may include the following.

1. Land disturbance of more than 1 acre may require a CWA, section 402(p) storm water permit, including a National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit, Water Quality Order (WQO) 2009-0009-DWQ, obtained from the State Water Board, or individual storm water permit obtained from the Lahontan Water Board.
2. Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board.

4-H

We request that the draft EIR recognize the potential permits that may be required for the Project, as outlined above, and identify the specific activities that may trigger these permitting actions in the appropriate sections of the environmental document. Information regarding these permits, including application forms, can be downloaded from our website at <http://www.waterboards.ca.gov/lahontan/>. Early consultation with Water Board staff regarding potential permitting is recommended.

4-I

Thank you for the opportunity to comment on the draft EIR. If you have any questions regarding this letter, please contact me at (760) 241-7305, tiffany.steinert@waterboards.ca.gov or Jan Zimmerman, Senior Engineering Geologist, at (760) 241-7404, jan.zimmerman@waterboards.ca.gov. Please send all future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov and be sure to include the State Clearinghouse No. and Project name in the subject line.



Tiffany Steinert
Engineering Geologist

cc: California Department of Fish and Wildlife (Reg4Assistant@wildlife.ca.gov)
State Clearinghouse (state.clearinghouse@opr.ca.gov) SCH No. 2019071059

Response to Comment Letter 4: Lahontan Regional Water Quality Control Board (February 11, 2020)

- 4-A** Thank you for your comments. The participation of the Lahontan Regional Water Quality Control Board (LRWQCB) in the public review of this document is appreciated. The comment has been noted for the record.
- 4-B** The comment states the LRWQCB has reviewed the Draft EIR and provides several recommendations for the project related to drainage conditions and implementation of Best Management Practices (BMPs). The drainage recommendations are that natural drainage channels and flow paths should be maintained which is consistent with the Kern County Grading Ordinance 17.28. As far as implementing BMPs, Mitigation Measure MM 4.10-1 requires the proponent/operator to prepare and implement a hydrologic study and drainage plan which would be incorporated into design specifications and construction contracts, and a stormwater pollution prevention plan (SWPPP) would be required to be prepared by the project proponent/operator, which would include various BMPs designed to prevent soil erosion and sedimentation. Regarding the specific hydrology and water quality mitigation measures, please see Response to Comment 4-E, below. Regarding the post-construction storm water management, please see Response to Comment 4-F, below. Regarding the beneficial uses of all water resources within the project area, please refer to Section 4.10, *Hydrology and Water Quality*, pages 4.10-2 through 4.10-4, of the Draft EIR. Thus, the proposed project would comply with these recommendations. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 4-C** The comment provides an overview of the Water Board's authority and the applicable laws and regulations which the Water Board enforces. The proposed project would abide by all Water Board requirements that are applicable to the proposed project. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 4-D** The comment elaborates on the earlier recommendation that natural drainage patterns remain and that low impact development (LID) design measures be considered. As discussed in Section 4.10, *Hydrology and Water Quality*, Mitigation Measure MM 4.10-1, on pages 4.10-18 and 4.10-19 the proposed project would be required to prepare and submit a final hydrologic study and drainage plan for review and approval by the Kern County Public Works Department. In addition, the project proponent/operator would be required to prepare and submit a Stormwater Pollution Prevention Plan for review and approval by the Regional Water Quality Control Board-Lahontan Region. The items required per Mitigation Measure MM 4.10-1 and the SWPPP would be required to be prepared pursuant to the Kern County Grading Code, which would include any necessary stormwater management facilities to control runoff leaving the project site once the specific facility plans are drafted. These facilities can include filtration, runoff-minimizing landscape, energy dissipaters, inlet trash racks, and water quality inlets. These drainage features would qualify as LID design measures and would be consistent with the recommendations that the LRWQCB are making. This comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 4-E** The comment recommends that the Draft EIR list hydrology and water quality mitigation measures that are being incorporated into the project to avoid or minimize significant effects. As discussed in Section 4.10, *Hydrology and Water Quality*, on pages 4.10-18 and 4.10-19, of the Draft EIR, Mitigation Measure MM 4.10-1, would require the project proponent/operator to prepare and submit a final hydrologic study and drainage plan for review and approval by the Kern County Public Works Department. In addition, the project proponent/operator would be required to prepare and submit a SWPPP for review and approval by the LRWQCB. The items required per Mitigation Measure MM 4.10-1 and the SWPPP would be required to be prepared pursuant to the Kern County Grading Code, which would include any necessary stormwater management facilities to control

runoff leaving the project site once the specific facility plans are drafted. Therefore, the proposed project would comply with the commenters recommendation. The comment has been noted for the record revisions to the Draft EIR are not necessary.

- 4-F** The comment suggests that the Draft EIR identify post-construction stormwater management measures as a significant component of the project, particularly the importance of maintaining native vegetation at the site. Section 4.10, *Hydrology and Water Quality*, pages 4.10-18 and 4.10-19, of the Draft EIR, require the implementation of a SWPPP and drainage plan, respectively, which would reduce impacts to surface waters. Therefore, potential impacts related to water quality standards and waste discharge, including surface waters requirements, would be less than significant. Therefore, the proposed project would comply with the commenters recommendation. The comment has been noted for the record revisions to the Draft EIR are not necessary.

- 4-G** The comment requests that the Draft EIR identify and list all beneficial uses of water resources within the project area. As discussed in Section 4.10, *Hydrology and Water Quality*, within the Antelope Valley Hydrologic Unit, the project site is located in the Willow Springs Hydrologic Area (HA). The drainage features associated with the Willow Springs HA are minor surface waters and washes that are not well defined. Much of the runoff occurs as sheet flow. The Willow Springs Sub-Watershed is a closed basin inside of the Antelope Valley; therefore, there is no connection to the ocean and any precipitation or surface water is transferred via ephemeral streams to existing playas.

Furthermore, Section 4.10, *Hydrology and Water Quality*, pages 4.10-18 and 4.10-19, of the Draft EIR, require the implementation of a SWPPP and drainage plan, respectively, which would reduce impacts to surface waters and groundwater. Therefore, potential impacts related to water quality standards and waste discharge, including surface waters and groundwater requirements, would be less than significant. However, in response to this recommendation, page 4.10-6 of the Draft EIR has been revised as follows:

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the “waters of the State,” file a report of waste discharge. Absent a potential effect on the quality of “waters of the State,” no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB 2016). Under this plan, applicable beneficial uses of local surface waters would be classified as “Industrial Service Supply”, which include beneficial uses of waters used for industrial activities.

- 4-H** The comment states the project may require a CWA section 402(p) stormwater permit including NPDES General Construction Stormwater Permit. As described in Section 4.10, *Hydrology and Water Quality*, the construction activities for the proposed project exceed the one-acre threshold of ground disturbance and, thus, the project would be required to adhere to the Kern County NPDES applicability requirements. This would be implemented the implementation of a SWPPP that would include erosion control and sediment control BMPs designed to prevent soil erosion from occurring and would retain sediment onsite.

Furthermore, the comment states the potential for the project to adhere to CWA Section 401 water quality certification or dredge and fill waste discharge permit. The project will adhere to all applicable permits required by the State Water Board and/or LRWQCB. Therefore, the proposed project would comply with the commenters recommendation. The comment has been noted for the record revisions to the Draft EIR are not necessary.

- 4-I** The comment requests the Draft EIR recognize the aforementioned potential permits and recommends early consultation with LRWQCB staff. As described in Chapter 3, *Project Description*, on page 3-42, of the Draft EIR, the project proponent recognizes that the project would have to comply with all applicable permits from the LRWQCB, including any waste discharge requirements, in order to obtain the necessary discretionary approvals. The comment has been noted for the record revisions to the Draft EIR are not necessary.



Eastern Kern

Air Pollution Control District

Glen E. Stephens, P.E.
Air Pollution Control Officer

February 11, 2020

Terrance Smalls, Supervising Planner
Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

SUBJECT: Comments for Draft Environmental Report for the BigBeau Solar Project by
BigBeau Solar, LLC/EDF Renewables, Inc (PP19161)

Dear Mr. Smalls:

Eastern Kern Air Pollution Control District (District) is in receipt of the Draft Environmental Impact Report (EIR) for a 128 megawatt (MW) solar photovoltaic power generating facility and associated facilities on 2,895 total acres of land.

5-A

The following District requirements were properly addressed in the Draft EIR and are summarized here for reference: commercial solar power generation facilities 10 acres and larger are required to submit a Fugitive Dust Emission Control Plan, Fugitive Dust Emission Monitoring Plan, and apply for an Authority to Construct Prior to commencing construction of solar facility. Additionally, your notice mentioned the possibility for the construction of a concrete batch plant. Please note a concrete batch plant along with any portable or stationary equipment over 50 horsepower (i.e. generator sets, compressors, pumps, etc.) will require a permit to operate from the District prior to installation and operation.

5-B

Should you have any questions, please contact Miguel Sandoval at (661) 862-5250 or via email at sandovalm@kerncounty.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Glen Stephens", is written over a horizontal line.

Glen E. Stephens, P.E.
Air Pollution Control Officer

GES:MS:tf


Response to Comment Letter 5: Eastern Kern Air Pollution Control District (February 11, 2020)

- 5-A:** The commenter confirms Eastern Kern Air Pollution Control District's (EKAPCD's) receipt of the Draft EIR and provides a brief summary of the proposed project. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft are not necessary.
- 5-B:** The commenter notes that solar facilities 10 acres and larger are required to submit a Fugitive Dust Emission Control Plan and apply for an Authority to Construct prior to commencing construction of the facility. Additionally, stationary equipment that emits air pollutants may require a permit from the EKAPCD prior to installation and operation. As discussed in Section 4.3, *Air Quality*, of the Draft EIR, construction and operation of the proposed project would be conducted in compliance with applicable rules and regulations set forth by the EKAPCD, including all necessary permits. Additionally, fugitive dust would be reduced through implementation of Mitigation Measures MM 4.3-2 and MM 4.3-3, which would be implemented in conformance with the applicable EKACPD plans and regulations and Kern County General Plan Policies 20 and 21. Specifically, Mitigation Measure MM 4.3-2 requires that prior to the issuance of grading or building permits, the project proponent shall provide a comprehensive Fugitive Dust Control Plan for review by the Kern County Planning and Natural Resources Department to reduce fugitive dust emissions resulting from wind erosion at the site. As noted, the proposed project would be required to comply with applicable EKACPD plans and regulations and, as such, the project proponent would coordinate with the EKACPD as necessary. This comment has been noted for the record and revisions to the Draft are not necessary.

COUNTY OF KERN
PUBLIC WORKS DEPARTMENT
Office Memorandum

To: Lorelei Oviatt, Director
Planning and Natural Resources Department
Attn: Terrance Smalls, Supervising Planner

March 6, 2020

From: Joshua Champlin, Supervising Engineer 
Administration and Engineering Division

Subject: 7-8.5c General Plan Amendment #4, Map 215
7-5.2 Zone Change Case #13, Map 215
7-5.3 Conditional Use Permit #13, Map 215
7-5.3 Conditional Use Permit #14, Map 215
7-5.3 Conditional Use Permit #15, Map 215
7-8.5c General Plan Amendment #32, Map 232
7-5.2 Zone Change Case #44, Map 232
7-5.3 Conditional Use Permit #41, Map 232
7-5.3 Conditional Use Permit #42, Map 232
7-5.3 Conditional Use Permit #43, Map 232
(Approximately 13 miles southeast of the City of Tehachapi and
approximately two (2) miles northwest of the unincorporated community of
Rosamond.)

This Department has reviewed the subject project and recommends the following:

1. Support the proposed amendment of the Circulation Element of the Kern County General Plan as shown on Figure 3-10 page 3-24 of the Draft Environmental Impact Report, as it is not needed for future circulation in the area. 6-A
2. Clarification on the concrete batch plants is needed. Are they only for construction and will be removed after construction is complete or are they a permanent facility? If they are only for construction, a condition must be made that removes them and reclamation of the area disturbed is done. 6-B
3. All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, fences, or similar obstructions, shall be removed from the ultimate road rights-of-way. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures. 6-C

Thank you for the opportunity to comment on this project. If you have any questions or comment, please contact Paul Candelaria of this Department.

Response to Comment Letter 6: County of Kern Public Works Department, Administration and Engineering Division (March 6, 2020)

- 6-A:** The commenter expresses support for the proposed amendment to the Circulation element of the Kern County General Plan, as described in Chapter 3, *Project Description*, on page 3-24 of the Draft EIR. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 6-B:** The commenter requests that clarification on the concrete batch plants be provided and asks whether removal of them can be made a condition of project approval. In response to this comment, Chapter 3, *Project Description*, page 3-26 of the Draft EIR, will be revised as follows:

The combined project facilities would include the following components:

- Installation of up to 128-MW of solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis tracking system. The mounting systems for the modules would be mounted on steel support posts that would be pile driven into the ground;
- Installation of Battery Energy Storage Systems (BESS) and accessories that would provide storage capacity for up to 60 MW of energy for the electrical grid;
- A temporary concrete batch plant only for the duration of construction activities;

In compliance with this request, the use of the concrete batch plants only for the duration of construction would be required as a condition of approval. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record.

- 6-C:** The commenter states that all easements shall be kept open, clear, and free from buildings and structures including utility poles and lines, trees, pole signs, fences, etc. As described in Section 4.11, *Land Use and Planning*, of the Draft EIR, the proposed project would be in compliance with all applicable Chapters of the Kern County Land Division Ordinance, and thus, would ensure that all easements are kept open, clear, and free from any obstructions. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Office Memorandum

KERN COUNTY

To: Planning and Natural Resources
Department
Terrance Smalls

Date: February 28, 2020

From: Public Works Department
Floodplain Management Section
Kevin Hamilton, by Brian Blase

Phone: (661) 862-5098
Email: BlaseB@kerncounty.com

Subject: Notice of Public Hearing – Planning Commission
Big Beau Solar Project
Amendment of Zoning Map #215, Zone Change Case #13
Amendment of Zoning Map #232, Zone Change Case #44
Conditional Use Permit #13, 14, 15, Map #215
Conditional Use Permit #41, 42, 43, Map #232
General Plan Amendment #4, Map #215
Specific Plan Amendment #32, Map #232

Our section has reviewed the attached subject documents and has the following comments:

The runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development.

The subject property is subject to flooding.

Therefore, this section recommends the following be included as Conditions of Approval for this project:

The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Engineering, Surveying and Permit Services Department, per the Kern County Development Standards.

Associated flood hazard requirements will need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.

7-A

Response to Comment Letter 7: County of Kern Public Works Department, Floodplain Management Section (February 28, 2020)

- 7-A:** The commenter notes that the project site is subject to flooding, that runoff of storm water from the site would increase due to the increase in impervious surface generated by the proposed project, and requests that the following be included as Conditions of Approval for this project:

The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Public Works Department, per the Kern County Development Standards.

Associated flood hazard requirements will need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.

The Draft EIR identifies that the proposed project will result in an increase in impervious surfaces, which in turn, would result in an increase in stormwater runoff. Specifically, new impervious surfaces would be associated with the project's substation(s), energy storage systems, and the operations and maintenance building. The vast majority of the project site would remain pervious and absorb most precipitation. Further, as described in Section 4.10, *Hydrology and Water Quality*, page 4.10-11 of the Draft EIR, the site engineering and design plans for the proposed project must comply with the requirements of the Kern County Code of Building Regulations, as well as with Kern County Development Standards and the Floodplain Management Ordinance.

Furthermore, page 4.10-11 of the Draft EIR, indicates that all site drainage plans would be required to comply with Division Four of the Kern County Development Standards, which establish guidelines including, but not limited to, site development standards and mitigation, flood control requirements, erosion control, and on-site drainage flow requirements. Therefore, with adherence to all existing regulations regarding erosion and site drainage, the proposed project would neither alter the course of a stream or river nor result in substantial erosion onsite or offsite. Implementation of Mitigation Measures MM 4.10-1 and a SWPPP, as described in the Draft EIR and required to be implemented for the proposed project, would reduce impacts to a less-than-significant level. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Comment Letter No. 8: Kern County Superintendent of Schools



Office of Mary C. Barlow ...advocates for children

March 6, 2020

Kern County Planning Department
Attn: Terrance Smalls, Supervisor Planner
2700 M Street, Suite 100
Bakersfield, CA 93301

Our File No.: CO20-0019

RE: DEVELOPER FEES FOR: ZCC 13, CUP 13, CUP 14, CUP 15, GPA 4, Map No. 215-27, 33-35 and ZCC 44, CUP 41, CUP 42, CUP 43, GPA 32, Map No. 232-1-4 & 9, 10
(Approx. 13 miles southeast of the City of Tehachapi and approx. 2 miles northwest of the unincorporated community of Rosamond. Generally bounded by Avenue of the Stars to the south, intersection of 125th Street and Champagne Ave to the north, 135th Street West to the west and 105th Street to the east.)

Dear Mr. Smalls,

This office represents the Southern Kern Unified School District with regard to the imposition of developer fees, and appreciates the opportunity to respond on behalf of the district regarding the proposed project. This letter is limited to addressing the possible effects which the project might have on school facilities created by students attributable to the project. It is not intended to address other possible environmental concerns which might be identified by the district after reviewing it.

8-A

It is our determination that implementation of this project requesting changes in zone classification to accommodate two Conditional Use Permits to allow for the construction and operation of solar photovoltaic electrical generating facility in an A FPS (Exclusive Agriculture - Floodplain Secondary Combining) District; two Conditional Use Permits to allow for the construction and operation of a communication tower in an A FPS District and two Conditional Use Permits to allow for the construction and operation of a concrete batch plant in an A FPS and A FPS GH Districts; as well as an Amendment of the circulation Element of the Kern County General Plan and Willow Spring Specific Plan to remove sections and midsection line road reservations within and around the project site. Based on this, our office has determined this project will have no significant effects on either of these district's facilities so long as statutory school facilities fees, if any, are collected as required by law and that no further mitigation measures regarding school facilities are necessary. Currently, these fees are set at \$0.61 per square foot of covered and enclosed space for new commercial/industrial projects, an amount subject to COLA adjustment every even number of years with 2020 being an adjustment year.

8-B

Thank you for the opportunity to comment on the project. Should you have any questions, or if we can be of any further assistance in this matter, please contact me at 636-4599, or through e-mail at anwatson@kern.org.

Sincerely,

Mary C. Barlow
County Superintendent of Schools

Andrea Watson, Specialist
School District Facility Services

RECEIVED

MAR 12 2020

KERN COUNTY PLANNING DEPT

ALW
cc: District(s)

Response to Comment Letter 8: Kern County Superintendent of Schools (March 6, 2020)

- 8-A:** The commenter expresses appreciation for the opportunity to respond on behalf of the district regarding the proposed project. This comment clarifies that the letter's contents are intended to address possible effects which the project may have on school facilities, and not to comment on any other environmental concerns.
- 8-B:** The commenter provides a brief overview of the entitlements being requested by the project and concludes that no significant effect on the district's facilities would occur with project implementation, given the appropriate fees and regulations are complied with. As discussed in Section 4.14, *Public Services*, of the Draft EIR, an average of 220 daily construction workers and a peak workforce of 495 workers could be required for development of the proposed project. It is expected most of these workers would live in the region and would commute to the project site from where their children are already enrolled in school. Even if workers came from out of the area, they would likely return to their out-of-town residences once the facilities were built and would not take their children out of their current schooling situation. Therefore, temporary increases in population are not expected to adversely affect local school populations. Additionally, operation of the project would require approximately 8 to 12 part-time and/or full time employees to operate the O&M building. Employees would likely commute to the project from their existing permanent residences, however, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the resulting addition of potential families to this area would not result in a substantial increase in the number of users at local schools. Therefore, impacts would be less than significant. All fees applicable to implementation of the project will be collected when the project proponent/operator applies for required building permits. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Office of the Fire Marshal
Kern County Fire Department

Fire Prevention

2820 M St. • Bakersfield, CA 93301 • www.kerncountyfire.org

Telephone 661-391-3310 • FAX 661-636-0466/67 • TTY Relay 800-735-2929



March 18, 2020

Kern County Planning and Natural Resources Department
2800 M St., Bakersfield, CA 93301
Attn.: Terrance Smalls

Re: Kern County Fire Department Comments Regarding Planning Department Project

To Whom It May Concern,

The Kern County Fire Department, as the local fire authority, has received a request for comments regarding Draft EIR Big Beau Solar. Upon initial review it has been determined that there are no Fire Code issue regarding this draft EIR. A more detailed review and project comments will be conducted when the building permit is pulled and plans are submitted.

9-A

Please feel free to call our Fire Prevention Office at 661-391-3310 with any questions.

Sincerely,
Michael Nicholas
Assistant Fire Marshal
Kern County Fire Department

Response to Comment Letter 9: Kern County Fire Department (March 18, 2020)

- 9-A:** The commenter describes the Kern County Fire Department's local regulatory authority to enforce state and local codes related to fire protection and health and safety. The commenter states that the solar installation shall meet requirements set forth by the KCFD and shall be required to submit plans and obtain a permit from KCFD for installation of a Stationary Energy Storage System. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

March 4, 2020

Kern County Planning &

Natural Resources Department

2700 "M" Street, Suite 100

Bakersfield, California 93301

RECEIVED

MAR 11 2020

KERN COUNTY PLANNING DEPT

RE: ZCC #13, Map #215; CUP #13, Map #215; CUP #14, Map 215; CUP #15; GPA #14, Map #215; ZCC#44, Map #232; CUP #41, Map #232; CUP #43, Map #232; SPA #32, Map #232.

Attention: Terrence Smalls, Supervisor Planner

TO WHOM IT MAY CONCERN:

This is in regards to the Big Beau Solar Project. My family and others have concerns about the removal of vegetation on the land this project will occupy. It creates dust and when it rains it washes silt and mud down intermittent streams that cross Favorito and 120th Street West (see attached map) We already have a problem with this due to the existing solar project. It makes access almost impossible to our property when it rains.

10-A

Since we have travelled these roads since the mid 60's without denial to passage we have acquired an easement by prescription. If the county approves this project they should formalize these easements on the county records. The county should require the solar company to make 120th Street West From Rosamond Boulevard North to Dawn and 105th Street West to 135th Street West all weather roads at their expense.

10-B

We have concerns about our water supplies being contaminated by the chemicals in the solar panels. It is my understanding that there are lawsuits now that the pounding in of supports for the panels has caused a loss of water in some wells. As a condition of county approval the solar company should be held responsible to rectify this problem if this happens.

10-C

In a past letter I have expressed concerns of wildlife showing up at our property. Just this morning I saw over 20 ravens on my fence. This is because their habitat has been destroyed.

10-D

Transmission lines in this high wind area could cause fires of great magnitude as recently witnessed.

10-E

This solar energy thing is not environmentally friendly it is an oxymoron. The panels contain harmful chemicals. Clearing the vegetation off of the property takes away the wildlife habitat. There are hundreds of towers, thousands of miles of cable that go through mountainous areas, thousands of insulators, thousands of yards of concrete for tower bases, batteries that I understand cannot be recycled at this time, inverters and other hardware. It seems to me that building an oil or gas generating plant where it is needed would be a lot more environmentally friendly than solar with transmission facilities to deal with. **Imagine the carbon footprint it takes to manufacture all of these products.**

10-F

10-G

Respectfully submitted,



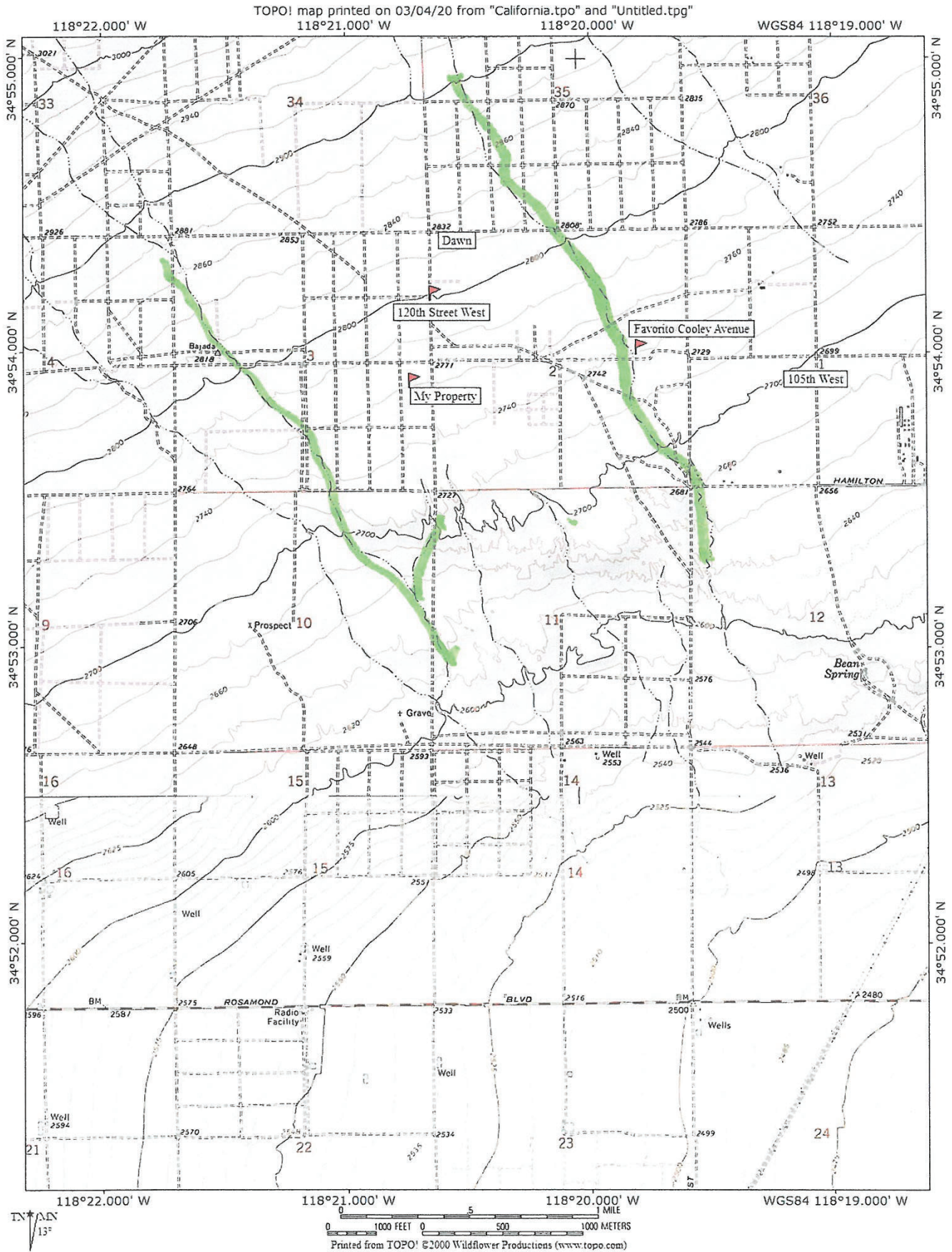
Mailing Address

Charles E. Ammann

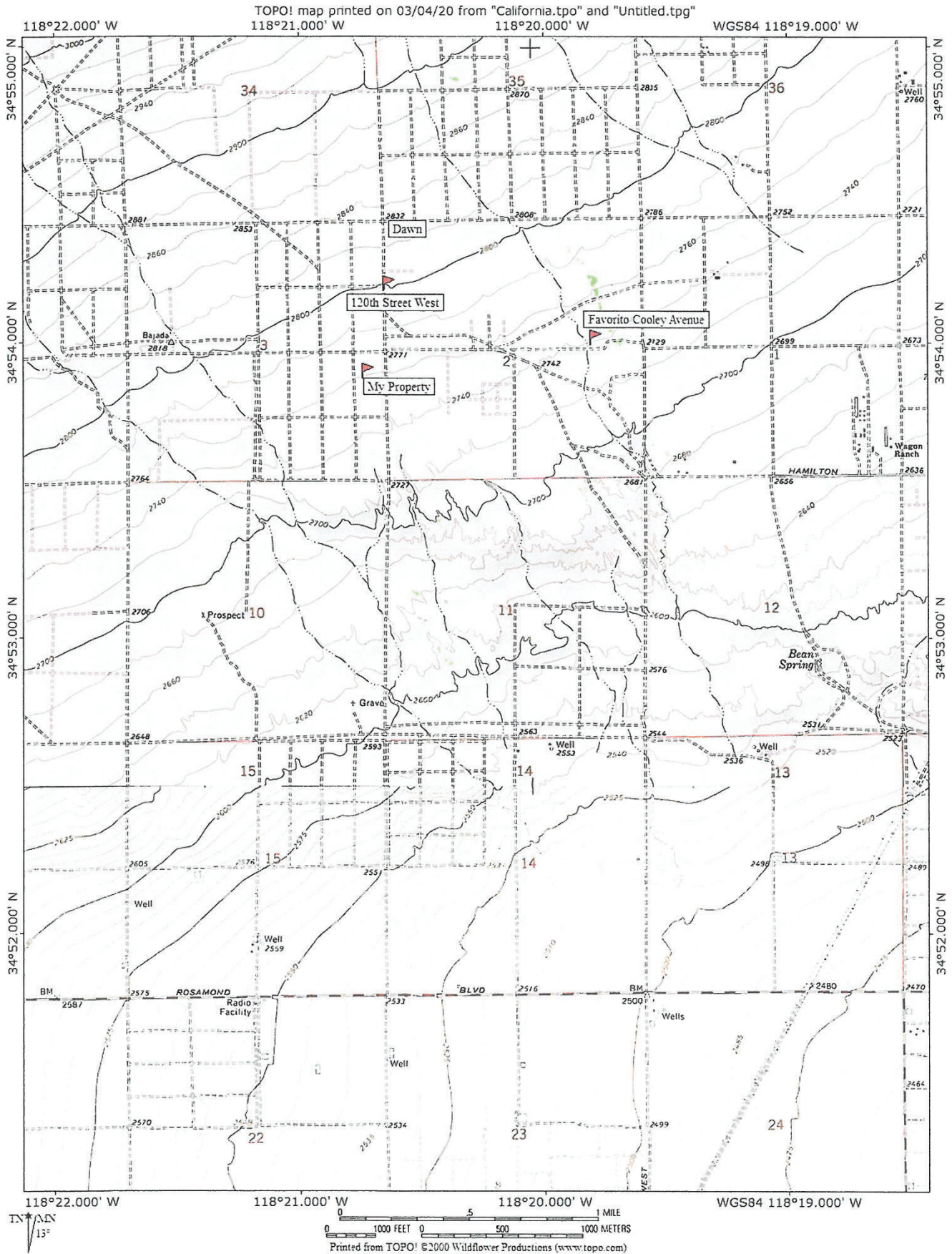
5850 North Greenview Road

Calabasas, California 91302

Comment Letter No. 10: Charles Ammann



Comment Letter No. 10: Charles Ammann



Response to Comment Letter 10: Charles E. Ammann (March 4, 2020)

- 10-A:** The comment states vegetation removal will create dust and during rain events runoff will flow across Favorito and 120th Street West creating access issues for property owners.

As discussed in Chapter 3, *Project Description*, of the Draft EIR, all applicable local, state, and federal requirements and best management practices (BMPs) would be incorporated into the construction activities for the project site. The construction contractor would be required to incorporate BMPs consistent with the County zoning ordinance and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, including the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed project. Prior to initial construction mobilization, pre-construction surveys would be performed and sediment and erosion controls would be installed in accordance with the approved SWPPP. Stabilized construction entrances and exits would be installed at driveways to reduce tracking of sediment onto adjacent public roadways. Design features to manage storm water and prevent soil erosion that are appropriate for the project site will be developed and integrated into the project design. In addition, Mitigation Measure MM 4.10-1 would require the preparation of a final drainage plan to ensure appropriate drainage of the project site post-construction. The final drainage plan would be designed to evaluate and minimize potential increases in runoff and ensure that retention basins and other stormwater management features are implemented consistent with existing regulatory requirements and minimize erosion or sedimentation. The final drainage plan will be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department prior to the issuance of grading permits to ensure impacts related to on-site or off-site runoff minimal.

In addition, site preparation would be consistent with County BMPs and Eastern Kern Air Pollution Control District (EKAPCD) rules for dust control. As discussed in Section 4.3, *Air Quality*, the project would comply with EKAPCD Rule 402 (Fugitive Dust) during construction. Further, the project would implement Mitigation Measure MM 4.3-1, which would implement diesel emission-reduction measures during construction, and Mitigation Measure MM 4.3-2, which would require implementation of a Fugitive Dust Control Plan during construction of the project. Site preparation would involve the removal and proper disposal of existing vegetation and debris that would unduly interfere with project construction or the health and safety of onsite personnel. Dust-minimizing techniques would be employed, such as maintaining natural vegetation where possible and revegetating with native topsoil and seed mix per Mitigation Measure MM 4.1-3, as described in Section 4.1, *Aesthetics*, of the Draft EIR, using mow-and-roll vegetation clearance strategy, placement of wind control fencing, application of water, and application of dust suppressants.

The comment does not identify any new significant impacts that require additional mitigation that have not already been addressed in the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 10-B:** The comment requests the County require the applicant include easements and road improvements for local roadways which have required an easement by prescription including 120th Street West from Rosamond Boulevard North to Dawn and 105th Street West to 135th Street West at the applicant's expense.

As discussed in Chapter 2, *Project Description*, Section 3.6, Project Overview, of the Draft EIR, the project's vacation of existing public access easements would not eliminate any legal access for any property or persons in the area. In the case where one of the proposed vacations removes primary access to a parcel the project proponent would be responsible for recording private easements for access purpose prior to the vacation being recorded. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 10-C:** The comment expresses concern related to contamination of water supplies as a result of project construction activities. The comment requests a condition of approval be required for the project to hold the project proponent responsible for cleanup of any contamination of water supplies.

As identified in Section 4.10, *Hydrology and Water Quality*, of the Draft EIR, during project construction, any activity that results in the accidental release of hazardous or potentially hazardous materials could result in water quality degradation. Materials that could contribute to this impact include diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids used by construction and maintenance vehicles and equipment. As noted in Section 4.9, *Hazards and Hazardous Materials*, of the Draft EIR, Mitigation Measure MM 4.9-1, would require the project proponent to provide a Hazardous Materials Business Plan (HMBP) that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal technique; describe methods to be used to avoid spills and minimize impacts in the transport, and disposal techniques; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires.

During operation, the solar facilities would require limited use of certain hazardous materials for routine daily operations and maintenance. Accidental release of such materials could result in water quality degradation if the materials were to be entrained in stormwater. Implementation of Mitigation Measure MM 4.9-1 would require the project proponent to prepare and implement a Hazardous Materials Business Plan, which would minimize this impact by ensuring safe handling of hazardous materials on site, and providing for cleanup in the event of an accidental release. Additionally, accidental release of potential hazardous materials, during project operations could degrade water quality as a result of increases in pollutants washed from impervious surfaces on the project site. However, when the project is operational, the project would be required to adhere to the Kern County Development Standards and Kern County Code of Building Regulations which require site drainage plans that include development standards designed to protect water quality. Specifically, the project proponent would be required to prepare and submit a drainage plan to the Kern County Public Works Department, for approval of post-construction structural and nonstructural BMPs. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. Adherence to these requirements would minimize potential for the operation period to cause any significant water quality degradation. With the implementation of Mitigation Measure MM 4.9-1, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality in surface water or groundwater. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 10-D:** The comment expresses concern related to wildlife and removal of their habitat and the presence of ravens in the area.

The Draft EIR evaluates impacts to wildlife species including habitat loss in Section 4.4, *Biological Resources*. Specifically Impact 4.4-1 addresses effects related to habitat modifications on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. As part of Mitigation Measure MM 4.4-5(b), a Raven Management Plan shall be developed for the project site and include wildlife avoidance measures. Common ravens are a notable predator of juvenile desert tortoises. To reduce potential significant impacts to desert tortoise and ravens, Mitigation Measure MM 4.4-5(b) shall be implemented. At a minimum, the plan will include identification of all common raven nests within the project area during construction, weekly inspections during construction under all nests in the project area, and provisions for management of trash that could attract common ravens during the construction, operations and maintenance, and decommissioning phases of the proposed project. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 10-E.** The comment states that the location of transmission lines in a high wind area could cause fires of great magnitude. Section 4.9, *Hazards and Hazardous Materials*, of the Draft EIR identifies the project site is not within an area of high or very high fire hazard as determined by the Kern County General Plan or CAL FIRE (CAL FIRE, 2007). As discussed in Chapter 3, *Project Description*, of the Draft EIR, the selected gen-tie route would be constructed within a 150-foot-wide corridor and would consist of utility poles, cabling, trenches, and a corresponding dirt maintenance road. Section 4.18, *Wildfire*, of the Draft EIR identifies all utility poles, cabling, trenches, and corresponding dirt maintenance road associated with the gen-tie line would be erected inside the limits of the 150-foot-wide corridor, which would be maintained during operations and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment. Additionally, all new roads would comply with development requirements for emergency access, and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment. The installation of the gen-tie and electrical collector system and internal/perimeter dirt maintenance roads would not be placed within a High Fire Hazard Severity Zone and the vegetation would be cleared; therefore, the proposed project would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Additionally, as discussed in Section 4.14, *Public Services* of the Draft EIR, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.14-1. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure is reduced and, thus, impacts would be less than significant. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 10-F.** The comment expresses an opinion that development of solar energy facilities is not environmentally friendly. The comment does not raise an issue related to the adequacy of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 10-G.** The comment expresses an opinion that building an oil or gas generating plant would be a more environmentally friendly project. The comment does not raise an issue related to the adequacy of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Comment Letter 11: Kern Audubon Society

Kern Audubon Society
Attn: Franklin Bedard
P.O. Box 3581
Bakersfield, CA 93385
mbedard@bak.rr.com

March 18, 2020

submitted electronically

Terrance Smalls
Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

**Subject: Revision to comments previously submitted concerning:
Draft Environmental Impact Report
BigBeau Solar Project (Project)
SCH: 2019071059**

Dear Mr. Smalls:

The Kern Audubon Society (KAS), an interested party, responded to a notice of availability of a Draft Environmental Impact Report (DEIR) from the Kern County Planning and Natural Resources Department (County) for the above referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines. KAS submitted comments to County about the Project in a comments letter dated March 12, 2020.

KAS has since been made aware of Project DEIR comments made by National Audubon Society (Audubon) and Defenders of Wildlife. KAS would like to withdraw its original comments and support those submitted by Audubon and Defenders of Wildlife. Audubon has identified Swainson's hawk as a priority for conservation in California and with its partner Defenders of Wildlife has been urging actions to conserve the Swainson's hawk by providing comments on solar projects in the Antelope valley and Kern County since 2012.

To promote the mutually beneficial establishment of the BigBeau Project while providing support and funding for the study and conservation of the Antelope Valley region Swainson's hawk population through new research, Audubon and Defenders have entered into an agreement with EDFR that provides for research and a conservation fund of Swainson's hawk in the Antelope Valley. This collaboration is voluntary.

11-A

Comment Letter 11: Kern Audubon Society

The collaboration will have multiple benefits including:

- Providing an update on the current status and distribution of nesting Swainson's hawks in the Antelope Valley and current foraging, nesting, and breeding behaviors and timing to inform siting of utility scale solar projects.
- Informing a conservation strategy for Swainson's hawk in the Antelope Valley.
- Establishing a Swainson's hawk conservation fund to implement conservation actions recommended by the research study.

KAS supports this agreement between Audubon, Defenders and EDFR and will continue to support an Antelope Valley where clean energy can be developed in a responsible way and where Swainson's hawk and other wildlife can survive and thrive.

KAS appreciates the opportunity to submit revised comments on the DEIR for the BigBeau Solar Project (SCH: 2019071059).

Sincerely,

Franklin Bedard
Conservation Chair
Kern Audubon Society

11-A
(cont.)

Response to Comment Letter 11: Kern Audubon Society (March 18, 2020)

- 11-A:** The commenter explains that since submitting their initial comment letter on March 12, 2020, they were made aware of Draft EIR comments submitted by the National Audubon Society and Defenders of Wildlife. The commenter requests that their original letter be withdrawn in support of the later letter submitted by the National Audubon Society and Defenders of Wildlife. Please see Response to Comment 13-A through 13-D, below, for responses to the comments submitted by the National Audubon Society and Defenders of Wildlife.

Comment Letter No. 12: Kern Audubon Society

Kern Audubon Society
Attn: Franklin Bedard
P.O. Box 3581
Bakersfield, CA 93385
mbedard@bak.rr.com

March 12, 2020

Terrance Smalls
Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

**Subject: Draft Environmental Impact Report
 BigBeau Solar Project (Project)
 SCH: 2019071059**

Dear Mr. Smalls:

The Kern Audubon Society (KAS), an interested party, received a notice of availability of a Draft Environmental Impact Report (DEIR) from the Kern County Planning and Natural Resources Department (County) for the above referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

12-A

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect the diverse California avian wildlife within the Project's footprint and its cumulative impacts in the region.

In a letter dated August 05, 2019, KAS provided comments on the Notice of Preparation for the Project. In this letter, KAS provided recommendations to survey the area for roosting birds in the Joshua trees, which are used by Swainson's hawk and other birds of prey for foraging platforms and nesting. Since birds of prey have a 5 mile radius, trees within the 5 mile radius must be identified and evaluated. KAS recommended the Project summarize data from another solar project of similar size regarding the potential operational impacts to biological resources in the area. KAS also recommended that any conservation easements be purchased within the Antelope Valley area to offset the loss of open space used for both foraging and nesting. KAS suggested the applicant address the need for a buffer zone between Project structures to provide sufficient space for ground species to migrate within their normal range for food and nesting. California Department of Fish and Wildlife (CDFW) should direct the width and location of these buffer zones.

12-B

Comments and Recommendations.

KAS offers the following comments and recommendations to assist County in adequately mitigating the Project's significant, or potentially significant, direct and indirect impacts on biological resources.

Project Impacts. Section 4.4 (page 4.4-48, and 4.4-70): Burrowing Owl. Burrowing owls (BUOW) were observed at seven locations within the Project site. In addition, BUOW on site breeding was confirmed as five juveniles were detected within the Project footprint.

The BUOW is a California Species of Special Concern and is protected by California Fish and Game Code (FGC) Section 3503 *et seq.* and the federal Migratory Bird Treaty Act. BUOW and burrows with sign were recorded within the Project. The BUOW is a year-round resident throughout much of the state and is often considered a sedentary species (e.g., Thomsen 1971). A large proportion of adults show strong fidelity to their nest site from year to year. In California, nest site fidelity rates range from 32% to 50% in large grasslands (Catlin 2004, Catlin et al. 2005). The BUOW tend to nest in pairs. The presence of juveniles confirms successful nesting occurs on the site.

Direct impacts to BUOW could result from construction activities, including death or injury to individuals, displacement and loss of territory, disruption of breeding/nesting activities, crushing of burrows, viable eggs and chicks, and other impacts.

Indirect impacts could include reduced foraging areas, increased incidence of agitation, increase potential establishment of invasive species, and other impacts.

The Project requires the implementation of mitigation measures MM4.4-2 through MM4.4-4 and MM4.4-6 to ensure that impacts to BUOW would be reduced to "less than significant" level. Mitigation measures should require the wide suite of mitigation measures specific to the presence of BUOW based on the CDFW 2012 Staff Report on Burrowing Owl Mitigation to ensure potential impacts will be avoided or minimized.

Current scientific literature supports the conclusion that mitigation for permanent habitat loss necessitates replacement with an equivalent of greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow

Project Impacts. Section 4.4 (page 4.4-49): Swainson's hawk. Swainson's hawks (SWHA) were observed over the project site and have a low potential to nest on the project site. SWHA could use the site for foraging.

The SWHA is a California Species of Special Concern and is protected by FGC Section 3503 *et seq.* and the federal Migratory Bird Treaty Act.

Direct impacts to SWHA could result from construction activities, including death or injury to individuals, displacement and loss of territory, and disruption of nesting activities. Operational impacts could include death or injury to individuals by electrocution if transmission lines are not sufficiently shielded.

12-C

12-D

Indirect impacts could include reduced foraging areas, increased incidence of agitation, increase potential establishment of invasive species, and other impacts.

The Project requires the implementation of mitigation measures MM4.4-2 through MM4.4-4 and MM4.4-7 to ensure that impacts to SWHA and other raptors would be reduced to "less than significant" level. Mitigation measure 4.4-7 includes the establishment of suitable buffer zones by a qualified biologist to avoid impacts to special-status species. Mitigation measures should require measures to avoid impacts to nesting birds and special-status birds including raptors, such as pre-construction survey, nesting surveys, and avoidance of active nests.

12-D

Conclusion.

Under CEQA, mitigation goals should consist of measures that would avoid, minimize and mitigate impacts to a less than significant level. Mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (CEQA Guidelines, §§ 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. In addition, KAS notes that required mitigation should be established before the project specific impacts occur. Mitigation that is delayed or postponed until after impact occurrence is not effective and does not meet the mitigation goals consistent with CEQA.

12-E

KAS appreciates the opportunity to comment on the DEIR for the BigBeau Solar Project (SCH: 2019071059) to assist the County in identifying and mitigating Project impacts on biological resources.

Sincerely,



Franklin Bedard
Conservation Chair
Kern Audubon Society

REFERENCES:

CDFG, 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game, March 2012.

Catlin, D.H., 2004. Factors affecting within-season and between-season breeding dispersal of Burrowing Owls in California. M.S. thesis. Oregon State Univ., Corvallis.

Catlin, D.H., and Rosenberg, D.K. 2006. Nest destruction increases mortality and dispersal of Burrowing Owl in the Imperial Valley, California. Southwest Nat. 51:406-409.

Thomsen, L. 1971. Behavior and ecology of Burrowing Owl on the Oakland Municipal Airport. Condor 73:177-192.

Response to Comment Letter 12: Kern Audubon Society (March 12, 2020)

- 12-A:** The commenter provides background information about the commenter and notes that it provided comments on the project's Notice of Preparation. The participation of the Kern County Audubon Society in the public review of this document is appreciated. The comment has been noted for the record and will be provided to the Kern County Planning Commission and Board of Supervisors for consideration.
- 12-B:** The commenter provides background information on their project involvement and reiterates their recommendations submitted in a letter dated August 5, 2019. The commenter recommended preconstruction surveys for roosting birds in the Joshua trees as they are used by Swainson's hawk and other birds of prey for foraging platforms and nesting. Further, they recommend that the project summarize data from another solar project of similar size regarding operational impacts to biological resources in the area. The commenter also suggests the project address the need for a buffer zone between project structures to provide sufficient nesting space for ground species to migrate.

As discussed in Section 4.4, *Biological Resources*, of the Draft EIR, based on the protocol surveys conducted within 5 miles of the project limits of disturbance, it was determined that Swainson's hawk made three nesting attempts in both 2018 and 2019 within the 5-mile survey area of the project site. All three of the nests were located in large trees adjacent to agricultural fields and were outside of the project limits of disturbance, ranging from 1.3 miles to 4.8 miles from the project site. Furthermore, ongoing surveys for burrowing owl, desert tortoise, and rare plants from the first week in April to the last week in June confirmed the absence of any Swainson's hawk nesting activity within the project limits of disturbance or associated 500-foot buffer in both 2018 and 2019.

Although site development would result in the permanent loss of Mojave Creosote Bush Scrub with Joshua trees, this loss is expected to have a minimal effect, if any, on this species' habitat availability in the immediate area and this reduction in habitat would not be considered a significant impact. Should the species happen to be present during construction activities, the project would have the potential to directly impact this species through mortality or injury, if not able to fly out of harm's way. Potential impacts would be avoided through impact minimization measures, including avian nesting surveys that would detect any nesting Swainson's hawk within the project vicinity per Mitigation Measure MM 4.4-7. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.9-2, which include worker training, general avoidance and protection measures, preconstruction surveys prior to initial grading activities, and applying non-toxic herbicide if burrows, dens, or nests are found. With implementation of these mitigation measures, project level impacts to Swainson's hawk would be less than significant. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 12-C:** The commenter reiterates information contained within the Draft EIR about the presence of burrowing owls on the project site, impacts to the burrowing owl, and mitigation measures to address impacts to the burrowing owl. The commenter then suggests that compensatory habitat be provided to mitigate for the permanent loss of habitat for this species.

As discussed in Section 4.4, *Biological Resources*, of the Draft EIR, any adverse direct or indirect impacts to burrowing owls as a result of construction would be considered significant under CEQA. However, implementation of Mitigation Measures MM 4.4-2 through 4.4-4 and MM 4.4-6, which include worker training, avoidance and protection of biological resources, preconstruction surveys to identify any active or potential burrowing owl burrows that may require avoidance and protection, would reduce the potential impacts. Mitigation Measure MM 4.9-2 also requires applying non-toxic herbicide if burrows, dens, or nests are found. Implementing these mitigation measures would ensure that nesting or foraging burrowing owls impacted during construction are

mitigated for. With implementation of these mitigation measures, impacts to burrowing owl would be less than significant.

Furthermore, in compliance with the comment's recommendation, Mitigation Measure MM 4.4-6 includes a provision requiring that the Mitigation Land Management Plan include a condition for permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft are not necessary.

- 12-D:** The commenter reiterates the mitigation measures in Section 4.4, *Biological Resources*, of the Draft EIR, applicable to Swainson's hawk (Mitigation Measures MM 4.4-2 through MM 4.4-4, MM 4.4-7, and MM 4.9-2). For further discussion of impacts to Swainson's hawk and applicable mitigation measures, please see Response to Comment 12-B, above. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 12-E:** The commenter states that required mitigation should be established before project-specific impacts occur, and that mitigation that is delayed or postponed until after impact occurrence is not effective and does not meet the mitigation goals consistent with CEQA. The comment does assert that the Draft EIR impermissibly defers mitigation or otherwise does not comply with CEQA. The County has reviewed the proposed mitigation measures and believes they meet the goals of CEQA. The comment has been noted for the record and revisions are not necessary.



March 13, 2020

Kern County Planning and Natural Resources Department
Attn: Terrance Smalls
2700 "M" Street, Suite 100
Bakersfield, CA 93301
Filed Electronically: smallst@kerncounty.com

Re: DEIR Comments on the Big Beau Solar Project, Antelope Valley, Kern County

Dear Mr. Smalls:

On behalf of National Audubon Society (Audubon) and Defenders of Wildlife (Defenders) and our combined 3 million members and supporters in the U.S., over 300,000 of those in California, we thank you for the opportunity to submit comments on the Draft Environmental Impact Report (DEIR) by Kern County (Lead Agency) for the BigBeau Solar Project (the Project) in the Antelope Valley of Kern County.

Audubon supports clean energy that is sited and operated properly to avoid, minimize and mitigate effectively for the impacts on birds, other wildlife and the places they need now and in the future. Working closely with industry, government agencies, partners and our Network, Audubon will work to support, expedite and expand the development of clean energy policies, planning and projects to achieve 100% clean energy.

Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

PROJECT LOCATION: The project site is located generally west of the unincorporated community of Willow Springs in southcentral Kern County, California. The project site is generally bound by Avenue of the Stars to the south, the intersection of 125th Street and Champagne Avenue to the north, 135th Street West to the west and 105th Street West to the east. The site is located in: Sections 27, 34 and 35 of Township 10 North, Range 14 West & Section 2, 3, 4, 9 and 10 of Township 9 North, and Range 14 West in the East San Bernardino Base and Meridian (SBB&M), County of Kern, State of California.

13-A

13-B

Comment Letter No. 13: National Audubon Society

PROJECT DESCRIPTION: BigBeau Solar, LLC by EDF Renewables (EDFR), is a proposed photovoltaic electrical generating facility with capacity to generate up to 128 megawatt hours (MW) of renewable electrical energy and store up to 60 MW energy in a Battery Energy Storage System (BESS). The proposed project is situated on approximately 2,290 acres of privately owned land and 160 acres of land owned by the California State Lands Commission.

13-B

National Audubon Society has recognized Antelope Valley as a Globally Important Bird Area¹. The Important Bird Areas Program, administered by the National Audubon Society in the United States, is part of an international effort by BirdLife International² to designate and support efforts at high conservation value sites that provide significant breeding, wintering, or migratory habitats for specific species or concentrations of birds. Sites are designated based on specific and standardized criteria and supporting data. Antelope Valley was labeled as “globally important” due to three criteria the area meets: 1) the presence of 18 sensitive species of birds; 2) high concentrations of shorebirds in migration (over 10,000 shorebirds possible on a 1 day count at seasonal lakes and water treatment plants); and 3) over 5,000 waterfowl possible on a 1 day count. Additionally, from the IBA report:

“the remnant Joshua Tree Woodland in this area supports one of the farthest-west populations of Le Conte's Thrasher in the state. The grassland bird community is most impressive in winter, when large numbers of raptors concentrate in the area. Winter brings Mountain Plover, whose flocks are among the last in southern California. After wet winters, nesting grassland species like Northern Harrier linger well into spring, and occasionally even breed. Swainson's Hawk maintains its southernmost breeding outpost in the state here. As this IBA lies in the path of a major spring migrant route for songbirds, windbreaks can host hundreds of vireos, thrushes and warblers during April and May. Fields that receive effluent from local water treatment facilities can support hundreds of White-faced Ibis and shorebirds, and these fields support a group of around 200 Long-billed Curlews in fall and winter.”

13-C

Sensitive species of birds in the Antelope Valley include White-faced Ibis, Redhead, Northern Harrier, Ferruginous Hawk, Swainson's Hawk, (State Threatened), Prairie Falcon, Western Snowy Plover, Mountain Plover, Long-billed Curlew, Burrowing Owl, Short-eared Owl, Long-eared Owl, Loggerhead Shrike, Le Conte's Thrasher, Yellow Warbler, Yellow-breasted Chat, Tricolored Blackbird (State Threatened), and Yellow-headed Blackbird.

1. Swainson's hawk

We thank the Lead Agency for the thorough data and analysis provided by project biologists on the Antelope Valley population of Swainson's hawk.

13-D

¹ <https://www.audubon.org/important-bird-areas>

² <http://www.birdlife.org>

Audubon has identified Swainson's Hawk as a priority species for conservation in California and together with its partner Defenders has been urging actions to conserve the Swainson's Hawk in providing comments on solar projects in the Antelope Valley and Kern County since 2012.

To promote the mutually beneficial establishment of the BigBeau Project, a renewable energy solar and battery storage system in Kern County, while providing support and funding for the study and conservation of the Antelope Valley region Swainson's Hawk population through new research (the Research Study), Audubon and Defenders have entered into an agreement with EDFR that provides for research and a conservation fund of Swainson's Hawk in the Antelope Valley. This collaboration is voluntary.


The collaboration will have multiple benefits including:

- Providing an update on the current status and distribution of nesting Swainson's Hawk in the Antelope Valley and current foraging, nesting and breeding behaviors and timing to inform siting of utility-scale solar projects.
- Informing a conservation strategy for Swainson's Hawk in the Antelope Valley.
- Establishing a Swainson's Hawk Conservation Fund to implement conservation actions recommended by the Research Study.

A copy of the Scope of Work for the Research Study is attached to this letter. Audubon and Defenders will oversee the Research Study led by Pete Bloom and the implementation of conservation actions recommended by the Study.

We will continue to support an Antelope Valley where clean energy can be developed in a responsible way and where Swainson's Hawks and other wildlife can survive and thrive.

Sincerely,



Garry George
Clean Energy Director
Audubon
garry.george@audubon.org



Jeff Aardahl
California Representative
Defenders of Wildlife
jaardahl@defenders.org

13-D

Response to Comment Letter 13: National Audubon Society and Defenders of Wildlife (March 13, 2020)

- 13-A:** The comment indicates that the comment letter is on behalf of the National Audubon Society and Defenders of Wildlife and provides a brief description of these two organizations. The County acknowledges receipt of the comment letter by these organizations.
- 13-B:** The comment summarizes the location and provides a high-level description of the proposed BigBeau Solar Project. The comment provides a very brief summary of the project and its location which are described in more detail in the Chapter 3, *Project Description*, of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 13-C:** The comment explains that the Antelope Valley is recognized by the National Audubon Society as a Globally Important Bird Area and provides a description of that program and the rationale for the Antelope Valley's recognition which includes the presence of several sensitive birds, high concentrations of shorebirds in migration, and numerous waterfowl. The comment lists several sensitive species of birds in the area and provides an excerpt from the Important Bird Areas report relevant to the area.

The County acknowledges the National Audubon Society's recognition of the area. Section 4.4, *Biological Resources*, of the Draft EIR, describes the project site and surrounding area and the presence of sensitive bird species. Many of the species that are identified by the commenter are addressed in this section including burrowing owl, Northern Harrier, loggerhead shrike, Yellow-headed Blackbird which are state designated species of concern and present on the project site; mountain plover, a state designated species of concern with potential to occur on the project site; Le Conte's Thrasher and Tricolor blackbird which are state designated species of concern which are not expected to occur on the project site; and White-faced Ibis, Ferruginous Hawk, and prairie falcon which were all observed on the project site and are not state designed species of concern but are on the CDFW watch list. Several of the species that were identified by the commenter as relevant to Antelope Valley were not relevant to the project site because of their very low probability of presence and therefore were not addressed further in the Draft EIR. These include the redhead, Snowy plover, long-billed curlew, short eared owl, long eared owl, yellow warbler, and yellow-breasted chat. The comment has been noted for the record and revisions to the Draft EIR are not necessary. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 13-D:** The comment thanks the County for its data and analysis of Swainson's hawk and describes a voluntary collaboration between Audubon, Defenders, and the project applicant, EDF Renewables, to conduct further research on the Swainson's hawk and to establish a conservation fund. The County acknowledges the appreciation. The data and analysis referenced by the commenter can be found in the Section 4.4, *Biological Resources*, and Appendix E, Biological Reports, of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Comment Letter No. 14: Adams Broadwell Joseph & Cardozo

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201
FAX: (916) 444-6209

amessing@adamsbroadwell.com

SO. SAN FRANCISCO OFFICE

601 GATEWAY BLVD., SUITE 1000
SO. SAN FRANCISCO, CA 94080

TEL: (650) 589-1660
FAX: (650) 589-5062

DANIEL L. CARDOZO
CHRISTINA M. CARO
SARA F. DUDLEY
THOMAS A. ENSLOW
ANDREW J. GRAF
TANYA A. GULESSERIAN
KENDRA D. HARTMANN*
KYLE C. JONES
RACHAEL E. KOSS
NIRIT LOTAN
AARON M. MESSING
WILLIAM C. MUMBY
CAMILLE G. STOUGH

MARC D. JOSEPH
Of Counsel

*Admitted in Colorado

March 24, 2020

Via E-Mail Only

Terrance Smalls
Kern County Planning Department
2700 M Street
Suite 100
Bakersfield, CA 93301-2323
Email: SmallsT@kerncounty.com

Re: Comments on the Draft Environmental Impact Report –
BigBeau Solar Project

Dear Mr. Smalls:

On March 13, 2019, Citizens for Responsible Solar (“Citizens”) submitted comments on the BigBeau Solar Project (“Project”) proposed by EDF Renewables (“EDFR”) alleging various errors and omissions in the County’s environmental analysis under the California Environmental Quality Act (“CEQA”). Among those was the lack of information on current Swainson’s Hawk nesting activity and inadequate measures to protect the Swainson’s Hawk. Subsequently, we learned that on the same day, EDFR, National Audubon Society (“Audubon”) and Defenders of Wildlife (“Defenders”) entered into an agreement that provides for new research and a conservation fund to provide support and funding for the study and conservation of the Antelope Valley region Swainson’s Hawk population. This new information shows that EDFR’s collaboration with Audubon and Defenders will (1) provide an update on the current status and distribution of nesting Swainson’s Hawk in the Antelope Valley and current foraging, nesting and breeding behaviors, (2) inform a conservation strategy for Swainson’s Hawk in the Antelope Valley and (3) establish a Swainson’s Hawk Conservation Fund to implement conservation actions recommended by the research that will be overseen by Defenders.

4423-010acp

14-A

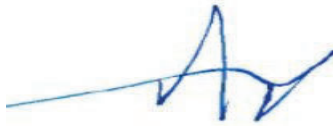
Comment Letter No. 14: Adams Broadwell Joseph & Cardozo

March 24, 2020
Page 2

Based on our review of this new information, Citizens' concerns have been settled and resolved and Citizens has no further objections to the Project.

Thank you for your attention to this important matter.

Sincerely,



Aaron Messing

AMM:acp

↑
14-A
(cont.)
↓

Response to Comment Letter 14: Adams Broadwell Joseph & Cardozo (March 24, 2020)

- 14-A:** On March 24, 2020, Adams Broadwell Joseph & Cardozo submitted a subsequent comment letter to Kern County stating that they learned that EDFR entered into an agreement that provides for new research and a conservation fund for the Antelope Valley region; therefore, their “concerns have been settled and resolved and Citizens has no further objection to the Project.”

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo
ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037

TEL: (650) 589-1660
FAX: (650) 589-5062

amessing@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201
FAX: (916) 444-6209

DANIEL L. CARDOZO
CHRISTINA M. CARO
SARA F. DUDLEY
THOMAS A. ENSLOW
ANDREW J. GRAF
TANYA A. GULESSERIAN
KENDRA D. HARTMANN*
KYLE C. JONES
RACHAEL E. KOSS
NIRIT LOTAN
AARON M. MESSING
WILLIAM C. MUMBY
CAMILLE G. STOUGH

MARC D. JOSEPH
Of Counsel

**Admitted in Colorado*

March 13, 2020

Via U.S. Mail and Electronic Mail

Terrance Smalls
Kern County Planning Department
2700 M Street
Suite 100
Bakersfield, CA 93301-2323
Email: SmallsT@kerncounty.com

Re: Comments on the Draft Environmental Impact Report – BigBeau Solar Project

Dear Mr. Smalls:

On behalf of Citizens for Responsible Solar, we submit these comments on the BigBeau Solar Project (“Project”) proposed by EDF Renewables (“Developer”). The Project proposes to construct and operate a photovoltaic (PV) solar power facility that would provide up to 128 megawatts (MW) of power and store up to 60 MW of energy in a Battery Energy Storage System (“BESS”) for the California grid. The Project site is located on approximately 2,185 acres of privately-owned property and 160 acres of land owned by the California State Lands Commission in unincorporated Kern County.

The Project will require the following approvals: **(a)** Two (2) Zoning Classification Changes (ZCC) from the existing Zone District PLS RS FPS (Platted Lands-Residential Suburban Combining-Floodplain Secondary Combining) to A FPS (Exclusive Agriculture-Floodplain Secondary Combining) on 66 acres (ZCC 13, Map 215) and from the existing zoning district E (10) RS FPS (Estate) to A FPS on 456.9 acres, E (10) RS GH FPS (Geological Hazard Combining) to A GH FPS on 2.7, E (10) RS MH FPS (Mobilehome Combining) to A FPS on 10.1 acres, E (2 ½) RS FPS to A FPS on 110.9 acres, E (20) RS FPS to A FPS on 630.8 acres, E (20) RS GH FPS to A GH FPS on 9.6 acres, E (5) RS FPS to A FPS on 80.6 acres (ZCC 44, Map 4423-009acp

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232); **(b)** two (2) Conditional Use Permits, each to allow for the construction and operation of a solar photovoltaic electrical generating facility (Section 19.12.030.G) in an A District (CUP 13, Map 215; CUP 41, Map 232); **(c)** two (2) Conditional Use Permits, each to allow for the construction and operation of a communication tower (Section 19.12.030.F) in an A District (CUP 14, 215; CUP 42, Map 232); **(d)** two (2) Conditional Use Permits, each to allow for the construction and operation of a concrete batch plant (Section 19.12.030.G) in an A District (CUP 15, Map 215; CUP 43, Map 232); **(e)** Amendment to the Circulation Element of the Kern County General Plan to remove sections and midsection line road reservations, as follow: the east half of the Section line between Section 27, T10N, R14W and Section 34, T10N, R14W; the Section line between Section 34, T10N, R14W and Section 3, T9N, R14W; the south half of the Section line between Section 34, T10N, R14W and Section 35, T10N, R14W; the Section line between Section 35, T10N, R14W and Section 2, T9N, R14W; the south half of the north-south mid-section line Section 35, T10N, R14W (General Plan Amendment 4, Map 215); **(f)** Amendment to the Willow Spring Specific Plan to remove sections and midsection line road reservations, as follow: the Section line between Section 4, T9N, R14W and Section 3, T9N, R14W; the north half of the Section line between Section 9, T9N, R14W and Section 10, T9N and R14W; the north half of the north half of the north-south mid-section line of Section 3, T9N, R14W; the north half of the of the north-south mid-section line of Section 10, T9N, R14W; the north half of the north half of the Section line between Section 3, T9N, R14W and Section 2, T9N, R14W; the north half of the north-south mid-section line of Section 2, T9N, R14W (Specific Plan Amendment 32, Map 232); and **(g)** vacation of existing public easements on the project site.

Based upon our review of the DEIR, appendices, and other relevant records, we conclude that the DEIR fails to meet the requirements of CEQA. First, the Project description is inadequate, as it fails to adequately describe Project decommissioning. Second, the DEIR fails to properly disclose, analyze and mitigate the Project's potentially significant impacts on biological resources, air quality, and noise impacts.

We prepared these comments with the assistance of expert biologist Renee Owens, M.S, air quality and hazards experts Matt Hagemann, P.G., C.Hg. of Soil / Water / Air Protection Enterprise ("SWAPE"), and noise expert Derek Watry. Their technical comments and *curricula vitae* are attached hereto as Exhibits A, B, and C and are fully incorporated herein.

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We urge Kern County to direct staff to prepare and recirculate a revised DEIR that describes the whole project and properly discloses, analyzes, and mitigates the Project's potentially significant impacts, as required by CEQA. We reserve the right to supplement these comments at future hearings on the Project.

15-A

I. STATEMENT OF INTEREST

These comments are submitted on behalf of Citizens for Responsible Solar. Citizens is an unincorporated association of individuals and labor organizations with members who may be adversely affected by the potential public and worker health and safety hazards and environmental and public service impacts of the Project. The association includes Kern County residents, California Unions for Reliable Energy ("CURE") and its local affiliates, and the affiliates' members and their families, as well as other individuals who live, work and recreate in Kern County. Accordingly, they would be directly affected by the Project's environmental and health and safety impacts. Individual members of Citizens may also work on the Project itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants or other health and safety hazards that exist onsite.

Citizens' members also have an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for the members that they represent. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for industry to expand in Kern County, and by making it less desirable for businesses to locate and people to live and recreate in the County. Continued degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduces future employment opportunities.

15-B

Finally, the members of Citizens are concerned with projects that can result in serious environmental harm without providing countervailing economic benefits. CEQA provides a balancing process whereby economic benefits are weighted against significant impacts to the environment. It is in this spirit that we offer these comments.

II. LEGAL BACKGROUND

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain

15-C

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limited circumstances).¹ The EIR is the very heart of CEQA.² “The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.”³

CEQA has two primary purposes, none of which is fulfilled by the DEIR. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.⁴ “Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR “protects not only the environment but also informed self-government.”⁵ The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”⁶

Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring “environmentally superior” alternatives and all feasible mitigation measures.⁷ The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.”⁸ If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”⁹

While the courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported*

¹ See, e.g., PRC § 21100.

² *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.

³ *Comtys. for a Better Env’ v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 (“*CBE v. CRA*”).

⁴ 14 CCR § 15002(a)(1).

⁵ *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.

⁶ *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal. App. 4th 1344, 1354 (“*Berkeley Jets*”); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

⁷ 14 CCR § 15002(a)(2) and (3); see also *Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564.

⁸ 14 CCR § 15002(a)(2).

⁹ PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B).

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*study is entitled to no judicial deference.*¹⁰ As the courts have explained, “a prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.”¹¹

15-C

III. THE DEIR FAILS TO ADEQUATELY DESCRIBE THE PROJECT

The DEIR fails to meet CEQA’s requirements because it lacks an accurate, complete, and stable project description, rendering the entire environmental impacts analysis inadequate. California courts have repeatedly held that “an accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient [CEQA document].”¹² CEQA requires that a project be described with enough particularity that its impacts can be assessed.¹³ Accordingly, a lead agency may not hide behind its failure to obtain a complete and accurate Project description.¹⁴

It is impossible for the public to make informed comments on a project of unknown or ever-changing description. California courts have held that “a curtailed or distorted project description may stultify the objectives of the reporting process.”¹⁵ Furthermore, “only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental cost...”¹⁶ As articulated by the court in *County of Inyo v. City of Los Angeles*, “a curtailed, enigmatic or unstable project description draws a red herring across the path of public input.”¹⁷ Without a complete project description, the environmental analysis under CEQA is impermissibly limited, thus minimizing the project’s impacts and undermining meaningful public review.¹⁸

15-D

¹⁰ *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391 409, fn. 12.

¹¹ *Berkeley Jets*, 91 Cal.App.4th at 1355; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.

¹² *County of Inyo v. City of Los Angeles* (3d Dist. 1977) 71 Cal.App.3d 185, 193.

¹³ *Id.* at p. 192.

¹⁴ See *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.

¹⁵ *County of Inyo v. City of Los Angeles* (3d Dist. 1977) 71 Cal.App.3d 185, 192.

¹⁶ *Id.* at p. 192-193.

¹⁷ *Id.* at p. 198.

¹⁸ See, e.g., *Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1988) 47 Cal.3d 376. 4423-009acp

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An accurate and complete project description is necessary to perform an adequate evaluation of the potential environmental effects of a proposed project. In contrast, an inaccurate or incomplete project description renders the analysis of environmental impacts inherently unreliable. Without a complete project description, the environmental analysis under CEQA will be impermissibly narrow, thus minimizing the project's impacts and undercutting public review.¹⁹

15-D

A. The DEIR Fails to Adequately Describe Project Decommissioning

The project description must include, but is not limited to, "later phases of the project, and any secondary, support, or off-site features necessary for its implementation."²⁰ The requirements of CEQA cannot be avoided by chopping a large project into many little ones or by excluding reasonably foreseeable future activities that may become part of the project.²¹

Under the "project overview" section of the DEIR, Kern County provides an insufficient description of the Project's decommissioning. The DEIR very briefly describes, in less than one page, standard decommissioning practices today: project structures would be removed from the ground on the project site; removal of module posts and support structures, on-site transmission poles that are not shared with third parties, and the overhead collection system within the project site; inverters, transformers, electrical wiring, and equipment on the inverter pads."²² The DEIR then describes, in general terms, the collection and disposal of the Project components.

15-E

This woefully brief description does not comply with CEQA, and the DEIR does not fulfill its purpose as a tool to inform the public. The DEIR states that a "Decommissioning Plan"²³ will be created and reviewed, but offers completely inadequate discussion or analysis of scope, extent, methods, goals, objectives, or any performance criteria for how hazardous wastes will be safely disposed of such that they do not cause significant or unmitigable contamination to biological resources. The steps and potentially significant environmental impacts of the decommissioning

¹⁹ See, e.g. *id.*

²⁰ *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283 - 84.

²¹ PRC § 21159.27 (prohibiting piecemealing); see also, *Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 370.

²² DEIR, p. 3-40.

²³ Mitigation Measure 4.11-1.

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and restoration phase of the Project must be described and analyzed in a revised and recirculated DEIR, with the fullest degree of detail available, in order to provide the public with sufficient information to permit “an intelligent evaluation of the potential environmental effects of [the] proposed activity.”²⁴ Further, any analysis of decommissioning should at a minimum address the realities of toxins and their potential for habitat disruption and species bioaccumulation as an inherent part of the potentially significant impacts caused by industrial scale PV solar development.²⁵ Without such, the long-term impacts of toxic waste deconstruction and disposal on sensitive species and habitats remain completely unaddressed.²⁶

15-E

IV. THE DEIR FAILS TO DISCLOSE, ANALYZE, AND MITIGATE THE PROJECT’S BIOLOGICAL IMPACTS

According to the DEIR, the Project site contains a wide variety of vegetation and wildlife, including at least twenty special-status wildlife species that have been historically recorded within the vicinity of the Project site.²⁷ Despite that, as described below, the DEIR fails to properly disclose and analyze the Project’s impacts on many of the biological resources within the Project Site and nearby vicinity. The DEIR fails to properly establish the existing setting for some of the resources and fails to adequately disclose and analyze the impacts on other resources. With regard to mitigation, many of the proposed mitigation measures fail to mitigate the impact to a less than significant level or to the degree purported by the DEIR, and some biological resource mitigation measures are completely missing from the DEIR.

15-F

A. The DEIR’s methodology for conducting species survey is misleading and may lead to inaccurate diagnosis of biological impacts

The DEIR’s Biological Technical Report contains several tables with data and personnel names providing the methodology for the general biological resource surveys, habitat assessments, and focused and protocol surveys.²⁸ Within this data, Ms. Owens identified numerous instances where the Tables make it appear that

15-G

²⁴ *San Joaquin Raptor vs. County of Stanislaus*, (1994) 27 Cal. App. 4th 713, 730.

²⁵ Exhibit A: Renee Owens, M.S. comments (Owens comments), p. 33–34.

²⁶ Owens comments, p. 34.

²⁷ DEIR, p. 4.4-37.

²⁸ Biological Technical Report, Ch. 3 p. 13.

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biologists conducted various focused, protocol surveys concurrently. For example, Table 3 shows that in 2018 biologists were conducting Desert Tortoise protocol surveys on April 9 and 10 from early morning until late afternoon.²⁹ However, Table 2 shows biologists conducting focused Burrowing Owl surveys on April 9 through 11, and names of the biologists involved.³⁰ In the same table the same biologists are listed as conducting surveys on April 9 and 10 for “Desert Tortoise; Desert Kit Fox and American Badger Burrow Mapping; Protected Cactus and Yucca Species Mapping.”³¹

This method of survey is not an accepted protocol for surveying special status species, which is necessary to establish the existing environmental setting for biological resources, as required by CEQA. As Ms. Owens notes, a review of any random assortment of biological technical reports prepared for the purpose of fulfilling CEQA requirements of a biological resource analysis will show that focused surveys are conducted literally as such, where the biologist is ‘focusing’ on the species for which the protocol has been designated, and not splitting his or her time attempting a protocol, habitat, or reconnaissance survey while also attempting to observe the ground, vegetation, underground (denning and burrowing species) and skies all at once for all other vertebrate, invertebrate, and plant species that may also be present at any given time on and near the site.³² The demonstrated need for species-intensive focus is a reason why the agencies require that protocol surveys be conducted for *one* focal species at a time.³³

Ultimately, due to the lack of specificity in the tables and the potential for biologists conducting surveys for all the different species with the potential to occur on site concurrently, substantial evidence shows that the surveys were not conducted to protocol requirements and may have increased the likelihood that they missed key individuals of sensitive species.³⁴

²⁹ Owens comments, p. 1.

³⁰ Owens comments, p. 1.

³¹ Owens comments, p. 1.

³² Owens comments, p. 2.

³³ USFWS. 2017. Preparing for Any Action That May Occur Within the Range of The Mojave Desert Tortoise (*Gopherus agassizii*).

https://www.fws.gov/nevada/desert_tortoise/documents/manuals/Mojave%20Desert%20Tortoise_Pre-project%20Survey%20Protocol_2017.pdf

³⁴ Owens comments, p. 2.

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B. The DEIR fails to disclose, analyze, and mitigate potentially significant impacts to special status species

The DEIR concludes that 14 special-status animal species have the potential to occur on the Project site, of which 11 are either present within the project study area or have a moderate potential to occur.³⁵ The DEIR assumes that the Project could have significant impacts on the special-status animal species with potential to occur at the site. However, the DEIR fails to properly establish the baseline for each species, fails to analyze the potential impacts to the species, and fails to provide all feasible mitigation for potentially significant impacts to those species.

15-H

1. Swainson's Hawk

The DEIR states that:

Ongoing surveys for burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), desert kit fox (*Vulpes macrotis arsipus*), and rare plants from the first week in April to the last week in June confirmed the absence of any Swainson's Hawk ("SWHA") nesting activity within the actual project footprint or associated survey buffer areas for these resources.³⁶

15-I

However, one cannot draw conclusive determinations of a bird's absence when not conducting protocol surveys for the species.³⁷ According to the DEIR, the surveyors were focused on a number of other tasks, e.g., surveying all plants, mapping rare plants, writing notes about GPS locations and names of species, perusing botanical guides for identification of species, searching for burrow-dwelling species while walking protocol transects. Additionally, given the over 81,000 acres to be surveyed in the "5-mile radius from Project disturbance" required by CDFW survey protocol, it is physically impossible for comprehensive surveys to be conducted for the SWHA, as purported by the DEIR.³⁸

The DEIR's finding also stands in contrast to numerous factors that indicate SWHA presence may be significantly higher than the DEIR discloses, including models predicting high use for SWHA foraging and nesting within the Project site

15-J

³⁵ DEIR, Table 4.4-5.

³⁶ DEIR Vol. 2-3 p. 649.

³⁷ Owens comments, p. 3.

³⁸ Owens comments, p. 4.

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and multiple on-the-ground, recent observations of SWHA in EIR comments for similar, nearby projects.³⁹ Ms. Owens's letter presents substantial evidence that not only does the Project site contain more nesting habitat suitable for SWHA than the DEIR suggests, but significant impacts to SWHA can come from impacts to relatively few SWHA, as few as one pair of SWHA.⁴⁰ Moreover, she indicates that the very reason the DEIR is able to claim the SWHA "has a decreasing presence in [the Project] area"⁴¹ might be due to cumulative impacts from solar projects like the one currently before Kern County.⁴² Thus, the incomplete and subsequent underestimation of SWHA cannot constitute substantial evidence supporting the DEIR's conclusions that impacts to the SWHA will be less than significant.

15-J

In addition to the DEIR's failure to establish a complete baseline analysis, Ms. Owens indicates that many mitigation measures proposed by the DEIR to mitigate impacts to SWHA from the Project are inadequate. For example, Measures 4.4-7 and 4.4-2 represent attempts to mitigate biological impacts that have no history of actually being effective mitigators for these impacts. With respect to Measure 4.4-7, Ms. Owens notes that

"In three decades as an environmental consultant, including serving as a biological monitor, I have never witnessed an industrial project manager agree to stopping work for a nesting raptor, especially because the required buffer for impact avoidance is unacceptable for their construction deadlines. A half mile buffer can encompass a large part of the project footprint, and to expect site managers to stop or postpone work on anywhere from one quarter to half the site is unrealistic, they will claim economic hardship to override the buffer requirement and request a variance."

15-K

To remedy this insufficiency, Ms. Owens recommends an agreement whereby the Project proponent guarantees MM 4.4-7 will be enforced as scripted, or alternatively avoid construction during the bird breeding season altogether.⁴³ Likewise, for MM 4.4-2, Ms. Owens notes "t[here is no empirical evidence, indeed not even anecdotes, that demonstrate that [] 'awareness' trainings about wildlife measurably or reliably reduce significant impacts to wildlife species to less than significant." If the County intends to use this Measure as a means of mitigating biological impacts, it must

³⁹ Owens comments, p. 4–7.

⁴⁰ Owens comments, p. 6.

⁴¹ DEIR, p. 4.4-71.

⁴² Owens comments, p. 5–6.

⁴³ Owens comments, p. 8.

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provide empirical evidence demonstrating the efficacy of these types of measures in preventing harm to biological resources. As drafted, the EIR's mitigation measures are unenforceable and ineffective at reducing the Project's significant impacts.

15-K

For the above reasons, the County must revise the DEIR following thorough surveys with all methodology and survey data mapped and reported. The County must then revise the impact analysis and include appropriately detailed construction and operational mitigation recommendations for the SWHA.

15-L

2. Tricolored Blackbird

The DEIR makes multiple mistakes in disclosing and analyzing impacts to the tricolored blackbird. First, the DEIR incorrectly categorizes the tricolored blackbird's conservation status. The tricolored blackbird (*Agelaius tricolor*) is protected as Threatened under the CESA, not as a Species of Special Concern, or State Candidate as the DEIR states.⁴⁴ The DEIR also incorrectly states that habitat to support this species is absent from the Project site.⁴⁵ In 2016, eBird ornithologists reported tricolored blackbirds present at a birding hotspot 2.6 miles south of the Project site.⁴⁶ The DEIR must rectify these oversights and address potentially significant impacts to habitat and necessary mitigation to reduce those impacts to individuals and the regional population.

15-M

C. The DEIR fails to disclose, analyze, and mitigate potentially significant direct and indirect operational impacts to resident and migratory birds

With respect to operational impacts to special status species, the DEIR states:

Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because project implementation would remove habitat for special-status species on the project site, which would restrict sensitive wildlife species movement into the project site. Additionally, Mitigation Measure MM 4.4-3 require methods designed to reduce wildlife

15-N

⁴⁴ Owens comments, p. 10.

⁴⁵ Owens comments, p. 10–11.

⁴⁶ Owens comments, p. 11.

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mortality and impacts, promote long-term project site suitability, and educate onsite personnel...⁴⁷

The DEIR also states:

Direct and indirect impacts to avian species may occur during project operation and maintenance through individual collisions with project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment...Such collisions can result in injury or mortality of avian species from electrocution, including in the case of power lines. Collisions with project facilities and equipment would be considered a potentially significant impact under CEQA.⁴⁸

In summarizing these two points, the DEIR nonetheless concludes that

The residual effects on migratory birds of the project were determined to be less than significant...PV panels have the potential to cause impacts to migratory birds associated with collisions. Little is known about the potential for impacts to migratory birds associated with the lake effect...No formal studies have been conducted at commercial-scale solar projects that establish a clear causal link between such projects and the types of avian mortality and injury documented on existing solar project sites.⁴⁹

This conclusion cannot be sustained by the overwhelming evidence, widely demonstrated for decades, that birds of many species have been noted to strike solar panels, causing injury and death.⁵⁰ Ms. Owens produces the following substantial evidence demonstrating that panels cause injury and death to birds of many species, including protected ones where loss of even a few breeding adults can significantly alter their regional population status.⁵¹ This evidence is all the more relevant given that the project is in direct line of a major flyway to the Salton Sea, which includes a stopover for millions of birds.⁵²

⁴⁷ DEIR, p. 4.4-73.

⁴⁸ DEIR, p. 4.4-73.

⁴⁹ DEIR, p. 4.4-74.

⁵⁰ Owens comments, p. 12.

⁵¹ Owens comments, p. 12.

⁵² Owens comments, p. 12.

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Table 1

Avian Mortality Summary

This table provides a partial summary of avian mortalities documented at select solar facilities in desert regions of California between January 2012 and March 2016. This summary is not comprehensive for any category, is limited to projects that have provided mortality data, and is from data provided by the CDFW and USFWS in July 2016 in response to a Freedom of Information Act request. Blank cells indicate a lack of data provided in the report.

<u>Doc No.</u>	<u>Monitoring Dates</u>	<u>Facility</u>	<u>Developer</u>	<u>MW / Type (PV or Solar thermal)</u>	<u>Location</u>	<u>Lead Agency</u>	<u>Deaths</u>	<u>Species</u>
2H	4/21/2014 - 9/10/2014	Stateline Solar Project	First Solar	300 / PV	San Bernardino County	BLM	13	Rock Pigeon Orange-crowned Warbler Yellow-rumped Warbler Brewer's Blackbird Black-throated Sparrow Orange-crowned Warbler Wilson's Warbler Red-tailed Hawk California Myotis Sora Western Tanager Lesser Nighthawk
1Q	Q4 2013 10/2013 – 12/2013	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	36	Specific species not identified
1A	Q1 2014 01/2014 – 03/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	17	Mourning Dove Sora American Kestrel Snowy egret Indian peafowl American Coot Red-tailed Hawk Burrowing Owl
1O	Q2 2014 04/2014 – 06/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	10	Mourning Dove Sora Lesser Nighthawk Dove sp. Unknown

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1P	Q3 2014 07/2014 – 09/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	30	Mourning Dove Sora Lesser Nighthawk Dove sp. American Coot Burrowing Owl Eurasian Collared Dove Common Ground Dove Unknown
1RA 1RB 1RC	Q4 2014 10/2014 – 12/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	34	Sora American Kestrel Mourning Dove Dove sp. Eurasian Collared Dove American Coot White-winged Dove Savannah Sparrow Common Gallinule Rock Dove Unknown
1SA 1SB 1SC	Q1 2015 01/2015 – 03/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	24	Eurasian Collared Dove American Coot Burrowing Owl (2) Horned Lark <i>Icteridae</i> sp. Mourning Dove Cattle Egret Sora Unknown bird
1TA 1TB 1TC	Q2 2015 04/2015 – 06/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	22	Virginia Rail White-crowned Sparrow Western Meadowlark Common Gallinule Sora Eurasian Collared Dove American Coot <i>Parulidae</i> sp. Common Grackle Cliff Swallow <i>Trochilidae</i> sp. Lesser Nighthawk Pacific Loon Mourning Dove Say's Phoebe Unknown bird

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1UA Missing August 1UC	Q3 2015 07/2015 – 09/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	45+ missi ng Augus t data	Lesser Nighthawk Horned Lark Mourning Dove Western Grebe Eurasian Collared Dove Mexican Free-tailed Bat Sora <i>Columbidae</i> sp. Common Gallinule California Towhee
1VA 1VB 1VC	Q4 2015 10/2015 – 12/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	69	Sora <i>Columbidae</i> sp. Eurasian Collared Dove Common Gallinule White-winged Dove Virginia Rail <i>Ardeidae</i> sp. American Coot Western Meadowlark Mourning Dove Black Phoebe Say's Phoebe Burrowing Owl (3) Greater Roadrunner Mallard Vesper Sparrow Blue-footed Booby European Starling Unknown bird
1WA 1WB 1WC	Q1 2016 01/2016 – 03/2016	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	35	Mourning Dove Sora Dove Sp. Western Meadowlark Black Phoebe Rock Pigeon American Coot Red-tailed Hawk <i>Emberizidae</i> sp. Eurasian Collared Dove White-faced Ibis Savannah Sparrow Surf Scoter Barn Owl Le Conte's thrasher

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1J	Quarterly Report 07/2013 – 09/2013	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	6	
1K	Quarterly Report 01/2014 – 03/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	11	
1L	Quarterly Report 04/2014 – 06/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	5	
1M	Quarterly Report 07/2014 – 09/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	8	
1N	Quarterly Report 01/2015 – 03/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	5	
1B	1st Quarterly Post-Construction Report 08/2012 – 11/2012	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	53	Short-eared Owl (2) Burrowing Owl (3) Blackbird sp. Savannah Sparrow Western Meadowlark Red-tailed Hawk Mourning Dove Fox Sparrow Common Raven CA Horned Lark Northern Flicker Lincoln's Sparrow Long-eared Owl American Crow
1C	2nd Quarterly Post-Construction Report	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	144	

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	11/2012 – 02/2013							
1D	3 rd Quarterly Post-Construction Report 02/2013 – 05/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	84	
1E	4 th Quarterly Post-Construction Report 05/2013 – 08/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	89	
1F	5 th Quarterly Post-Construction Report 08/2013 – 11/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	103	
1G	6 th Quarterly Post-Construction Report 11/2013 – 02/2014	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	152	
1H	7 th Quarterly Post-Construction Report 02/2014 – 05/2014	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	54	

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1I	8 th Quarterly Post- Constructi on Report 05/2014 – 08/2014	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	24	
1X	08/2011 – 12/2011	Desert Sunlight	NextEra	550 / PV	Riverside County	Bureau of Land Manageme nt (BLM)	8	Burrowing Owl Western Grebe Eared Grebe American Coot
1X	Q1 2012 01/2012 – 03/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	3	American Avocet Loggerhead Shrike (6) Mourning Dove Common Loon (5)
1X	Q2 2012 04/2012 – 06/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	3	Sora Wilson's Warbler Brown Pelican Common Raven
1X	Q3 2012 07/2012 – 09/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	10	Double-crested Cormorant Great-Tailed Grackle Ruddy Duck Ash-throated Flycatcher
1X	Q4 2012 10/2012 – 12/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	10	Brown-headed Cowbird Common Poorwill Horned Lark Sagebrush Sparrow
1X	Q1 2013 01/2013 – 03/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	3	Townsend's Warbler Western Tanager White Crowned Sparrow Yellow Headed Blackbird
1X	Q2 2013 04/2013 – 06/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	20	Black Headed Grosbeak Brewer's Blackbird Common Yellowthroat Costa's Hummingbird
1X	Q3 2013 07/2013 – 09/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	25	House Finch Lesser Nighthawk Pied-billed Grebe Say's Phoebe
1X	Q4 2013 10/2013 – 12/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	26	Sparrow Sp. Virginia Rail Yellow-rumped Warbler American Kestrel

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1X	Q1 2014 01/2014 – 03/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	4	American White Pelican (1) Barn Owl Black-crowned Night-Heron Black-tailed Gnatcatcher
1X	Q2 2014 04/2014 – 06/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	18	Blue-winged Teal Clapper Rail Common Merganser Great Egret
1X	Q3 2014 07/2014 – 09/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	15	Lesser Scaup Long-eared Owl Mallard Northern Mockingbird
1X	Q4 2014 10/2014 – 12/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	10	Prairie Falcon Red-breasted Merganser Redhead Red-necked Phalarope Red-winged Blackbird Savannah Sparrow Surf Scoter Tree Swallow Blackbird sp. Duck sp. Empidonax Flycatcher sp. Hummingbird sp. Jaeger sp. Verdin Western Meadowlark White-faced Ibis White-winged Dove Wilson's Snipe Yellow Warbler
2A	1 st Quarterly Report 08/2014 – 10/2014	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	21	American Coot Mallard Buteo Sp. American Kestrel Heron/Egret Sp. Tern Sp. Savannah Sparrow Dove Sp. Unknown bird
1Y	2 nd Quarterly Report 11/2014 – 01/2015	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	27	Burrowing Owl (5) American Coot Mourning Dove Eurasian Collared Dove White-winged Dove Rock Pigeon

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								Dove Sp. Heron/Egret Sp. Greater Roadrunner Dove Sp.	15-N
1Z	3 rd Quarterly Report 02/2015 – 04/2015	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	13	Lesser Nighthawk Common Gallinule Mourning Dove White-winged Dove Rock Pigeon Mallard Black-crowned Night Heron Unknown	
2BA 2BB 2BC	4 th Quarterly Report 05/2015 – 07/2015	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	9	Brant (1) Mourning Dove <i>Columbidae</i> sp. Eurasian Collared Dove Black-crowned Night-heron American Kestrel Unknown	
2CA 2CB	11/2013 - 12/2013	Imperial Solar Energy Center South	Tenaska	130 / PV	Imperial County	Imperial County	5	American Coot	
2DA 2DB 2DC	01/2014 – 03/2014	Imperial Solar Energy Center South	Tenaska	130 / PV	Imperial County	Imperial County	5	Mourning Dove Cattle Egrets Sora	
2EA 2EB 2EC	07/2015 – 09/2015	McCoy	NextEra	750 / PV	Riverside County	BLM	29		
2FA 2FB 2FC	10/2015 – 12/2015	McCoy	NextEra	750 / PV	Riverside County	BLM	91		
2G	01/01/16	McCoy	NextEra	750 / PV	Riverside County	BLM	10		

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This substantial evidence is supported by copious amounts of research showing that significant bird collision risks are created and enhanced by the presence of reflective solar arrays at solar industrial projects, regardless of differences in design of the panels between projects, and locations of these industrial sites due to the panel's reflectivity and 'lake effect.'⁵³ This research indicates that total avian deaths from collisions with the Project's solar panels during its lifetime could total more than 16,000, and the cumulative impact of the solar panel buildout in California could total bird deaths from 548,000 to over 4 million.⁵⁴

In spite of this evidence, the DEIR maintains further that "[t]he project is unlikely to be large enough to result in raptor mortality impacts that exceeds background levels enough to have an adverse effect on the overall population" and then, despite this, identifies mitigation for reflectivity of the solar panels to prevent collisions.⁵⁵ However, the discussion above regarding the fragility of the SWHA population and the DEIR's lack of support for the efficacy of its purported mitigation results in the DEIR violating CEQA's requirement to disclose, analyze, and mitigate.

For example, the DEIR states that "the majority of current solar projects make use of non-reflective glass that minimizes the lake effect," but provides no evidence to support this statement. The DEIR also contains no requirements within the Project's mitigation measures to ensure the Project will use this non-reflective glass.⁵⁶ Moreover, the assumption that a non-reflective coating will reduce bird strikes to panels is completely untested and at odds with the need for efficiency and maximum output for the solar panels.⁵⁷

Thus, in concluding that significant operational direct and indirect impacts to birds will occur as a result of the Project and associated cumulative impacts and will not be mitigated by the proposed mitigation measures, Ms. Owens recommends the following measures be taken:⁵⁸

⁵³ Owens comments, p. 16.

⁵⁴ Owens comments, p. 15.

⁵⁵ DEIR, p. 4.4-73.

⁵⁶ Owens comments, p. 19.

⁵⁷ Owens comments, p. 19.

⁵⁸ Owens comments, p. 20.

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1. Conduct appropriate resident, nesting, and migratory bird surveys to establish a comprehensive baseline of existing conditions. “Incidental” observations are inadequate and do not provide necessary data on nesting, abundance, density, seasonality, etc. required to analyze appropriate mitigation measures.
2. Establish mitigation measures that will minimize the injury and death of potentially thousands of birds throughout the life of the Project, including how impacts to all of the special-status birds observed onsite will be mitigated.
3. Describe, with details including performance and success criteria, any relevant enforcement, and a bond or other type of payment guarantee, for compensatory mitigation of the impacts discussed above, and for cumulative impacts (also discussed below).

15-P

Finally, the DEIR concludes that the cumulative impacts to biological resources will be significant and unavoidable to several special-status birds, but in doing so the DEIR provides no analysis regarding cumulative impacts to birds by way of strikes and electrocution. Yet the evidence provided by Ms. Owens shows that as a consequence of the cumulative impacts of renewable energy projects near the Project, bird migrations will be exposed to a potentially deadly obstacle course of wind turbines, major transmission lines, and reflective solar facilities, all primary sources of avian strikes and electrocution.⁵⁹ This further demonstrates that operational impacts to birds by this Project have been underestimated, resulting in significant unmitigated impacts.

15-Q

This failure to fully analyze cumulative impacts is striking when compared to decisions on other Kern County projects that consider cumulative impacts significant and unavoidable and subsequently pursue a statement of overriding considerations.⁶⁰ No doubt, justification for the Project comes both from the local and state-wide need for energy and the desire to mitigate anthropogenic climate change. But in making this consideration, it cannot be lost that a primary reason for slowing anthropogenic climate change is to reduce its damaging and disruptive effects on wildlife and their habitats, including the many ecosystem services these

⁵⁹ Owens comments, p. 21.

⁶⁰ Owens comments, p. 21.

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habitats provide when intact.⁶¹ By continually declaring cumulative impacts to biological resources significant and unavoidable and not attempting to seek other feasible methods of mitigation, e.g., compensatory mitigation, the DEIR attempts to sidestep one of the pillars of CEQA review and is quickly approaching a point where the adverse environmental effects will no longer be considered “acceptable.”⁶²

15-Q

D. The DEIR fails to disclose and analyze potentially significant impacts to the bat species

The DEIR takes significant note of the Desert Renewable Energy Conservation Plan (“DRECP”) which applies to this Project, including the following DRECP objective:

Provide for the long-term conservation and management of Covered Species within the Plan Area and preserve, restore, and enhance natural communities and ecosystems in which those species are found by focusing renewable energy development away from areas of greatest biological importance or sensitivity; coordinating and standardizing biological avoidance, minimization, mitigation, compensation, conservation, and management requirements for Covered Activities within the Plan Area; and taking other actions to meet conservation planning requirements in state and federal law.

15-R

In spite of this commitment, the DEIR fails to assess or discuss any bat species in its analysis of impacts, including two DRECP primary conservation covered species considered to have a high likelihood of occurring in and around the Project site, the Pallid bat (*Antrozous pallidus*) and Townsend’s big-eared bat (*Corynorhinus townsendii*).⁶³ Five other bat species are also considered as focal conservation targets, namely the California leaf-nosed bat (*Macrotus californicus*), Western mastiff bat (*Eumops perotis californicus*), Western red bat (*Lasiurus blossevallii*), Hoary bat (*Lasiurus cinereus*), and Cave myotis (*Myotis velifer*).⁶⁴ Without discussion of these species, the DEIR fails to disclose, analyze, and mitigate against potentially significant biological impacts, and therefore violates CEQA.

⁶¹ Owens comments, p. 30.

⁶² See CEQA Guidelines Section 15093(a).

⁶³ Owens comments, p. 21.

⁶⁴ Owens comments, p. 22.

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In contrast, Ms. Owens provides substantial evidence that not only are there protected bats likely to occur within the Project site, but that Project impacts can have a significant effect on those species.⁶⁵ Research has demonstrated that artificial light and noise can increase the risk of mortality and reduce foraging success by bats in both urban and rural settings.⁶⁶ Additionally, Table 1 shows that two species of bats, the California myotis and Mexican free-tailed bat, have been recorded as being killed from striking solar facility infrastructure. As such, bats could be impacted by the presence of electrical wires, artificial lighting by the Project, throughout the life of the Project, as well as by its other various anthropogenic disturbances in the form of noise, light, dust, barriers, negative attractants, etc.⁶⁷ The Project may also host roosting and foraging habitat for various bat species, potentially significant impacts that are also completely unaddressed by the DEIR.⁶⁸

15-R

For the DEIR to adequately analyze these potentially significant impacts, it must include a minimum of three principal ecological factors: magnitude and duration of the impact; rarity and context of the affected resource; and susceptibility of the affected resource to disturbance.⁶⁹ Since the DEIR fails to adequately evaluate potentially significant impacts to bat species, the DEIR violates CEQA.

E. The DEIR fails to adequately disclose and analyze potentially significant impacts to certain reptile species

Aside from the desert tortoise, the DEIR failed to conduct surveys for *any* reptile species. Although the DEIR claims the Project does not have suitable habitat for certain reptiles, previous surveys for solar projects immediately near the Project found at least two species of horned lizard and ten additional species of lizard common to the area.⁷⁰ These reptiles represent a key taxon in desert habitats and are highly sensitive to anthropogenic ground disturbances.⁷¹

15-S

⁶⁵ Owens comments, p. 22–23.

⁶⁶ Owens comments, p. 23.

⁶⁷ Owens comments, p. 23.

⁶⁸ Owens comments, p. 23.

⁶⁹ Owens comments, p.

⁷⁰ Owens comments, p. 24.

⁷¹ Owens comments, p. 24.

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Ms. Owens provides substantial evidence of the high likelihood that lizards and other reptile species are present on and near the Project site, citing a recent desert study that found 1,208 total captures of reptile species and revealed a high species richness and diversity.⁷² She also presents substantial evidence that the types of construction and operation impacts associated with solar projects will have a direct impact on reptile species located on the project site, including increased vehicle traffic, fencing trapping or funneling small species within a construction site, and the alteration of climates near the solar project.⁷³ To mitigate these impacts, Ms. Owens suggests including additional biologists present onsite during all hours of construction, enhanced traffic restrictions, and a reptile relocation Plan and Monitoring Strategy during the construction phase.⁷⁴

15-S

By not considering these impacts, the DEIR failed to sufficiently grapple with potentially significant biological impacts from the project and this must be remedied in a recirculated DEIR before the Project can be approved.

V. THE DEIR LACKS SUBSTANTIAL EVIDENCE TO SUPPORT ITS CONCLUSIONS REGARDING POTENTIALLY SIGNIFICANT IMPACTS ON AIR QUALITY AND PUBLIC HEALTH AND FAILS TO IMPLEMENT ALL FEASIBLE MITIGATION MEASURES TO REDUCE THOSE IMPACTS

Under CEQA, lead agencies must consider a project's impacts on air quality, including whether the project will "expose sensitive receptors to substantial pollutant concentrations."⁷⁵ The agency is required to disclose, analyze and propose mitigation to reduce the Project's construction and operation emissions of pollutants to less than significant levels. A project impact may only be considered significant and unavoidable after all available, feasible mitigation measures are considered.⁷⁶

15-T

As shown by SWAPE⁷⁷ and explained below, the DEIR analysis and conclusion are flawed and unsupported. Specifically, the DEIR relies on unsubstantiated construction emissions that may underestimate Project emissions.

⁷² Owens comments, p. 25.

⁷³ Owens comments, p. 26.

⁷⁴ Owens comments, p. 27.

⁷⁵ CEQA Guidelines, Appendix G, Section III: Air Quality.

⁷⁶ *Sierra Club v. Cty. of Fresno* (2018) 6 Cal. 5th 502, 524–25; *City of San Diego v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, 967.

⁷⁷ Exhibit A: SWAPE comments.

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As a result, the DEIR's conclusions regarding the Project's impacts on air quality are not supported by substantial evidence. Moreover, multiple inadequate parameters in the County's health risk assessment ("HRA") render the analysis incomplete. Both issues must be remedied in a recirculated DEIR.

15-T

Additionally, SWAPE finds that the DEIR's "significant and unavoidable" determination for air quality impacts is incorrect, as "[a]dditional feasible mitigation measures exist that should be identified and incorporated...[which would] reduce the Project's air quality impacts to the maximum extent possible."⁷⁸ Until all feasible mitigation is considered and incorporated into the Project's design, the County cannot consider the Project's air impacts significant and unavoidable.

15-U

A. The DEIR underestimates Project emissions by failing to evaluate the feasibility of obtaining Tier 3 equipment.

The Project's mitigation measure 4.3-1(a), intended to reduce NO_x and PM emissions during construction, states:

Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available.⁷⁹

The air quality analysis performed by the County assumes the use of Tier 3 construction equipment based on this mitigation measure. However, SWAPE notes that "Tier 3 equipment only accounts for approximately 12% of all off-road equipment currently available in California" and the County has made it possible for the Project to use lower tier equipment and still comply with the mitigation measure.⁸⁰ Because the County relies on this assumption for its air quality analysis but fails to support its assumption with any documentation or evaluation, the County's assumption cannot be relied upon as substantial evidence to support the County's ultimate determination. The County must either ensure that Tier 3 equipment will be available or modify its air analysis to incorporate the use of higher emitting off-road equipment engines.

15-V

⁷⁸ SWAPE comments at p. 2.

⁷⁹ DEIR, p. 4.3-39.

⁸⁰ SWAPE comments, p. 3.

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B. The DEIR inadequately evaluates potentially significant impacts on public health from diesel particulate matter emissions.

SWAPE's analysis indicates that the DEIR's construction and operational health risk assessments ("HRAs") are incomplete and must be revised in order to be relied upon by the County.

The DEIR concludes that:

Once operational, the project would require traveling to and from the project area to perform routine maintenance and occasional panel washing. However, vehicle emissions generated by these visits would mostly be from gasoline-powered passenger vehicles and pickups, which do not emit DPM. While diesel-powered pressure washers and trucks would be used during panel washing, DPM emissions would be minimal due to the short duration of these operations (10 days per year). Therefore, operation of the project would not result in an increase in DPM emissions.⁸¹

However, we have already shown above that the County's air quality analysis incorrectly underestimates construction emissions. Thus, the DEIR's construction HRA relies on a flawed analysis of air emissions, and the County must revise and recirculate a consistent and adequate air analysis before it can reliably compute the potentially significant health risks associated with the Project's construction.

Further, the DEIR fails to conduct an HRA quantifying the risk posed as a result of the Project's operation.⁸² This stands in contrast with the "recommendations set forth by the Office of Environmental Health and Hazard Assessment's (OEHHA) most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was cited in the DEIR."⁸³ OEHHA recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR). Failing to prepare an operational

⁸¹ DEIR, p. 4.3-43.

⁸² SWAPE Comments, p. 3.

⁸³ "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at:

<https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>.

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HRA to nearby, existing sensitive receptors is inconsistent with this guidance and thus, the DEIR completely lacks substantial evidence that no health risk is associated with the Project.⁸⁴

15-X

SWAPE also finds that the DEIR failed “to sum [the excess cancer risk calculated for each age group in order] to evaluate the total cancer risk over the course of the Project’s lifetime, including both construction and operation.”⁸⁵ SWAPE concludes that “[t]his is incorrect and thus, an updated analysis should quantify the Project’s construction and operational health risks and then sum them to compare to the EKAPCD threshold of 20 in one million.”⁸⁶ Without correction, the DEIR’s analysis is unsupported by substantial evidence and fails to comply with CEQA.

15-Y

C. The DEIR fails to include feasible mitigation measures before declaring the air quality impacts “significant and unavoidable.”

The DEIR determines that the Project’s construction NOx and PM10 emissions would be significant and unavoidable, even with the incorporation of Mitigation Measure 4.3-1.⁸⁷ However, in order to declare that a Project will have a significant and unavoidable environmental impact, agencies are required to implement all mitigation measures unless those measures are truly infeasible.⁸⁸ In its letter, SWAPE identifies feasible mitigation measures not proposed by the County that must be considered before a final determination is made that the Project’s air quality impacts are significant and unavoidable.⁸⁹

15-Z

- **Require Implementation of Diesel Control Measures:** 1) All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent; and 2) All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel

⁸⁴ See SWAPE Comments, p. 4.

⁸⁵ SWAPE Comments, p. 4.

⁸⁶ SWAPE Comments, p. 4.

⁸⁷ DEIR, p. 4.3-39.

⁸⁸ *Sierra Club v. Cty. of Fresno* (2018) 6 Cal. 5th 502, 524–25; *City of San Diego v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, 967.

⁸⁹ SWAPE Comments, p. 6–9.

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fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

- **Install Retrofit Devices on Existing Construction Equipment:** E.g., retrofit devices for engine exhaust after-treatment.
- **Use Electric and Hybrid Construction Equipment**
- **Implement a Construction Vehicle Inventory Tracking System:** A tracking and reporting system that includes strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment.
- **Use of Spray Equipment with Greater Transfer Efficiencies:** Coatings and adhesives applied to both the interior and exterior of buildings should have a transfer efficiency rate of 65 percent or greater.

Thus, the DEIR lacks substantial evidence to support its conclusion that the County required all feasible mitigation measures before declaring the impacts significant and unavoidable.

VI. THE DEIR FAILS TO DISCLOSE, ANALYZE, AND MITIGATE THE PROJECT'S POTENTIALLY SIGNIFICANT GREENHOUSE GAS IMPACTS

The DEIR's greenhouse gas ("GHG") analysis states that the proposed Project would result in a significant impact if it would (1) generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment or (2) conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.⁹⁰

We reviewed the GHG analysis with the assistance of SWAPE. As described below, our review found that the DEIR's GHG analysis violates the law and is not supported by substantial evidence. The DEIR's conclusions are not supported for two main reasons: 1) The DEIR's GHG analysis relies upon an incorrect and unsubstantiated air model and analysis; and 2) The EKAPCD threshold of 25,000

⁹⁰ DEIR, p. 4.5-15.
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MT CO₂e/yr is not applicable and cannot be relied upon to determine the significance of the Project's GHG emissions.

First, as established above, the DEIR's GHG analysis relies upon flawed emissions calculations to estimate the Project's construction and operational emissions. Thus, the DEIR's conclusion that the Project would result in annualized construction GHG emissions of 369 MT CO₂e/yr and operational GHG emissions of 84 MT CO₂e/y is not supported by substantial evidence in the record and cannot be relied upon by the County until the emissions calculations are remedied.

15-AA

Second, SWAPE indicates that although the DEIR relies upon EKAPCD's adopted significance thresholds for GHGs, that threshold doesn't apply to the Project. The Project is not a "large industrial project...that do[es] not require conditional use permits from a land-use agency."⁹¹ It requires multiple CUPs from Kern County. Next, EKAPCD's threshold was developed for specific categories of projects, e.g., "general stationary fuel combustion sources," "fossil-fuel fired electric generating units," manufacturing of "mobile sources," and facilities that manufacture, process, refine or supply a variety of products and chemicals,⁹² which do not include the proposed Project. As such, SWAPE concludes that "EKAPCD's quantitative threshold of 25,000 tpy does not apply to and should not be used in determining the Project's GHG significant impacts."⁹³

15-AB

VII. THE DEIR FAILS TO ANALYZE AND MITIGATE SIGNIFICANT NOISE IMPACTS FROM PROJECT CONSTRUCTION AND OPERATION

The DEIR states that the Project will include construction noise from 10 activities: (1) move on; (2) site preparation and grading; (3) new access road construction; (4) gen-tie line construction; (5) internal roads construction; (6) operation and maintenance building construction; (7) electrical substation, battery

15-AC

⁹¹ "Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead CEQA Agency." EKAPCD, March 8, 2012, ("Addendum") at 3, available at

<http://www.kernair.org/Documents/CEQA/EKAPCD%20CEQA%20GHG%20Policy%20Adopted%203-8-12.pdf>.

⁹² 74 Fed. Reg. 56260, 56260–56261 (Oct. 30, 2009), Mandatory Reporting of Greenhouse Gases; Final Rule ("2009 Federal Register"), available at <https://www.govinfo.gov/content/pkg/FR-2009-10-30/pdf/E9-23315.pdf>.

⁹³ SWAPE Comments, p. 6.
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storage and microwave tower construction; (8) transmission line construction; (9) concrete batch plant; and (10) solar array structural, underground and panel installation. Further, operation of the project would generate noise levels generally from the onsite operation of the substation facility, the O&M facility, battery energy storage system (BESS), block inverters, axis trackers, and periodic maintenance activities such as panel washing. Additionally, corona discharge noise emanating from the transmission lines would also be generated. Noise-sensitive receptors in the vicinity of the project include residential dwellings scattered around the perimeter of the project site at various distances.

15-AC

We reviewed the DEIR's noise analysis with the assistance of Derek Watry, an expert on noise analysis and mitigation. As described below, our review found that the DEIR's noise analysis violates the law and fails to mitigate the Project's significant noise impacts, as required by CEQA.

A. The DEIR fails to assess substantial permanent increase in ambient noise levels.

The Kern County CEQA Implementation Document and Kern County Environmental Checklist indicates that the following would constitute a significant noise impact:

1. 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. Generation of excessive groundborne vibration or groundborne noise levels;
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
4. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels.⁹⁴

15-AD

⁹⁴ DEIR, p. 4.12-24.
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With respect to the third element, the DEIR states:

[P]roject operational noise levels associated with BESS incorporation methods 1, 2, and 3 would result in a potentially significant impact. Average daytime ambient noise levels at studied receptors range from 29.7 dBA Leq to 34.2 dBA Leq, while noise levels associated with BESS incorporation would reach 59 dBA Leq, potentially resulting in increases in ambient noise levels above the applicable daytime and nighttime thresholds...With implementation of Mitigation Measure MM 4.12-4, the final BESS incorporation method that is selected would be designed such that noise levels generated would comply with the applicable daytime and nighttime noise standards at all offsite sensitive receptor locations nearest to the project site. Therefore, in with implementation of Mitigation Measure MM 4.12-4, impacts would be reduced to less-than-significant levels.⁹⁵

15-AD

This analysis may satisfy the County's first noise significance criteria, but it does not actually assess a "substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project." Rather, it simply restates the analysis undertaken for Impact 4.12-1, which considers whether the noise increase exceeds any local or agency standards. The County cannot rely upon satisfaction of one significance threshold to satisfy other, non-related significance thresholds.

Mr. Watry notes in his letter that "[t]he area where this project is proposed is somewhat unusual in this day and age because its remoteness results in atypically low ambient noise levels," ranging from 29.7 dBA Leq to 34.2 dBA Leq.⁹⁶ The permanent operation of the BESS for the project will potentially reach daytime levels of 55 dBA Leq, even with MM 4.12-4, which is an increase of 21-25 dBA from current daytime levels. Thus, the proper analysis for Kern County's third significance criteria "would have been to assess whether the increase...will be significant vis-à-vis the existing ambient [noise]."⁹⁷

15-AE

Mr. Watry notes further:

15-AF

⁹⁵ DEIR, p. 4.12-35.

⁹⁶ Exhibit C: Derek Watry Comments, p. 1.

⁹⁷ Watry Comments, p. 2.

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‘An increase . . . in sound level of about 10 dBA is usually perceived . . . as a doubling . . . of the sound’s loudness.’ [DEIR at p. 4.12-3]. An increase of 25 dBA would be two and one-half doublings, so double (times 2) then double again (another times 2) then increase by the factor corresponding to 5 dBA (times 1.4). Altogether, an increase of 25 dBA would be perceived as a sound level 5.6 times the existing ambient sound level. An increase of 29 dBA would be perceived as 7.5 times the existing ambient. These increases would unquestionably cause a significant noise impact at the receptors.

Thus, even with the planned mitigation measures, the daytime increase of the Project would be between 4.2 and 5.6 times as loud.⁹⁸ “These are still very large increases and should be considered to cause a significant noise impact at the receptors. Moreover, the noise introduced to the region would not simply be the noise there now amplified by 2.8 to 5.6 times because it is so different in character to the noises that are there now.”⁹⁹

The DEIR therefore completely fails to analyze and mitigate this significant noise impact. The County must remedy this omission in a revised DEIR that is circulated to the public before the County can further consider the Project applications.

VIII. CONCLUSION

The DEIR is inadequate as an informational document because it lacks a legally adequate project description, as required by CEQA. The DEIR also fails to properly disclose, analyze, and mitigate the Project’s potentially significant and significant impacts on biological resources, air quality, public health, and noise. Finally, the County fails to require feasible, available mitigation measures to reduce significant impacts that are unaddressed and before concluding that significant impacts are unavoidable. Kern County cannot certify the EIR or approve the Project until it prepares and circulates to the public a revised DEIR with a legally adequate analysis and substantial evidence to support its conclusions. As proposed, the County’s DEIR violates CEQA.

⁹⁸ Watry Comments, p. 3.

⁹⁹ Watry Comments, p. 3.

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Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'AM', with a long horizontal line extending to the left.

Aaron M. Messing
Associate

Attachments

AMM:acp

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EXHIBIT A

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

Renee Owens, M.S. - Biologist and Independent Environmental Consultant

March 13, 2020

Aaron Messing
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660

Subject: Comments on the Draft Environmental Impact Report for Big Beau Solar State Clearinghouse
No. 2019071059

Dear Mr. Messing,

This letter contains my comments on the Draft Environmental Impact Report (DEIR) that was prepared for the BigBeau Solar Project (Project) proposed by BigBeau Solar LLC by EDF Renewables (Applicant).

The Applicant proposes to develop a solar photovoltaic energy (PV) generating facility located in the south-eastern portion of Kern County near the unincorporated community of Rosamond. The project proposes to generate a total of 128 MW of renewable electrical energy and up to 60 MW of a Battery Storage System (BESS). The project would include the development of a 2,285-acre solar facility, an overhead or underground line to a substation, and a gen-tie line of indeterminate length.

I. THE DEIR FAILS TO ADEQUATELY DISCLOSE AND DISCUSS THE PROJECT'S BIOLOGICAL BASELINE

A. The DEIR Presents Misleading Information on Protocol Survey Methodology

The DEIR's Biological Technical Report provides several tables with data and personnel names regarding plant and animal surveys. However, these tables and their associated discussions are presented in a way that is confusing, resulting in lack of clarity regarding methodology. For instance, Table 3¹ shows that in 2018 biologists were conducting Desert Tortoise ("DT") protocol surveys on 4/9 and 4/10 from early morning until late afternoon. However, Table 2² shows biologists conducting focused Burrowing Owl (BUOW) surveys on 4/9 through 4/11, and names of the biologists involved. In the same table the same biologists are listed as conducting surveys on 4/9 – 4/10 for "Desert Tortoise; Desert Kit Fox and American Badger Burrow Mapping; Protected Cactus and Yucca Species Mapping." Based upon this and other examples of overlapping dates of surveys, it appears that the biologists conducted various

¹ DEIR Vol 2-3 p. 477

² *Ibid.* p. 473

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focused, protocol surveys concurrently, which is not an accepted part of special status protocol surveys³ for good reason. Even if agency protocols did not require a single species focus, as they do, it is simply not possible for biologist to survey for tortoises from morning to late afternoon, and survey for another species, while writing notes, mapping GPS coordinates, etc. Additionally, the table notes that for some surveys “During these particular survey dates, this biologist was not present for every survey.”⁴ This lack of specificity adds confusion and thus creates doubt that the surveys were conducted to protocol requirements.

A review of any assortment of biological technical reports prepared for the purpose of fulfilling CEQA requirements of a biological resource analysis will show that focused surveys are conducted literally as such, where the biologist is ‘focusing’ on the species for which the protocol has been designated, and not splitting their time attempting a protocol, habitat, or reconnaissance survey while also attempting to observe the ground, vegetation, underground (denning and burrowing species) and skies all at once for all other vertebrate, invertebrate, and plant species that may also be present at any given time on and near the site. The demonstrated need for species-intensive focus is a reason why the agencies require that protocol surveys be conducted for **one** focal species at a time,⁵ especially considering by definition a focused protocol survey serves the purpose of detecting elusive rare or endangered species and requires a particular degree of intensive ‘focus’ and specific search methodology by the surveying biologist. Not only is the search intensive, the concurrent reporting, including GPS mapping required for certain species (like the desert tortoise, or sensitive plant species) while in the field is equally time intensive and absolutely precludes adequate attention necessary for thorough detection of other individuals at the same time.⁶

By definition rare species occur in lower densities, and/or have lower occurrences on average for any given occupied territory, and thus require even great attention, focus, and time dedicated to accurate observation data. By conducting surveys for different all species with the potential to occur on site, all concurrently, it is only logical to conclude that by doing so the biologists significantly increased the likelihood that they missed key individuals of sensitive species.

B. The Baseline Description and Analysis of Swainson’s Hawk is Incomplete

³ USFWS protocol: https://www.fws.gov/carlsbad/PalmSprings/DesertTortoise/DT%20Pre-project%20Survey%20Protocol_2010%20Field%20Season.pdf, see also CDFW burrowing owl protocols: <https://wildlife.ca.gov/Conservation/Survey-Protocols#377281284-birds>

⁴ DEIR Vol 2-3 p. 474

⁵ USFWS. 2017. Preparing for Any Action That May Occur Within the Range of The Mojave Desert Tortoise (*Gopherus agassizii*).

https://www.fws.gov/nevada/desert_tortoise/documents/manuals/Mojave%20Desert%20Tortoise_Pre-project%20Survey%20Protocol_2017.pdf

⁶ *Ibid.*

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Another example of incomplete and inadequately described of surveys is exemplified in the Swainson's Hawk ("SWHA") survey report where it states, "Ongoing surveys for burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), desert kit fox (*Vulpes macrotis arsipus*), and rare plants from the first week in April to the last week in June confirmed the absence of any SWHA nesting activity within the actual project footprint or associated [500-foot] survey buffer areas for these resources."⁷ First, this statement is misleading based on the fact that surveys for the aforementioned species were not conducted, inclusively, for a 500-foot buffer beyond the Project site. Second, as a research and field biologist surveying rare and cryptic species including the SWHA, other birds, reptiles, insects, mammals, and plants for 35 years in a multitude of habitats from the Mojave desert to the tropics, I am confident that this claim cannot be made with scientific integrity. Incidental observations of a raptor displaying "nesting activity" can include a bird flying quickly overhead, visible for only seconds, with nesting material or food for offspring. That one can draw conclusive determinations of a bird's absence when not conducting protocol surveys for the species, and instead making such a conclusion while surveying all plants, mapping rare plants that may be only centimeters high requiring intense ground focus, writing notes about GPS locations and names of species, perusing botanical guides for identification of species, searching for burrow-dwelling species while walking protocol transects – which includes continuously monitoring a GPS unit to stay on transect – is simply unsupported, as such is any *determinate* claim regarding SWHA nesting in 2018 and 2019.⁸

As importantly, it appears that SWHA surveys within the PSA - which in this case includes a "5-mile radius from Project disturbance," as required according to the California Department of Fish and Wildlife's (CDFW) protocol survey guidelines for the Antelope Valley⁹ - were not conducted comprehensively. The DEIR's SWHA report methods state that surveys were not conducted during Survey Period 1. Survey period 2 "focused on conducting an intensive survey of the entire PSA"¹⁰ adding that that "observers intensively checked suitable arboreal habitat throughout the entire PSA over the first three surveys." According the Table 1, two observers spent 19 hours, over three days, surveying the entire PSA. It does not indicate whether observers worked in pairs or alone, however given that surveys were reported as occurring in one time period, instead of two as would be appropriate for two biologists surveying in different areas (it is highly unlikely they both independently began and ended surveys at the exact same minute, each of nine days), it must be assumed they worked in pairs (a typical scenario for reasons of safety). That means they had to search all potential nest sites, including trees, throughout an area of over 81,000 acres, including Joshua trees that SWHA are known to nest in (as the SWHA report mentions).¹¹ This would mean the biologists would have to cover an average of 4,263 acres an hour,

⁷ DEIR Vol. 2-3 p. 649

⁸ See DEIR p. 4.4-49

⁹ California Energy Commission and California Department of Fish and Wildlife (CEC and CDFW). 2010. Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties. June 2010.

¹⁰ DEIR Vol 2-3 p. 478

¹¹ DEIR Vol 2-3 p. 494

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including stopping to identify a raptors to species, note behavior, note coordinates, and navigate around private property if they did not have access. The report says that while covering these roughly 81,000 acres “each tree was examined from all available angles for any visible nests.” The SWHA report also states that during these surveys, “Incidental to the nest surveys, observers also regularly saw SWHA activity during early surveys (4/12, 4/19, 5/2) in some large agricultural fields on the northeast quadrant of Tehachapi Willow Springs Road and Sweetser Road. Despite attempts to monitor these birds, no nearby nests were found in properties/trees located in the vicinity of these fields.” It remains unclear what “despite attempts” means, however presumably any such “monitoring” further reduced survey travel time, thus increasing the number of acres to be covered per hour.

Figure 3 shows the locations and number of Joshua trees for one small parcel of this PSA, located on the proposed Apollo solar site, which is entirely contained within the 5-mile SWHA search radius (Fig 4). Although only a certain number of these trees may have been tall enough to be suitable for nesting, SWHA have been known to nest as low as 5 to 5.5 feet high in various tree species¹² (*pers. obs.*). If the surveys following these continued to search the entire PSA for nests, comprehensive coverage may have been achieved. However, the SWHA report states that the following surveys “focused on surveying those nests that had confirmed SWHA activity, as well as those that were suitable for the species and had not yet been ruled out as already occupied by another species. The final three surveys occurred in Survey Period IV (June 1-July 15) and focused solely on updating the status of those nests that were confirmed during previous surveys to be in use by SWHA.” In summary, the only surveys conducted for the “entire” PSA occurred on the three days discussed above. Clearly it is physically impossible for comprehensive surveys to be conducted given the time/person hours spent surveying the 5 mile radii that is the PSA.

There are numerous other indicators that demonstrate how SWHA use is quite likely significantly higher than the survey results and DEIR analysis indicate, and as a result the proposed mitigation is inadequate:

1. The Conservation Biology Institute’s DataBasin provides numerous models predicting high use for both foraging and nesting of SWHA in the area and within the PSA (Figs 5-6) from data compiled by USGS and USFWS for the DRECP, and by the conservation laboratory at UCSB.¹³
2. The DEIR (table 4.4-5) states that, “Marginally suitable nesting and foraging habitat are present in the project site within the Mojave Creosote Bush Scrub with Joshua Trees habitat. However, the quality is low and the species prefers to nest and forage in and around agricultural areas within the Antelope Valley.” This statement is misleading. First, as noted above Joshua trees comprise nesting habitat, as demonstrated by SWHA actually nesting within the PSA and near the Project site. The DEIR itself mentions that, during 2018 surveys, “Swainson’s hawks appeared to be taking advantage of the

¹² Inselman, W. et. al. 2015. Buteo Nesting Ecology: Evaluating Nesting of Swainson’s Hawks in the Northern Great Plains. *PLoS One*.10(9): e0137045 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0137045>

¹³ <https://databasin.org/> See “swainson’s hawk” databases and related maps.

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displaced rodents from the ground disturbance.”¹⁴ Rodents are obviously not restricted to agricultural fields, however the DEIR repeatedly attempts to mislead by inferring that the SWHA only forages on and near agricultural lands. This is not supported by any of the SWHA’s natural history. Nor is it supported by my personal experience observing SWHA migrations within a major flyway and stopover corridor in Anza Borrego; and for several years while conducting raptor surveys 3 days a week, throughout a 15,000 acre project site (Ocotillo Wind Express), for two years that was directly in the SWHA migratory flight path (so much so that the Ocotillo Wind project has a mitigation windmill curtailment plan for SWHA¹⁵). The 15,000 acre Ocotillo wind site was not agricultural habitat, but almost entirely natural desert scrub, including Creosote Bush Scrub. While surveying I observed SWHA stopping to forage on resident grasshoppers, and flying ants, in natural habitats that were typically dominated by creosote.¹⁶ Impacts to SWHA as a result of loss of foraging habitat is thus further ignored by the DEIR since loss of invertebrate prey species is not discussed at all. While conducting mortality monitoring surveys on large solar arrays in the Sonoran desert, I observed employees using pesticides on, and bordering the site to kill native ants, an additional factor that compounds the impact of loss of foraging habitat to SWHA (and horned lizards whose diet consists almost exclusively of ants. See discussion below).

3. The DEIR states, “Although site development would result in the permanent loss of Mojave Creosote Bush Scrub with Joshua Trees, this loss is expected to have a minimal effect, if any, on this species’ habitat availability in the immediate area and this reduction in habitat would not be considered a significant impact.” This statement is scientifically unfounded. The DEIR acknowledges that “Swainson’s hawk forage in suitable habitat adjacent to their nest sites and show nest site fidelity.” The SWHA survey report, although not comprehensive, did show three SWHA nesting near the site, and yet here the authors make no attempt to explain why loss of foraging habitat - that is clearly “adjacent” to nesting SWHA - is not considered a potentially significant impact, including a cumulative impact in light of all of the other renewable energy projects in operation, and in process, nearby (Figs 1-2).

4. By stating that the SWHA “has a decreasing presence in this area” in their mitigation summary analysis,¹⁷ the DEIR attempts to mislead the reviewer with a determination of minimal impacts to SWHA that can be readily mitigated by simple pre-construction measures, while ignoring operational and cumulative impacts. What the DEIR fails to reveal are the conclusions the CDFW makes in respect to the low population numbers in the region, namely,

“The small number of breeding Swainson’s hawks in the Antelope Valley and the potential isolation from other Swainson’s hawk populations makes the Antelope Valley population particularly susceptible to

¹⁴ DEIR Vol 1. 4.4-49

¹⁵ Ocotillo Express Avian and Bat Protection Plan. 2012. Ocotillo Express LLC.
https://tethys.pnnl.gov/sites/default/files/publications/Ocotillo_Express_2012.pdf

¹⁶ For another example of the phenomenon of SHWA eating ants, see:
<https://borregohawkwatch.blogspot.com/2017/03/march-5-8-2017-aerial-feeding-continues.html>

¹⁷ DEIR Vol. 1 p. 4.4-71

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extirpation. Swainson's hawks have high nest site fidelity, meaning they return to the same site year after year (Estep 1989, Woodbridge et al. 1995) This may limit exchange of individual birds between distant breeding groups (Hull et al. 2007). Hull et al. (2007) found evidence suggesting that the Central Valley population has had little recent genetic exchange with other populations east of the Sierra Nevada. Due to the geographical isolation of the Antelope Valley Swainson's hawk population from other breeding populations, together with the species' high site fidelity, it is reasonable to infer that rapid re-colonization of the Antelope Valley would be unlikely if nesting pairs were lost. Given these facts, the California Department of Fish and Game (Department) would consider impacts to breeding pairs to be potentially significant because they may cause the population to become less than self-sustaining."

The CDFW continues by stating that,

"a reduction in numbers or habitat of a rare, threatened, or endangered species would be considered a significant impact under CEQA. Potentially significant impacts may result from activities that cause nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), or direct mortality. **Due to the Swainson's hawk's known preference for areas of low vegetation that support abundant prey, such as grasslands or alfalfa fields (Bechard 1982, Babcock 1995), the Department considers conversion of foraging areas to renewable energy power plant facility sites to be habitat loss. For example, solar panel arrays are expected to eliminate most or all foraging potential. Significant habitat loss may result from individual projects and cumulatively, from multiple projects. Each project which contributes to a significant cumulative effect must offset its contribution to that effect in order to determine that the cumulative impacts have been avoided.**" (emphasis added.)¹⁸

In short, even the loss of one pair could significantly impact the region's population.

The high likelihood that SWHAs may use the Project site for foraging, nesting, or a stopover is also supported by the evidence available from recent historical sightings of SWHAs within several miles of the Project area:

1. In the Apollo Solar DEIR (a proposed project located just north of this Project, see Fig 1), comments from the Kern Audubon Society state, "Spatial data from the California Department of Fish & Wildlife reveals as many as five possible active Swainson's hawk nests recorded from 2013-2017 within a five mile radius of the Project site."¹⁹ Appropriately, the Audubon Society recommends "a Conservation Plan for Swainson's Hawk in the Antelope Valley should be

¹⁸ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83991&inline> (p. 2)

¹⁹ Apollo Solar DEIR Vol 2 p. 89

https://psbweb.co.kern.ca.us/UtilityPages/Planning/EIRS/av_apollo_solar/APP/AV_Apollo_Solar_Project_DEIR_Vol_2_AppendicesA-N.pdf

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prepared by a qualified biologist and reviewed by California Department of Fish & Wildlife to identify a conservation strategy for Swainson's Hawk in the Antelope Valley."²⁰

2. A raptor biologist conducting surveys for the Rosamond Solar Project confirmed nesting SWHA approximately 1.5 miles from the Project in spring and summer of 2018.²¹
3. eBird observations note one to four SWHAs observed less than 3 miles to the northeast of the Project site in 2009 and 2010.²² Four eBird observations in 2016 report one to three Swainson's hawks observed 2.5 miles east of the Project.²³
4. The DEIR for the Catalina Renewable Energy Project (CREP), which borders the Project directly to the north and northwest, states: "The entire 6,739-acre proposed project property constitutes suitable habitat for Swainson's hawk. Swainson's hawks may occur over all habitats throughout the proposed project property, but if foraging, Swainson's hawk would be expected most frequently over open habitats such as scrub and native grassland." The DEIR goes on to say: "The largest single flock of Swainson's hawk was reported at 50 birds in spring 2004 and 12 birds were observed during spring 2005 at the adjacent approved Manzana (formerly PdV) Wind Energy Project property. Swainson's hawks were observed at the proposed project property during the spring 2011 migration. During summer avian surveys, one adult light-phase bird was observed flying over the project study area near the junction of the Tehachapi-Willow Springs Highway and Aqueduct Road on July 8, 2009, at 200 feet above ground."²⁴
5. The Manzana Wind project lies one miles west of this Project. Aerial and ground raptor surveys were conducted within a survey area that came within less than a mile of this Project (e.g. FEIR Fig 4.4.4.2-3). Surveys were carried out by Bloom Biological, owned by Dr. Peter Bloom, experienced raptor biologist and subcontractor for the U.S. Geological Survey (USGS). According to their findings in the Manzana FEIR, **"Surveys were performed in the proposed project area during fall, winter, and spring migrations to determine baseline conditions for avian species within the proposed project area. One state-listed species, Swainson's hawk (*Buteo swainsoni*), and six federal and/or state sensitive species, golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), northern goshawk (*Accipiter gentilis*), Cooper's hawk**

²⁰ *Ibid.*

²¹ <https://ebird.org/checklist/S46328272>

²² <https://ebird.org/checklist/S6297981>

²³ <https://ebird.org/hotspot/L762373>

²⁴ County of Kern. 2011. Catalina Renewable Energy Draft Environmental Impact Report. Kern County Planning and Community Development Department.
https://www.kerncounty.com/planning/pdfs/eirs/catalina/catalina_deir_vol1.pdf

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(*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), and prairie falcon (*Falco mexicanus*), were found on the site (emphasis added)."²⁵

C. The DEIR Fails to Adequately Analyze and Mitigate Direct, Indirect, and Cumulative Impacts to Swainson's Hawks

Based upon an incomplete baseline analysis, the DEIR proposes inadequate mitigation for SWHA, where it summarizes, "Potential impacts would be avoided through impact minimization measures, including avian nesting surveys that would detect any nesting Swainson's hawk within the project vicinity per Mitigation Measure MM 4.4-7. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.9-2 which include worker training, general avoidance and protection measures, preconstruction surveys prior to initial grading activities, and applying non-toxic herbicide if burrows, dens, or nests are found. With implementation of these mitigation measures, project level impacts to Swainson's hawk would be less than significant.

Mitigation Measure 4.4-7 "Nesting Birds and Raptors" states that a biologist will conduct preconstruction surveys within 0.5 miles from the Project "to avoid impacts to nesting birds", claiming that if active nests are found, a buffer of a 0.5 mile "shall be established around active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active but does not address the result of loss of potential nesting or foraging habitat." In three decades as an environmental consultant, including serving as a biological monitor, I have never witnessed an industrial project manager agree to stopping work for more than a few hours or at most a few days for a protected nesting raptor, especially because the required buffer for impact avoidance is unacceptable for their construction deadlines. A half mile buffer can encompass a large part of the project footprint, and to expect site managers to stop or postpone work on anywhere from one quarter to half the site is unrealistic; they will claim economic hardship to override the buffer requirement and request a variance (exemption to the buffer). As such, the DEIR must describe an agreement whereby the Project proponent guarantees MM 4.4-7 will be enforced as scripted, or alternatively avoid construction during the bird breeding season altogether.

Mitigation Measure 4.4-2 describes a "**Construction Worker Environmental Awareness Training and Education Program**" as mitigation for an assortment of sensitive species discussed in the DEIR, including the SWHA. The problem with this measure is that there exists no evidence that worker environmental awareness training programs (WEAP) actually serve to mitigate any impacts. Employees are tasked with completing the program, upon which they sign a form and receive a sticker.

²⁵ County of Kern. 2007. PdV (Manzana) Wind Energy Project DEIR. Kern County Planning and Community Development Department. https://www.kerncounty.com/planning/pdfs/eirs/PdV/PdV_TOC.pdf Biological Technical Report p. 648, 653.

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The following discussion applies to mitigation of SWHA and any other special status species (and habitats) in respect to MM 4.4-2:

Providing such training is common and may enhance some ecological knowledge of some species for some workers. As an environmental consultant I have personally observed and been tasked with implementing these trainings dozens of times for various development projects in a variety of locations and working environments, including energy projects in desert, forested, and shrubland habitats in California. However, throughout my decades of consulting I have not observed these presentations for enhanced worker awareness or training about wildlife translate into measurable actions *that have been determined to significantly reduce project impacts to wildlife*.

The DEIR states that “The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.”²⁶ However, there is no realistic mechanism or legal framework by which employees can be “held responsible” for impacts whether “unauthorized” can be clearly defined or not. Workers cannot be expected to become naturalists after a lecture, no matter how astute the Project’s instructors or training may be. Moreover, there is no structured way to enforce or guarantee any learning, or resultant responsible action taken, to an educational program where learning and retention by definition are subjective, and workers’ defined roles per their employment contracts do not include such required actions based upon education about biology. Not only is retention and subsequent action difficult to measure, its efficacy of mitigation is never measured for construction projects. For instance, if upon completion of training, a worker fails a mitigation action due to being unable to recall key wildlife regulations, or remains unable to distinguish a protected species from others, how will such a shortfall be tested, remedied, or enforced to meet mitigation criteria?

There is no empirical evidence, indeed not even anecdotes, that demonstrate that these “awareness” trainings about wildlife measurably or reliably reduce significant impacts to wildlife species to less than significant. Additionally, many measures described by a biological training program rely on the absolute authority of onsite biologists who are (a) hired by the project applicant, (b) not independent and are invariably required to sign highly restrictive nondisclosure agreements (of questionable legality) for employment that preclude most kinds of problem reporting or whistleblowing if rules are not followed by any parties involved, and (c) often not given the necessary on-the-ground authority to oversee enforcement, including stopping work or removing a worker who may be deemed non-compliant.^{27, 28} Indeed, I have observed construction workers with an abundance of training stickers on their hard hats

²⁶ DEIR Vol. 1 4.4-75

²⁷ Clarke, C. Feb 8, 2013. Ocotillo Wind Employee Arrested After Alleged Threat. *KECT Rewire*.
<https://www.kcet.org/redefine/ocotillo-wind-employee-arrested-after-alleged-threat>

²⁸ Raftery, M. April 6, 2011. SDG&E Removes Pilot for Flying Too Close to Eagle Nests. *East County Magazine*.
<https://www.eastcountymagazine.org/sdge-removes-pilot-flying-too-close-eagle-nests>

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avoid taking action to address biological resource protection onsite when such a scenario was presented.

If the Applicant requires the workers take specific actions to reduce potential construction impacts that relate directly to their job responsibilities (i.e. maintaining a speed limit, hazardous spill containment, fire prevention measures, maintaining garbage-free working spaces, or keeping potential animal pitfalls covered), it is appropriate that each such action should be identified as a construction regulation necessary for safety or reducing overall impacts to the environment – where description and enforcement are clearly defined and straightforward – and presented in the DEIR so that the public can subsequently comment on their potential efficacy. Beyond that, no evidence exists to support the presumption that providing information to workers about the species, habitats, or protective laws will translate into actual, enforceable impact mitigation. Since the DEIR posits that such a training contributes to mitigation of impacts to the Project for a host of sensitive species with potential to occur onsite, it should provide some empirical evidence demonstrating as such for similar Project types (i.e. solar developments) with similar workforce scenarios. Otherwise, it is impossible to quantify the degree of mitigation, if any, such program contributes to reduce impacts to below significant, and thus **MM 4.4-2** fails in its intent.

In summary, the mitigation measures offered to reduce impacts to SWHA are inadequate, for reasons stated above, and below under the discussion of impact mitigation to resident and migratory birds. According to this recent history of sightings and other data regarding SWHA nesting, presence, and historic use of the area, and the conclusions stated in the CDFW report, the DEIR does not adequately disclose and analyze the impacts to the SWHA. The Applicant must conduct thorough surveys with all methodology and survey data mapped and reported, revise the impact analysis, and respond with appropriately detailed construction *and* operational mitigation recommendations for the SWHA. The Swainson's hawk must garner all necessary protections as a species listed as Threatened under the California Endangered Species Act.

D. The DEIR Fails to Adequately Disclose and Analyze Impacts to the Tricolored Blackbird

The DEIR incorrectly categorizes the tricolored blackbird's conservation status. The tricolored blackbird (*Agelaius tricolor*) is protected as Threatened²⁹ under the CESA, not a Species of Special Concern, or State Candidate as the DEIR states.³⁰ Studies demonstrate that the species has undergone a long-term population decline due to losses of breeding and foraging habitats to urban, agricultural, and other land conversions. According to the CNDDDB and U.S. Fish and Wildlife Service (USFWS),³¹ this species is a year-round resident to the Project region. The DEIR also incorrectly states that there is "no suitable habitat"

²⁹ CDFW. 2019. State and Federally Listed Endangered and Threatened Animals of California. CNDDDB. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline>

³⁰ DEIR Vol. 2-3 p. 579

³¹ <https://www.fws.gov/migratorybirds/pdf/management/focal-species/TricoloredBlackbird.pdf>

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to support this species in the PSA. In 2016, eBird ornithologists reported tricolored blackbirds present at a birding hotspot 2.5 miles east of the Project site.³² According to the Catalina Renewable Energy Project – a facility that abuts the Project to the north and northwest of the site footprint (Figs. 1-2) – the tricolored blackbird was determined to be present within the proposed project property according to “literature review, agency coordination, consultation with experts, and detailed field surveys.”³³ The DEIR must rectify these oversights and address potential impacts to habitat and necessary mitigation to reduce impacts to individuals and the regional population.

II. THE DEIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, and MITIGATE DIRECT and INDIRECT IMPACTS TO RESIDENT AND MIGRATORY BIRDS

“The DEIR states, “Special-status wildlife species confirmed present for the project site include burrowing owl, Swainson’s hawk, Vaux’s swift, northern harrier, willow flycatcher, loggerhead shrike, yellow-headed blackbird, and desert kit fox. Additionally, the following three special-status species have a moderate potential to occur onsite: golden eagle, mountain plover, and Townsend’s big-eared bat. While Vaux’s swift, northern harrier, willow flycatcher, golden eagle, mountain plover, and Townsend’s big-eared bat may occur as migrates or foraging birds on the project site, no suitable nesting habitat for these bird species or roosting habitat for this bat species is present on the project site, and thus no significant impacts to these species would occur.”

This analysis commits the major oversight of severely underestimating potential direct, indirect, and cumulative impacts to the species named above, and other hundreds of migratory and resident bird species, during 30 plus years of operation of the facility. This is a fatal flaw in the DEIR’s impact analysis especially considering the species mentioned above are protected by federal and state laws due to their status as being increasingly rare, threatened, or endangered with extinction.

The DEIR summarizes potential operational impacts to birds as follows, “Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because project implementation would remove habitat for special-status species on the project site, which would restrict sensitive wildlife species movement into the project site. Additionally, Mitigation Measure MM 4.4-3 require methods designed to reduce wildlife mortality and impacts, promote long-term project site suitability, and educate onsite personnel....”³⁴

Mitigation Measure 4.4-3 “Avoidance and Protection of Biological Resources” offers extremely little by way of operational mitigation of birds, for reasons outlined below, and because:

- Most of the “avoidance and protection” measure apply actions and variables applicable to the construction, not operational phase.

³² <https://ebird.org/hotspot/L762373?yr=all&m=&rank=hc>

³³ County of Kern. 2011. Catalina Renewable Energy Draft Environmental Impact Report. Kern County Planning and Community Development Department.

https://www.kerncounty.com/planning/pdfs/eirs/catalina/catalina_deir_vol1.pdf

³⁴ DEIR Vol. 1 4.4-73

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- The statement “The project operator shall limit the areas of disturbance to the extent feasible”³⁵ is meaningless without the term “feasible” being defined regarding scope, since “limiting areas of disturbance” does not mitigate injury or death to bird caused by birds striking operational solar panels or associated infrastructure, including electrical lines.

- For reasons described above, a training program that “educates onsite personnel: does not translate to actual mitigation. If the Applicant chooses to insist this is a contributing measure to reduce impacts, what evidence can they provide to prove it is reliable and effective in reducing harassment, injury, or death of a special status species?

The DEIR correctly notes that the Project site falls within the Central Valley portion of the Pacific Flyway, and in respect to migratory birds states, “Direct and indirect impacts to avian species may occur during project operation and maintenance through individual collisions with project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment...Such collisions can result in injury or mortality of avian species from electrocution, including in the case of power lines. Collisions with project facilities and equipment would be considered a potentially significant impact under CEQA.”³⁶

And yet in the same discussion the DEIR summarizes the rest of its analysis of operational impacts by stating, “The residual effects on migratory birds of the project were determined to be less than significant...” and “PV panels have the potential to cause impacts to migratory birds associated with collisions. Little is known about the potential for impacts to migratory birds associated with the “lake effect”³⁷ and “No formal studies have been conducted at commercial-scale solar projects that establish a clear causal link between such projects and the types of avian mortality and injury documented on existing solar project sites.”³⁸

There are various major flaws with this argument, aside from being contradictory:

- The term “residual” is meaningless in this context without being defined.
- To state that “Little is known about the potential for impacts to migratory birds associated with the “lake effect” and “no formal studies...clear causal link” etc. is deliberately misleading, incorrect, and a scientifically flawed analysis that has been argued repeatedly by project proponents attempting to avoid operational mitigation responsibilities. The fact is that whether or not collisions have been proven with “clear causality” due to the lake effect phenomenon, it is widely demonstrated for decades that birds of many species have been noted to strike solar panels, causing injury and death. Table 1 provides abundant evidence of bird strikes to solar panels is abundant , and demonstrates that panels, although an attractant to water loving birds especially, can cause injury and death to birds of many species, including protected ones (e.g. Swainson’s hawk, burrowing owl, tricolored blackbird) where loss of even a few breeding adults can significantly alter their regional population status. Indeed, the project is in direct path of a major flyway that includes a stopover for millions of birds, namely the Salton Sea.

³⁵ DEIR Vol. 1 4.4-75

³⁶ DEIR vol. 1 4.4-73

³⁷ DEIR Vol. 1 4.4-98

³⁸ DEIR vol. 1 4.4-74

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Additionally, the DEIR contradicts itself by stating that cumulative impacts to biological resources will be “significant and unavoidable,” while concurrently attempting to downplay such impacts to potentially hundreds of species of migratory birds that use the Pacific Flyway. EBird observations throughout the past decade show 50 species at a Hotspot just 2.5 miles east of the Project,³⁹ including repeat species observations such as the Swainson’s hawk (State ESA Threatened), tricolored blackbird (state ESA Threatened), Willow flycatcher (Federal ESA Endangered, observation by ecologist consultant), Vaux’s swift (California Species of Special Concern (SSC)), loggerhead shrike (SSC), Long-eared owl (SSC), Cactus wren, Wilson’s phalarope, among others. It bares repeating that several of these species were listed as observed on the Project site. These observations are particularly important in light of the existing evidence that demonstrates how the significant impacts of solar panels and associated facility infrastructure with respect to bird strikes to solar panels are not preliminary or unproven, but instead certain and demonstrable by way of solar projects’ mortality reports.

The DEIR’s oversight of Project impacts by way of bird strikes throughout the life of the project is fatally flawed in its omission due to the plethora of evidence that such strikes knowingly contribute to bird deaths and injuries on every industrial-scale solar facility. The following is a compilation of evidence supporting the fact that the project may result in potentially significant direct, indirect, and cumulative impacts to migratory and resident birds, breeding and non-breeding:

1. Table 1 summarizes a partial review of avian mortality reports for solar desert facilities submitted to the state and federal Fish and Wildlife agencies between 2011 and 2016, (depending on the report). Table 1 shows just a partial summary that lists species that are protected under the Federal ESA, California ESA, California Species of Special Concern, and Migratory Bird Treaty Act, and have been killed by collision deaths at Southern California desert solar facilities, including burrowing owls, loggerhead shrikes, red-tailed hawk, horned lark, Say’s phoebe, long-eared owl, American white pelican, western tanager, prairie falcon, all species were identified on or near (from less than one to 4.5 miles) of the Project site. These data demonstrate not only the importance of appropriately scripted scientific, methodical data collection to determine direct and cumulative impacts via strike mortality, but it also provides undeniable evidence that solar facilities specifically attract and kill birds across many groups including migrants; resident birds are not the only ones affected. In short, these structures are not discriminatory in attracting only common desert residents. Table 1 shows that protected, endemic, and unusual desert migrants of all sizes succumb; including marine and freshwater species such as the blue-footed booby, surf scoter, Virginia rail, common gallinule, common loon, pelicans, a jaeger, various ducks, grebes, a surf scoter, and other birds native to marine and freshwater habitats that utilize wetland stopovers – or what may appear to be wetlands but are vast solar arrays with similar reflective appearances to water - while migrating through desert regions.

The California Valley Solar Ranch Project (CVSRP) is located in the California desert region primarily on land designated largely as formerly ‘disturbed’ habitat and thus of lower overall quality habitat than this Project site. The CVSRP development footprint that contains the PV

³⁹ <https://ebird.org/hotspot/L762373>

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solar arrays and operating facilities is approximately 1,475 acres.⁴⁰ **Despite what was deemed lower quality habitat, 703 bird mortalities were reported at CVSRP over the course of just two years,⁴¹ including three burrowing owls and despite burrowing owl mitigation measures in place. This predicts a mortality of 10,545 birds for the life of a 30-year facility, including 45 burrowing owls. One can extrapolate the impact of a similar project in the Pacific Flyway, in similar habitat from acreage alone for an area of 2,285 acres - as this Project primary footprint is projected to be - to begin to estimate bird mortality from strikes to solar arrays and associated infrastructure. Throughout the life of this Project strikes could thus total a 16,335 birds, including an unknown number of rare, SSC, and ESA listed species, and would thus pose a high risk of significantly impacting an entire population or a resident or migratory species that uses this site for nesting, foraging, or a migratory flyway.**

2. In a peer reviewed study McCrary et al. reported, “We studied avian mortality at an operating solar central receiver power plant in the Mojave Desert of southern California. During 40 weeks of study we documented the deaths of 70 birds (26 species). The estimated mortality rate was 1.9-2.2 birds per week. 81% of birds of 20 species died from collisions with Solar One structures, mainly the mirrored surfaces of heliostats.”⁴² The study goes on to further distinguish collision deaths with reflective panels as separate from other collision deaths, “Avian Collisions are an inevitable by-product of almost all man-made structures (see Avery et al., FWS/OBS-80/54, 1980). Reflective surfaces are especially prone to collisions (Klem, Ph.D. thesis, Southern Illinois Univ., Carbondale, 1979), and it is not surprising that collisions with mirrored heliostats occur on a somewhat regular basis considering the reflective surface area of Solar One.”⁴³
3. Research on solar project collisions demonstrates that impacts can be influenced by many variables, including proximity to developed areas and wetlands, degree of fencing, proximity to roads or roosts, wind conditions, and migration micro-pathways.⁴⁴ USGS biologists point out that numerous animal species use polarized light for orientation and navigation purposes (Horváth and Varjú 2004). As such, the potential exists for polarized light pollution (PLP) to disrupt the orientation and migration abilities of desert wildlife, including those of sensitive species. In the review by Horváth and colleagues (2009), they highlighted the fact that anthropogenic structures that produce PLP “can appear to be water bodies to wildlife and can become ecological traps for avian species. Therefore, utility-scale solar energy facilities at

⁴⁰ H.T. Harvey and Associates. 2010. Biological Assessment for the California Valley Solar Ranch Project

⁴¹ *Ibid.*

⁴² McCrary, M. Mckernan, Schreiber, R., Wagner, W., and Sciarrotta, T. 1986. Avian Mortality at A Solar Energy Power Plant. *J. Field Ornithology*, 57(2), 135-141.

<https://sora.unm.edu/sites/default/files/journals/jfo/v057n02/p0135-p0141.pdf>

⁴³ *Ibid.*

⁴⁴ Brown, W. M., & Drewien, R. C. 1995. Evaluation of Two Power Line Markers to Reduce Crane and Waterfowl Collision Mortality. *Wildlife Society Bulletin* (1973-2006). 23(2): 217-227.

<https://pdfs.semanticscholar.org/323a/fc509a4f1605c5ebf32c60c593204e31c02c.pdf>

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which photovoltaic technology is used in the desert Southwest **could have profound effects on the ecological community surrounding the solar facility.** (Emphasis added.)”⁴⁵

4. In their preliminary assessment of avian mortality at utility-scale solar energy facilities in the United States, Walston et. al.⁴⁶ summarize their findings on impacts to birds as follows, “Utility-scale solar energy facilities in the United States require large spatial footprints (between 1.4 and 6.2 ha of land per MW of electric production) **and are projected to require a total of 370,000 - 1,100,000 ha of land by 2030, mostly in the arid regions of the southwestern states** [11]...Recent studies have suggested that utility-scale solar developments may represent a source of mortality for wildlife such as birds [12]. There are currently 2 known types of direct solar energy-related bird mortality [9,12,13]: 1. Collision-related mortality - mortality resulting from the direct contact of the bird with a solar project structure(s). This type of mortality has been documented at solar projects of all technology types...different solar technologies and project designs may influence avian mortality risk. For example, project designs that utilize solar collectors that reflect polarized sunlight in such a way to be perceived as waterbodies, may attract birds and their prey (e.g., insects), thereby increasing the risk of bird collisions with project structures [10,12,14,20](Emphasis added).”

This summary underscores the cumulative impacts that current and proposed desert solar projects will have on birds in the California desert southwest. Using Fesnock et al.’s conservative findings on bird deaths per acre at California desert solar facilities,⁴⁷ and the **projected acreage slated for development by 2030, bird deaths would number between 548,000 and over 4,347,000.** A fraction of these deaths within one species could incur significant impact on an entire population, especially of species already rare or declining, such as the regional Swainson’s hawk, tricolored blackbird, and burrowing owl populations.

The report also makes recommendations to better assess avian impacts caused by industrial solar sites: “There is a need for more standardized, consistent, and science based avian monitoring protocols ... Standardized monitoring methodologies will improve the scientific certainty of conclusions about avian mortality. As efforts get underway to improve the quality of avian mortality data collected from USSE facilities, researchers should focus on development of more effective inventory and monitoring techniques.”⁴⁸

As such all industrial solar facilities, this Project included, should be required to adopt a bird and bat conservation program scripted and detailed within the DEIR, including performance and success criteria, and should be part of the final impact assessment available for public review. Such a plan should include scientific data collection of avian injury and mortality for

⁴⁵ Lovich, J. E., & Ennen, J. R. 2011. Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States. *Bioscience*, 61(12): 982–992. <https://academic.oup.com/bioscience/article/61/12/982/392612>

⁴⁶ Walston, L. et. al. 2016. A preliminary assessment of avian mortality at utility-scale solar energy facilities in the United States. *Renewable Energy*. 92: 404-414. doi:10.1016/j.renene.2016.02.041

⁴⁷ Fesnock, A., Huso, M., and Allison, L. (2016). Background Avian Mortality across the California Desert Region: A Pilot Study. *BLM Avian Solar Symposium*, August 2017. http://blmsolar.anl.gov/program/avian-solar/symposium/doc/Fesnock_Background_Mortality.pdf

⁴⁸ *Ibid.*

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the life of the project, not only to assess long term and cumulative impacts, but to contribute to a much-needed database to enhance future mitigation strategies.

5. The U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy and the U.S. Department of the Interior's Bureau of Land Management published their Solar Energy Development Programmatic EIS PEIS, which concluded that **"Since birds are prone to collisions with reflective surfaces, it would be expected that a utility-scale solar energy project could cause significant bird mortality. Glare could possibly disorientate a bird in flight and cause it to collide with solar energy project facilities or other objects."**⁴⁹ This conclusion by the federal government agencies responsible for overseeing wildlife impact mitigation on public lands further exemplifies the accepted reality that significant bird collision risks are created and enhanced by the presence of reflective solar arrays at solar industrial projects, regardless of differences in design of the panels between projects, and locations of these industrial sites.
6. In their comments to the Palo Verde Solar DEIR, the USFWS confirms that there is growing evidence of the impacts from what is known as the "lake effect," especially for water-associated birds and other species seeking migratory stopover habitat, and that projects in proximity to this project's site are among those reporting the highest mortality of water-associated birds.⁵⁰ They conclude that cumulative impacts to birds could be significant for various species and would warrant project-specific systematic monitoring and mitigation via a bird and bat conservation plan. They go on to suggest some strategies that should be incorporated into such a plan, while emphasizing that any such Plan should provide enough detail to demonstrate standard scientific rigor, appropriate methodology, and consistency with other similarly approved plans.
7. In the 2015 National Renewable Energy Laboratory's review of avian monitoring and mitigation information at existing utility-scale solar facilities, the report summarized their findings of 7 solar sites by stating, "One commonality among utility-scale solar facilities of all technology types is that they occupy relatively large spatial footprints to capture the sun's energy. The development of utility-scale solar facilities, therefore, represents a large human land use in the environment, which has the potential to affect birds and bird communities in a number of ways and during all project phases (construction, operations, and decommissioning). The range of potential impacts from utility-scale solar projects on birds and other wildlife has been evaluated in the literature (e.g., Lovich and Ennen 2011; Hernandez et. al. 2014) and in the *Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* (BLM and DOE 2012). Like all industrial activities, utility-scale solar energy development has the potential to directly and indirectly impact birds and bird communities in a number of ways. This report summarizes existing information of

⁴⁹ DOE, DOI. Final Solar Programmatic Environmental Impact Statement. 2012. <http://solareis.anl.gov/index.cfm> pp. 5- 82.

⁵⁰ County of Riverside. 2017. Palo Verde Solar Project FEIR. p. 2-66
<https://planning.rctlma.org/Portals/14/Postings/CUP3684EIR532/Volume%201%20-%202%20Response%20to%20Comments.pdf?ver=2017-08-18-095828-407>

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direct avian fatality at utility-scale solar facilities, which represents one of several impact factors. There are currently two known types of direct solar-related bird fatalities (McCrary et al. 1986; Hernandez et al. 2014; Kagan et al. 2014): 1. Collision-related fatality—fatality resulting from the direct contact of the bird with a project structure(s). This type of fatality has been documented at solar projects of all technology types.”⁵¹

The review further summarizes, “Collisions may occur at any facility (solar or otherwise) with aboveground structures. In the case of solar plants these may include transmission lines, cooling towers, PV panels and poles, trough systems, heliostats, fencing, and buildings. At PV and CSP facilities, collision hazards to birds are greatest among the solar field arrays...PV facilities may attract some species of birds through what has been called the “lake effect” (Kagan et al. 2014), whereby migrating birds perceive the reflective surfaces of PV panels as bodies of water and collide with project structures as they attempt to land on the panels.”(Emphasis added).⁵²

The Laboratory report’s data collected from monitoring seven solar sites reveal 1,384 bird mortality detections over the course of 6 months to three years, depending on the individual project report, with 11.2% of those being water-dependent birds, and the majority reported as collision-related. All project sites were characterized by presence of various types of desert scrub habitats native to California desert systems in the Mojave and Sonoran deserts.

8. A California Department of Fish and Wildlife grant proposal, written in cooperation by the USFWS and USGS, determined that “Utility-scale solar projects, totaling many tens of thousands of acres, have been approved and are currently proposed within the range of Yuma Clapper Rail. Photovoltaic, solar thermal trough, and solar thermal power tower technologies reflect ambient light during the day and night, producing a “lake effect” that attracts numerous water-associated birds, including numerous rails... Since no water-associated birds were reported in pre-project avian surveys in desert scrub habitat on these project sites, and suitable habitats were not present, we conclude these solar technologies pose an “attractive nuisance” to which rails and other water-associated birds are particularly vulnerable. In addition to collision with solar panels, rails and other water-associated birds have died by collisions with fences and transmission lines, and entanglement in netting over water evaporation ponds. As such, existing and proposed utility-scale solar projects and their associated infrastructure introduce new sources of mortality to dispersing rails [and other water-associated birds], which cumulatively could be significant enough to function as population sinks for the life of these projects”.⁵³ This statement reinforces the fact that bird

⁵¹ Walston, L., Rollins, K., Smith, K., LaGory, K. 2015. Review of Avian Monitoring and Mitigation Information at Existing Utility-Scale Solar Facilities. http://www.evs.anl.gov/downloads/ANL-EVS_15-2.pdf p. 10

⁵² *Ibid.* p.30

⁵³ CDFW. (2016). Demographic tool for assessing the impact of increased mortality rates on Yuma Clapper Rail (*Rallus longirostris yumanensis*) and California Clapper Rail (*R. l. obsoletus*) populations. Unpub. ESA Section 6 Grant. See also Marty, J. and Unnasch, B. 2015. Yuma Clapper Rail (*Rallus longirostris yumanensis*) (CLRA) Basic Conceptual Ecological Model for the Lower Colorado River. Lower Colorado River Multi-species Conservation Program. pp. 89. doi:10.13140/RG.2.2.34990.51528

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collisions to the facility may not only cause significant impacts to birds of many types (sensitive and endangered species, residents, migrants, passerines, water-dependent birds, etc.), but could significantly impact birds at the population level.

9. Fourteen wildlife and other governmental state and federal agencies are coordinating to address what they consider to be emerging issues related to potential avian-solar impacts under the umbrella of the Multi-agency Avian-Solar Collaborative Working Group.⁵⁴ In doing so the agencies involved have produced a draft Plan⁵⁵ that includes justification and details regarding reduction of impacts caused by bird strikes to solar panels. One part of this justification is in response to the bird mortality reports outlined in Table 1, among others. The complete list of agencies in this Working Group include: Arizona Game & Fish Department, Bureau of Indian Affairs, Bureau of Land Management, California Department of Fish & Wildlife, California Energy Commission, California Public Utilities Commission, National Park Service, Nevada Department of Wildlife, U.S. Department of Energy, U.S. Department of Defense, U.S. Department of the Interior, Solicitor's Office, U.S. Fish & Wildlife Service, U.S. Geological Survey.

The evidence discussed above clearly demonstrates that the risks of PV panel avian collisions are real, significant, recognized by oversight agencies, observed by scientific methodologies incorporated into bird and bat monitoring protocols, and quantifiable to the extent required for estimating compensatory mitigation needs. Thus in light of the DEIR's misleading statements, and lack of surveys of avian species, the DEIR fails to provide a comprehensive baseline of avian species that may use the facility for breeding, foraging, or as a stopover, and has failed to provide substantial evidence that impacts to birds from operation of the Project for up to 3 decades will be adequately mitigated.

Additionally, the DEIR continues to contradict itself by stating that,

"The lake effect is at present a hypothesis that remains unsupported by empirical research"⁵⁶ while then acknowledging that it is indeed a phenomenon causing impacts by inferring that anti-glare coating will reduce the lake effect, stating "Additionally, solar panels and hardware are designed to minimize glare and spectral highlighting, as described in Mitigation Measures MM 4.1-4 and MM 4.1-5, as provided in Section 4.1, *Aesthetics*. The program would monitor avian mortality at the project site during operations and maintenance and provide quarterly reporting and adaptive management recommendations to reduce the level of avian mortality to less than significant levels,"⁵⁷ and "the majority of current solar projects make use of non-reflective glass that minimizes

https://www.researchgate.net/publication/307965556_Yuma_Clapper_Rail_Rallus_longirostris_yumanensis_Dickey_CLRA_Basic_Conceptual_Ecological_Model_for_the_Lower_Colorado_River

⁵⁴ See http://blmsolar.anl.gov/program/avian-solar/docs/Draft_Avian-Solar_Science_Plan.pdf

⁵⁵ *Ibid.*

⁵⁶ DEIR Vol. 1 4.4-74

⁵⁷ DEIR Vol1. 4.4-74

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the lake effect, a required design feature per Mitigation Measure MM 4.1-4, as provided in Section 4.1, *Aesthetics*. The project is unlikely to be large enough to result in raptor mortality impacts that exceeds background levels enough to have an adverse effect on the overall population. Impacts would be less than significant.”

First, the DEIR provides zero evidence to support the statement, “The project is unlikely to be large enough to result in raptor mortality impacts that exceeds background levels enough to have an adverse effect on the overall population. Impacts would be less than significant.” It must retract this argument, especially in light of the discussion above regarding the impacts to Swainson’s hawks, and in light of the fact that the indeterminate phrases “background levels” and “adverse effect” are not defined in any sense and thus this analysis is not scientifically supported.

Second, the DEIR provides zero evidence that “the majority of current solar projects make use of non-reflective glass that minimizes the lake effect,” and is concurrently contradictory to its own argument that attempts to discredit the veracity of the lake effect phenomenon.

Third, the DEIR’s assertion that MM 4.1-4 somehow contributes to reducing lake effect is specious, where MM 4.1-4 states, “Prior to final activation of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the *Dark Skies Ordinance* (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.” This mitigation measure has no requirement described specifically for non-reflective glass.

Fourth, and perhaps more importantly, the entire discussion in the DEIR that relates to any sort of glare minimization and relevant non-reflective glass is based on human aesthetics and related perceptions (and even *that* discussion is not supported by scientific evidence). It has nothing to do with bird behavior or natural history, and thus any association is completely unscientific. The DEIR provides zero substantial evidence to support the idea that any sort of non-reflective coating can, or does, serve to reduce impacts to birds from a solar array. Meanwhile, the assumption that a non-reflective coating will reduce bird strikes to panels is completely untested. Little is known about the vision of bird species, and to assume a coating presumably manufactured to reduce glare as perceived by humans will do the same for an entirely different species that often occupies a dimension rarely used by humans, (i.e. overhead, between ground level and many hundred feet, as seen when reflecting sunlight and moonlight) is completely unsupported.

It is widely accepted by solar project managers that dust causes a decrease in reflectivity and efficiency of PV panels^{58,59} and in fact is a source of concern for installation managers who seek to maximize array

⁵⁸ Meijia, F. et. al. 2014. The Effect of Dust on Solar Photovoltaic Systems, *Energy Procedia*. Volume 49: 2370-2376. doi:10.1016/j.egypro.2014.03.251

⁵⁹ Maghami, M. et. al. 2016. Power loss due to soiling on solar panel: A review. *Renewable and Sustainable Energy Reviews*. Volume 59: 1307-1316. doi:10.1016/j.rser.2016.01.044

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energy output efficiency (pers. comm. Mr. Casey, Tenaska Project manager at ISECW). While conducting mortality monitoring at several solar arrays in the Sonoran and Mojave desert I documented bird collisions that illustrate how birds have died from direct strikes the panels despite being covered with dust, where the point of impact is readily detectable due to the feather and wing marks the bird left in the dust on the panels (Photos 3-4). Given this reality, it is highly unlikely that any coating used to date will reduce the likelihood of collisions by birds when a thick layer of dust does not appear to have deterred birds from documented strikes. Finally, the lake effect theory is based upon the idea that birds may perceive solar industrial sites as water bodies, especially given the predominance of water-loving birds that are injured and killed by PV panels. However it makes no assertions regarding what actual physical characteristics may reinforce such perceptions in different species. The cues may be due to albedo or reflectivity, or the appearance of a large mass of flat, uniformly dark expanse (typical of a water body at night) as the project site may appear for night flying birds, or a combination of such factors that may vary depending upon the species in question. In summary the analysis made by the DEIR that non-reflective glass minimizes the lake effect is not supported by any evidence at all, as is the contradictory statement in the DEIR that PV panels have a low potential to create glare.⁶⁰

It is clear the evidence for significant operational direct and indirect impacts to birds by this Project exists as presented above, and will not be mitigated by the proposed mitigation measures as discussed. As such the DEIR needs to:

- (1) Conduct appropriate resident, nesting, and migratory bird surveys to establish a comprehensive baseline of existing conditions. "Incidental" observations are inadequate and do not provide necessary data on nesting, abundance, density, seasonality, etc. required to analyze appropriate mitigation measures.
- (2) Establish mitigation measures that will minimize the injury and death of potentially thousands of birds throughout the life of the Project, including how impacts to all of the special-status birds observed onsite will be mitigated.
- (3) Describe, with details including performance and success criteria, any relevant enforcement, and a bond or other type of payment guarantee, for compensatory mitigation of the impacts discussed above, and for cumulative impacts (also discussed below).

III. THE DEIR FAILS TO ADEQUATELY DESCRIBE AND ADDRESS CUMULATIVE IMPACTS TO BIRDS AND OTHER SPECIAL-STATUS SPECIES

The DEIR contradicts itself by stating that cumulative impacts to biological resources will be significant and unavoidable, while concurrently attempting to downplay such impacts to potentially hundreds of species of migratory birds that use the Pacific Flyway. In doing so the DEIR determined that cumulative impacts would be significant and unavoidable to several special-status birds, including the burrowing

⁶⁰ DEIR Vol1. 4.1-4

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owl, Swainson's hawk, and raptors, based on cumulative loss of foraging and nesting habitat.⁶¹ The DEIR also concluded that the Project along with other projects would result in cumulatively significant impacts on migratory birds due from collisions with solar panels.⁶² However the DEIR provides no analysis regarding cumulative impacts to birds by way of strikes and electrocution, specifically, which should also be analyzed and mitigated in light of the extremely high abundance of other renewable energy projects - with associated transmission lines – in proximity to the Project. This results in an incomplete and flawed analysis to support their conclusion that impacts are unavoidable.

To better illustrate this reality, I have created maps (Figures 1-2) that show the closest existing industrial renewable facilities within a 10 and 20 mile radius to the Project, including some of the major transmission lines. Though not comprehensive, these figures clearly demonstrate that any bird migrating over the Antelope Valley (where the Project lies) and searching for stopovers between Important Bird Areas and Hotspots, e.g. between the Salton Sea and Central Valley, will be exposed to a potentially deadly obstacle course of wind turbines, major transmission lines, and reflective solar facilities, all primary sources of avian strikes and electrocution. This further demonstrates that operational impacts to birds by this Project have been underestimated, resulting in significant impacts unmitigated. As such the DEIR's analysis of cumulative impacts remains inadequate, and must be revisited to demonstrate how impacts are significant and avoidable with appropriate mitigation.

It is also important to note that several other projects included in these figures (i.e. Apollo Solar) have claimed that operation of their facility will cause significant and unavoidable impacts. In light of this conclusion, and as part of the permitting process under CEQA, it is anticipated that the Applicant will pursue a statement of overriding considerations instead of concluding that significant cumulative impacts can be mitigated, for example, with compensatory mitigation. This raises the question as to at what point are the overriding considerations themselves causing cumulatively (potentially) catastrophic impacts and thus are unacceptable due to the impact of so many projects in one area asking for the same exemption from impact mitigation?

IV. THE DEIR FAILS TO DISCLOSE AND ANALYZE IMPACTS TO BATS

The DEIR fails to assess or discuss an entire taxon of species, namely bats, in its analysis of impacts. This is despite the fact that the Desert Renewable Energy Conservation Plan (DRECP) identifies two bat species, the Pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*), on its list of primary conservation "covered species,"⁶³ both of which are demonstrated to have a high likelihood to occur in and around the Project site according to the DRECP distribution maps.^{64, 65} Five other bat species are also considered as focal conservation targets, namely the California leaf-nosed bat

⁶¹ DEIR Vol 1 p. 4.4-55/56.

⁶² DEIR Vol 1 p. 4.4-56.

⁶³ https://www.drecp.org/factsheets/archive/Conservation_Strategy.pdf

⁶⁴ <http://drecp.consbio.webfactional.com/survey#>

⁶⁵ <https://databasin.org/maps/new#datasets=5189141d1abc43c884e400649599126f>

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(*Macrotus californicus*), Western mastiff bat (*Eumops perotis californicus*), Western red bat (*Lasiurus blossevillii*), Hoary bat (*Lasiurus cinereus*), and Cave myotis (*Myotis velifer*).⁶⁶

It is important to note that the DEIR provides a detailed discussion of the DRECP's conservation goals that apply to this region and this Project,⁶⁷ including Objective 3: "Provide for the long-term conservation and management of Covered Species within the Plan Area and preserve, restore, and enhance natural communities and ecosystems in which those species are found by focusing renewable energy development away from areas of greatest biological importance or sensitivity; coordinating and standardizing biological avoidance, minimization, mitigation, compensation, conservation, and management requirements for Covered Activities within the Plan Area; and taking other actions to meet conservation planning requirements in state and federal law."⁶⁸

The fact that the DRECP focuses on bats as part of their priority species is hardly surprising; according to USGS bat biologists, "North American bats face unprecedented threats including habitat loss and fragmentation, white-nose syndrome, wind energy development, and climate change."⁶⁹ They also state that "a statistically robust and standardized bat monitoring program across North America would help managers estimate extinction risk, set conservation priorities and evaluate the effectiveness of conservation actions."⁷⁰ Indeed, if project biological consultants including those who prepared this DEIR would acknowledge the scientific reality that bats are an essential component of ecosystem biodiversity, as key predator and prey species, by conducting the necessary surveys for CEQA - which they could then contribute to CNDDDB and elsewhere – databases would be more complete, allowing for more efficacious conservation planning as development increases and spreads throughout the desert southwest. USGS bat researchers confirm that standardized monitoring and reporting is necessary, but severely lacking, in renewable industrial energy projects, asserting that post-construction monitoring for wildlife fatalities and habitat use was standard practice, yet only 22% of the 203 facilities queried provided data from both pre- and post- construction. They also documented that study design components such as control-impact or before-after designs are rarely used. The lack of comparable biological data makes it difficult to evaluate effects on wildlife across construction periods and among facilities. Researchers recommend best practices that may allow wildlife managers and the energy industry to more accurately and cost effectively anticipate effects of renewable energy to wildlife.⁷¹

⁶⁶https://www.drecp.org/documents/docs/DRECP_Draft_CSL_Memo_Methods_and_List_June_17_2013.pdf

⁶⁷ DEIR Vol 1 4.11-5

⁶⁸ *Ibid.* 4.11-6

⁶⁹ <https://databasin.org/maps/new#datasets=8b0329ff5e6c4fd18863656e8edb47a5>

⁷⁰ https://www.usgs.gov/ecosystems/status-and-trends-program/science/bats?qt-science_center_objects=0#qt-science_center_objects

⁷¹ Conkling, T.J., Loss, S.R., Diffendorfer, J.E., Duerr, A.E., Katzner, T.E., 2020. Limitations, lack of standardization, and recommended best practices in studies of renewable energy effects on birds and bats. *Conservation Biology*, <https://doi.org/10.1111/cobi.13457>

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Research has demonstrated that artificial light and noise can increase the risk of mortality and reduce foraging success by bats in both urban and rural settings.^{72,73} Table 1 shows that two species of bats, the California myotis and Mexican free-tailed bat, have been recorded as being killed from striking solar facility infrastructure. As such, bats could be impacted by the presence of electrical wires, artificial lighting by the Project, throughout the life of the Project, as well as by its other various anthropogenic disturbances in the form of noise, light, dust, barriers, negative attractants, etc. Additionally, the Project may host roosting and foraging habitat for various bat species, potential impacts that are also completely unaddressed by the DEIR.

Additionally, adequate baseline data for impact analysis goes well beyond simple presence or absence predictions from databases, and should include a minimum of three principal ecological factors: magnitude and duration of the impact; rarity and context of the affected resource; and susceptibility of the affected resource to disturbance. The evaluation of significance must also consider the interrelationship of these three factors. For example, a relatively small-magnitude impact on a state or federally listed species could be considered significant if the species is rare and highly susceptible to disturbance. This is true not only for determining significance of impact, but degree of significance in respect to what mitigation measures would be adequate. One cannot determine factors such as context and susceptibility of an entire population from a project's impacts if one does not know whether there may be one, ten, or one hundred or more individuals of a special status species present. It is therefore impossible to determine, without such data, if any given mitigation measure – during construction impact reduction protocol, restoration, relocation, or compensatory mitigation will reduce the Project impacts to below significant. Given all of these factors, and the complete lack of any discussion regarding presence, surveys, or impacts to bats, and the fact that the nearby Catalina Renewable Project DEIR surveys detected two special status species of bats,⁷⁴ the DEIR has completely failed to describe how and to what extent bats may likely be impacted by the Project. As it stands any impacts to bats remain significant and unmitigated.

V. THE DEIR FAILS TO ADEQUATELY DISCLOSE AND ANALYZE IMPACTS TO LIZARDS

As with the entire taxon of bats, the DEIR fails to conduct surveys for any reptile species – aside from the desert tortoise - on or around the Project site. Lack of focused surveys results in an impact analysis based on an incomplete baseline and results in unmitigated impacts.

⁷² Warner, K. A. 2016. *Investigating the effects of noise pollution from energy development on the bat community in the Piceance basin* (Order No. 10149854). Available from ProQuest Central; ProQuest Dissertations & Theses Global. (1815584239).

⁷³ Cravens, Z. M., Brown, V. A., Divoll, T. J., & Boyles, J. G. 2018. Illuminating prey selection in an insectivorous bat community exposed to artificial light at night. *The Journal of Applied Ecology*, 55(2), 705-713. <https://besjournals.onlinelibrary.wiley.com/doi/pdf/10.1111/1365-2664.13036>

⁷⁴ County of Kern. 2011. Catalina Renewable Energy Draft Environmental Impact Report. Kern County Planning and Community Development Department. https://www.kerncounty.com/planning/pdfs/eirs/catalina/catalina_deir_vol1.pdf

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Despite this DEIR claiming the project does not have suitable habitat for the coast horned lizard,⁷⁵ the surveys for CREP (Catalina) DEIR conducted in areas immediately north and west of this Project, where suitable habitat exists to that found in this Project, confirmed two species of horned lizard were present onsite, the Coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*), and the Coast (California) horned lizard (*Phrynosoma coronatum frontale*).⁷⁶ The Catalina DEIR also states that, “as a result of coordination with experts, plant community mapping, habitat assessment, and detailed field surveys, 10 commonly occurring species of herpetofauna were identified within the proposed project property, including long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus draconoides*), desert horned lizard (*Phrynosoma platyrhinos*), desert spiny lizard (*Sceloporus magister*), common side-blotched lizard (*Uta stansburiana*), desert night lizard (*Xantusia vigilis vigilis*), and Western whiptail (*Aspidoscelis tigris*).”⁷⁷

And yet there was no attempt by this Applicant to conduct any sort of focused surveys for any reptiles by way of observations, scat, tracks, trapping, day or nighttime surveys; all means by which reptiles are observed in a given location. It is widely accepted in the scientific community that reptiles represent a key taxon in desert habitats and are highly sensitive to anthropogenic ground disturbances.⁷⁸ They are also virtually impossible to detect comprehensively via incidental observations, as noted in the DEIR’s list of species observed. Many are nocturnal, fossorial, or crepuscular, and often highly secretive; most desert reptile species do not lend themselves to daytime, incidental observations as the DEIR loosely infers by not providing a thorough survey for onsite species. Neither can habitat type alone be a reliable or comprehensive indicator of potential for species to occur. Countless records of species occurrences demonstrate that many species of reptiles, while having a habitat preference, are known to occur in a variety of habitats within their known range, including disturbed habitat in the western Mojave desert.^{79, 80, 81}

⁷⁵ DEIR 4.4-22

⁷⁶ County of Kern. 2011. Catalina Renewable Energy Draft Environmental Impact Report. Kern County Planning and Community Development Department.
https://www.kerncounty.com/planning/pdfs/eirs/catalina/catalina_deir_vol1.pdf p. 5075

⁷⁷ *Ibid.*

⁷⁸ Vandergast, A.G.; Bohonak, A.J.; Hathaway, S.A.; Boys, J.; Fisher, R.N. 2008. Are hotspots of evolutionary potential adequately protected in southern California? *Biol. Conserv.* 141:1648–1664.
<https://pubs.er.usgs.gov/publication/70033696>

⁷⁹ Vera, P., Sasa, M., Encabo, S. I., Barba, E., Belda, E. J., & Monrós, J. S. 2011. Land use and biodiversity congruences at local scale: applications to conservation strategies. *Biodiversity & Conservation*, 20(6), 1287–1317.
<https://doi.org/10.1007/s10531-011-0028-x>

⁸⁰ Dutcher, K. E. 2009. *Microhabitat patch use and movement patterns in Uta stansburiana populations fragmented by a 2005 wildfire in the Mojave national preserve, California* (Order No. 1466162). Available from ProQuest Dissertations & Theses Global. (305177324). Retrieved from
<http://jerome.stjohns.edu:81/login?url=https://search-proquest-com.jerome.stjohns.edu/docview/305177324?accountid=14068>

⁸¹ Heaton, J. S. 2002. *The LizLand model: Geomorphic landform and surface composition analysis of lizard habitat in the California mojave desert* (Order No. 3029564). Available from ProQuest Dissertations & Theses Global. (305504439). <http://jerome.stjohns.edu:81/login?url=https://search-proquest-com.jerome.stjohns.edu/docview/305504439?accountid=14068>

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The USGS recently completed a detailed study of reptile species found in alluvial sand habitat, in a 500-acre area (less than a quarter the size of this Project footprint), that they characterized as “highly disturbed” due to the predominance of non-native, invasive plant species and disturbed scrub habitats. In fact, the USGS study site in an arid ecosystem in eastern San Diego county was almost entirely comprised of disturbed or ruderal habitat. And yet the study findings resulted in 1,208 total captures, revealing a “high species richness and diversity” and “despite the relatively limited 12-month sampling period, a longstanding drought, and severe habitat disturbance, our study demonstrates that [this area] harbors a rich herpetofauna that includes many sensitive species.”⁸² When asked, one of the research herpetologists said that their results were “completely unexpected” and revealed an abundance and diversity “beyond what we ever would have imagined based on the habitat alone” (C. Rochester, *pers. comm.*, Dec 2016). These results underscore the need for focused, scientific surveys to truly establish the necessary faunal data to create an accurate impact assessment. Due to their cryptic nature and difficulty to detect, many species of reptiles are historically underserved in conservation management plans, including those dependent on environmental impact analyses.^{83, 84, 85, 86}

New roads and access driveways constructed to create access to solar development sites increase the risk of direct mortality of lizards and snakes by vehicles, cause habitat fragmentation and potential barriers to gene flow, and make previously inaccessible areas available to vehicles including off-road vehicles. Solar sites are inevitably surrounded by fencing of various kinds during and post-construction, which may serve to exclude some individual animals, but also serves to trap or funnel other small species - including reptiles seeking shade - within a construction site. Additionally, industrial scale solar projects are known to alter the microclimate of a region, where herpetologists conducting analyses of solar facilities in desert habitats in Southern California concluded, “it has been estimated that a concentrating solar facility can increase the albedo of a desert environment by 30%–56%, which could influence local temperature and precipitation patterns through changes in wind speed and evapotranspiration. Depending on their design, large concentrating solar facilities may also have the ability to produce significant amounts of unused heat that could be carried downwind into adjacent wildlife habitat with the potential to create localized drought conditions.”⁸⁷

In addition to the DEIR’s lack of qualitative or quantitative surveys and resultant lack of analysis of direct, indirect, and cumulative impacts to reptiles that may occur onsite, there is a phenomenon that

⁸² Richmond, J. Q., Rochester, C. J., Smith, N. W., Nordland, J. A., & Fisher, R. N. 2016. Rare Alluvial Sands Of El Monte Valley, California Support High Herpetofaunal Species Richness and Diversity, Despite Severe Habitat Disturbance. *The Southwestern Naturalist*, 61(4), 294-306. <https://pubs.er.usgs.gov/publication/70185229>

⁸³ Gerson, M. M. 2004. Aspects of the ecology of a desert lizard, *Callisaurus draconoides* (blainville 1835), in Joshua Tree National Park with an emphasis on home range and diet (Order No. 3146172).

⁸⁴ Heaton, J. S. 2002. The LizLand model: Geomorphic landform and surface composition analysis of lizard habitat in the California Mojave desert (Order No. 3029564).

⁸⁵ Williams, A. K. 2004. The influence of probability of detection when modeling species occurrence using GIS and survey data (Order No. 3123715).

⁸⁶ Rosen, P. C. 2000. A monitoring study of vertebrate community ecology in the northern Sonoran desert, Arizona (Order No. 9965915).

⁸⁷ Rosen, P. C. 2000. A monitoring study of vertebrate community ecology in the northern Sonoran desert, Arizona (Order No. 9965915). p. 98.

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occurs on desert development sites not addressed by the DEIR, detailed below, one that has been demonstrated to increase the mortality of horned lizards, among other species:

I and my biologist colleagues working in the desert have witnessed an important phenomenon on solar and wind energy project construction sites in the Sonoran and Mojave desert regions where lizard species are present. We first noticed this phenomenon due to pre-construction surveys required for animals along roads and within construction zones. Specifically, we have observed that lizards are directly and immediately attracted to roads on and around construction sites where trucks spraying water (and other erosion control liquids) are used to reduce airborne dust, as is the case with every desert development project's dust minimization protocols. This practice, however, attracts lizards of a variety of species to higher moisture levels on the roads, resulting in increased mortality and injury from construction site traffic on the roads subsequent to the water trucks passing.

This phenomenon was reported on one solar construction site in the Sonoran desert during the summer of 2014. Within the course of one month, there was mortality of over 20 flat-tailed horned lizards (*Phrynosoma mcallii*) (a special status species) (FTHL) and over an additional 100 FTHLs were relocated to avoid mortality from vehicle impacts during several weeks of the construction phase.⁸⁸ During the construction of the Sunrise Powerlink gen-tie line in the Sonoran Desert, from just April to November, 25 mortalities were recorded and 103 flat-tailed horned lizards were relocated.⁸⁹ It is key to note that these solar industrial projects failed to anticipate these significant impacts to lizards due to this phenomenon, and as a result one facility had to completely stop work for at least a week. One independent contractor reported his company losing over \$146,000 a week due to the unexpected delay, partly due to the developer's resistance to hiring the requisite number of additional biologists needed to detect and relocate lizards at risk of mortality.⁹⁰ Additionally, because the relocation measure was an emergency response to an unexpected impact, relocation protocols or results were not tested, measured, or evaluated for survival success. Therefore the efficacy of these last minute mitigation measures remains unknown.

In summary, observations during the construction phase of a solar industrial site facility in Southern California desert revealed that lizards of varying species and sizes appear to be opportunistically attracted to the added moisture on the roads from water trucks. Such behavior was not restricted to any lizard species in particular. However, clearly the reason for under-reporting is that these development sites rarely have biologists deliberately searching project sites and roads for lizards when the impact analyses, mitigation measures, or resulting permits do not require such an effort. When this phenomenon was officially noted as impacting sensitive species, additional on-site biologists and mitigation management practices were necessary to ensure complete coverage of all construction roadways and other areas where lizards were prone to death and injury from vehicle impacts.⁹¹ It must

⁸⁸ Wilton, Ben. Tenaska, Personal communication, March 19, 2015; Hord, P. pers. comm., Aug 27, 2017.

⁸⁹ Flat-tailed Horned Lizard Interagency Coordinating Committee. 2011. Annual Progress Report: Implementation of the Flat-tailed Horned Lizard Rangelwide Management Strategy, January 1, 2010 to December 31, 2010. Report prepared by the Flat-tailed Horned Lizard Interagency Coordinating Committee.

⁹⁰ Clarke, C. March 2015. Work on Solar Project Halted to Protect Lizard. KCET:

<http://www.kcet.org/news/rewrite/rewire/solar/work-on-solar-project-halted-to-protect-lizard.html>

⁹¹ P. Hord, pers. comm., Sage Wildlife Biology. Aug 27, 2017.

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be noted that mortalities from even one Project such as this could have a population level effect, especially if a species sub-population is isolated or part of a Distinct Population Segment.⁹²

In order to adequately mitigate for such high potential impacts to the horned and other lizards, the Applicant must take into consideration the risks iterated above, and that onsite reptiles will be impacted by loss of foraging and breeding habitat and directly from Project construction. As such the DEIR should not only conduct appropriate surveys for reptiles, but also propose detailed mitigation measures to reduce resultant impacts, including additional biologists present onsite during all hours of construction, enhanced traffic restrictions, and a reptile relocation Plan and Monitoring Strategy during the construction phase.

VI. MITIGATION MEASURES DEFERRED TO THE FUTURE FAIL TO MEET THE REQUIREMENTS NECESSARY FOR REVIEW

The DEIR proposes the possible creation of some plans or strategies to minimize significant impacts to different resources. Some of these plans details are largely deferred to the future, or otherwise have insufficient detail for public review to make a determination of their efficacy in actual mitigation of direct or indirect impacts when applied, namely:

1. A desert tortoise “translocation and monitoring” plan is proposed,⁹³ and the DEIR posits a few measures regarding fencing and construction site monitoring, but nothing regarding actual translocation performance or success criteria, or related details. Considering the reality that DT translocation, even short distance relocation, has been plagued with failures and complications according to the USGS and others,⁹⁴ such details are necessary for adequate review.
2. A raven management plan is proposed to minimize impacts. Considering that SWHA and ravens are allospecific competitors, and ravens are predators of the DT, some form of management of ravens is appropriate. However, the mitigation measure does not include any actions or criteria that would relate to actual management with the exception of minimizing trash. The DEIR notes that raven nests will be “identified. This constitutes important data collection, however it is not management, nor is it mitigation.
3. The DEIR states that a Habitat Mitigation and Monitoring Plan (HMMP) shall be created to minimize impacts primarily to wetland habitats. However, such a plan should also be prepared,

⁹² Murphy, R., Trepanier, T., Morafka, D. Conservation genetics, evolution and distinct population segments of the Mojave fringe-toed lizard, *Uma scoparia*. *Journal of Arid Environments*. Volume 67, Supplement, 2006, pp 226-247. <https://doi.org/10.1016/j.jaridenv.2006.09.023>

⁹³ DEIR Vol 1. 4.4-79

⁹⁴ Nafus, M. et. al. 2017. Habitat drives dispersal and survival of translocated juvenile desert tortoises. *J. of Applied Ecology*. 54 (2): 430-438. <https://doi.org/10.1111/1365-2664.12774>

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and described, for special-status species that will be impacted by 30+ years of operation (see discussions above).

4. The DEIR should propose and describe a Bird Mortality monitoring plan to better inform the Applicant and the wildlife agencies what birds are being injured and killed during operation, and so that success criteria of compensatory mitigation can be assessed.

For mitigation actions to be successful the devil is in the details, without such there can be no thorough or informative review of their potential for success. As an environmental consultant I have observed many times the failure of many mitigation measures, when applied due to the lack of appropriate performance and success criteria, which are not implemented, defined, or otherwise analyzed prior to project approval, followed by failures of mitigation success and enforcement. When details are almost entirely deferred to the future, as they are here, mitigation actions become highly indeterminate and unspecified. Again, this is inadequate for the reviewing public to determine efficacy of the mitigation, thus denying one of the primary purposes of CEQA review. Further, stating that a plan intends to follow guidelines or agency recommendations does not reveal or address the specific and sometimes unprecedented requirements for mitigation for a specific location, including the unique characteristics of a specific project and its impact on a specific sensitive, rare, or otherwise at-risk population, including the long term, indirect, and cumulative impacts unique to every development.

Details are essential to understand and address the characteristics of a site and its unique species cohort and their relevant ecological status, and should include necessary distinctions in compensatory mitigation; i.e. revegetation or restoration that must rely on factors including types of habitat not just onsite but nearby, as well as other variables like population densities located on and near the site, and cumulative impacts to the Project.^{95, 96} Additionally, if history repeats itself and sensitive species are killed or injured by the facility during operation, what measures will the Applicant be willing to take to mitigate for such? Data collection is important, but it is not mitigation and cannot replace dead animals. And will they be adequate, especially considering mitigation comes with economic and other perceived burdens that most developers seek to minimize at any given moment, especially when enforcement is minimal and oversight at remote locations lacking? These questions beg answers that the public cannot assess when no detail is offered.

Deferring mitigation plans to a future date is also inadequate because the unscripted details are based largely upon anticipation of a future direction by various unnamed and presumed experts – or administrators – yet to be determined. This has two inherent problems: (a) It disallows reviewers to

⁹⁵ Keeley, J., Baer-Keeley, M. C.J. Fotheringham (eds). (2000). 2nd Interface Between Ecology and Land Development in California U.S. Geological Survey Open_file Report00-62. <https://pubs.usgs.gov/of/2000/of00-062/>

⁹⁶ Newton, G. and Claassen, V. (2003). Rehabilitation of Disturbed Lands In California: A Manual For Decision-Making. *California Geological Survey*.
<https://www.conservation.ca.gov/dmr/SMARA%20Mines/Documents/sp123.pdf>

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adequately analyze efficacy of mitigation measures as required by CEQA, and (b) It leaves the process vulnerable to the whims, bias, political digressions, employee changes, financial shortfalls, and conflicts of the Applicant as well as to litigation and other interruptions that are known to lead to mitigation failure and overall disruptions post-project approval. Resource experts on measuring effectiveness of mitigation measures, especially ones regarding compensatory tradeoffs as pivotal to mitigation success (as is likely the case with this Project), state that, **“Public choice theory profoundly suggests officials and traders have more incentive to facilitate barter than to ensure biodiversity protection.** Thus, given the option of saying to developers “yes, with conditions” or “no,” officials will prefer “yes, with conditions”— particularly when compliance with conditions cannot be credibly measured and officials can avoid accountability for outcomes. Legitimized bartering can thus create a policy situation “obscure enough to please all parties and so ill-defined that failures will be difficult to detect not to mention rarely measured (emphasis added).”⁹⁷ When asked about the success of compensatory mitigation for wetland restoration, Dr. Joy Zedler, chair of the 2001 NRC Compensatory Mitigation Study Committee, said, “It could be the best of all worlds...or it could be the same old same old . . . It’s all in the implementation.”⁹⁸

These statements underscore why so many compensatory and other mitigation plans fail to meet the goals of mitigation for projects over the years and is something I have observed repeatedly as an environmental consultant working in the public and private energy, residential, and transportation development sectors. If the permitting authorities and enforcement agencies are seriously committed to their role in ensuring adequate mitigation of all of the significant impacts imposed by this development – to both resident and migratory species - they will require detailed descriptions allowing for review and discussion of the adequacy of mitigation plans by independent experts for each protected species and habitat in question, prior to issuance of a development permit, and not leave most such prescriptions indeterminate, i.e. deferred to the future, upon Project approval. Finally, courts have determined that deferring mitigation to the future is an inadequate action under CEQA, as they did so in *Preserve Wild Santee V. City Of Santee*, when mitigation for an endangered species and wetland habitats was deferred to a future plan instead of addressed appropriately in the EIR.⁹⁹

As such, the DEIR should revisit its mitigation measures and provide definitive, detailed descriptions that include success criteria, performance standards and timelines that follow the best available science, and specifics on enforcement, cost, and related funding source for each plan.

VII. IMPACTS TO BIOLOGICAL RESOURCES FROM DECOMMISSIONING ARE NOT ANALYZED

⁹⁷ Walker, S.; Brower, A.; Stephens, R.T.; and Lee, W. 2009. Why Bartering Biodiversity Fails. *Conservation Letters* 2:149–157. http://www.azoresbiportal.angra.uac.pt/files/publicacoes_Walker%20et%20al%202009.pdf

⁹⁸ Alice Kenny, April 27, 2008. *Environmentalists Sound Off on EPA Wetland Regs*, Ecosystem Marketplace. <http://staging.ecosystemmarketplace.com/articles/environmentalists-sound-off-on-epa-wetland-regs/>.

⁹⁹ <https://caselaw.findlaw.com/ca-court-of-appeal/1614349.html>

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In respect to indirect and cumulative impact analysis, it is relevant to place this Project in context of its regional environmental scope and impact from toxins released as by-product from decommissioning: Aside from providing energy for nearby communities, and a profit for the Applicant, one of the primary objectives of this Project is to provide an alternative to fossil fuel energy production and thus contribute to reducing greenhouse gas emissions. A primary reason for slowing anthropogenic climate change is to reduce its damaging and disruptive effects on wildlife and their habitats, including the many ecosystem services these habitats provide when intact, including carbon sequestration, water filtration, nutrient dispersal and cycling, erosion control, soil deposition, waste decomposition and detoxification, pollinator maintenance, and natural pest (i.e. invasive species) and disease control, to name a few. By way of mitigating the climate crisis we seek to reduce impacts particularly on already vulnerable species approaching extinction,¹⁰⁰ and at-risk habitats concurrently degraded by the cumulative impacts of pollution, overharvesting, fragmentation, and human-induced non-native species invasions. The globally cited Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services 2019 Report has drawn a host of conclusions via analysis of over 15,000 scientific publications in addition to a “substantive body of indigenous and local knowledge.”¹⁰¹

According to the IPBES report, the main direct drivers of species extinction are (in descending order): (1) changes in land and sea use, (2) direct exploitation of organisms (including hunting, fishing and logging), (3) climate change, (4) pollution, and (5) invasive alien species. The report summary concludes that loss and degradation of habitat is more responsible for extinctions than climate change. Though both factors obviously pose serious global threats to species, this reality of cumulative impacts should be included in any real world analyses of proposed developments where large scale elimination of native habitats – as posed by this Project - is considered a justifiable sacrifice for industrial-scale energy project development.

As such renewable energy developments, this one included, should not be viewed as a panacea to the greenhouse gas reduction when production of that energy significantly impacts those very same habitats and species we are seeking to protect by way of reducing global warming. As University of Berkeley renewable energy professor Zehner states, “The presumed carbon benefits of a [renewable energy facility] if thoughtlessly situated, could be entirely wiped out by the destructive impact on the wildlife surrounding it - a humbling reminder that the technologies we create are only as durable as the contexts we create for them.”¹⁰²

The exigencies and resultant significant potential impacts of production and decommissioning of this industrial PV facility - to be constructed in a remote, natural environment far from any standard contaminant measuring and oversight that may otherwise be present in urban or suburban environments - are not addressed in the DEIR. The Silicon Valley Toxics Coalition states that as the solar

¹⁰⁰ IPBES (2019). Press Release: Nature’s Dangerous Decline ‘Unprecedented’ Species Extinction Rates ‘Accelerating’. <https://www.ipbes.net/news/Media-Release-Global-Assessment>

¹⁰¹

https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf

¹⁰² Zehner, O. (2012). *Green Illusions: The Dirty secrets of Clean Energy and the Future of Environmentalism*. Lincoln University of Nebraska Press. p.40.

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photovoltaic industry expands, “little attention is being paid to the potential and environmental costs of that rapid expansion. The most widely used solar PV panels have the potential to create a huge new wave of electronic e-waste at the end of their useful lives, estimated to be 20 to 25 years. Many of these [new solar PV technologies] use extremely toxic materials or materials of unknown health and environmental risks.”¹⁰³ Compound used in the materials to construct this Project will invariably leach into the air and water as part of the decommissioning process, and can impact wildlife as well as humans in a wide variety of ways.

The DEIR provides wholly inadequate detail on the scope of decommissioning impacts, including any direct, indirect, or other impacts of hazardous waste disposal on biological resources (aquatic and terrestrial species onsite and wherever materials would be disposed of), despite it being accepted fact that hazardous wastes can and do affect species across a broad spectrum of taxa. The DEIR defers any key details regarding how and where recycled materials and hazardous waste will be disposed of in ways that not only meet general disposal regulations adopted by local landfill regulatory agencies, but also minimize risks to the habitats and species overall. Solar decommissioning is an inexact science at best, and an increasingly risky financial and environmental endeavor at worst, adding to the lack of comprehensive efforts to mitigate potential harm. Reports show several major hurdles accompany decommissioning of solar industrial sites, namely that (1) monetary costs for decommissioning are exceeding original estimates by millions of dollars,¹⁰⁴ (2) environmental costs are often underestimated and overlooked,^{105, 106} and (3) companies to conduct the decommissioning are few.¹⁰⁷ One such decommissioning group, SolUnesco, states, “A great deal of variability can come into play when calculating decommissioning costs. For example, an estimate of decommissioning of the 80 MWac Water Strider project came in just over \$2 million, while the 50 MWac Sunnybrook project—two-thirds the size of Water Strider—had estimated decommissioning costs 50% higher—over \$3 million. These variances are created because of the methodology used by different parties, the requirements imposed by counties, and the lack of calculation standards. We feel that this extreme divergence in cost estimates has resulted in a loss of credibility in the industry.”¹⁰⁸ The DEIR does not provide adequate detail as to how hazardous and other toxic wastes will be disposed of in ways that do not impact wildlife and habitats at the site and near the disposal site (i.e. landfill), and who specifically will bear the burden

¹⁰³

<https://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=9ED1EF059222E244A69ED8F51DEDACF6?doi=10.1.1.548.9949&rep=rep1&type=pdf>

¹⁰⁴ <https://www.greentechmedia.com/articles/read/First-Solars-Stewardship-of-Recycled-CdTe-Modules-in-Question>

¹⁰⁵ National Renewable Energy Laboratory (NREL). 2012. Renewable Electricity Futures Study. Hand, M.M.; Baldwin, S.; DeMeo, E.; Reilly, J.M.; Mai, T.; Arent, D.; Porro, G.; Meshek, M.; Sandor, D. eds. 4 vols. NREL/TP-6A20-52409. Golden, CO: National Renewable Energy Laboratory.

¹⁰⁶ <https://www.ucsusa.org/resources/environmental-impacts-solar-power>

¹⁰⁷ <https://www.solarpowerworldonline.com/2019/03/how-to-decommission-a-solar-array-and-why-its-important-to-plan-ahead/>

¹⁰⁸ <https://www.solunesco.com/2018/09/10/decommissioning-of-solar-sites-a-key-consideration-of-the-project/>

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of costs if they prove significantly more than whatever estimates (as of yet unknown) are created at the time of project permit approval.

Thin-film solar cell technologies employ various toxic substances including cadmium, categorized as an extreme toxin by the U.S. EPA and a Group 1 carcinogen by the International Agency for Research on Cancer (Photo 1). Cadmium leached into soils from industrial waste has been demonstrated to be absorbed by plants and made more bioavailable to wildlife species, and can persist for many years in the soil.^{109, 110} Toxic materials disposed in a landfill or elsewhere may contaminate groundwater, contaminate air from secondary leaching, off-gassing and when burned,¹¹¹ and as a result impact a host of species in proximity to the disposal site(s), including rare and highly vulnerable populations.¹¹² A plethora of studies on marine, terrestrial, and freshwater vertebrates and invertebrates demonstrate that low level exposure to contaminants, including cadmium, may compromise immune function, and effect fecundity, migratory behavior, environmental fitness, and reproductive success of a host of species.^{113, 114, 115, 116, 117} One such study found that cadmium, above all the other metals measured, impacted rodents and owl fecundity and long term population viability.¹¹⁸ Researchers analyzing the bioaccumulation of cadmium across trophic levels in 32 species concluded that “cadmium

¹⁰⁹ Pain, D. J., Meharg, A., Sinclair, G., Powell, N., Finnie, J., Williams, R., & Hilton, G. (2003). Levels of cadmium and zinc in soil and plants following the toxic spill from a pyrite mine, Aznalcollar, Spain. *Ambio*, 32(1), 52–57.

¹¹⁰ Camizuli, E., Scheifler, R., Garnier, S., Monna, F., Losno, R., Gourault, C., Hamm, G., Lachiche, C., Delivet, G., Chateau, C., & Alibert, P. (2018). Trace metals from historical mining sites and past metallurgical activity remain bioavailable to wildlife today. *Scientific Reports*, 8(1), 3436. <https://doi.org/10.1038/s41598-018-20983-0>

¹¹¹ Langlois, C., & Langis, R. (1995). Presence of airborne contaminants in the wildlife of northern Québec. *The Science Of The Total Environment*, 160–161, 391–402.

¹¹² Marquardt, S. R., Annis, M., Drum, R. G., Hummel, S. L., Mosby, D. E., & Smith, T. (2018). On the Cutting Edge of Research to Conserve At-Risk Species: Maximizing Impact through Partnerships. *Integrative And Comparative Biology*, 58(1), 140–149. <https://doi.org/10.1093/icb/icy009>

¹¹³ Veldhoen, N., Stevenson, M. R., Skirrow, R. C., Rieberger, K. J., van Aggelen, G., Meays, C. L., & Helbing, C. C. (2013). Minimally invasive transcriptome profiling in salmon: detection of biological response in rainbow trout caudal fin following exposure to environmental chemical contaminants. *Aquatic Toxicology (Amsterdam, Netherlands)*, 142–143, 239–247. <https://doi.org/10.1016/j.aquatox.2013.08.016>

¹¹⁴ Zukal, J., Pikula, J., & Bandouchova, H. (2015). Bats as bioindicators of heavy metal pollution: history and prospect. *Mammalian Biology*, 80(3), 220–227. <https://doi.org/10.1016/j.mambio.2015.01.001>

¹¹⁵ Fisk, A. T., de Wit, C. A., Wayland, M., Kuzyk, Z. Z., Burgess, N., Letcher, R., Braune, B., Norstrom, R., Blum, S. P., Sandau, C., Lie, E., Larsen, H. J. S., Skaare, J. U., & Muir, D. C. G. (2005). An assessment of the toxicological significance of anthropogenic contaminants in Canadian arctic wildlife. *Science of the Total Environment*, 351–352, 57–93. <https://doi.org/10.1016/j.scitotenv.2005.01.051>

¹¹⁶ Hutton, M. (1982). The role of wildlife species in the assessment of biological impact from chronic exposure to persistent chemicals. *Ecotoxicology And Environmental Safety*, 6(5), 471–478.

¹¹⁷ Bichet, C., Scheifler, R., Cœurdassier, M., Julliard, R., Sorci, G., & Loiseau, C. (2013). Urbanization, Trace Metal Pollution, and Malaria Prevalence in the House Sparrow. *PLoS ONE*, 8(1), 1–10. <https://doi.org/10.1371/journal.pone.0053866>

¹¹⁸ Loos, M., Ragas, A. M. J., Plasmeijer, R., Schipper, A. M., & Hendriks, A. J. (2010). Eco-SpaCE: An object-oriented, spatially explicit model to assess the risk of multiple environmental stressors on terrestrial vertebrate populations. *Science of the Total Environment*, 408(18), 3908–3917. <https://doi.org/10.1016/j.scitotenv.2009.11.045>

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contamination is a great concern because this non-essential metal presents risks both for wildlife and human health.”¹¹⁹

The DEIR alludes to some basic measure to mitigate what they name as decommissioning,¹²⁰ but offers completely inadequate discussion or analysis of scope, extent, methods, goals, objectives, or any performance criteria for how hazardous wastes will be safely disposed of such that they do not cause significant or unmitigable contamination to biological resources. The environmental impacts of decommissioning must be discussed, not simply deferred to the future in hopes that any scripted plan will address all the environmental impacts, especially as scientists learn more each year about the degree and extent of such impacts, and what is necessary to avoid and mitigate them. Indeed, researchers studying the impacts to wildlife of a host of pollutants including cadmium, selenium, copper, and zinc concluded that species across food webs were adversely affected by persistent “low to medium toxicity” compounds that leached into ecosystems, and could persist in the soil and be made bioavailable to species for a minimum of decades. The researchers concluded that “The vulnerability of a species is a combination of its potential exposure, sensitivity to the type of pollutant, and recovery capacity.”¹²¹ The DEIR makes no attempt to analyze any such impacts to wildlife and habitats to any degree.

The DEIR completely fails to analyze the impact of any hazardous or other waste that will inevitably be a byproduct of decommissioning. The biological resource mitigation measures that mention decommissioning treat the action of decommissioning as if it were equivalent to Project construction activities, an unscientific categorization that ignores the short and long-term exigencies of decommissioning. The DEIR states, “The post-project condition of the project site as a result of project construction and operation would be different than pre-project conditions. If special-status species have recolonized the project site during operation, decommissioning could impact these species. However, Mitigation Measures MM 4.4-2 and 4.4-3 require construction worker training and measures for avoidance and protection of biological resources. Implementation of these mitigation measures during the decommissioning period would reduce potentially significant impacts to special-status wildlife and plant species to less than significant.”¹²² For reasons state above, the worker training is completely inadequate for mitigation, and as importantly has no application to impacts from toxic waste deconstruction and disposal, and therefore fails to analyze and mitigate impacts to special status species from decommissioning.

¹¹⁹ Espejo, W., Padilha, J. de A., Kidd, K. A., Dorneles, P. R., Barra, R., Malm, O., Chiang, G., & Celis, J. E. (2018). Trophic transfer of cadmium in marine food webs from Western Chilean Patagonia and Antarctica. *Marine Pollution Bulletin*, 137, 246–251. <https://doi.org/10.1016/j.marpolbul.2018.10.022> p. 246

¹²⁰ DEIR Vol 1 Table 1-8

¹²¹ De Lange, H. J., Lahr, J., Van der Pol, J. J. C., Wessels, Y., & Faber, J. H. (2009). Ecological vulnerability in wildlife: an expert judgment and multicriteria analysis tool using ecological traits to assess relative impact of pollutants. *Environmental Toxicology and Chemistry*, 28(10), 2233–2240. <https://doi.org/10.1897/08-626.1>

¹²² DEIR p. 4.4-74

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Any analysis of decommissioning should at a minimum address the realities of toxins and their potential for habitat disruption and species bioaccumulation as an inherent part of impacts caused by industrial scale PV solar development. Without such, the long-term impacts of toxic waste deconstruction and disposal on sensitive species and habitats remains completely unaddressed.

VIII. CONCLUSION

For the reasons outlined above, the Project DEIR fails to meet the requirements of impact analysis and mitigation under the California Environmental Quality Act (CEQA). Based on my responses in this letter, and my extensive experience as a biologist and environmental consultant, it is my professional opinion that the DEIR has not met the obligations of CEQA and that the Project would result in significant and unmitigated impacts to several sensitive biological resources. The DEIR must be revised and resubmitted to disclose, adequately analyze, and mitigate the significant impacts. If the impacts cannot be reduced to less than significant, they are unavoidable. No further consideration should be given to the proposed Project until a complete DEIR is prepared and circulated that addresses the omissions and errors discussed herein.

Sincerely,

A handwritten signature in dark ink, appearing to read "Renee Owens", with a stylized flourish at the end.

Renée Owens
Conservation Ecologist
M.S. Ecology, M.S. Environmental Science

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

Renee Owens, M.S. - Biologist and Independent Environmental Consultant

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Table 1

Avian Mortality Summary

This table provides a partial summary of avian mortalities documented at select solar facilities in desert regions of California between January 2012 and March 2016. This summary is not comprehensive for any category, is limited to projects that have provided mortality data, and is from data provided by the CDFW and USFWS in July 2016 in response to a Freedom of Information Act request. Blank cells indicate a lack of data provided in the report.

<u>Doc No.</u>	<u>Monitoring Dates</u>	<u>Facility</u>	<u>Developer</u>	<u>MW / Type (PV or Solar thermal)</u>	<u>Location</u>	<u>Lead Agency</u>	<u>Deaths</u>	<u>Species</u>
2H	4/21/2014 - 9/10/2014	Stateline Solar Project	First Solar	300 / PV	San Bernardino County	BLM	13	Rock Pigeon Orange-crowned Warbler Yellow-rumped Warbler Brewer's Blackbird Black-throated Sparrow Orange-crowned Warbler Wilson's Warbler Red-tailed Hawk California Myotis Sora Western Tanager Lesser Nighthawk
1Q	Q4 2013 10/2013 – 12/2013	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	36	Specific species not identified
1A	Q1 2014 01/2014 – 03/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	17	Mourning Dove Sora American Kestrel Snowy egret Indian peafowl American Coot Red-tailed Hawk Burrowing Owl
1O	Q2 2014 04/2014 – 06/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	10	Mourning Dove Sora Lesser Nighthawk Dove sp. Unknown

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1P	Q3 2014 07/2014 – 09/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	30	Mourning Dove Sora Lesser Nighthawk Dove sp. American Coot Burrowing Owl Eurasian Collared Dove Common Ground Dove Unknown
1R A 1RB 1RC	Q4 2014 10/2014 – 12/2014	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	34	Sora American Kestrel Mourning Dove Dove sp. Eurasian Collared Dove American Coot White-winged Dove Savannah Sparrow Common Gallinule Rock Dove Unknown
1SA 1SB 1SC	Q1 2015 01/2015 – 03/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	24	Eurasian Collared Dove American Coot Burrowing Owl (2) Horned Lark <i>Icteridae</i> sp. Mourning Dove Cattle Egret Sora Unknown bird
1TA 1TB 1TC	Q2 2015 04/2015 – 06/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	22	Virginia Rail White-crowned Sparrow Western Meadowlark Common Gallinule Sora Eurasian Collared Dove American Coot <i>Parulidae</i> sp. Common Grackle Cliff Swallow <i>Trochilidae</i> sp. Lesser Nighthawk Pacific Loon Mourning Dove Say's Phoebe Unknown bird

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1U A Mis sin g Aug ust 1U C	Q3 2015 07/2015 – 09/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	45+ missi ng Augus t data	Lesser Nighthawk Horned Lark Mourning Dove Western Grebe Eurasian Collared Dove Mexican Free-tailed Bat Sora <i>Columbidae</i> sp. Common Gallinule California Towhee
1V A 1V B 1V C	Q4 2015 10/2015 – 12/2015	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	69	Sora <i>Columbidae</i> sp. Eurasian Collared Dove Common Gallinule White-winged Dove Virginia Rail <i>Ardeidae</i> sp. American Coot Western Meadowlark Mourning Dove Black Phoebe Say's Phoebe Burrowing Owl (3) Greater Roadrunner Mallard Vesper Sparrow Blue-footed Booby European Starling Unknown bird
1W A 1W B 1W C	Q1 2016 01/2016 – 03/2016	Campo Verde Solar	First Solar	123-139 / PV	Imperial County	Imperial County	35	Mourning Dove Sora Dove Sp. Western Meadowlark Black Phoebe Rock Pigeon American Coot Red-tailed Hawk <i>Emberizidae</i> sp. Eurasian Collared Dove White-faced Ibis Savannah Sparrow Surf Scoter Barn Owl Le Conte's thrasher
1J	Quarterly Report	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	6	

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	07/2013 – 09/2013							
1K	Quarterly Report 01/2014 – 03/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	11	
1L	Quarterly Report 04/2014 – 06/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	5	
1M	Quarterly Report 07/2014 – 09/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	8	
1N	Quarterly Report 01/2015 – 03/2014	Topaz Solar Farm	First Solar	550 / PV	San Luis Obispo County	San Luis Obispo County	5	
1B	1st Quarterly Post-Construction Report 08/2012 – 11/2012	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	53	Short-eared Owl (2) Burrowing Owl (3) Blackbird sp. Savannah Sparrow Western Meadowlark Red-tailed Hawk Mourning Dove Fox Sparrow Common Raven CA Horned Lark Northern Flicker Lincoln's Sparrow Long-eared Owl American Crow
1C	2 nd Quarterly Post-Construction Report 11/2012 – 02/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	144	

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1D	3 rd Quarterly Post- Constructio n Report 02/2013 – 05/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	84	
1E	4 th Quarterly Post- Constructio n Report 05/2013 – 08/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	89	
1F	5 th Quarterly Post- Constructio n Report 08/2013 – 11/2013	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	103	
1G	6 th Quarterly Post- Constructio n Report 11/2013 – 02/2014	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	152	
1H	7 th Quarterly Post- Constructio n Report 02/2014 – 05/2014	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	54	
1I	8 th Quarterly Post- Constructio n Report	California Valley Solar Ranch Project	SunPower	250 / PV	San Luis Obispo County	San Luis Obispo County	24	

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	05/2014 – 08/2014							
1X	08/2011 – 12/2011	Desert Sunlight	NextEra	550 / PV	Riverside County	Bureau of Land Management (BLM)	8	Burrowing Owl Western Grebe Eared Grebe American Coot
1X	Q1 2012 01/2012 – 03/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	3	American Avocet Loggerhead Shrike (6) Mourning Dove Common Loon (5)
1X	Q2 2012 04/2012 – 06/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	3	Sora Wilson's Warbler Brown Pelican Common Raven
1X	Q3 2012 07/2012 – 09/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	10	Double-crested Cormorant Great-Tailed Grackle Ruddy Duck Ash-throated Flycatcher
1X	Q4 2012 10/2012 – 12/2012	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	10	Brown-headed Cowbird Common Poorwill Horned Lark Sagebrush Sparrow
1X	Q1 2013 01/2013 – 03/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	3	Townsend's Warbler Western Tanager White Crowned Sparrow Yellow Headed Blackbird
1X	Q2 2013 04/2013 – 06/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	20	Black Headed Grosbeak Brewer's Blackbird Common Yellowthroat Costa's Hummingbird
1X	Q3 2013 07/2013 – 09/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	25	House Finch Lesser Nighthawk Pied-billed Grebe Say's Phoebe
1X	Q4 2013 10/2013 – 12/2013	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	26	Sparrow Sp. Virginia Rail Yellow-rumped Warbler American Kestrel
1X	Q1 2014 01/2014 – 03/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	4	American White Pelican (1) Barn Owl Black-crowned Night-Heron Black-tailed Gnatcatcher
1X	Q2 2014 04/2014 – 06/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	18	Blue-winged Teal Clapper Rail Common Merganser Great Egret

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1X	Q3 2014 07/2014 – 09/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	15	Lesser Scaup Long-eared Owl Mallard Northern Mockingbird
1X	Q4 2014 10/2014 – 12/2014	Desert Sunlight	NextEra	550 / PV	Riverside County	BLM	10	Prairie Falcon Red-breasted Merganser Redhead Red-necked Phalarope Red-winged Blackbird Savannah Sparrow Surf Scoter Tree Swallow Blackbird sp. Duck sp. Empidonax Flycatcher sp. Hummingbird sp. Jaeger sp. Verdin Western Meadowlark White-faced Ibis White-winged Dove Wilson's Snipe Yellow Warbler
2A	1 st Quarterly Report 08/2014 – 10/2014	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	21	American Coot Mallard Buteo Sp. American Kestrel Heron/Egret Sp. Tern Sp. Savannah Sparrow Dove Sp. Unknown bird
1Y	2 nd Quarterly Report 11/2014 – 01/2015	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	27	Burrowing Owl (5) American Coot Mourning Dove Eurasian Collared Dove White-winged Dove Rock Pigeon Dove Sp. Heron/Egret Sp. Greater Roadrunner Dove Sp.
1Z	3 rd Quarterly Report	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	13	Lesser Nighthawk Common Gallinule Mourning Dove White-winged Dove Rock Pigeon

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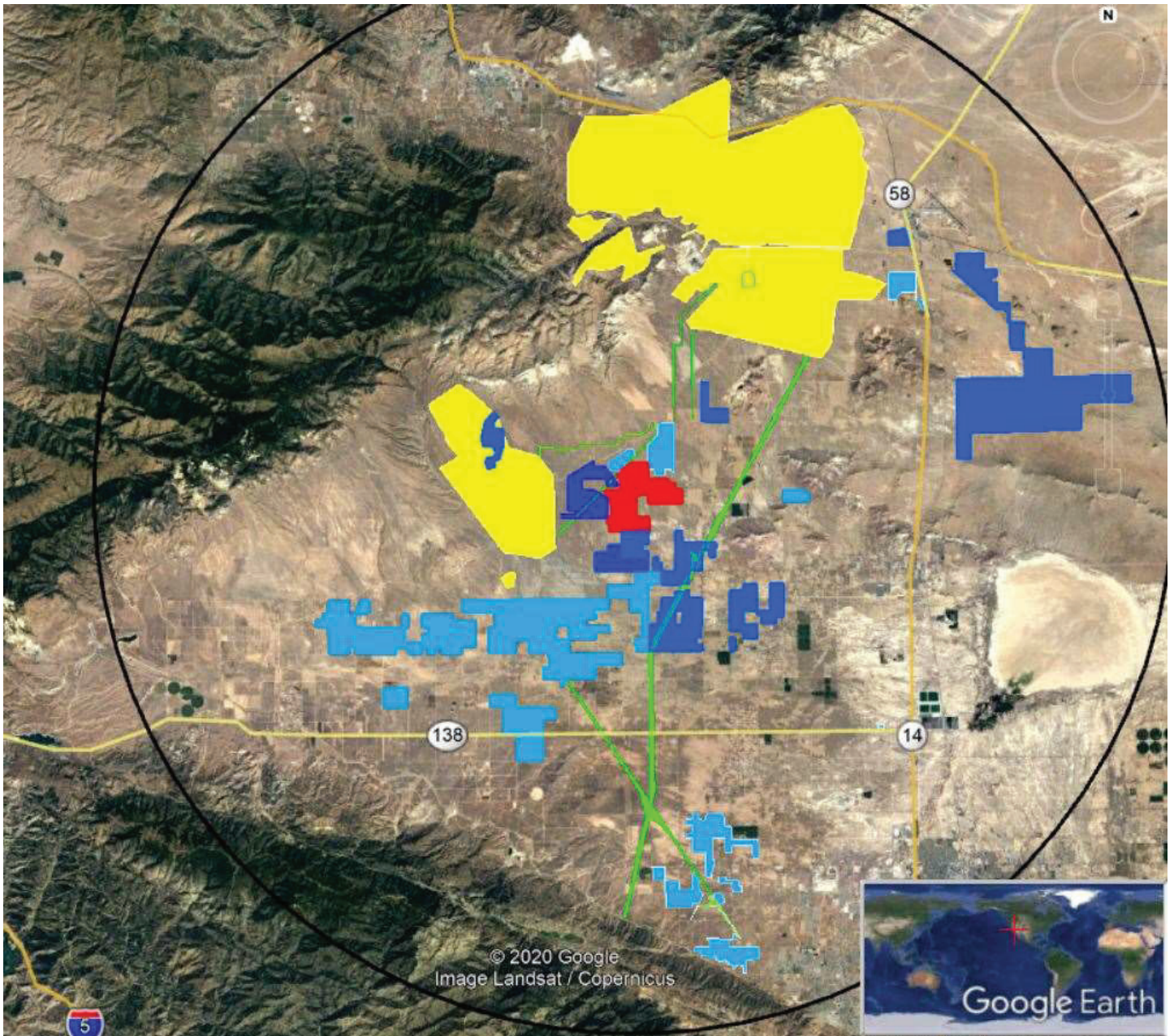
	02/2015 – 04/2015							Mallard Black-crowned Night Heron Unknown
2B A 2BB 2BC	4 th Quarterly Report 05/2015 – 07/2015	Centinela Solar		170 / PV	Imperial County	Imperial County / BLM	9	Brant (1) Mourning Dove <i>Columbidae</i> sp. Eurasian Collared Dove Black-crowned Night-heron American Kestrel Unknown
2C A 2CB	11/2013 - 12/2013	Imperial Solar Energy Center South	Tenaska	130 / PV	Imperial County	Imperial County	5	American Coot
2D A 2D B 2D C	01/2014 – 03/2014	Imperial Solar Energy Center South	Tenaska	130 / PV	Imperial County	Imperial County	5	Mourning Dove Cattle Egrets Sora
2EA 2EB 2EC	07/2015 – 09/2015	McCoy	NextEra	750 / PV	Riverside County	BLM	29	
2FA 2FB 2FC	10/2015 – 12/2015	McCoy	NextEra	750 / PV	Riverside County	BLM	91	
2G	01/01/16	McCoy	NextEra	750 / PV	Riverside County	BLM	10	

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Figure 1

Cumulative Impacts: Existing Renewable Energy Projects Within a 20-mile radius (black border)



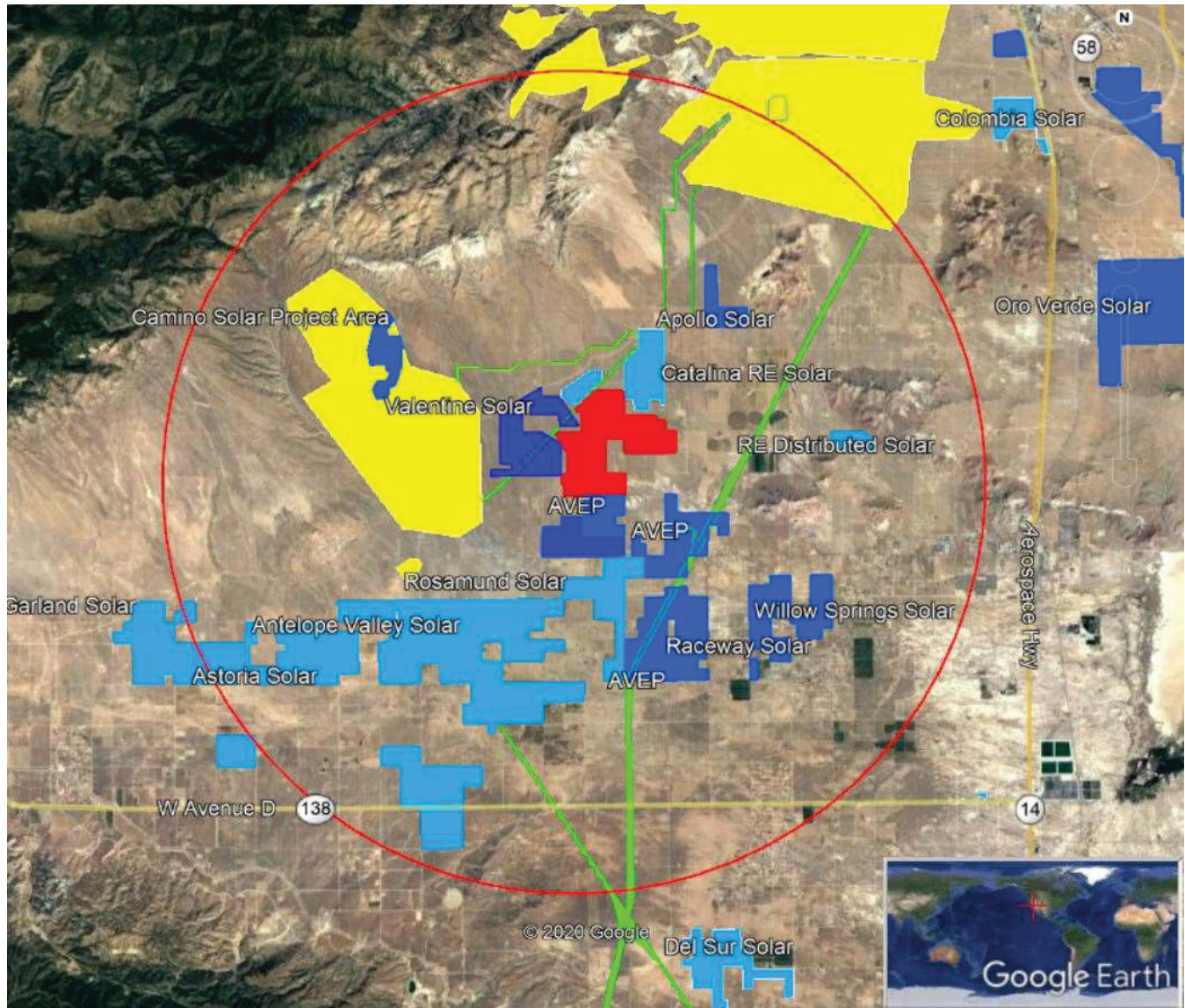
Proposed Project = red Wind Projects = yellow Operational Solar projects = light blue
In Process Solar projects = dark blue Major transmission lines = green

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Figure 2

Cumulative Impacts: Existing Renewable Energy Projects Within a 10-mile radius (red border)

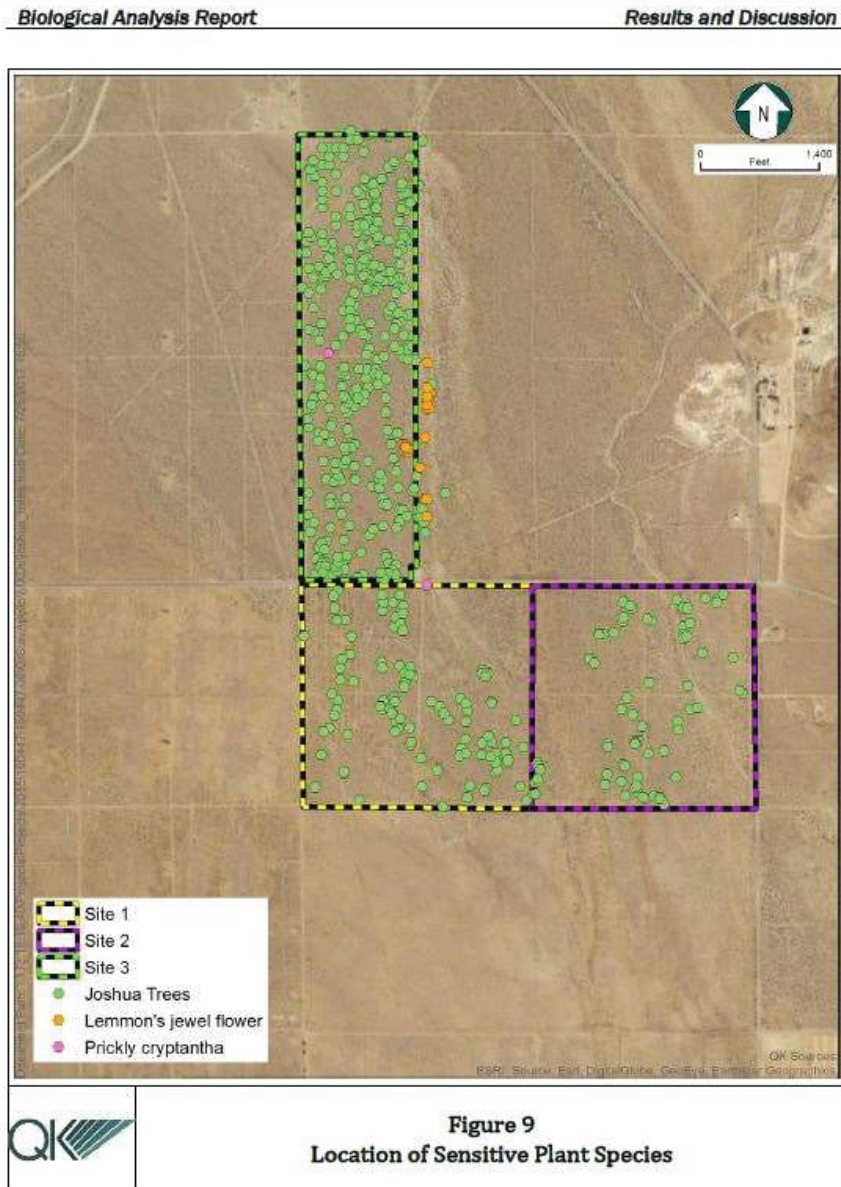


Proposed Project = red Wind Projects = yellow Operational Solar Projects = light blue
In Process Solar Projects = dark blue Major transmission lines = green

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Figure 3



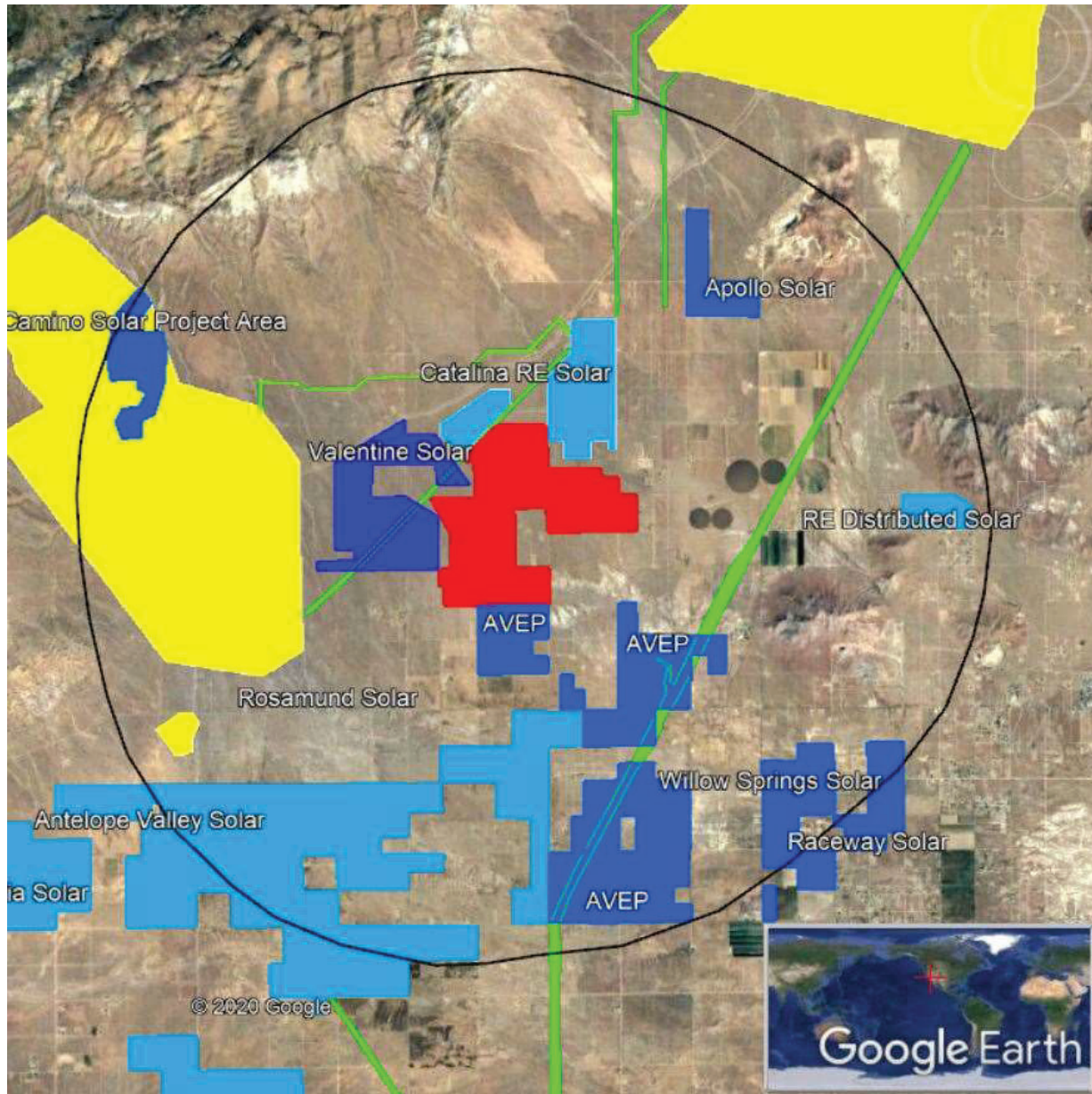
Map of Joshua trees identified in the Apollo Solar project site

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Figure 4

5-mile search radius (black circle) for Big Beau Solar Project



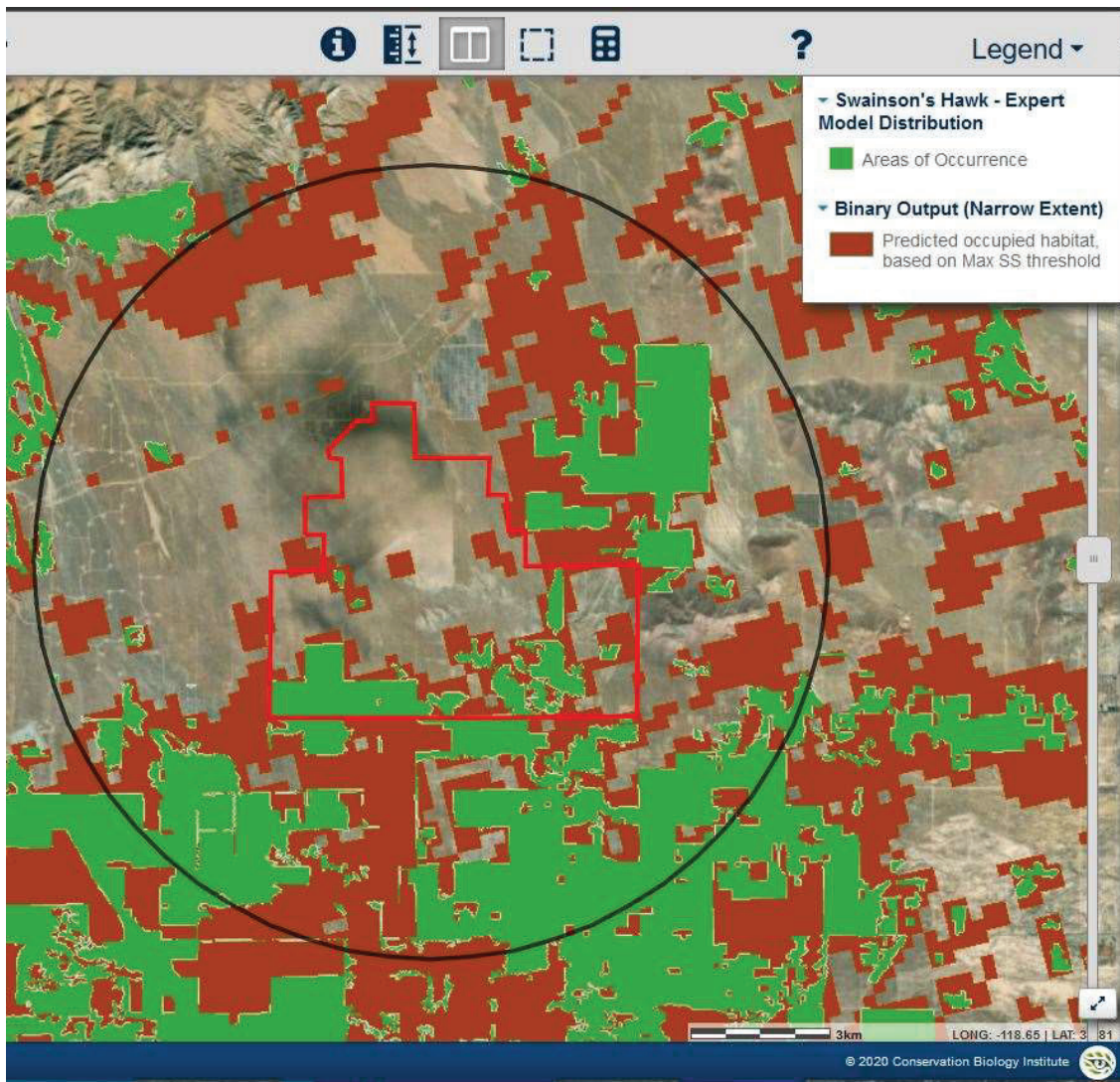
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Figure 5

Swainson's Hawk predicted areas of occurrence, and predicted occupied habitat, with conservative 5-mile radius from center of Project site (black circle).

Source: DRECP database (USFWS, USGS) / DataBasin

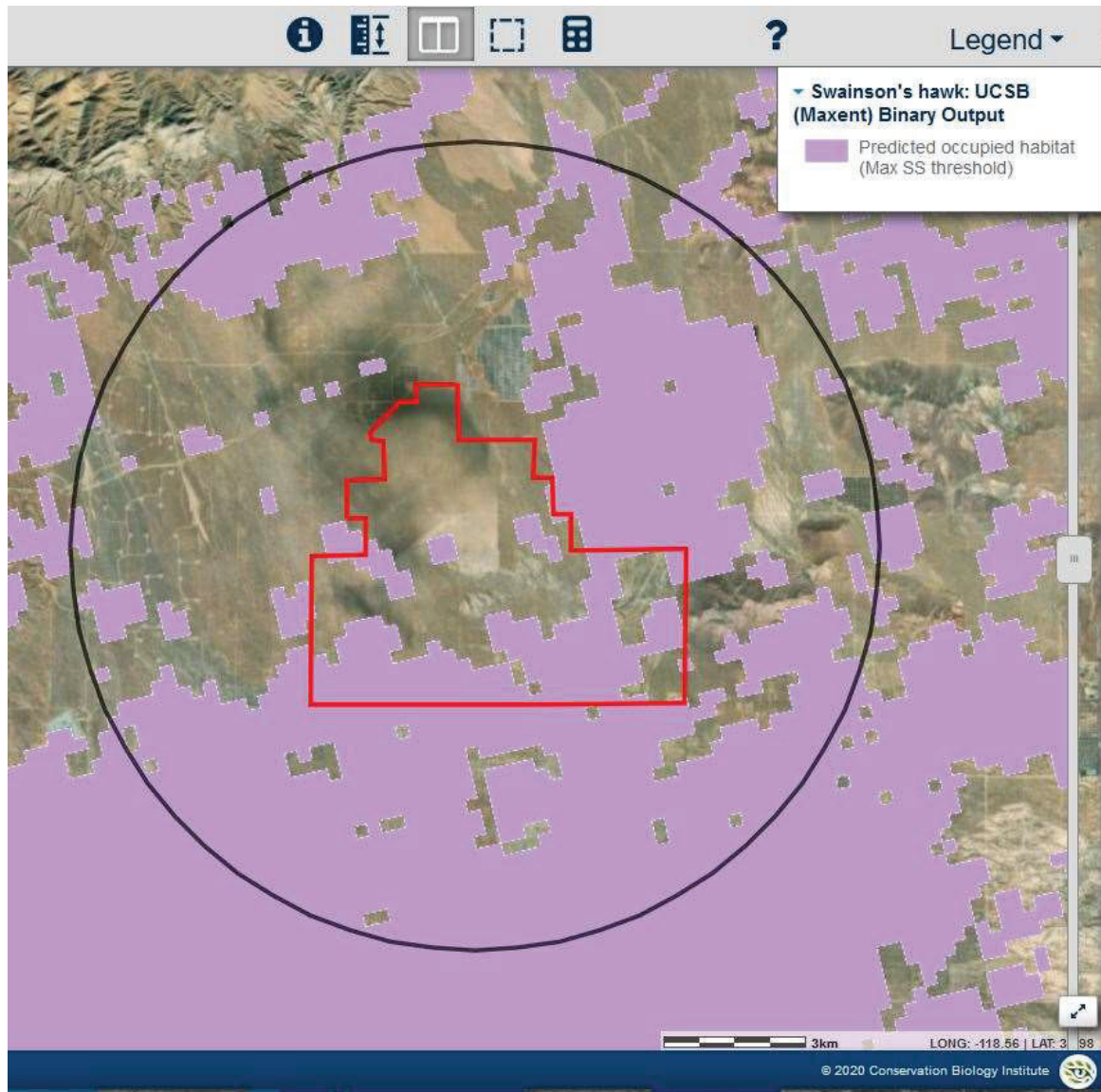


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Figure 6

Swainson's Hawk and predicted occupied habitat, with conservative 5-mile radius from center of Project site (black circle). Source: UCSB / DataBasin



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Photo 1



Mandatory signage for First Solar PV Solar Industrial site - Sonoran Desert, California
(photo Patrick Hord))

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Photo 2

Fatal Bird Strike on dusty PV solar panel – Western grebe – Sonoran Desert
(photo Patrick Hord)



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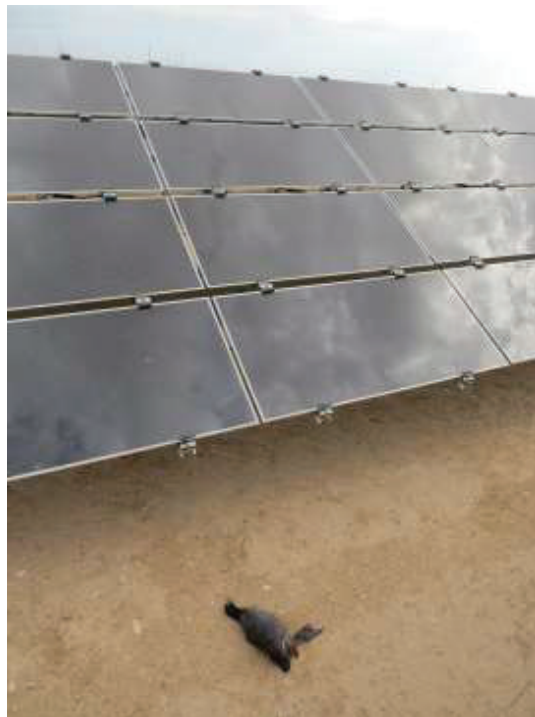
Photo 3

Closeup of bird wing strike on dusty panel,
discovered above dead bird (American coot, below) killed by impact



Photo 4

American coot killed by impact at large Sonoran desert solar array



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Professional Background

I am a conservation biologist and environmental consultant with over 27 years of professional experience in wildlife ecology and natural resource management. I hold a M.S. in Environmental Science and another M.S. in Ecology; my teaching experience includes college instruction since 1991 at various colleges and Universities. I taught field courses in Tropical Ecology in Ecuador and the Galapagos for Boston University, and was a Visiting Full Time Professor in Environmental Science and Biology at Imperial Valley College.

I have managed an independent environmental consultancy I founded in 1993, contracted for work in the U.S. and Latin America, including in California, Tennessee, Oregon, New York, and Massachusetts. Since 1994 have and currently maintain U.S. Fish and Wildlife (FWS) Recovery permits for listed species under the federal Endangered Species Act (ESA). I hold several state and federal certifications for surveys and monitoring of protected and special status species. I have extensive experience monitoring and studying many species across several taxa, including herpetofauna, terrestrial invertebrates, passerines and raptors, and marine and terrestrial mammals. I have served as a biological resource expert on over 150 projects involving pipelines, water, urban and rural residential developments, mines, and industrial scale energy projects; on private, public, and military lands. I have experience observing the species and habitats discussed in the DEIR.

The scope of work I have conducted as an independent environmental contractor, supervisor, and employee has included assisting clients to evaluate and achieve environmental compliance, restoration, mitigation, and research as related to biological resources; as well as submitting analytical reports and comments for such work to oversight agencies. This work includes analyzing actions pursuant to the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), the Endangered Species Act, the Clean Water Act (CWA), the Migratory Bird Treaty Act (MBTA), and other regulations, along with surveying for and preparing Biological Technical Reports and Assessments. I have been contracted as an environmental consultant by the FWS, the USDA Forest Service, Ultrasystems, ICF, Helix Environmental, URS, AECOM, AMEC, GeomorphIS, Dudek, ESA, Tetra Tech, Bridgenet, among others. I am a member of the National Sierra Club's Marine Advisory Committee, and a Board Member of the Backcountry Land Trust.

My conservation and natural history research on endangered species in Latin America has received awards including the National Geographic Research and Exploration Award and the National Commission for Scientific and Technological Research Award. My research has been featured on National Geographic Television and Discovery Channel documentaries, and I have served as technical consultant for wildlife documentaries filmed by National Geographic Television, Discovery Channel, BBC, and Animal Planet. In 2017 I received a Special Commendation for contributions to environmental conservation from the City of San Diego.

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I have gained particular knowledge of the biological resource issues associated with the Project through my extensive work on numerous research and consulting projects throughout California. My comments are based upon first-hand observations, review of the environmental documents prepared for the Project, review of scientific literature pertaining to biological resources known to occur in and near the Project area, consultation with other biological resource experts, and the knowledge and experience I have acquired throughout my almost 30 years of working in the field of natural resources research and management.

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RENÉE OWENS

Curriculum Vitae

- College Instruction in Biology and Environmental Science; Boston U, SDSU, Palomar College, Imperial Valley College
- Non-profit management
- National Geographic Research and Exploration Award
- Wildlife Conservation Society International Research Grant
- Endangered species Federal Recovery permits
- ESA, CEQA, NEPA, MMPA impact analyses
- Mitigation, Restoration, Project monitoring, HCP planning / implementation
- San Diego City, County, USFWS, BLM approved biologist
- U.S. National Championships Olympic Distance Triathlon
- Special Commendation for Contributions to Environmental Conservation, City of San Diego

Ms. Owens has been a college instructor, environmental consultant and biologist, non-profit manager, writer, and public speaker for over 30 years. Her experience includes work and research in the United States, Venezuela, Ecuador, Belize, Panama, and Honduras.

College Instruction of various courses includes teaching in the broad fields of Environmental Science and Biology at Boston University, Palomar College, Imperial Valley College, and San Diego State University. She has certification in Community College Instruction from the University of California San Diego.

Award winning conservation research by Ms. Owens has been featured by National Geographic, Discovery, BBC, Dateline NBC, Animal Planet, Sierra, and TIME magazine.

Sage Wildlife Biology consultancy co-founded by Ms. Owens in 1993 has provided services for projects involving endangered species, ethology, ecology, and conservation research; mitigation management, impact analysis, Habitat Conservation Plan design and implementation, and analytical reporting. Projects incorporate monitoring and regulatory compliance from the local to federal level with clients in the private, public, and government sectors, and include energy, housing, transportation projects. Contracts encompass many species, including but not limited to carnivores, passerines, raptors, shorebirds, herpetofauna, cetaceans, butterflies, and pinnipeds, and their associated habitats. She is an approved biologist for San Diego City and County, USFWS, and BLM.

The Wild Zone Conservation League is a wildlife conservation, education, and research non-profit. As Executive Director Ms. Owens applies her non-profit experience acquired over 30 years of volunteering to management of citizen science, environmental education, wildlife rescue, and advocacy training to promote conservation, stewardship, and land preserve acquisition.

Ms. Owens gives lectures enhanced by her nature photography and international experiences on endangered species conservation, advocacy, predator co-existence, animal behavior, ornithology, and the cognitive science of environmental leadership and communication.

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EDUCATION

- MS Environmental Science, Concentration in Education. Green Mountain College, Poulsbo, VT.
- Community College Instruction Certification. University of California San Diego, La Jolla, CA.
- Advanced Statistical Programming Certification. U of Tennessee, Knoxville.
- MS Biology (Ecology and Evolution). SDSU, San Diego, CA.
- BS Biology (Minor in Environmental Studies). State University of New York, Geneseo, NY.

LANGUAGE SKILLS Native English speaker, fluent in Spanish

WORK EXPERIENCE

TEACHING

Adjunct Professor, Instructor in Environmental Science, Biology. Department of Math, Science, and Engineering, Imperial Valley College, Imperial, CA. 2012 – 2018.

Director/Instructor, Wildlife Conservationist Certification Training Program, created by Ms. Owens with a San Diego Foundation Environmental Vision Fund grant. Provided education and training of adult volunteers for naturalist interpretive and conservation organizations. Wild Zone Conservation League, San Diego, CA. 2009-2011.

Visiting Assistant Professor, Department of Math, Science, and Engineering. Lecture, laboratory, and field trip instruction in Biology, Environmental Science, Botany. Imperial Valley College, Imperial, CA. 2008-2009.

Environmental Education Instructor, Outdoor instructor for educational youth program “Outdoor Explore” investigating Nearby Nature, grades k – 12. San Diego Audubon Society, CA. 2009 - 2010.

Teaching Fellow, Tropical Ecology Program, based at Universidad de San Francisco, Ecuador. Lecture and field instruction in advanced coursework on tropical habitats included cloud and mangrove forest, Pacific intertidal zones, inland rainforest, Galapagos Islands, and high elevation paramo. Boston University. 1999 –2000.

Adjunct, Instructor in General Biology lecture and laboratory. Palomar College, San Marcos, CA. 1994 - 1996.

Teaching Assistant, Instruction for laboratories in General Biology, Zoology, and Invertebrate Biology included creation of additions and updates to General Biology laboratory (with live marine specimens), adopted by the Biology Department for all General Biology laboratories. San Diego State University, San Diego, CA. 1990 – 1992.

Instructional Tutor, for classes in psychology, biology, ecology, anthropology, oceanography, and human fertility. SUNY Geneseo, Geneseo, NY. 1983 – 1987.

PROFESSIONAL CONSULTING

Co-Founder, Sage Wildlife Biology LLC. Biological consultant for over 200 hundred projects, specializing in wildlife biology of for environmental compliance, impact analysis, research, and conservation in California and South America. 1993 – present.

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Representative Projects:

Wind Turbine System Research. Created and implemented a Bird and Bat Monitoring program and analysis for patent-pending turbine system, Primo Wind renewable energy design. San Diego Naval Base, CA. 2016-2017.

Endangered Species. Protocol surveys, monitoring, and reporting for federally threatened and endangered species, HELIX Environmental Planning Inc., San Diego, CA.

CEQA/NEPA/ESA Consultant. Provide expert biological testimony regarding impact analyses (i.e. MND/EIR/EIS) on conventional energy, renewable energy, residential development, and coastal development projects in California.

Satellite Communications System LA-RICS. Los Angeles Regional Interoperable Communications System county-wide project, federally funded to create broadband wireless network using Long-Term Evolution (LTE) technology while minimizing impacts to native habitats and ecosystems. Contributed to Biological Assessment for PEIR/ PEIS, 218-site project with coastal, mountain, and desert habitats. Management recommendations included maximizing use of existing structures while avoiding impacts to watersheds and other sensitive biological resources. Los Angeles County, CA.

Habitat Conservation Planning. Included federally permitted surveys and reporting for various endangered species; Migratory Bird Treaty Act nesting bird surveys; herptile surveys; population assessments; and concurrent development of Critical Habitat components of Habitat Conservation Plans including the San Diego Multiple Species Conservation Plan. San Diego, Los Angeles, Riverside, San Bernardino Counties, CA.

Mitigation and Restoration. Principal biologist, prepared biological Assessment plus mitigation and monitoring plan for Black Mountain Open Space Park development project; supervised biological components of mitigation management, including coordination with the City of San Diego to implement restoration efforts within the MHCP. San Diego, CA.

Wildfire Habitat Management. Principal investigator for California Fire Safe Council responsible for habitat management projects in areas adjacent to U.S. Forest Service land. Included habitat mapping, sensitive species surveys, GIS, management of work teams (5 to 50 individuals), and preparation of the Biological Assessment for the Bureau of Land Management. Project development included consultation and coordination with private landowners, scientists, San Diego County Fire Authority, Home Owners Associations, USDA Forest Service and BLM. San Diego County, CA.

Wind Energy Project. Year-round monitoring and research contributed to Biological and Environmental Assessments, incorporating focused wildlife surveys throughout 15,000 acres of Bureau of Land Management land in Imperial County. Provided management recommendations for avoidance of impacts to sensitive habitats and species including golden eagles, Peninsular bighorn sheep, burrowing owls, and flat-tailed horned lizards; and post-construction monitoring and mortality surveys. Ocotillo, CA.

Mitigation Land Trust Management. Lead biologist for two Perpetual Land Management Habitat Conservation Plans managed by The Escondido Creek Land Conservancy. The Preserves incorporate 110

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acres of riparian wetland, oak woodland, coastal sage scrub, and chaparral habitats; created in compliance with California Environmental Quality Act and Multiple Habitat Conservation Plan requirements, coordinated with third party trustees U.S. Fish & Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). Escondido and San Marcos, CA.

California Wild Heritage Campaign. Wilderness Society contracted biologist and campaign organizer included biological surveys and mapping of proposed wilderness as well as coordination of volunteers, educational materials, and outreach with National Forest stakeholders. San Diego County, CA.

Endangered Species Biologist. Principal biologist, participated in a long-term research of the California gnatcatcher for Camp Pendleton Marine Base, including monitoring and Critical Habitat Assessment for USFWS and data collection for 40 + pairs spanning several thousand acres of habitat. Prepared reports on habitat suitability and contributed to critical habitat assessments and recovery planning. Oceanside, CA.

Least Bell's Vireo Endangered Species Recovery Plan. Conducted breeding season nest monitoring and invasive species management as part of the USFWS Species Recovery Plan for the Least Bell's Vireo; included monitoring, banding, and reporting monthly on 30 - 70 nesting pairs while providing reports for Critical Habitat evaluation and population recovery analysis. San Diego County, CA.

Biologist, HELIX Environmental Planning Inc., San Diego, CA. Responsible for terrestrial and aquatic fauna and flora surveys, monitoring, reporting, and research; Habitat Conservation Plans for private and government entities, mitigation and restoration implementation. 2000-2001.

Biologist, Sweetwater Biological, San Diego, CA. Conducted mammalian, ornithological, and herptile surveys and monitoring; mitigation and restoration monitoring, reporting, and management; included contributions to Habitat Conservation Plans for private and government entities. 1994-1996.

RESEARCH

Representative Projects:

Pinniped Natural History, breeding research and impact analysis of human interaction on Harbor seal and sea lion rookeries in San Diego, CA. 2010 – present.

Endangered Species Conservation, South American project funded by the National Geographic Research Foundation, CITES, Wildlife Conservation Society, The Venezuelan National Council for Scientific and Technological Research (CONICIT), and PROFAUNA of Venezuela; co-lead in multi-year study of the green anaconda; the first of its kind in the wild. Research incorporated radio telemetry, mark and recapture, natural history, and mating system analysis; findings contributed to various documentaries and a conservation and ecotourism program for 175,000 acres of Llanos in Apure State, Venezuela. 1996 – 2002.

Avian Breeding System and Conservation, research included manakin lekking behavior (Tiputini Tropical Research Station, Ecuador), California gnatcatcher, least Bells' vireo nesting success, cowbird parasitism (San Diego county), passerine and *Polybia* nesting associations in flooded wetlands, resource partitioning in shorebird species (Apure State, Venezuela). 1994 – 1997, 2000 – 2007.

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Renee Owens, M.S. - Biologist and Independent Environmental Consultant

Predator Conservation and Ethology, natural history and conservation research for the jaguar, mountain lion, endangered giant otter, included recommendations for management and co-existence on cattle ranches in the Llanos and Orinoco tributaries. Included observations of genetically distinct giant otter population where previously considered extinct. Apure State, Venezuela. 1996-1997.

Endangered Species Reintroduction Programs, of the Orinoco crocodile, Arrau turtle, Red-footed tortoise, funded by Wildlife conservation society, Venezuelan Profauna. Research in highly remote regions to assess long term species survival post-reintroduction and related influence of local indigenous tribes. 1996 – 1998.

Cetacean Bioacoustics, research of the Commerson's dolphin included audiogram data collection on hearing thresholds and related recommendations for conservation management of this species and related genera. SDSU/ Hubbs Research Institute, San Diego, CA. 1991 – 1992.

Primate Research, Study of social and mating behavior dynamics of Pygmy chimpanzees (Bonobos). 1990-1991.

Avian Research Internship, research of waterbird and passerine nesting predation and parasitism; included monitoring, banding, and mapping 250 nest boxes. Genesee Country Nature Center, Mumford, NY. 1987.

Independent Study, conducted undergraduate research on navigation and orientation of long distance avian migrant passerines using a planetarium equipped with an adjustable magnetic field. Principal investigator Dr. Robert Beason. SUNY Geneseo, Geneseo, NY. 1985-1987

NON-PROFIT MANAGEMENT

Executive Director, Wild Zone Conservation League. International wildlife non-profit focused on citizen science, education, research, and community collaboration for wildlife conservation. Long term mission of land acquisition in the U.S. and Central America for preservation and educational field study programs. 2015 - present.

Latin America Assistant Director, World Society for the Protection of Animals. Responsible for project development and campaign coordination for human-wildlife interface campaigns in Latin America. Included creation and implementation of training workshops, direction of campaigns for species in biodiversity hotspots including watersheds, coral reef, Pacific coastal rainforest and coasts. Coordinated emergency disaster relief with veterinary triage, organizational and material support, rescue training and oiled network response. Boston, MA. 1998-1999.

LABORATORY

Laboratory Technician, Palomar College, San Marcos, CA. Responsible for provisioning, preparation, and maintenance of biology and chemistry laboratories and equipment. 1994.

Laboratory Assistant, Toxicology and Physiology Departments. Included research in environmental toxicology, Muscular Sclerosis, Parkinson's disease. University of Rochester Medical Center, Rochester, NY. 1988 – 1990.

AWARDS / HONORS

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Renee Owens, M.S. - Biologist and Independent Environmental Consultant

- San Diego Sierra Club Silver Cup Conservation Award for Lifetime Achievement, 2017.
- Special Commendation for Contributions to Environmental Conservation, City of San Diego, 2017.
- San Diego County Democrats for Environmental Action Volunteer of the Year, 2017.
- Photo display, San Diego Museum of Natural History's "Best of Nature" Exhibit, 2016.
- San Diego Foundation Vision Fund Environmental Education and Conservation Grant, 2010.
- NOAA Environmental Hero Award, 2000.
- Photo, "TIME Great Images of the 20th Century", TIME Magazine Publications, 2000.
- CONICIT Award for the Novel Researcher, 1998.
- CITES and Profauna Joint Research Grant, 1996.
- National Geographic Film and Research Grant, 1996.
- National Geographic Research and Exploration Award, 1996.
- Wildlife Conservation Society Research Grant, 1996.
- Sierra Club Emily Durbin Leadership in Conservation Award, 1995.
- SDSU Harry Hamber Academic Graduate Scholarship, 1991.
- U.S. National Triathlon Championships, 1989.
- New York State Regents Academic Scholarship, 1983.

CERTIFICATIONS

- U.S. Fish and Wildlife Recovery Permit for the endangered Coastal California gnatcatcher, Least Bell's Vireo, Quino checkerspot butterfly. 1994 – present.
- Acoustic Monitoring of Bats, Field Techniques. Sonobat Workshop, Wildlife Society, 2012.
- Desert Tortoise Council, Survey Techniques Workshop, Certificate of Completion November, 2010.
- Flat-tailed Horned Lizard BLM Survey Techniques Workshop, Certificate of Completion, 2010.
- Desert Tortoise Council, Survey Techniques Workshop, Certificate of Completion, 2006.
- USFWS Arroyo Toad Workshop, Certificate of Completion, Camp Pendleton Marine Base, 1999.
- Willow Flycatcher Workshop, SD Natural History Museum, Certificate of Completion, 1995.

VOLUNTEERING

- National Sierra Club Marine Team Committee, 2013- present.
- National Sierra Club Wildlife and Endangered Species Committee, 2010 – present.
- San Diego Audubon Society Conservation Committee, 2010 – 2014.
- San Diego Sierra Club (SDSC) Executive Committee, 2008 – 2010.
- SDSC Conservation Committee, 2007 – 2010; 2014 – 2018.
- SDSC Wildlife Committee Chair 2001 – 2008, 2015 – 2018.
- Wildlife Research Institute Scientific Advisory Committee, 2005 – 2008.
- Lakeside Emergency Wildlife Rehabilitation Center, 2000 – 2005.

SOCIETY CONFERENCE PRESENTATIONS

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

Renee Owens, M.S. - Biologist and Independent Environmental Consultant

- “From Education to Stewardship: the Cognitive Science of Environmental Communication”, Environmental Summit, San Diego, 2019.
- “The Cost of Mismanagement at a Pinniped Rookery and Coastal Urban Wildlife Interface”, International Urban Wildlife Conference, San Diego, CA. June 2017.
- “Consorting with Coastal Wildlife: Conservation and Advocacy in the Real World”, West Coast Ocean Forum, La Jolla, CA. 2016.
- “Conservation of the Green Anaconda in Venezuela”, Annual Conference of the Society for the Study of Ichthyology and Herpetology, La Paz, Baja California, Mexico, 2000.
- “Trends in the International Reptile Pet Trade”, Annual Conference for the Humane Society International, Boston, MA, 1998.
- “Bioacoustics and Conservation Implications for the Commerson’s Dolphin”, Biennial Conference for the Society for Marine Mammalogy, Orlando, FL, 1995.
- “Navigation and Orientation of Long Distance Migrants: How Bobolinks use Stellar and Magnetic Cues for Migration”, Annual Conference for the Society of Behavioral Ecology, Albany, NY, 1987.

WORKSHOPS

- Organized CEQA and NEPA Training Workshops, San Diego, CA. Presented instructional seminar regarding biological impact assessments. 2000, 2007, 2010, 2017.
- Organized the first annual West Coast Marine Environmental Forum, La Jolla. Held seminars on the National Ocean Policy, Ecosystem Based Management, critically endangered cetacean conservation, sustainable fishery science, and coastal wildlife conservation advocacy. 2017.

PROFESSIONAL AFFILIATIONS

- Association of Field Ornithologists
- Citizen Science League
- Marine Mammal Society
- National Association of Biology Teachers
- Society for the Study of Amphibians and Reptiles
- Wildlife Society
- Wildlife and Habitat Conservation Coalition

SELECT PUBLICATIONS

- Owens, R. Y. The Unpleasant Secrets of Clean Solar Energy: The Impacts to Wildlife in the Desert. *The Desert Report*, Dec 2016: pp 1, 8-9.
- Owens, R. Y. 2014. The USDA’s Dirty Secret: A Century-Old Wildlife Killing Machine, *The EcoReport* (January). <http://www.theecoreport.com/green-blogs/sustainability/conservation/wildzone/the-usdas-dirty-secret-a-century-old-wildlife-killing-machine/>
- Owens, R. Y. and Hord. P. L. In revision. *Conservation Biology*. Economic and costs and ecological implications of “joint use” policy management of a Harbor seal rookery in an urban wildlife interface.

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Renee Owens, M.S. - Biologist and Independent Environmental Consultant

- Owens, R. Y. In revision. *Journal of Field Ornithology*. Nesting associations between wasps of the genus *Polybia* and passerine birds of the Venezuelan Llanos.
- Owens, R. Y. 2012. Rebirth of Green: Resolution for 2013. *San Diego Loves Green: The Wild Zone* (December).
- Owens, R. Y. 2012. Coyotes: The Media's Modern Bogeyman. *San Diego Loves Green: The Wild Zone* (October).
- Rivas, J.A. and Owens, R.Y. 1999. Teaching conservation effectively: a lesson from life history strategies. *Conservation Biology*, 13 (2): 453-454.
- Rivas, J.A. and Owens, R.Y. 2002. Orinoco crocodile (*Crocodylus intermedius*): Age at First Reproduction. *Herpetological Review*. 33 (3): 203.
- Rivas, J. A., R. Y. and S. A. Aktay, 2001. *Paleosuchus trigonatus* (Schneider's Smooth fronted Caiman): Nesting and hatching. *Herpetological Review*. 32: 251.
- Rivas, J. A., Owens R. Y. and Calle, P.P. 2001. *Eunectes murinus*: Juvenile predation. *Herpetological Review*. 32 (2): 107-108.
- Rivas, J. A. and R. Y. Owens. 2000. *Eunectes murinus* (green anaconda): cannibalism. *Herpetological Review*. 31(1):44-45
- Rivas, J. A., Thorbjarnarson, J. B., Owens, R. Y and M. C, Muñoz, 1999. *Eunectes murinus*: caiman predation. *Herpetological Review*. 30 (2): 101
- Owens, R.Y. Informe técnico al Servicio de Fauna de Venezuela: Regional population assessment of the endangered giant otter (*Pteronura brasiliensis*) in Apure State, Venezuela, and conservation recommendations for a highly endangered species. Dec 1997.
- Unpublished Master's Thesis, "Bioacoustics of the Commerson's Dolphin (*Cephalorhynchus commersonii*) with Recommendations for Applied Conservation" 1993.

EXHIBIT B

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Technical Consultation, Data Analysis and
Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G., C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

March 13, 2020

Aaron Messing
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Suite 1000
South San Francisco, CA 94080

Subject: Comments on the BigBeau Solar Project (SCH No. 2019071059)

Dear Mr. Messing,

We have reviewed the January 2020 Draft Environmental Impact Report ("DEIR") for the BigBeau Solar Project ("Project") located in the City of Bakersfield ("City"). The Project proposes to construct a 2,285-acre solar facility that would include the generation of 128-MW and storage of 60-MW of renewable energy, as well as a 4,800-SF Operations & Maintenance facility.

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

Review of the Project's construction emission calculations demonstrates that the DEIR may underestimate the Project's emissions as a result of the issues discussed below. An updated EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction of the Project may have on local and regional air quality.

Failure to Implement All Feasible Mitigation to Reduce Emissions

The DEIR determines that the Project's construction NO_x and PM₁₀ emissions would be significant and unavoidable, even with the incorporation of Mitigation Measure 4.3-1 (p. 4.3-39). However, while we

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agree that the Project will result in a significant air quality impact, the DEIR's assertion that this impact is significant and unavoidable is incorrect. According to CEQA Guidelines § 15096(g)(2),

“When an EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment.”

As you can see, an impact can only be labeled as significant and unavoidable after all available, feasible mitigation has been considered.¹ However, the DEIR fails to consider and implement all feasible mitigation. Additional feasible mitigation measures exist that should be identified and incorporated, such as those suggested in the section of this letter titled “Feasible Mitigation Measures Available to Reduce Construction Emissions,”² in order to reduce the Project's air quality impacts to the maximum extent possible. Until all feasible mitigation is considered and incorporated into the Project's design, the Project's construction NO_x and PM₁₀ emissions should not be considered significant and unavoidable.

Failure to Evaluate the Feasibility of Obtaining Tier 3 Equipment

Review of the construction emissions calculations demonstrates that emissions were calculated assuming the use of Tier 3 equipment mitigation (Appendix D, pp. 105, 106, 107, 108, 114, 115, 116). According to the DEIR,

“Off-road equipment engines over 25 horsepower shall be equipped with EPA Tier 3 or higher engines, unless Tier 3 construction equipment is not locally available” (p. 4.3-39).

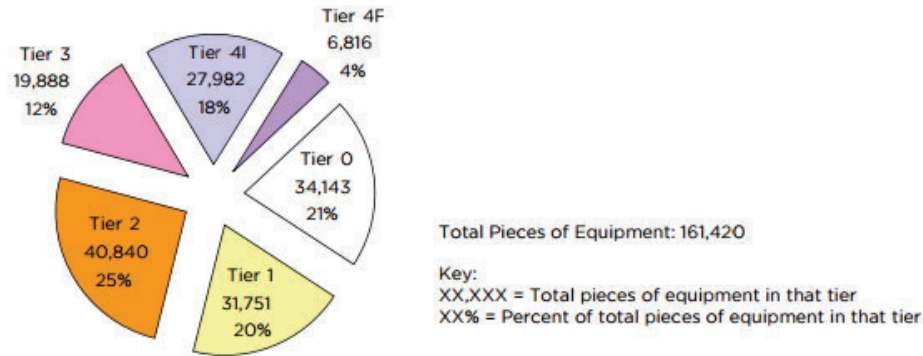
However, the DEIR failed to evaluate the feasibility in obtaining Tier 3 equipment. Due to the limited amount of Tier 3 equipment available, the DEIR should have assessed the feasibility in obtaining equipment with Tier 3 engines (see excerpt below).³

¹ “Final Draft Guidance for Assessing and Mitigating Air Quality Impacts.” SVJUAPCD, February 2015, *available at*: <http://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>, p. 115.

² See section titled “Feasible Mitigation Measures Available to Reduce Construction Emissions” on p. 6 of this comment letter. These measures would effectively reduce construction-related NO_x and PM₁₀ emissions.

³ *Ibid.*

Figure 4: 2014 Statewide All Fleet Sizes (Pieces of Equipment)



As demonstrated in the figure above, the Tier 3 equipment only accounts for approximately 12% of all off-road equipment currently available in California. Emissions for Project construction are modeled assuming that the Project will be able to obtain Tier 3 equipment even though this equipment only accounts for 12% of available off-road equipment currently available in California. As a result, the model represents the best-case scenario even though obtaining this type of equipment may not be feasible. This is incorrect, as CEQA requires the most conservative analysis. Due to the limited availability of Tier 3 equipment, the DEIR should have evaluated the feasibility of obtaining Tier 3 equipment. As a result, construction emissions may be underestimated.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the proposed Project would have a less than significant health risk impact based on a quantified construction Health Risk Assessment (“HRA”), without conducting a quantified operational HRA (p. 4.3-43). Regarding the Project’s operational health risk impact, the DEIR states:

“Once operational, the project would require traveling to and from the project area to perform routine maintenance and occasional panel washing. However, vehicle emissions generated by these visits would mostly be from gasoline-powered passenger vehicles and pickups, which do not emit DPM. While diesel-powered pressure washers and trucks would be used during panel washing, DPM emissions would be minimal due to the short duration of these operations (10 days per year). Therefore, operation of the project would not result in an increase in DPM emissions” (p. 4.3-43).

However, the DEIR’s health risk analysis is incorrect for several reasons.

First, the DEIR’s construction HRA is incorrect, as it relies on a flawed estimation of emissions, as discussed above. Thus, the HRA may rely upon an underestimated DPM concentration to calculate the health risk associated with the Project’s construction.

Second, the DEIR failed to conduct an HRA quantifying the risk posed as a result of the Project’s operation. By failing to prepare an operational HRA to nearby, existing sensitive receptors, the DEIR is inconsistent with recommendations set forth by the Office of Environmental Health and Hazard Assessment’s (“OEHHA”) most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of*

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Health Risk Assessments, as referenced by the DEIR (p. 4.3-31 & Air Quality Technical Report, p. 2-13).⁴ This guidance document describes the types of projects that warrant the preparation of a health risk assessment.⁵ This document was also adopted by the EKAPCD in 2017, the air pollution control agency with local jurisdiction over this Project.⁶ Once construction of the Project is complete, the Project will operate for a long period of time. During operation, the Project will generate vehicle trips, which will generate additional exhaust emissions, thus continuing to expose nearby sensitive receptors to emissions. The OEHHA document recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (“MEIR”).⁷ Even though the DEIR does not provide the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, we recommend that health risk impacts from Project operation should have also been evaluated by the DEIR, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. These recommendations reflect the most recent health risk policy as indicated in the DEIR, and as such, an updated assessment of health risks posed to nearby sensitive receptors from Project operation should be included in a revised CEQA evaluation for the Project.

Finally, the DEIR fails to sum the cancer risk calculated for each age group. According to the OEHHA guidance cited in the DEIR, “the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location.”⁸ However, review of the construction HRA conducted in the DEIR demonstrates that, while each age bin was calculated, the DEIR failed to sum them to evaluate the total cancer risk over the course of the Project’s lifetime, including both construction and operation. This is incorrect and thus, an updated analysis should quantify the Project’s construction and operational health risks and then sum them to compare to the EKAPCD threshold of 20 in one million.⁹

⁴ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>

⁵ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>

⁶ “Regulation II – Permits List and Criteria and Rule 208.2 Criteria for Finding of No Significant Environmental Impact (California Environmental Quality Act).” EKAPCD, October 2017, available at: http://www.kernair.org/Documents/Rules/Rules_Nov_2017/L&C_and_Rule%20208_2%20Staff_Report_10-2-17.pdf, p. 1.

⁷ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf> p. 8-6, 8-15.

⁸ “Guidance Manual for preparation of Health Risk Assessments.” OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf> p. 8-4

⁹ “Regulation II – Permits List and Criteria and Rule 208.2 Criteria for Finding of No Significant Environmental Impact (California Environmental Quality Act).” EKAPCD, October 2017, available at: http://www.kernair.org/Documents/Rules/Rules_Nov_2017/L&C_and_Rule%20208_2%20Staff_Report_10-2-17.pdf, p. 2.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR concludes that the proposed Project would result in annualized construction greenhouse gas (“GHG”) emissions of 369 metric tons of carbon dioxide equivalent per year (“MT CO₂e/yr”) and operational GHG emissions of 84 MT CO₂e/yr (p. 4.8-17). As a result, the DEIR concludes that the Project would result in a less than significant greenhouse gas impact based on the EKAPCD threshold of 25,000 MT CO₂e/yr (p. 4.8-17). However, this is incorrect for two reasons:

- 1) The DEIR’s GHG analysis relies upon an incorrect and unsubstantiated air model and analysis; and
- 2) The EKAPCD threshold of 25,000 MT CO₂e/yr is not applicable and cannot be relied upon to determine the significance of the Project’s GHG emissions.

(1) The DEIR’s GHG Analysis Relies Upon an Incorrect and Unsubstantiated Air Model

As previously stated, the DEIR concludes that the Project would result in annualized construction GHG emissions of 369 MT CO₂e/yr and operational GHG emissions of 84 MT CO₂e/yr, which would be less than the EKAPCD threshold. However, the DEIR’s GHG analysis relies upon flawed emissions calculations to estimate the Project’s construction and operational emissions, as discussed in the air quality section of this letter. This is incorrect, as the DEIR’s emissions calculations underestimate the Project’s GHG emissions.

(2) The EKAPCD threshold of 25,000 MT CO₂e/yr is not applicable and cannot be relied upon to determine the significance of the Project’s GHG emissions.

As noted above, the DEIR relies upon the EKAPCD’s adopted threshold of 25,000 MT CO₂e/yr to determine significance of GHG emissions from the Project (p. 4.8-17). The DEIR cites to the EKAPCD’s adopted 2012 Addendum to its CEQA Guidelines (“Addendum”) addressing GHG impacts, including quantitative thresholds when EKAPCD is the CEQA lead agency (p. 4.8-12).¹⁰ However, as explained below, the EKAPCD threshold does not apply to this Project.

First, in adopting the Addendum, EKAPCD staff anticipated the applicable projects to be “large industrial projects or modifications to existing industrial projects that do not require conditional use permits from a land-use agency or a permit from the California Energy Commission.”¹¹ This Project is not a large industrial project which requires EKAPCD to be the lead agency and, in fact, requires conditional use permits from Kern County as the land-use lead agency.

Second, the Addendum notes that the 25,000 tons per year (“tpy”) limit is appropriate for determining significance, in part because “ARB and EPA determined that this threshold would be appropriate for facilities whose GHG emissions may be subject to regulation.”¹² It cites to the EPA’s Final Rule for

¹⁰ “Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead CEQA Agency.” EKAPCD, March 8, 2012, (“Addendum”) available at:

<http://www.kernair.org/Documents/CEQA/EKAPCD%20CEQA%20GHG%20Policy%20Adopted%203-8-12.pdf>

¹¹ Addendum, p. 3.

¹² Addendum, p. 4.

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Mandatory Reporting of Greenhouse Gases for certain types of facilities.¹³ According to the Final Rule, the types of regulated categories and entities include “general stationary fuel combustion sources,” “fossil-fuel fired electric generating units,” manufacturing of “mobile sources,” and facilities that manufacture, process, refine or supply a variety of products and chemicals.¹⁴ The Project does not fit into any of these categories.

Thus, EKAPCD’s threshold was developed for specific categories of projects which do not include the proposed Project. As such, EKAPCD’s quantitative threshold of 25,000 tpy does not apply to and should not be used in determining the Project’s GHG significant impacts.

Feasible Mitigation Measures Available to Reduce Construction Emissions

Our analysis demonstrates that even when Project activities are modeled incorrectly, construction emissions would result in potentially significant impacts. Therefore, additional mitigation measures must be identified and incorporated in an updated EIR to reduce these emissions to a less than significant level.

Additional mitigation measures can be found in CAPCOA’s *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce GHG levels, as well as reduce criteria air pollutants such as particulate matter and NO_x.¹⁵ DPM and NO_x are a byproduct of diesel fuel combustion and are emitted by on-road vehicles and by off-road construction equipment. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce construction emissions.¹⁶

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative (NEDC) is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology. The NEDC recommends that contracts for all construction projects require the following diesel control measures:¹⁷

- All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend¹⁸ approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

¹³ 74 Fed. Reg. 56260, 56273 (Oct. 30, 2009), Mandatory Reporting of Greenhouse Gases; Final Rule (“2009 Federal Register”), available at: <https://www.govinfo.gov/content/pkg/FR-2009-10-30/pdf/E9-23315.pdf>

¹⁴ 2009 Federal Register, p. 56260-56261.

¹⁵ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

¹⁶ For measures to reduce operational DPM emissions, see section titled “Additional Feasible Mitigation Measures Available to Reduce Operational Emissions” on p. 25 of this letter. These measures would effectively reduce operational VOC and NO_x emissions, DPM emissions, as well as GHG emissions.

¹⁷ Diesel Emission Controls in Construction Projects, available

at: <http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>

¹⁸ Biodiesel lends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:

<http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf>

Install Retrofit Devices on Existing Construction Equipment

PM emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation.¹⁹ It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*²⁰ report also proposes the use of electric and/or hybrid construction equipment to mitigate DPM emissions. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation,²¹ which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar.²² For example, Caterpillar reports that during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.²³ Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*²⁴ report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, for each on-road construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes:²⁵

¹⁹ Retrofit Technologies, EPA, available at: <https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#retrofit>

²⁰ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

²¹ Peterson Electric Grinders Brochure, available at: http://www.petersoncorp.com/wp-content/uploads/peterson_electric_grinders1.pdf

²² Electric Power Products, available at: http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html

²³ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

²⁴ <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

²⁵ Diesel Emission Controls in Construction Projects, available at: <http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>

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- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement²⁶ signed and printed on the contractor's letterhead.

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each on-road construction vehicle, nonroad construction equipment, or generator onsite, includes:²⁷

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
 - Source of supply
 - Quantity of fuel
 - Quality of fuel, including sulfur content (percent by weight)

In addition to these measures, we also recommend that the Project implement the following mitigation measures, called "Enhanced Exhaust Control Practices,"²⁸ that are recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD):

1. The project representative shall submit to the lead agency a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.
 - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
 - The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
 - This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
 - The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average.

²⁶ Diesel Emission Controls in Construction Projects, *available at*:<http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf> The NEDC Model Certification Statement can be found in Appendix A.

²⁷ Diesel Emission Controls in Construction Projects, *available at*:<http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>

²⁸ http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf

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- This plan shall be submitted in conjunction with the equipment inventory.
 - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
 - The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
3. The project representative shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.
- Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency monthly.
 - A visual survey of all in-operation equipment shall be made at least weekly.
 - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

Use of Spray Equipment with Greater Transfer Efficiencies

Various coatings and adhesives are required to be applied to both the interior and exterior of buildings by specified methods such as electrostatic spray, high-volume, low-pressure (HVLP) spray, roll coater, flow coater, dip coater, etc. in order to maximize the transfer efficiency. Transfer efficiency is typically defined as the ratio of the weight of coating solids adhering to an object to the total weight of coating solids used in the application process, expressed as a percentage. When it comes to spray applications, the rules typically require the use of either electrostatic spray equipment or HVLP spray equipment. The SCAQMD is now able to certify HVLP spray applicators and other application technologies at efficiency rates of 65 percent or greater.²⁹

These measures offer a cost-effective, feasible way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently reduces construction emissions. A revised EIR should be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions. Furthermore, the updated EIR should demonstrate commitment to the implementation of these measures prior to Project approval to ensure that the Project's construction-related emissions are reduced to the maximum extent possible.

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional

²⁹ <http://www.aqmd.gov/home/permits/spray-equipment-transfer-efficiency>

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information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

A handwritten signature in blue ink, appearing to read "M Hagemann".

Matt Hagemann, P.G., C.Hg.

A handwritten signature in blue ink, appearing to read "Paul Rosenfeld".

Paul E. Rosenfeld, Ph.D.

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Tel: (949) 887-9013

Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

**Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review**

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.

B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist

California Certified Hydrogeologist

Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

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- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

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- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

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public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nationwide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

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principles into the policy-making process.

- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

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Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

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Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

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Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.



Technical Consultation, Data Analysis and
Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE

1640 Fifth Street, Suite 204
Santa Monica, California 90401
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 434-0110
Fax: (310) 434-0011
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing, petroleum, MtBE and fuel oxygenates, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, and odor. Significant projects performed by Dr. Rosenfeld include the following:

Litigation Support

Client: Missouri Department of Natural Resources (Jefferson City, Missouri)

Serving as an expert in evaluating air pollution and odor emissions from a Republic Landfill in St. Louis, Missouri. Conducted. Project manager overseeing daily, weekly and comprehensive sampling of odor and chemicals.

Client: Louisiana Department of Transportation and Development (Baton Rouge, Louisiana)

Serving as an expert witness, conducting groundwater modeling of an ethylene dichloride DNAPL and soluble plume resulting from spill caused by Conoco Phillips.

Client: Missouri Department of Natural Resources (St. Louis, Missouri)

Serving as a consulting expert and potential testifying expert regarding a landfill fire directly adjacent to another landfill containing radioactive waste. Implemented an air monitoring program testing for over 100 different compounds using approximately 12 different analytical methods.

Client: Baron & Budd, P.C. (Dallas, Texas) and Weitz & Luxenberg (New York, New York)

Served as a consulting expert in MTBE Federal Multi District Litigation (MDL) in New York. Consolidated ground water data, created maps for test cases, constructed damage model, evaluated taste and odor threshold levels. Resulted in a settlement of over \$440 million.

Client: The Buzbee Law Firm (Houston, Texas)

Served as a as an expert in ongoing litigation involving over 50,000+ plaintiffs who are seeking compensation for chemical exposure and reduction in property value resulting from chemicals released from the BP facility.

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Client: Environmental Litigation Group (Birmingham, Alabama)

Serving as an expert on property damage, medical monitoring and toxic tort claims that have been filed on behalf of over 13,000 plaintiffs who were exposed to PCBs and dioxins/furans resulting from emissions from Monsanto and Cerro Copper's operations in Sauget, Illinois. Developed AERMOD models to demonstrate plaintiff's exposure.

Client: Baron & Budd P.C. (Dallas Texas) and Korein Tillery (St. Louis, Missouri)

Served as a consulting expert for a Class Action defective product claim filed in Madison County, Illinois against Syngenta and five other manufacturers for atrazine. Evaluated health issues associated with atrazine and determined treatment cost for filtration of public drinking water supplies. Resulted in \$105 million dollar settlement.

Client: The Buzbee Law Firm (Houston, Texas)

Served as a consulting expert in catalyst release and refinery emissions cases against the BP Refinery in Texas City. A jury verdict for 10 employees exposed to catalyst via BP's irresponsible behavior.

Client: Baron & Budd, P.C. (Dallas, Texas)

Served as a consulting expert to calculate the Maximum Allowable Dose Level (MADL) and No Significant Risk Level (NSRL), based on Cal EPA and OEHHA guidelines, for Polychlorinated Biphenyls (PCBs) in fish oil dietary supplements.

Client: Girardi Keese (Los Angeles, California)

Served as an expert testifying on hydrocarbon exposure of a woman who worked on a fuel barge operated by Chevron. Demonstrated that the plaintiff was exposed to excessive amounts of benzene.

Client: Mason & Cawood (Annapolis, Maryland) and Girardi & Keese (Los Angeles, California)

Serving as an expert consultant on the Battlefield Golf Club fly ash disposal site in Chesapeake, VA, where arsenic, other metals and radionuclides are leaching into groundwater, and ash is blowing off-site onto the surrounding communities.

Client: California Earth Mineral Corporation (Culver City, California)

Evaluating the montmorillonite clay deposit located near El Centro, California. Working as a Defense Expert representing an individual who owns a 2,500 acre parcel that will potentially be seized by the United States Navy via eminent domain.

Client: Matthews & Associates (Houston, Texas)

Serving as an expert witness, preparing air model demonstrating residential exposure via emissions from fracking in natural gas wells in Duncan, Texas.

Client: Baron & Budd P.C. (Dallas, Texas) and Korein Tillery (St. Louis, Missouri)

Served as a consulting expert for analysis of private wells relating to litigation regarding compensation of private well owners for MTBE testing. Coordinated data acquisition and GIS analysis evaluating private well proximity to leaking underground storage tanks.

Client: Lurie & Park LLP (Los Angeles, California)

Served as an expert witness evaluating a vapor intrusion toxic tort case that resulted in a settlement. The Superfund site is a 4 ½ mile groundwater plume of chlorinated solvents in Whittier, California.

Client: Mason & Cawood (Annapolis, Maryland)

Evaluated data from the Hess Gasoline Station in northern Baltimore, Maryland that had a release resulting in flooding of plaintiff's homes with gasoline-contaminated water, foul odor, and biofilm growth.

Client: The Buzbee Law Firm (Houston, Texas)

Evaluated air quality resulting from grain processing emissions in Muscatine, Iowa.

Client: Anderson Kill & Olick, P.C. (Ventura, California)

Evaluated historical exposure and lateral and vertical extent of contamination resulting from a ~150 million gallon Exxon Mobil tank farm located near Watts, California.

Client: Packard Law Firm (Petaluma, California)

Served as an expert witness, evaluated lead in Proposition 65 Case where various products were found to have elevated lead levels.

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Client: The Buzbee Law Firm (Houston, Texas)

Evaluated data resulting from an oil spill in Port Arthur, Texas.

Client: Nexsen Pruet, LLC (Charleston, South Carolina)

Serving as expert in chlorine exposure in a railroad tank car accident where approximately 120,000 pounds of chlorine were released.

Client: Girardi & Keese (Los Angeles, California)

Serving as an expert investigating hydrocarbon exposure and property damage for ~600 individuals and ~280 properties in Carson, California where homes were constructed above a large tank farm formerly owned by Shell.

Client: Brent Coon Law Firm (Cleveland, Ohio)

Served as an expert, calculating an environmental exposure to benzene, PAHs, and VOCs from a Chevron Refinery in Hooven, Ohio. Conducted AERMOD modeling to determine cumulative dose.

Client: Lundy Davis (Lake Charles, Louisiana)

Served as consulting expert on an oil field case representing the lease holder of a contaminated oil field. Conducted field work evaluating oil field contamination in Sulphur, Louisiana. Property is owned by Conoco Phillips, but leased by Yellow Rock, a small oil firm.

Client: Cox Cox Filo (Lake Charles, Louisiana)

Served as testifying expert on a multimillion gallon oil spill in Lake Charles which occurred on June 19, 2006, resulting in hydrocarbon vapor exposure to hundreds of workers and residents. Prepared air model and calculated exposure concentration. Demonstrated that petroleum odor alone can result in significant health harms.

Client: Cotchett Pitre & McCarthy (San Francisco, California)

Served as testifying expert representing homeowners who unknowingly purchased homes built on an old oil field in Santa Maria, California. Properties have high concentrations of petroleum hydrocarbons in subsurface soils resulting in diminished property value.

Client: Law Offices Of Anthony Liberatore P.C. (Los Angeles, California)

Served as testifying expert representing individuals who rented homes on the Inglewood Oil Field in California. Plaintiffs were exposed to hydrocarbon contaminated water and air, and experienced health harms associated with the petroleum exposure.

Client: Orange County District Attorney (Orange County, California)

Coordinated a review of 143 ARCO gas stations in Orange County to assist the District Attorney's prosecution of CCR Title 23 and California Health and Safety Code violators.

Client: Environmental Litigation Group (Birmingham, Alabama)

Served as a testifying expert in a health effects case against ABC Coke/Drummond Company for polluting a community with PAHs, benzene, particulate matter, heavy metals, and coke oven emissions. Created air dispersion models and conducted attic dust sampling, exposure modeling, and risk assessment for plaintiffs.

Client: Masry & Vitatone (Westlake Village, California), Engstrom Lipscomb Lack (Los Angeles, California) and Baron & Budd P.C. (Dallas, Texas)

Served as a consulting expert in Proposition 65 lawsuit filed against major oil companies for benzene and toluene releases from gas stations and refineries resulting in contaminated groundwater. Settlement included over \$110 million dollars in injunctive relief.

Client: Tommy Franks Law Firm (Austin, Texas)

Served as expert evaluating groundwater contamination which resulted from the hazardous waste injection program and negligent actions of Morton Thiokol and Rohm and Haas. Evaluated drinking water contamination and community exposure.

Client: Baron & Budd P.C. (Dallas, Texas) and Sher Leff (San Francisco, California)

Served as consulting expert for several California cities that filed defective product cases against Dow Chemical and Shell for 1,2,3-trichloropropane groundwater contamination. Generated maps showing capture zones of impacted wells for various municipalities.

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Client: Weitz & Luxenberg (New York, New York)

Served as expert on Property Damage and Nuisance claims resulting from emissions from the Countywide Landfill in Ohio. The landfill had an exothermic reaction or fire resulting from aluminum dross dumping, and the EPA fined the landfill \$10,000,000 dollars.

Client: Baron & Budd P.C. (Dallas, Texas)

Served as a consulting expert for a groundwater contamination case in Pensacola, Florida where fluorinated compounds contaminated wells operated by Escambia County.

Client: Environmental Litigation Group (Birmingham, Alabama)

Served as an expert on groundwater case where Exxon Mobil and Helena Chemical released ethylene dichloride into groundwater resulting in a large plume. Prepared report on the appropriate treatment technology and cost, and flaws with the proposed on-site remediation.

Client: Environmental Litigation Group (Birmingham, Alabama)

Served as an expert on air emissions released when a Bartlo Packaging Incorporated facility in West Helena, Arkansas exploded resulting in community exposure to pesticides and smoke from combustion of pesticides.

Client: Omara & Padilla (San Diego, California)

Served as a testifying expert on nuisance case against Nutro Dogfood Company that constructed a large dog food processing facility in the middle of a residential community in Victorville, California with no odor control devices. The facility has undergone significant modifications, including installation of a regenerative thermal oxidizer.

Client: Environmental Litigation Group (Birmingham, Alabama)

Serving as an expert on property damage and medical monitoring claims that have been filed against International Paper resulting from chemical emissions from facilities located in Bastrop, Louisiana; Prattville, Alabama; and Georgetown, South Carolina.

Client: Estep and Shafer L.C. (Kingwood, West Virginia)

Served as expert calculating acid emissions doses to residents resulting from coal-fired power plant emissions in West Virginia using various air models.

Client: Watts Law Firm (Austin, Texas), Woodfill & Pressler (Houston, Texas) and Woska & Associates (Oklahoma City, Oklahoma)

Served as testifying expert on community and worker exposure to CCA, creosote, PAHs, and dioxins/furans from a BNSF and Koppers Facility in Somerville, Texas. Conducted field sampling, risk assessment, dose assessment and air modeling to quantify exposure to workers and community members.

Client: Environmental Litigation Group (Birmingham, Alabama)

Served as expert regarding community exposure to CCA, creosote, PAHs, and dioxins/furans from a Louisiana Pacific wood treatment facility in Florala, Alabama. Conducted blood sampling and environmental sampling to determine environmental exposure to dioxins/furans and PAHs.

Client: Sanders Law Firm (Colorado Springs, Colorado) and Vamvoras & Schwartzberg (Lake Charles, Louisiana)

Served as an expert calculating chemical exposure to over 500 workers from large ethylene dichloride spill in Lake Charles, Louisiana at the Conoco Phillips Refinery.

Client: Baron & Budd P.C. (Dallas, Texas)

Served as consulting expert in a defective product lawsuit against Dow Agrosience focusing on Clopyralid, a recalcitrant herbicide that damaged numerous compost facilities across the United States.

Client: Sullivan Papain Block McGrath & Cannavo (New York, New York) and The Cochran Firm (Dothan, Mississippi)

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Served as an expert regarding community exposure to metals, PAHs PCBs, and dioxins/furans from the burning of Ford paint sludge and municipal solid waste in Ringwood, New Jersey.

Client: Rose, Klein & Marias LLP (Los Angeles, California)

Served as an expert in 55 Proposition 65 cases against individual facilities in the Port of Los Angeles and Port of Long Beach. Prepared air dispersion and risk models to demonstrate that each facility emits diesel particulate matter that results in risks exceeding 1/100,000, hence violating the Proposition 65 Statute.

Client: Rose, Klein & Marias LLP (Los Angeles, California) and Environmental Law Foundation (San Francisco, California)

Served as an expert in a Proposition 65 case against potato chip manufacturers. Conducted an analysis of several brands of potato chips for acrylamide concentrations and found that all samples exceeded Proposition 65 No Significant Risk Levels.

Client: Gonzales & Robinson (Westlake Village, California)

Served as a testifying expert in a toxic tort case against Chevron (Ortho) for allowing a community to be contaminated with lead arsenate pesticide. Created air dispersion and soil vadose zone transport models, and evaluated bioaccumulation of lead arsenate in food.

Client: Environment Now (Santa Monica, California)

Served as expert for Environment Now to convince the State of California to file a nuisance claim against automobile manufactures to recover MediCal damages from expenditures on asthma-related health care costs.

Client: Trutanich Michell (Long Beach, California)

Served as expert representing San Pedro Boat Works in the Port of Los Angeles. Prepared air dispersion, particulate air dispersion, and storm water discharge models to demonstrate that Kaiser Bulk Loading is responsible for copper concentrate accumulating in the bay sediment.

Client: Azurix of North America (Fort Myers, Florida)

Provided expert opinions, reports and research pertaining to a proposed County Ordinance requiring biosolids applicators to measure VOC and odor concentrations at application sites' boundaries.

Client: MCP Polyurethane (Pittsburg, Kansas)

Provided expert opinions and reports regarding metal-laden landfill runoff that damaged a running track by causing the reversion of the polyurethane due to its catalytic properties.

Risk Assessment And Air Modeling

Client: Hager, Dewick & Zuengler, S.C. (Green Bay, Wisconsin)

Conducted odor audit of rendering facility in Green Bay, Wisconsin.

Client: ABT-Haskell (San Bernardino, California)

Prepared air dispersion model for a proposed state-of-the-art enclosed compost facility. Prepared a traffic analysis and developed odor detection limits to predict 1, 8, and 24-hour off-site concentrations of sulfur, ammonia, and amine.

Client: Jefferson PRP Group (Los Angeles, California)

Evaluated exposure pathways for chlorinated solvents and hexavalent chromium for human health risk assessment of Los Angeles Academy (formerly Jefferson New Middle School) operated by Los Angeles Unified School District.

Client: Covanta (Susanville, California)

Prepared human health risk assessment for Covanta Energy focusing on agricultural worker exposure to caustic fertilizer.

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Client: CIWMB (Sacramento, California)

Used dispersion models to estimate traveling distance and VOC concentrations downwind from a composting facility for the California Integrated Waste Management Board.

Client: Carboquimeca (Bogotá, Columbia)

Evaluated exposure pathways for human health risk assessment for a confidential client focusing on significant concentrations of arsenic and chlorinated solvents present in groundwater used for drinking water.

Client: Navy Base Realignment and Closure Team (Treasure Island, California)

Used Johnson-Ettinger model to estimate indoor air PCB concentrations and compared estimated values with empirical data collected in homes.

Client: San Diego State University (San Diego, California)

Measured CO₂ flux from soils amended with different quantities of biosolids compost at Camp Pendleton to determine CO₂ credit values for coastal sage under fertilized and non-fertilized conditions.

Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)

Evaluated cumulative risk of a multiple pathway scenario for a child resident and a construction worker. Evaluated exposure to air and soil via particulate and vapor inhalation, incidental soil ingestion, and dermal contact with soil.

Client: MCAS Miramar (San Diego, California)

Evaluated exposure pathways of metals in soil by comparing site data to background data. Risk assessment incorporated multiple pathway scenarios assuming child resident and construction worker particulate and vapor inhalation, soil ingestion, and dermal soil contact.

Client: Naval Weapons Station (Seal Beach, California)

Used a multiple pathway model to generate dust emission factors from automobiles driving on dirt roads. Calculated bioaccumulation of metals, PCBs, dioxin congeners and pesticides to estimate human and ecological risk.

Client: King County, Douglas County (Washington State)

Measured PM₁₀ and PM_{2.5} emissions from windblown soil treated with biosolids and a polyacrylamide polymer in Douglas County, Washington. Used Pilat Mark V impactor for measurement and compared data to EPA particulate regulations.

Client: King County (Seattle, Washington)

Created emission inventory for several compost and wastewater facilities comparing VOC, particulate, and fungi concentrations to NIOSH values estimating risk to workers and individuals at neighboring facilities.

Air Pollution Investigation and Remediation

Client: Republic Landfill (Santa Clarita, California)

Managed a field investigation of odor around a landfill during 30+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources and character and intensity.

Client: California Biomass (Victorville, California)

Managed a field investigation of odor around landfill during 9+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources, character and intensity.

Client: ABT-Haskell (Redlands, California)

Assisted in permitting a compost facility that will be completely enclosed with a complex scrubbing system using acid scrubbers, base scrubbers, biofilters, heat exchangers and chlorine to reduce VOC emissions by 99 percent.

Client: Synagro (Corona, California)

Designed and monitored 30-foot by 20-foot by 6-foot biofilter for VOC control at an industrial composting facility in Corona, California to reduce VOC emissions by 99 percent.

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Client: Jeff Gage (Tacoma, Washington)

Conducted emission inventory at industrial compost facility using GC/MS analyses for VOCs. Evaluated effectiveness of VOC and odor control systems and estimated human health risk.

Client: Daishowa America (Port Angeles Mill, Washington)

Analyzed industrial paper sludge and ash for VOCs, heavy metals and nutrients to develop a land application program. Metals were compared to federal guidelines to determine maximum allowable land application rates.

Client: Jeff Gage (Puyallup, Washington)

Measured effectiveness of biofilters at composting facility and conducted EPA dispersion models to estimate traveling distance of odor and human health risk from exposure to volatile organics.

Surface Water, Groundwater, and Wastewater Investigation/Remediation

Client: Confidential (Downey, California)

Managed groundwater investigation to determine horizontal extent of 1,000 foot TCE plume associated with a metal finishing shop.

Client: Confidential (West Hollywood, California)

Designing soil vapor extraction system that is currently being installed for confidential client. Managing groundwater investigation to determine horizontal extent of TCE plume associated with dry cleaning.

Client: Synagro Technologies (Sacramento, California)

Managed groundwater investigation to determine if biosolids application impacted salinity and nutrient concentrations in groundwater.

Client: Navy Base Realignment and Closure Team (Treasure Island, California)

Assisted in the design and remediation of PCB, chlorinated solvent, hydrocarbon and lead contaminated groundwater and soil on Treasure Island. Negotiated screening levels with DTSC and Water Board. Assisted in the preparation of FSP/QAPP, RI/FS, and RAP documents and assisted in CEQA document preparation.

Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)

Assisted in the design of groundwater monitoring systems for chlorinated solvents at Tustin MCAS. Contributed to the preparation of FS for groundwater treatment.

Client: Mission Cleaning Facility (Salinas, California)

Prepared a RAP and cost estimate for using an oxygen releasing compound (ORC) and molasses to oxidize diesel fuel in soil and groundwater at Mission Cleaning in Salinas.

Client: King County (Washington)

Established and monitored experimental plots at a US EPA Superfund Site in wetland and upland mine tailings contaminated with zinc and lead in Smelterville, Idaho. Used organic matter and pH adjustment for wetland remediation and erosion control.

Client: City of Redmond (Richmond, Washington)

Collected storm water from compost-amended and fertilized turf to measure nutrients in urban runoff. Evaluated effectiveness of organic matter-lined detention ponds on reduction of peak flow during storm events. Drafted compost amended landscape installation guidelines to promote storm water detention and nutrient runoff reduction.

Client: City of Seattle (Seattle, Washington)

Measured VOC emissions from Renton wastewater treatment plant in Washington. Ran GC/MS, dispersion models, and sensory panels to characterize, quantify, control and estimate risk from VOCs.

Client: Plumas County (Quincy, California)

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Installed wetland to treat contaminated water containing 1% copper in an EPA Superfund site. Revegetated 10 acres of acidic and metal laden sand dunes resulting from hydraulic mining. Installed and monitored piezometers in wetland estimating metal loading.

Client: Adams Egg Farm (St. Kitts, West Indies)

Designed, constructed, and maintained 3 anaerobic digesters at Springfield Egg Farm, St. Kitts. Digesters treated chicken excrement before effluent discharged into sea. Chicken waste was converted into methane cooking gas.

Client: BLM (Kremmling, Colorado)

Collected water samples for monitoring program along upper stretch of the Colorado River. Rafted along river and protected water quality by digging and repairing latrines.

Soil Science and Restoration Projects

Client: Hefner, Stark & Marois, LLP (Sacramento, California)

Facilitated in assisting Hefner, Stark & Marois, LLP in working with the Regional Water Quality board to determine how to utilize Calcium Participate as a by-product of processing sugar beets.

Client: Kinder Morgan (San Diego County, California)

Designed and monitored the restoration of a 110-acre project on Camp Pendleton along a 26-mile pipeline. Managed crew of 20, planting coastal sage, riparian, wetland, native grassland, and marsh ecosystems. Negotiated with the CDFW concerning species planting list and success standards.

Client: NAVY BRAC (Orote Landfill, Guam)

Designed and monitored pilot landfill cap mimicking limestone forest. Measured different species' root-penetration into landfill cap. Plants were used to evapotranspire water, reducing water leaching through soil profile.

Client: LA Sanitation District Puente Hills Landfill (Whittier, California)

Monitored success of upland and wetland mitigation at Puente Hills Landfill operated by Sanitation Districts of Los Angeles. Negotiated with the Army Corps of Engineers and CDFG to obtain an early sign-off.

Client: City of Escondido (Escondido, California)

Designed, managed, installed, and monitored a 20-acre coastal sage scrub restoration project at Kit Carson Park, Escondido, California.

Client: Home Depot (Encinitas, California)

Designed, managed, installed and monitored a 15-acre coastal sage scrub and wetland restoration project at Home Depot in Encinitas, California.

Client: Alvarado Water Filtration Plant (San Diego, California)

Planned, installed and monitored 2-acre riparian and coastal sage scrub mitigation in San Diego California.

Client: Monsanto and James River Corporation (Clatskanie, Oregon)

Served as a soil scientist on a 50,000-acre hybrid poplar farm. Worked on genetically engineering study of Poplar trees to see if glyphosate resistant poplar clones were economically viable.

Client: World Wildlife Fund (St. Kitts, West Indies)

Managed 2-year biodiversity study, quantifying and qualifying the various flora and fauna in St. Kitts' expanding volcanic rainforest. Collaborated with skilled botanists, ornithologists and herpetologists.

Publications

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.**, Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermid and Empirical Data. American Journal of Environmental Science, 2012, 8 (6), 622-632

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste*, Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2011). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences* 4(2011):113-125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.**, (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health* 73(6):34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*, Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*, Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (2009). 'Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States', in Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modelling, Monitoring and Management of Air Pollution*, Tallinn, Estonia. 20-22 July, 2009, Southampton, Boston. WIT Press.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, Volume 70 (2008) page 002254.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, Volume 70 (2008) page 000527.

Hensley, A.R. A. Scott, J. J. J. Clark, **P. E. Rosenfeld** (2007) "Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility" *Environmental Research*. 105, pp 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007) "The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities" –*Water Science & Technology* 55(5): 345-357.

Rosenfeld, P. E., M. Suffet. (2007) "The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment " *Water Science & Technology* 55(5): 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.**, (2007) "Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities," Elsevier Publishing, Boston Massachusetts.

Rosenfeld P.E., and Suffet, I.H. (Mel) (2007) "Anatomy Of An Odor Wheel" *Water Science and Technology*, In Press.

Rosenfeld, P.E., Clark, J.J.J., Hensley A.R., Suffet, I.H. (Mel) (2007) "The use of an odor wheel classification for evaluation of human health risk criteria for compost facilities." *Water Science And Technology*, In Press.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (2006) "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

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Rosenfeld, P.E., and Suffet I.H. (2004) "Control of Compost Odor Using High Carbon Wood Ash", Water Science and Technology, Vol. 49, No. 9, pp. 171-178.

Rosenfeld, P.E., Clark J. J. and Suffet, I.H. (2004) "Value of and Urban Odor Wheel." (2004). WEFTEC 2004. New Orleans, October 2 - 6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004) "Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids" Water Science and Technology. Vol. 49, No. 9. pp 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004) "Control of Compost Odor Using High Carbon Wood Ash", Water Science and Technology, Vol. 49, No. 9, pp. 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004) Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. Water Environment Research. 76 (4): 310-315 JUL-AUG 2004.

Rosenfeld, P. E., Grey, M., (2003) Two stage biofilter for biosolids composting odor control. Seventh International In Situ And On Site Bioremediation Symposium. Batelle Conference Orlando Florida. June 2 and June 6, 2003.

Rosenfeld, P.E., Grey, M and Suffet, M. 2002. "Controlling Odors Using High Carbon Wood Ash." Biocycle, March 2002, Page 42.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). "Compost Demonstration Project, Sacramento, California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility Integrated Waste Management Board Public Affairs Office, Publications Clearinghouse (MS-6), Sacramento, CA Publication #442-02-008. April 2002.

Rosenfeld, P.E., and C.L. Henry. 2001. Characterization of odor emissions from three different biosolids. Water Soil and Air pollution. Vol. 127 Nos. 1-4, pp. 173-191.

Rosenfeld, P.E., and Henry C. L., 2000. Wood ash control of odor emissions from biosolids application. Journal of Environmental Quality. 29:1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. 2001. Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. Water Environment Research. 73: 363-367.

Rosenfeld, P.E., and C.L. Henry. 2001. Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants Water Environment Research, 73: 388-392.

Rosenfeld, P.E., and Henry C. L., 2001. High carbon wood ash effect on biosolids microbial activity and odor. Water Environment Research. Volume 131 No. 1-4, pp. 247-262.

Rosenfeld, P.E, C.L. Henry, R. Harrison. 1998. Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Bellevue Washington.

Chollack, T. and **P. Rosenfeld.** 1998. Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

P. Rosenfeld. 1992. The Mount Liamuiga Crater Trail. Heritage Magazine of St. Kitts, Vol. 3 No. 2.

P. Rosenfeld. 1993. High School Biogas Project to Prevent Deforestation On St. Kitts. Biomass Users Network, Vol. 7, No. 1, 1993.

P. Rosenfeld. 1992. British West Indies, St. Kitts. Surf Report, April issue.

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P. Rosenfeld. 1998. Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

P. Rosenfeld. 1994. Potential Utilization of Small Diameter Trees On Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

P. Rosenfeld. 1991. How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

England Environmental Agency, 2002. Landfill Gas Control Technologies. Publishing Organization Environment Agency, Rio House, Waterside Drive, Aztec West, Almondsbury BRISTOL, BS32 4UD.

Presentations

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** "Atrazine: A Persistent Pesticide in Urban Drinking Water." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** "Bringing Environmental Justice to East St. Louis, Illinois." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

Rosenfeld, P.E. (2009) "Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States" Presentation at the 2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting, April 19-23, 2009. Tuscon, AZ.

Rosenfeld, P.E. (2009) "Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States" Presentation at the 2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting, April 19-23, 2009. Tuscon, AZ.

Rosenfeld, P. E. (2007) "Moss Point Community Exposure To Contaminants From A Releasing Facility" Platform Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (2007) "The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant" Platform Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (2007) "Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions" Poster Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld P. E. "Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP)" – Platform Presentation at the Association for Environmental Health and Sciences (AEHS) Annual Meeting, San Diego, CA, 3/2007.

Rosenfeld P. E. "Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama" – Platform Presentation at the AEHS Annual Meeting, San Diego, CA, 3/2007.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (2006) "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." APHA 134 Annual Meeting & Exposition, Boston Massachusetts. November 4 to 8th, 2006.

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Paul Rosenfeld Ph.D. “Fate, Transport and Persistence of PFOA and Related Chemicals.” Mealey’s C8/PFOA Science, Risk & Litigation Conference” October 24, 25. The Rittenhouse Hotel, Philadelphia.

Paul Rosenfeld Ph.D. “Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation PEMA Emerging Contaminant Conference. September 19. Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. “Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP.” PEMA Emerging Contaminant Conference. September 19. Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. “Fate, Transport and Persistence of PDBEs.” Mealey’s Groundwater Conference. September 26, 27. Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. “Fate, Transport and Persistence of PFOA and Related Chemicals.” International Society of Environmental Forensics: Focus On Emerging Contaminants. June 7,8. Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. “Rate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals”. 2005 National Groundwater Association Ground Water And Environmental Law Conference. July 21-22, 2005. Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. “Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation.” 2005 National Groundwater Association Ground Water And Environmental Law Conference. July 21-22, 2005. Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. National Groundwater Association. Environmental Law Conference. May 5-6, 2004. Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D., 2004. Perchlorate Toxicology. Presentation to a meeting of the American Groundwater Trust. March 7th, 2004. Pheonix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse, 2004. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Paul Rosenfeld, Ph.D. A National Damage Assessment Model For PCE and Dry Cleaners. Drycleaner Symposium. California Ground Water Association. Radison Hotel, Sacramento, California. April 7, 2004.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants. February 20-21, 2003. Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. Underground Storage Tank Litigation and Remediation. California CUPA Forum. Marriott Hotel. Anaheim California. February 6-7, 2003.

Paul Rosenfeld, Ph.D. Underground Storage Tank Litigation and Remediation. EPA Underground Storage Tank Roundtable. Sacramento California. October 23, 2002.

Rosenfeld, P.E. and Suffet, M. 2002. Understanding Odor from Compost, Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Barcelona Spain. October 7- 10.

Rosenfeld, P.E. and Suffet, M. 2002. Using High Carbon Wood Ash to Control Compost Odor. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Barcelona Spain. October 7- 10.

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Rosenfeld, P.E. and Grey, M. A. 2002. Biocycle Composting For Coastal Sage Restoration. Northwest Biosolids Management Association. Vancouver Washington. September 22-24.

Rosenfeld, P.E. and Grey, M. A. 2002. Soil Science Society Annual Conference. Indianapolis, Maryland. November 11-14.

Rosenfeld, P.E. 2000. Two stage biofilter for biosolids composting odor control. Water Environment Federation. Anaheim California. September 16, 2000.

Rosenfeld, P. E. 2000. Wood ash and biofilter control of compost odor. Biofest. October 16, 2000. Ocean Shores, California.

Rosenfeld, P. E. 2000. Bioremediation Using Organic Soil Amendments. California Resource Recovery Association. Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. 1998. Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. 1999. An evaluation of ash incorporation with biosolids for odor reduction. Soil Science Society of America. Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. 1998. Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. Brown and Caldwell, Seattle Washington.

Rosenfeld, P.E., C.L. Henry. 1998. Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. Biofest Lake Chelan, Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. 1997. Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. Soil Science Society of America, Anaheim California.

Professional History

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Founding And Managing Partner
UCLA School of Public Health; 2007 to 2010; Lecturer (Asst Res)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H₂O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Teaching Experience

UCLA Department of Environmental Health (Summer 2003 through 2010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focuses on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course In Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5 2002 Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded

California Integrated Waste Management Board. \$41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: \$10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. \$100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. \$20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: \$10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: \$15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. \$500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Cases that Dr. Rosenfeld Provided Deposition or Trial Testimony

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs*, vs. Republic Services, Inc., et al., *Defendants*

Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken

David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.

Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama

Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*

Civil action No. CV 2008-2076

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana

Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.

Civil Suit Number 224,041 Division G

In the United States District Court, Western District Lafayette Division

Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.

Case Number 2:07CV1052

In the United States District Court for the Southern District of Ohio

Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.

Case Number 1:05 CV 227

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana

Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.

Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana

Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.

Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District

Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.

Case Number 153-212928-05

In the Superior Court of the State of California in and for the County of San Bernardino

Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.

John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.

Case Number VCVVS044671

In the United States District Court for the Middle District of Alabama, Northern Division

James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.

Civil Action Number 2:09-cv-232-WHA-TFM

In the Superior Court of the State of California in and for the County of Los Angeles

Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California corporation; and DOES 1 through 100, *Defendants*.

Case Number SC094173

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware
Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a
California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma
corporation; and DOES 1 through 100, *Defendants*.
Case Number 1229251 (Consolidated with case number 1231299)

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens
Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil
Chemical Co., *Defendants*.
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants*.
Civil Action Number 07-4037

In The Superior Court of the State of California County of Santa Cruz
Constance Acevedo, et al. *Plaintiffs* Vs. California Spray Company, et al. *Defendants*
Case No CV 146344

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant*.
Case Number 25,151

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and
on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant*.
Case 3:10-cv-00622

EXHIBIT C

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

13 March 2020

Aaron Messing, Esq.
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd, Suite 1000
South San Francisco, California 94080

Subject: BigBeau Solar Project, Willow Springs, California
Draft Environmental Impact Report, SCH# 2019071059
Review of Noise Impact Analysis

Dear Mr. Messing,

As requested, Wilson Ihrig has reviewed the noise evaluation presented in the BigBeau Solar Project Draft Environmental Report ("DEIR", Kern County Planning and Natural Resources Dept., January 2020). In this letter we present our comments on the DEIR, in particular on Section 4.12, Noise.

Wilson Ihrig has practiced exclusively in the field of acoustics since 1966. During our 54 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Environmental Noise Model (ENM), Traffic Noise Model (TNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

The main fault we find with the DEIR is that it fails to assess substantial permanent increase in ambient noise levels. The area where this project is proposed is somewhat unusual in this day and age because its remoteness results in atypically low ambient noise levels. The DEIR reports that "[a]verage daytime ambient noise levels at studied receptors range from 29.7 dBA Leq to 34.2 dBA Leq."¹ [DEIR at p. 4.12-35] Impact 4.12-3 purportedly assess the permanent change to this unusually low ambient, but fails to do so.

In the Impact 4.12-3 section, the DEIR states:

¹ For context, the average daytime Leq in a quiet suburban area is around 50 dBA and in an urban area it is around 60 dBA.

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

... noise levels associated with BESS incorporation would reach 59 dBA Leq, potentially resulting in increases in ambient noise levels above the applicable daytime and nighttime thresholds (45 dBA Leq/L50 nighttime and 55 dBA Leq/L50 daytime within the WSSP and 65 dBA Ldn within the County).² ... Therefore, there would be a potentially significant impact associated with BESS incorporation methods 1,2, and 3.

[DEIR at p. 4.12-35]

The problem with this analysis is that it does not actually assess the permanent increase in ambient noise levels. Rather, it simply restates the analysis undertaken in section Impact 4.12-1 which considers whether or not the noise increase exceeds any local or agency standards.

The proper analysis would have been to assess whether the increase, which will range from 25 to 29 dBA, will be significant vis-à-vis the existing ambient. As noted in the DEIR, “[a]n increase ... in sound level of about 10 dBA is usually perceived ... as a doubling ... of the sound’s loudness.” [DEIR at p. 4.12-3]. An increase of 25 dBA would be two and one-half doublings, so double (times 2) then double again (another times 2) then increase by the factor corresponding to 5 dBA (times 1.4). Altogether, an increase of 25 dBA would be perceived as a sound level 5.6 times the existing ambient sound level. An increase of 29 dBA would be perceived as 7.5 times the existing ambient. These increases would unquestionably cause a significant noise impact at the receptors.

The noise levels in the preceding paragraph are for unmitigated noise levels. The DEIR states in section Impact 4.12-3 the Mitigation Measure MM 4.12-4 would eliminate this impact:

With implementation of Mitigation Measure MM 4.12-4, the final BESS incorporation method that is selected would be designed such that noise levels generated would comply with the applicable daytime and nighttime noise standards at all offsite sensitive receptor locations nearest to the project site. Therefore, in with implementation of Mitigation Measure MM 4.12-4, impacts would be reduced to less-than-significant levels.

[DEIR at p. 4.12-35; emphasis added]

However, Mitigation Measure MM 4.12-4 only commits to bringing the noise levels down to the levels that comply with the applicable daytime and nighttime noise standards. Those are 45 dBA Leq during the nighttime and 55 dBA Leq during the daytime. The average nighttime ambient noise levels are not provided in the DEIR, but they are presumably quieter than in the daytime. For sake of argument, assume that they are at the lower end of the daytime range, 30 dBA. As such, the nighttime increase would be:

$$45 \text{ dBA} - 30 \text{ dBA} = 15 \text{ dBA} \quad \text{equivalent to 2.8 times as loud}$$

and the daytime increase would be range between

² BESS denotes “battery energy storage system”. The BESS would produce 82 to 98 dBA Leq at a reference distance of 10 feet depending on the way the BESS are distributed throughout the project area. [DEIR at p. 4.12-21]

DEREK L. WATRY

Principal

Since joining Wilson Ihrig in 1992, Derek has gained experienced in many areas of practice including environmental, construction, forensic, architectural, and industrial. For all of these, he has conducted extensive field measurements, established acceptability criteria, and calculated future noise and vibration levels. In the many of these areas, he has prepared CEQA and NEPA noise technical studies and EIR/EIS sections. Derek has a thorough understanding of the technical, public relations, and political aspects of environmental noise and vibration compliance work. He has helped resolve complex community noise issues, and he has also served as an expert witness in numerous legal matters.

Education

- M.S. Mechanical Engineering, University of California, Berkeley
- B.S. Mechanical Engineering, University of California, San Diego
- M.B.A. Saint Mary's College of California

Project Experience

12th Street Reconstruction, Oakland, CA

Responsible for construction noise control plan from pile driving after City received complaints from nearby neighbors. Attendance required at community meetings.

525 Golden Gate Avenue Demolition, San Francisco, CA

Noise and vibration monitoring and consultation during demolition of a multi-story office building next to Federal, State, and Municipal Court buildings for the SFDPW.

911 Emergency Communications Center, San Francisco, CA

Technical assistance on issues relating to the demolition and construction work including vibration monitoring, developing specification and reviewing/recommending appropriate methods and equipment for demolition of Old Emergency Center for the SFDPW.

Central Contra Costa Sanitary District, Grayson Creek Sewer, Pleasant Hill, CA

Evaluation of vibration levels due to construction of new sewer line in hard soil.

City of Atascadero, Review of Walmart EIR Noise Analysis, Atascadero, CA

Review and Critique of EIR Noise Analysis for the Del Rio Road Commercial Area Specific Plan.

City of Fremont, Ongoing Environmental Services On-Call Contract, Fremont, CA

Work tasks primarily focus on noise insulation and vibration control design compliance for new residential projects and peer review other consultant's projects.

City of Fremont, Patterson Ranch EIR, Fremont, CA

Conducted noise and vibration portion of the EIR.

City of King City, Silva Ranch Annexation EIR, King City, CA

Conducted the noise portion of the EIR and assessed the suitability of the project areas for the intended development. Work included a reconnaissance of existing noise sources and receptors in and around the project areas, and long-term noise measurements at key locations.

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

Conoco Phillips Community Study and Expert Witness, Rodeo, CA

Investigated low frequency noise from exhaust stacks and provided expert witness services representing Conoco Phillips. Evaluated effectiveness of noise controls implemented by the refinery.

Golden Gate Park Concourse Underground Garage, San Francisco, CA

Noise and vibration testing during underground garage construction to monitor for residences and an old sandstone statue during pile driving for the City of San Francisco.

Laguna Honda Hospital, Clarendon Hall Demolition, San Francisco, CA

Project manager for performed vibration monitoring during demolition of an older wing of the Laguna Honda Hospital.

Loch Lomond Marina EIR, San Rafael, CA

Examined traffic noise impacts on existing residences for the City of San Rafael. Provided the project with acoustical analyses and reports to satisfy the requirements of Title 24.

Mare Island Dredge and Material Disposal, Vallejo, CA

EIR/EIS analysis of noise from planned dredged material off-loading operations for the City of Vallejo.

Napa Creek Vibration Monitoring Review, CA

Initially brought in to peer review construction vibration services provided by another firm, but eventually was tapped for its expertise to develop a vibration monitoring plan for construction activities near historic buildings and long-term construction vibration monitoring.

San Francisco DPW, Environmental Services On-Call, CA

Noise and vibration monitoring for such tasks as: Northshore Main Improvement project, and design noise mitigation for SOMA West Skate Park.

San Francisco PUC, Islais Creek Clean Water Program, San Francisco, CA

Community noise and vibration monitoring during construction, including several stages of pile driving. Coordination of noise and ground vibration measurements during pile driving and other construction activity to determine compliance with noise ordinance. Coordination with Department of Public Works to provide a vibration seminar for inspectors and interaction with Construction Management team and nearby businesses to resolve noise and vibration issues.

San Francisco PUC, Richmond Transport Tunnel Clean Water Program, San Francisco, CA

Environmental compliance monitoring of vibration during soft tunnel mining and boring, cut-and-cover trenching for sewer lines, hard rock tunnel blasting and site remediation. Work involved long-term monitoring of general construction activity, special investigations of groundborne vibration from pumps and bus generated ground vibration, and interaction with the public (homeowners).

Santa Clara VTA, Capitol Expressway Light Rail (CELR) Bus Rapid Transit (BRT) Update EIS, CA

Reviewed previous BRT analysis and provide memo to support EIS.

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

Shell Oil Refinery, Martinez, CA

Identified source of community noise complaints from tonal noise due to refinery equipment and operations. Developed noise control recommendations. Conducted round-the-clock noise measurements at nearby residence and near to the property line of the refinery and correlated results. Conducted an exhaustive noise survey of the noisier pieces of equipment throughout the refinery to identify and characterize the dominant noise sources that were located anywhere from a quarter to three-quarters of a mile away. Provided a list of actions to mitigate noise from the noisiest pieces of refinery equipment. Assisted the refinery in the selection of long-term noise monitoring equipment to be situated on the refinery grounds so that a record of the current noise environment will be documented, and future noise complaints can be addressed more efficiently.

Tyco Electronics Corporation, Annual Noise Compliance Study, Menlo Park, CA

Conducted annual noise compliance monitoring. Provided letter critiquing the regulatory requirements and recommending improvements.

University of California, San Francisco Mission Bay Campus Vibration Study, CA

Conducted measurements and analysis of ground vibration across site due to heavy traffic on Third Street. Analysis included assessment of pavement surface condition and propensity of local soil structure.

Comment Letter No. 15: Adams Broadwell Joseph & Cardozo

55 dBA – 34 dBA = 21 dBA equivalent to 4.2 times as loud
55 dBA – 30 dBA = 25 dBA equivalent to 5.6 times as loud

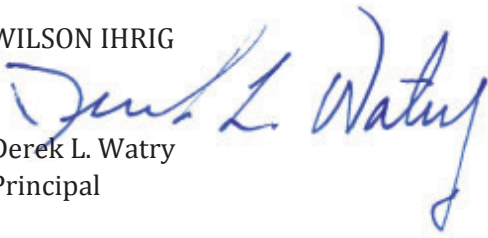
These are still very large increases and should be considered to cause a significant noise impact at the receptors. Moreover, the character of the noise introduced to the region would be markedly different than the ambient sounds in the area now, not simply the sounds there now amplified by 2.8 to 5.6 times. As the DEIR states, “The existing noise environment is influenced primarily by natural noise sources, such as wind, bird vocalizations . . .”.³ [DEIR at p. 4.12-7] This primarily natural existing environment will be supplanted by one dominated by the industrial sounds produced by the BESS.

* * * * *

Please contact me if you have any questions about these comments.

Very truly yours,

WILSON IHRIG



Derek L. Watry
Principal

³ The DEIR notes that there are also man-made noise sources in the area such as vehicle traffic, electrical infrastructure, residential-generated noise, occasional aircraft overflights, and distant operation of wind turbines. However, at the noise levels reported (29.7 to 34.2 dBA Leq), these sources must be minimal.

Response to Comment Letter 15: Adams Broadwell Joseph & Cardozo (March 13, 2020)

- 15-A:** The comment introduces the commenter, provides an overview of the proposed project, and introduces the commenter's claims that the Draft EIR is inadequate and should be recirculated because it fails to adequately describe decommissioning activities as well as properly disclose, analyze, and mitigate the proposed project's potentially significant impacts on biological resources, air quality, and noise. See responses below which address the decommissioning activities, biological resources, air quality, public health, and noise. As the CEQA Lead Agency, the County of Kern finds that the Draft EIR meets the requirements of the CEQA and nothing in the record warrants recirculation of the document. On March 24, 2020, Adams Broadwell Joseph & Cardozo submitted a subsequent comment letter to Kern County stating that based on learning new information, all their "concerns have been settled and resolved and Citizens has no further objection to the Project." The comment is noted and appreciated, and will be before the decision-makers for their consideration prior to taking any action on the project.
- 15-B:** The comment further describes the individuals and labor organizations which are represented by the commenter and that they have an interest in enforcing environmental laws that encourage sustainable development, ensure a safe working environment, as well as pursuing projects without providing countervailing economic benefits. Comment noted. This comment does not raise an issue related to the adequacy of the Draft EIR; therefore, no further response is necessary.
- 15-C:** The comment summarizes some of the legal background and requirements for CEQA. Comment noted. This comment does not raise an issue related to the adequacy of the Draft EIR; therefore, no further response is necessary.
- 15-D:** The comment states that the Draft EIR lacks an accurate, complete, and stable project description. The comment is a statement of opinion without facts to dispute the conclusions in the Draft EIR. Per *CEQA Guidelines* Section 15124, Project Description, the description of a project should include the precise location and boundaries shall be shown on a detailed map; the location of the project shall also appear on a regional map; a clearly written statement of objectives which should include the underlying purpose of the project and may discuss the benefits; a general description of the project's technical, economic, and environmental characteristics; and a statement that briefly describes the intended uses of the EIR. All required sections have been included in the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 15-E:** The comment states that the "project overview" section of the Draft EIR provides insufficient description of the project's decommissioning activities. The comment claims the description of decommissioning activities does not comply with CEQA. The comment also states that the Draft EIR should analyze in detail the effects of implementation of the decommissioning plan especially on biological resources.

A detailed description of the decommissioning activities can be found in Chapter 3, *Project Description*, on page 3-40 of the Draft EIR, under Section 3.7.13, Decommissioning. The description states all decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and County regulations. In addition, the description states equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Once all materials and equipment have been safely removed, the site would be thoroughly cleaned and all debris removed. As the CEQA Lead Agency, the County of Kern finds that the description of the decommissioning activities is adequate and provides decision makers enough detail to make an informed decision on the project. Moreover, evaluation of decommission activities is included throughout the Draft EIR as well as considered and included as part of mitigation measures for visual, biological, land use, noise, public services, and utilities. Section

4.4, *Biological Resources*, evaluates the environmental effects of decommissioning on biological resources on page 4.4-45 and includes Mitigation Measures MM 4.4-2 and MM 4.4-3 which will apply through the life of the project including construction, operations and maintenance, and decommissioning. These measures will ensure construction workers employed during decommissioning activities are trained and aware of the measures for avoidance and protection of biological resources. The County finds that with the implementation of mitigation, the project effects on biological resources from decommissioning would be less than significant and no further revisions are necessary. The comment does not identify any new significant impacts that require additional mitigation that have not already been addressed in the Draft EIR, and no changes to the Draft EIR are warranted. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-F:** This comment states that the Draft EIR fails to properly disclose and analyze the project's impacts on some of the biological resources within the project site and nearby vicinity by failing to properly establish the existing setting for some of the resources and fails to adequately disclose and analyze the impacts on other resources. The comment also states that some of the proposed mitigation measures fail to mitigate the impact to a less than significant level or to the degree purported by the Draft EIR, and that some biological resource mitigation measures are missing.

This comment is a summary of the commenter's claims that the Draft EIR fails to disclose, analyze, and mitigate the project's biological impacts. Comments specific to each biological resource are addressed in Response to Comments 15-G through 15-S, below. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-G:** This comment states that the Draft EIR's methodology for conducting species surveys is misleading and may lead to inaccurate diagnosis of biological impacts. The comment notes that some of the surveys for biological resources were performed concurrently and states that this method of survey is not an accepted protocol for surveying special-status species, which is necessary to establish the existing environmental setting for biological resources, as required by CEQA.

All surveys were conducting using current protocols. The example of protocol surveys for burrowing owl surveys being conducted during desert tortoise protocol surveys is incorrect. Surveys for burrowing owl were performed in the morning (between 0600 and 1000) and/or at dusk (between 1800 and 2020) and were conducted independent of desert tortoise surveys (as detailed in Section 3.3 of the Biological Technical Report, Appendix E of the Draft EIR). Staff conducting burrowing owl surveys also joined ongoing desert tortoise surveys following completion of burrowing owl surveys in the morning. Incidental observations were recorded for all burrows and cactus and yucca species during protocol desert tortoise surveys. This is standard practice for projects over extensive areas. Desert tortoise, burrowing owl, and desert kit fox and American badger were all performed together, as all involved looking for burrows. Rare plants and vegetation mapping were performed independent of desert tortoise surveys. Surveyors were not examining the ground and sky at the same time, as the comment indicates (as detailed in Section 3.3 of the Biological Technical Report, Appendix E of the Draft EIR). The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-H** This comment summarizes the survey results in the Draft EIR for special-status species and states that the Draft EIR fails to disclose, analyze, and mitigate potentially significant impacts to special-status species and that it does not properly establish a baseline for each species. Specifics for each of these species (Swainson's hawk [SWHA], tricolored blackbird, resident and migratory birds, bats, and special-status reptiles) are provided in Response to Comments 15-I through 15-L, below. Responses to these comments are provided in the respective Responses to Comments 15-I through 15-L, below.

- 15-I** This comment states that the determination that SWHA are absent from the site was based on observations made during protocol surveys for other species.

Protocol surveys for SWHA were performed for the project within a 5-mile radius of the project independent of any other survey and were negative. These surveys were conducted at all potential SWHA nests during habitat assessments, none of which were located on site. At the start of protocol surveys, observers systematically checked suitable arboreal habitat throughout the entire study area for all project components to determine potential SWHA nests for further observation (as detailed in Section 3.3.6 of the Biological Technical Report, Appendix E of the Draft EIR). In addition, all raptor nests were incidentally recorded on site during desert tortoise surveys, and none were determined to be potential or active SWHA nests and were therefore not included in protocol SWHA surveys as potential nest locations. Protocol surveys were also conducted for the Valentine Project and Catalina Solar II Project and were negative. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-J: This comment states that SWHA potential to occur onsite may be higher than the findings in the Draft EIR. Based on database reviews, as well as protocol surveys conducted for SWHA, no active nests occur on site and none are expected based on site fidelity and the lack of high-quality foraging and nesting habitat. SWHA are well documented to have high site fidelity. SWHA are routinely observed in the area during migration and it is not uncommon for sightings to occur during field work conducted for projects during times when the species is moving through the region, such as during field work for the proposed project. The lack of active nests within 1 mile of the site observed during protocol surveys for the project, as well as protocol surveys conducted for the adjacent Valentine Project and nearby Catalina Solar II Project, supports the Draft EIR conclusion that impacts to SWHA from the proposed project are less than significant. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-K: This comment states that the mitigation measures described in the Draft EIR for SWHA are inadequate. The project is scheduled to start construction outside of the nesting season. However, Mitigation Measure MM 4.4-7 requires that if active nests are found, a suitable buffer (e.g., 200–300 feet for common raptors; 0.5 mile for Swainson’s hawk; 30–50 feet for passerine species) shall be established around active nests and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). The 0.5 mile buffer is a requirement of the SWHA protocol and requires an Incidental Take Permit or consultation with CDFW for any variance to this buffer. In their letter dated February 19, 2020 reviewing the Draft EIR, CDFW concurred that a 0.5 mile buffer around any SWHA active nesting during the breeding season is appropriate (see Response to Comment 2-J, above). Any speculation regarding the implementation of this measure for the proposed project for any raptor or bird species relative the commenter’s experience is unfounded. Furthermore, implementation of Mitigation Measure MM 4.4-2 will be implemented to provide worker environmental training. There is no empirical evidence that supports the speculation that implementation of Mitigation Measure MM 4.4-2 would not be effective in mitigating impacts to sensitive biological resources to less than significant. Furthermore, wildlife agencies require this training. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-L: The comment recommends that the County revise the Draft EIR with thorough surveys with all methodology and survey data mapped and reported. The County must then revise the impact analysis and include appropriately detail construction and operational mitigation recommendations for SWHA.

All surveys were performed following agency guidelines and recommendations and used standard survey practices for projects of this nature and size. All survey data was factored into the impact analysis for the Draft EIR. The County finds that with the implementation of Mitigation Measures MM 4.4-2 through MM 4.4-4, MM 4.4-7, and MM 4.9-2, the project effects on biological resources from project construction and operation would be less than significant and no further revisions are necessary. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-M:** This comment addresses tricolored blackbird and states that the Draft EIR does not adequately disclose or analyze impacts to this species. The CESA status of tricolored blackbird was changed during the preparation of the Draft EIR. Nonetheless and as the Draft EIR states, no suitable habitat for this species occurs on site. Ebird records of tricolored blackbird from 2016 at a site 2.6 miles from the project do not occur to our knowledge. Therefore, no impacts to tricolored blackbird will occur as a result of the proposed project. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 15-N:** This comment states that the Draft EIR fails to disclose, analyze, and mitigate potentially significant direct and indirect operational impacts to resident and migratory birds. There is not a lot of scientifically rigorous research currently available investigating the cumulative operational impacts of solar facility-related strikes on bird populations to help make this determination. Current Migratory Bird Treaty Act and California Fish and Game Code regulations also do not protect non-nesting, non-sensitive bird species. Table 1, *Avian Mortality Summary*, provided in Response to Comment 15-N, is informative, but also lacks data for Kern County. Although the project would implement avoidance and minimization measures to reduce impacts, the County cannot be conclusive whether or not significant impacts from sensitive bird species strikes will occur, which is why the cumulative impact determination in the Draft EIR is significant and unavoidable. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 15-O:** This comment makes the statement that significant operational direct and indirect impacts to birds will occur as a result of the project and recommends that the measures described in Response to Comment 15-P, below be implemented. See Response to Comment 15-P, below.
- 15-P:** This comment details the recommended measures referenced in Response to Comment 15-O to avoid significant operational direct and indirect impacts to birds as a result of the project. The County has determined that Mitigation Measures MM 4.4-3, MM 4.4-7, and MM 4.9-2 described in the Draft EIR are sufficient to address project-related direct and indirect operational and cumulative impacts on sensitive bird species, which will not lead to jeopardy of listed species, or listing of sensitive species. Direct and indirect operational and cumulative impacts to non-sensitive species are not considered to result in a trend toward listing as these species are common throughout the region. No additional measures are proposed. The County acknowledges there is a significant and unavoidable cumulative impact from the project. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 15-Q:** This comment states that the Draft EIR fails to fully analyze cumulative operational impacts on birds, resulting in significant unmitigated impacts. See Response to Comment 15-N and 15-P, above.
- 15-R:** This comment states that the Draft EIR fails to disclose and analyze potentially significant impacts to bat species. Of the bat species identified in this comment, Townsend's big-eared bat is the only species that has records of occurrence within the project vicinity. It is a California species of concern and has a moderate potential to occur throughout the project while foraging, but the project lacks suitable roosting habitat. One California Natural Diversity Database (CNDDDB) record of occurrence for this species was reported in 1997 approximately 9 miles to the northeast of the project as disclosed in the Section 4.4, *Biological Resources*, of the Draft EIR. Based on this information, no significant direct impacts to this species from project construction or operation is anticipated, including from noise, light, dust, barriers, negative attractants, etc. Indirect impacts to this species from habitat modification are possible; however, these impacts will not cause a trend toward listing and implementation of Mitigation Measures MM 4.4-3 and MM 4.9-2 will ensure impacts to this species is less than significant. The comment has been noted for the record and revisions to the Draft EIR are not necessary.
- 15-S:** This comment states that the Draft EIR fails to adequately disclose and analyze potentially significant impacts to certain reptile species. It also states that previous surveys for solar projects immediately near the project (i.e., Catalina Solar I Project) found at least two species of horned

lizard and ten additional species of reptiles common to the area. The comment recommends that mitigation measures include additional biologists be present onsite during all hours of construction, enhanced traffic restrictions, and a reptile relocation Plan and Monitoring Strategy during the construction phase.

Coast horned lizard (a special-status species) and desert horned lizard (a non-SSC species) were observed at the Catalina Solar I Project site. The Mojavean Juniper Woodland and Scrub habitat within the Catalina Solar Project site was determined to be suitable to support coast horned lizard. The project site does not contain Mojavean Juniper Woodland and Scrub habitat to support this special-status species and none were observed during any survey conducted for the project in 2018 or 2019; thus, it was determined not to have a potential to occur. Like the Catalina Solar I Project, the proposed project also recorded commonly occurring reptile species within the project site (as detailed in the Biological Technical Report, Appendix E to the Draft EIR), and ten species were detected within the study area, many of which were the same species as described in the Catalina Solar Project EIR.

Mitigation Measure MM 4.4-1 requires biological monitors be present for all ground disturbing activities and fence installation, Mitigation Measure MM 4.4-3 stipulates a 15 mph speed limit for the project site and applies to the life of the project (construction, operations and maintenance, and decommissioning), and Mitigation Measure MM 4.4-4 will require capture and relocation of reptiles (non-listed) during preconstruction clearance surveys; an exclusion fence will then be erected to prevent wildlife from moving onto the site during construction. Once construction is complete and the project is operational, a wildlife friendly fence will be erected to allow movement of wildlife throughout the area (Mitigation Measure MM 4.4-10). The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-T: The comment provides a brief summary stating that the air quality analysis in the Draft EIR lacks substantial evidence to support its significance findings. Specifically, the comment claims that the Draft EIR relies on unsubstantiated construction emissions that may underestimate project emissions, and that health risk assessment (HRA) analysis is incomplete based on use of multiple inadequate parameters. These general statements are specifically detailed in Response to Comments 15-AD through 15-AG below. As such, please see responses to those comments below.

15-U: The comment makes a general statement that the Draft EIR's significant and unavoidable determination for air quality impacts is incorrect as additional feasible mitigation measures exist that should be identified and incorporated into the project which would reduce the project's air quality impacts to the maximum extent possible.

A more detailed comment on this issue is made in Response to Comment 15-AG below. As such, please see Response to Comment 15-AG, below.

15-V: The comment states that the Draft EIR underestimates the project's construction emissions because the air quality analysis assumes the use of Tier 3 construction equipment in its emissions estimate, based on Mitigation Measure MM 4.3-1(a), without evaluating the feasibility of obtaining Tier 3 equipment for the project. Additionally, the comment notes that the County has also made it possible for the project to use lower tier equipment than Tier 3 and still comply with the mitigation measure if such equipment is not locally available. As such, the comment concludes that the County must either ensure that Tier 3 equipment will be available or modify its air analysis to incorporate the use of higher emitting off-road equipment engines.

It should be noted that both the project's unmitigated and mitigated (i.e., use of Tier 3 equipment) construction emissions have been disclosed in the air quality analysis of the Draft EIR and are shown in Tables 4.3-6 and 4.3-7, respectively. As shown in Table 4.3-6, without implementation of mitigation the project's construction emissions of NO_x and PM₁₀ would exceed the annual emissions thresholds set by Eastern Kern Air Pollution Control District (EKAPCD). With the implementation of mitigation that accounts for the use of Tier 3 equipment, the criteria pollutant

emissions during project construction would be reduced, as shown in Table 4.3-7, but the emissions of NO_x and PM₁₀ would not be reduced to below the EKAPCD's significance thresholds for these pollutants. Thus, the air quality impacts from construction-related NO_x and PM₁₀ emissions would remain significant and unavoidable despite the implementation of mitigation. The project applicant has indicated that the obtainment of Tier 3 equipment would not be an issue for the project, as such equipment was successfully obtained by the applicant for the Valentine Solar Project located adjacent to the proposed project site. Nonetheless, in response to this comment and taking into consideration that the language in Mitigation Measure MM 4.3-1(a) allows for the use of lower tier equipment if Tier 3 equipment is not locally available, page 4.3-50 of the Draft EIR has been revised to state the following:

As discussed previously, the project would implement Mitigation Measure MM 4.3-1, which would require implementation of EPA Tier 3 or higher engines, among other measures, and Mitigation Measure MM 4.3-2, which would require implementation of a Fugitive Dust Control Plan during construction of the project. While the implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce emissions of NO_x and PM₁₀ during construction of the project, these emissions would not be reduced below the EKACPD significance threshold, as illustrated in Table 4.3-7, Mitigated Annual Construction Emissions, provided below. Furthermore, it should be noted that under Mitigation Measure MM 4.3-1 the use of lower tier equipment for the project is allowed if Tier 3 equipment is not available locally. Thus, although the project applicant fully expects to obtain and use Tier 3 equipment during project construction, there may be times during the construction period when lower tier equipment is used in combination with Tier 3 equipment at the project site. Under these conditions, the annual emissions of NO_x and PM₁₀ generated by project construction would be higher than those presented in Table 4.3-7 but lower than the unmitigated emissions presented in Table 4.3-6. Nonetheless ~~Therefore~~, the project would result in significant and unavoidable impacts from construction-related emissions of NO_x and PM₁₀.

15-W: The comment states that the Draft EIR's construction and operational health risk assessment (HRAs) are incomplete and must be revised in order to be relied upon by the County. With respect to the construction HRA, the comment states that the analysis must be revised because it is based on underestimated construction emissions. The comment further notes that the revised analysis must be recirculated.

Although the construction HRA in the Draft EIR was conducted using mitigated construction emissions that accounted for the use of Tier 3 equipment, the estimated cancer risk at existing sensitive receptors was determined to be 2.04 in a million, which is well below the 10 in a million threshold. As noted in Response to Comment 15-V, above, although the project applicant fully expects to obtain and use Tier 3 equipment during project construction, there may be times during the construction period when lower tier equipment is used in combination with Tier 3 equipment at the project site.

Nonetheless, in response to this comment and for purposes of disclosure under CEQA, the estimated health risks at sensitive receptors using the project's construction emissions without Tier 3 equipment were assessed. Without the use of any Tier 3 equipment on-site, the estimated cancer risk at existing sensitive receptors increases from 2.04 in a million, as shown in the Draft EIR, to 2.88 in a million, and the estimated cancer risk at the project fence line increases from 5.33 in a million, as shown in the Draft EIR, to 7.53 in a million. These risk levels remain below the 10 in a million threshold level. Note that this assumes that no Tier 3 equipment would be used at any point during construction. As noted above, there may be times during the construction period when lower tier equipment would be used, so the actual risk would be higher than those presented in Table 4-3-4 but lower than the unmitigated emissions presented in the text above. To reflect this additional

analysis, Table 4.3-4 and the text on page 4.3-43 of the Draft EIR has been revised to present the following:

Table 4.3-4, *Estimated Health Risk During Construction*, illustrates the cancer risk and non-cancer hazard index associated with both the project's unmitigated and mitigated (i.e., use of Tier 3 construction equipment) construction emissions. As shown therein, implementation of the project would not result in increased cancer risk or hazard index in excess of thresholds under either condition.

TABLE 4.3-4: ESTIMATED HEALTH RISK DURING CONSTRUCTION

Location	Cancer Risk (cases per million)	Chronic Hazard Index
<u>Unmitigated Construction Emissions</u>		
<u>Maximum Incremental Risk at Existing Receptors</u>	<u>2.88</u>	<u>0.004</u>
<u>Maximum Incremental Risk at Project Fence Line</u>	<u>7.33</u>	<u>0.011</u>
<u>Threshold</u>	<u>10.0</u>	<u>1.0</u>
<u>Is Threshold Exceeded?</u>	<u>No</u>	<u>No</u>
<u>Mitigated Construction Emissions</u>		
Maximum Incremental Risk at Existing Receptors	2.04	0.003
Maximum Incremental Risk at Project Fence Line	5.33	0.008
Threshold	10.0	1.0
Is Threshold Exceeded?	No	No

Source: ICF 2019.

Overall, because the significance conclusion for health risks resulting from the project's construction emissions has not changed and would remain less than significant, recirculation of the Draft EIR would not be necessary.

With respect to project operations, the discussion provided in the Draft EIR is valid and is not affected by the comments raised on the project's construction emissions. As a solar facility, the project does not operate any stationary emission sources of diesel particulate matter (DPM) onsite and the only source of DPM emissions would be those generated by diesel-powered pressure washers and trucks during panel washing that is scheduled to occur 10 days out of the year. These DPM emissions occurring over such a short duration would be minimal. To provide some perspective, the estimated cancer risk related to DPM exposure during project construction was 2.04 in a million when the mitigated construction emissions were assessed. A comparison of the project's mitigated annual construction emissions shown in Table 4.3-7 of the Draft EIR to the project's unmitigated annual operational emissions shown in Table 4.3-8 of the Draft EIR shows how minor the operational emissions are relative to the construction emissions. Thus, the discussion in the Draft EIR for project operations does not need to be revised, nor recirculated.

- 15-X:** The comment erroneously asserts that the Office of Environmental Health and Hazard Assessment (OEHHA) recommends any project lasting more than 6 months conduct a quantitative HRA to estimate individual cancer risks at the maximally exposed individual resident (MEIR).

Please see Response to Comment 15-W, above, regarding health risks associated with project operations. The OEHHA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (Guidance Manual) serves to provide guidance in performing HRAs under the Air Toxics Hot Spots Information and Assessment Act of 1987, which requires stationary sources to report the types and quantities of certain substances routinely released into the air. The project is a solar facility that does not operate any stationary emission sources of DPM or other toxic air contaminants (TACs) onsite. As correctly pointed out by the commenter later in Comment 15-AB, the project is not a large industrial project nor does the project involve general stationary fuel combustion sources, fossil-fuel fired electric generating units, manufacturing processes, etc. As described in the Draft EIR, the project's operational emissions would be generated by vehicles traveling to and from the project area to perform routine maintenance and occasional panel washing. The vehicle emissions generated by these visits would mostly be from gasoline-powered passenger vehicles and pickups that do not emit DPM. The only source of DPM emissions would be from diesel-powered pressure washers and trucks during panel washing, which would occur 10 days per year. The minimal DPM emissions generated during this short duration would not result in health risk impacts at nearby sensitive receptors. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-Y:** The comment states the Draft EIR failed to sum the excess cancer risk calculated for each age group in order to evaluate the total cancer risk over the course of the project's lifetime. The comment further notes that an updated analysis should quantify the project's construction and operational health risks and then sum them to compare to the EKAPCD threshold of 20 in one million.

Please see Response to Comments 15-W and 15-X, above. The proposed solar facility is not a facility that generates toxic air emissions that would pose a potentially significant health risk to the public. The DPM emissions generated by diesel-powered pressure washers and trucks during the 10 days of panel washing out of the year would be minimal and would not result in health risk impacts at nearby sensitive receptors. The primary source and greatest amount of DPM emissions would be generated during project construction, and as such an HRA analysis was conducted in the Draft EIR to analyze potential health impacts from these emissions on nearby sensitive receptors. As discussed above in Response to Comment 15-W, the health risks would be well below the 10 in a million threshold. Additionally, the EKAPCD's 20 in one million threshold is applicable to permitted facilities that are stationary sources of air toxics. As the project is a solar facility that does not operate any stationary emission sources of TACs onsite, this threshold cited by the commenter does not apply to the proposed project.

- 15-Z:** The comment states agencies are required to implement all mitigation measures unless those measures are truly infeasible before declaring that a project will have a significant and unavoidable environmental impact. The comment further identifies the following mitigation measures for the County to consider before making a final determination that the project's air quality impacts during construction are significant and unavoidable:

- Require Implementation of Diesel Control Measures
- Install Retrofit Devices on Existing Construction Equipment
- Use Electric and Hybrid Construction Equipment
- Implement a Construction Vehicle Inventory Tracking System
- Use of Spray Equipment with Greater Transfer Efficiencies

With respect to diesel control measures, Mitigation Measure MM 4.3-1 already requires the use of EPA Tier 3 engines for construction equipment exceeding 25 horsepower where locally available and also requires that on-road and off-road diesel equipment use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines, which are generally effective at reducing PM emissions by 85 percent or more. Additionally, ultra-low sulfur diesel fuel (ULSD) with sulfur content of 15 parts per million has been phased in since 2006 in California, and as such will be used on all diesel vehicles and equipment used during project construction. Mitigation Measure MM 4.3-1 also includes measures that require equipment to be turned off when not in use for more than 5 minutes and requires that the hours of operation of heavy-duty equipment and/or the quantity of equipment in use to be limited to the extent feasible. As such, the Draft EIR has included feasible mitigation measures to reduce diesel emissions during project construction.

With respect to installing retrofit devices on existing construction equipment, this particular mitigation is not considered feasible for the project as the project applicant will need to obtain its construction equipment from a rental equipment company, which prevents the project applicant from having control over the installation of retrofit devices on the rented equipment. As discussed above, feasible measures have already been included in Mitigation Measure MM 4.3-1 to reduce construction-related pollutant emissions.

As for the use of electric and hybrid construction equipment, Mitigation Measure MM 4.3-1 already requires the use of electric equipment to the extent feasible in lieu of diesel or gasoline-powered equipment and for existing electric power sources to be used to the extent feasible to minimize the use of higher polluting gas or diesel generators. With respect to the project, the implementation of a construction vehicle inventory tracking system would not serve as a mitigation that would reduce the project's construction emissions. Generally, the implementation of this type of tracking system is useful on projects where specific emission targets have been identified (e.g., below local air district criteria pollutant emission thresholds) as the tracked information would allow for a project to confirm that the set targets have been met. As shown in Table 4.3-7 of the Draft EIR, the project's estimated construction emissions would exceed the EKAPCD significance thresholds for NOx and PM10 after implementation of Mitigation Measure MM 4.3-1. As such, the implementation of a construction vehicle inventory tracking system would not serve, either directly or indirectly, to reduce the project's construction emissions. Finally, because construction of the proposed solar facility would not involve the application of coatings on buildings, the implementation identified by the commenter regarding the use of spray equipment with greater transfer efficiencies would not reduce the project's construction emissions and thus, is not considered for inclusion in the Draft EIR. All feasible mitigation measures have been considered and incorporated to the extent practicable. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-AA: The comment asserts that the Draft EIR's greenhouse gas (GHG) analysis is not supported by substantial evidence because it relies upon an incorrect and unsubstantiated air model and analysis, and inappropriately uses the EKAPCD threshold of 25,000 MT CO₂e/year to determine the significance of the project's GHG emissions.

With respect to the first assertion, the comment suggests that the Draft EIR's estimated GHG emissions for the project cannot be relied upon because the Draft EIR's analysis of criteria pollutant emissions may have been underestimated by accounting for the use of Tier 3 construction equipment (refer to Response to Comment 15-V). However, this claim is unfounded because the GHG emissions from off-road construction equipment remain unchanged whether Tier 3 or lower tier equipment is used. The use of Tier 3 engines over lower tiered engines would result in a reduction of criteria pollutant emissions, but not GHG emissions. Thus, the GHG emissions calculated for the project's construction activities have not been underestimated. Secondly, as indicated on page 4.8-13 of the Draft EIR, the calculation of GHG emissions for off-road equipment used for project construction relied on emission factors from the California Emissions Estimator Model (CalEEMod), which was developed for the California Air Pollution Officers Association in

collaboration with the California Air Districts and is recognized as a model that can be used for a variety of situations where an air quality analysis is necessary or desirable, including CEQA documents. As such, the GHG emissions for the project presented in the Draft EIR was not calculated with an unsubstantiated air model.

The comment's second assertion that of EKAPCD's threshold of 25,000 MT CO₂e/year is not applicable for the project is addressed below in Response to Comment 15-AB. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-AB: The comment states that the Draft EIR's reliance on EKAPCD's adopted significance thresholds for GHGs is not appropriate because the project is not a "large industrial project... that do[es] not require conditional use permits from a land-use agency."

As indicated under the Thresholds of Significance section on page 4.8-16 of the Draft EIR, Kern County has not developed a quantified threshold of significance for GHG emissions, but a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB Climate Change Scoping Plan is presumed to have less-than-significant GHG impacts. This is the threshold that is applied by the County in significance determination for the project. The EKAPCD's 25,000 MT CO₂e/year threshold is included in the Draft EIR to disclose the quantitative GHG threshold that has been established for use by the local air district. In the impact analysis, a comparison of the project's total annual GHG emissions to EKAPCD's threshold is presented in Table 4.8-2 to provide context showing the relatively low emission levels of the project. The project's significance determination is primarily based on the net decrease in CO₂e emissions that would result from its implementation. As shown in Table 4.3-3, the project is estimated to displace approximately 19,700 MTCO₂e of emissions annually on average and a total of approximately 689,494 MTCO₂e over its 35-year lifespan, which would assist in the attainment of the State's goal to reduce GHG emissions. As concluded on page 4.8-18 of the Draft EIR, "Given that the project would result in a net decrease of CO₂e emissions, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be considered less than significant." The comment has been noted for the record and revisions to the Draft EIR are not necessary.

15-AC: The comment states that the Draft EIR fails to analyze and mitigate significant noise impacts from project construction and operation. With respect to project construction, the comment summarizes the language from the Draft EIR regarding the types of construction activities that would generate noise levels but does not further elaborate how the Draft EIR fails to analyze and mitigate construction noise impacts.

Noise impacts associated with the project's construction activities are discussed under Impact 4.12-1 on pages 4.12-26 and 4.12-27 of the Draft EIR. The analysis includes a discussion of the potential maximum noise levels that would be generated by project construction equipment and discloses the range of potential maximum noise levels that would be experienced by the nearest sensitive receptors, which would range from 59 dBA Leq to 79 dBA Leq. Based on these noise levels, the analysis discussion concluded that temporary noise impacts would occur at noise sensitive receptors during project construction and indicated that Mitigation Measures MM 4.12-1 through MM 4.12-3 would be implemented to reduce the noise impacts to the extent feasible during construction activities. Nonetheless, even with implementation of mitigation, the Draft EIR concluded that temporary noise impacts experienced by nearby sensitive receptors during project construction would be significant and unavoidable. Thus, by analyzing the potential significant noise impacts from project construction and implementing mitigation measures to reduce these impacts to the extent feasible, the Draft EIR analysis is conducted in accordance with the requirements of CEQA.

With respect to project operations, the comment summarizes from the Draft EIR the types of onsite project components and activities that would generate noise (i.e., O&M facility, battery energy storage system (BESS), block inverters, axis trackers, periodic maintenance activities, corona

discharge) and the presence of residential dwellings that are scattered around the perimeter of the project site at various distances as noise-sensitive receptors. The comment does not specifically elaborate how the Draft EIR fails to analyze and mitigate operational noise impacts. Noise impacts associated with the project's operational activities are discussed under Impact 4.12-1 on pages 4.12-27 through 4.12-31 of the Draft EIR. The analysis identifies the operational noise sources associated with the project and presents the estimated noise levels that would be experienced at the nearest sensitive receptors from the combined operation of the project's on-site stationary equipment under each of the project's BESS incorporation methods in Table 4.12-8. Based on the analysis it was shown that certain sensitive receptors would be exposed to noise levels exceeding the applicable noise standards under each of the three BESS incorporation methods. As such, the analysis discussion concluded that the project's operational noise impacts under each of the three BESS incorporation methods would be potentially significant and indicated that Mitigation Measure MM 4.12-4 would be implemented to ensure that these noise levels would be reduced to a level that would comply with the applicable noise standards at all off-site sensitive receptor locations nearest to the project site. Thus, by analyzing the potential significant noise impacts from project operations and implementing mitigation measures to reduce these impacts to a less-than-significant level, the Draft EIR analysis is conducted in accordance with the requirements of CEQA. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-AD:** The comment states that the Draft EIR's noise analysis fails to properly assess the noise impact associated with whether the project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and that the analysis in the Draft EIR for this impact restates the analysis undertaken for Impact 4.12-1, which considers whether the noise increase exceeds any local or agency standards.

The County's criteria used to assess whether a project would result in a substantial permanent increase in ambient noise levels is based on a combination of the increase in ambient noise levels attributed to the project and whether the overall resulting noise levels are in exceedance of the applicable noise standards. In other words, an increase in the project area's ambient noise levels alone is not considered to be "substantial" unless the overall noise levels are in exceedance of established noise standards. The use of this criteria to assess the project's operational noise levels is indicated under the Thresholds of Significance section of the Draft EIR, specifically on page 4.12-25, which states "...operational noise impacts from stationary equipment are assessed by determining if the proposed project would result in a substantial increase in ambient noise levels that would exceed the applicable County and Willow Springs Specific Plan (WSSP) noise standards at the outdoor activity area of the nearest noise-sensitive land use." This interpretation of the threshold assessing a substantial permanent increase in noise levels by the County is consistent with the 2018 CEQA Guideline update, in particular the updated Appendix G Checklist. The Checklist update appropriately combined the two questions (noise increase and absolute noise level relative to applicable standards) to explicitly link both factors in the determination of significant noise impacts. The relevant question reads: "Would the project result in: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of [applicable] standards..." As discussed on page 4.12-35 of the Draft EIR, the noise levels associated with BESS incorporation by the project would reach 59 dBA Leq, which would potentially result in increases in ambient noise levels at nearby noise-sensitive receptors above the applicable daytime and nighttime thresholds (45 dBA Leq/L50 nighttime and 55 dBA Leq/L50 daytime within the WSSP and 65 dBA Ldn within the County). However, the discussion identifies that implementation of Mitigation Measure MM 4.12-4 would ensure that the final BESS incorporation method selected for the project would be designed such that noise levels generated would comply with the applicable daytime and nighttime noise standards at the all offsite sensitive receptor locations nearest to the project site. Thus, although the nearest sensitive receptors to the project site would experience an increase in their respective ambient noise levels from project operations, these noise levels would not exceed the applicable noise standards. Therefore, based on the County's criteria, this impact associated with a substantial permanent increase in ambient noise

levels would be less than significant. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-AE:** The comment states the proper analysis for the third noise significance criteria would have been to assess whether the increase in ambient noise levels would be significant vis-à-vis the existing ambient noise level.

Please see Response to Comment 15-AD above. The average daytime ambient noise levels at nearby sensitive receptors to the project site are noted in the analysis under Impact 4.12-3 on page 4.12-35 of Draft EIR. It is also disclosed that noise levels associated with BESS incorporation, which could reach 59 dBA Leq, would potentially result in increases in ambient noise levels above the applicable daytime and nighttime thresholds of the County and WSSP. As noted in Response to Comment 15-AD above, the County's criteria used to assess whether a project would result in a substantial permanent increase in ambient noise levels is based on a combination of the increase in ambient noise levels attributed to the project and whether the overall resulting noise levels are in exceedance of the applicable noise standards. As such, the analysis indicates that implementation of Mitigation Measure MM 4.12-4, which would ensure that the final selected BESS incorporation method would be designed to render it in compliance with the applicable daytime and nighttime standards at all offsite sensitive receptor locations nearest to the project site, would reduce this impact to a less-than-significant level. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-AF:** The comment states that the magnitude of increase in ambient noise levels would cause a significant noise impact at sensitive receptors and that the Draft EIR failed to analyze and mitigate this significant noise impact.

Please see Response to Comment 15-AD and 15-AE, above. The discussion under Impact 4.12-3 in the Draft EIR acknowledges the increase in ambient noise levels that would be experienced by the nearby noise-sensitive receptors. The County's criteria to assess potential impacts related to increases in ambient noise levels by a project is based on what the noise increases are at sensitive land uses in relation to applicable noise standards. This interpretation of the noise threshold pertaining to a substantial permanent increase in ambient noise levels by the County is consistent with the most recent CEQA Guidelines, and the analysis provided in the Draft EIR adequately addresses this threshold. The analysis in the Draft EIR identifies that Mitigation Measure MM 4.12-4 would be implemented to ensure that the final selected BESS incorporation method would be designed to render it in compliance with the applicable daytime and nighttime standards at all offsite sensitive receptor locations nearest to the project site. As the applicable noise standards would be met at all offsite sensitive receptor locations with implementation of this mitigation measure, the Draft EIR concludes that noise impacts associated with a substantial permanent increase in ambient noise levels would be reduced to a less-than-significant level. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

- 15-AG:** The comment concludes that the Draft EIR is inadequate as an informational document because it lacks an adequate project description and fails to properly disclose analyze and mitigate the project's potentially significant impacts on biological resources, air quality, public health, and noise. Also, that the County fails to require feasible, available mitigation measures to reduce significant impacts that are unaddressed before concluding that significant impacts are unavoidable. The comment asserts that the Draft EIR violates CEQA and that it should be recirculated with a legally adequate analysis.

These claims have been addressed and responded to in the responses above. The comment does not identify any new significant impacts that require additional mitigation that have not already been addressed in the Draft EIR, and no changes to the Draft EIR are warranted. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

SEASCAPE ENTERPRISES INC.

11511 Davenport
Rossmore, Ca 90720
License no. 524830
(562) 596-9334
(562) 706-2300
Statement

DATE: 2-10-2020

RE: Re-ZONING OF VACANT LAND

FILE # ZCC#13, MAP 215; CUP#13, MAP#215
CUP#14, MAP#215, CUP#15, MAP#215
GPA#4, MAP 215; ZCC#44, MAP 232;
CUP#41, MAP 232; CUP#42, MAP 232,
CUP#43, MAP 232; SPA#32, MAP 232

* I have left message for Terrance Smalls
@ 661-862-8607, and have had no
response.

* I just recieved the letter from the
board of Supervisors on the March
9, 2020.

* I am the Trustee of Louis Conforti
My Name is VICTOR Conforti

I am a general contractor and
have plans to build on the property
owned by my father since 1961,

* IF This rezoning is approved, I
Personally will be harmed, as the

- ^ Property will become worthless to me and my father's estate, **License # 524830-B SEASCAPE Enterprises Inc**
- * Building Homes or Residential Development will be Unsavory, and our property will lose any value which, I as a builder, plan for the future,
 - * My Father and Mother have owned this property since 1961, and have diligently paid property Taxes in a timely manner,
 - * To build such a project, of a solar farm, would stop any plans of residential development.
 - * To rezone the area, is a formula to Take away my **"FAIR RIGHT" OF ownership**,
 - * As would be under Eminent Domain, We, the Conforti family, need to be **"justly compensated"** for this change in Zoning.

16-A
(cont.)

10 acres ATN 358-062-23-00-7

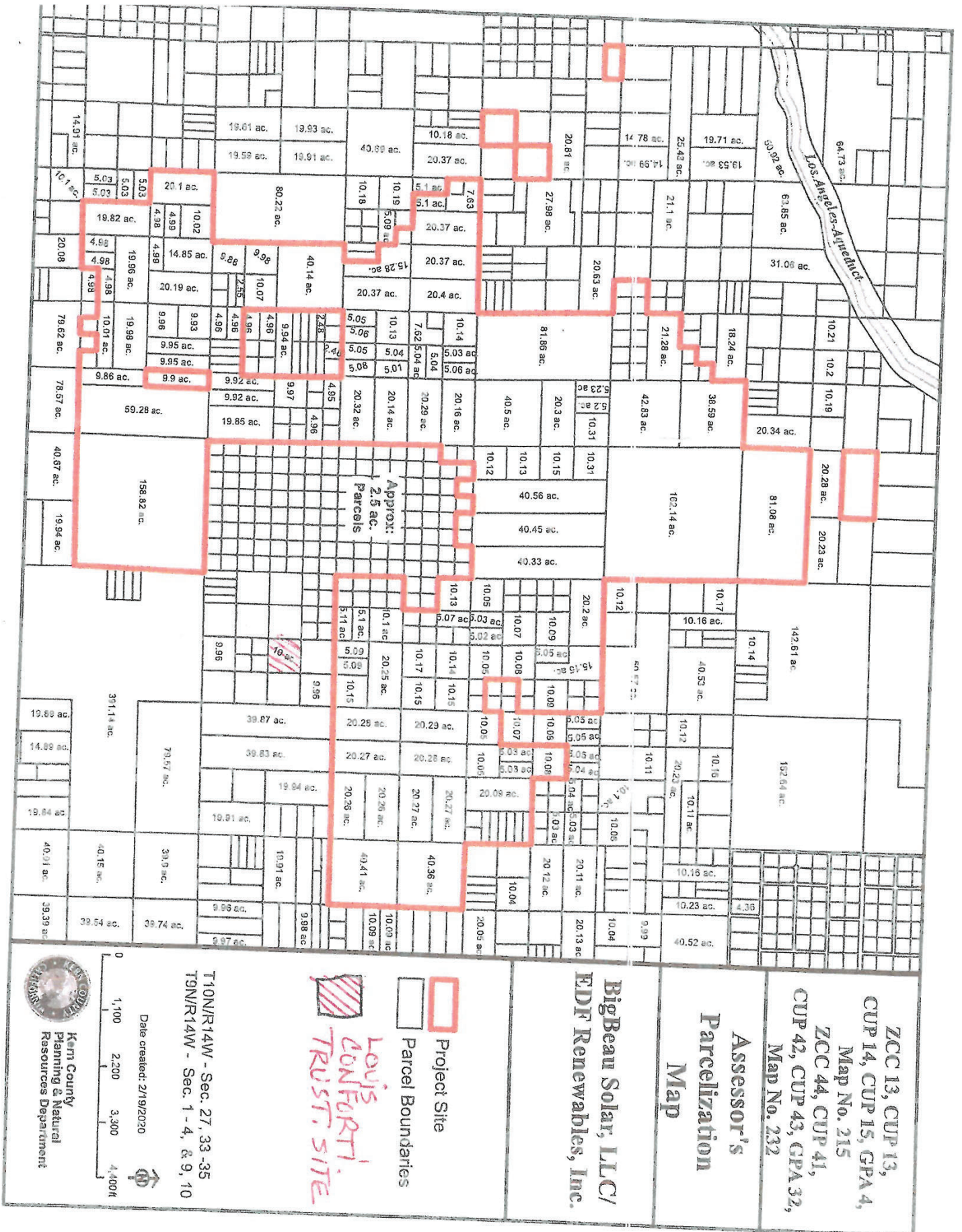
Kern County Planning &
Natural Resources Dept

APR 1 2020

RECEIVED

Vito J. Conforti

President Seascope Enterprises Inc



ZCC 13, CUP 13,
CUP 14, CUP 15, GPA 4,
Map No. 215
ZCC 44, CUP 41,
CUP 42, CUP 43, CPA 32,
Map No. 232

Assessor's Parcelization Map

BigBeau Solar, LLC/
EDF Renewables, Inc.

☒ Project Site
☐ Parcel Boundaries

**LOUIS
CONFORTI
TRUST SITE**

T10N/R14W - Sec. 27, 33-35
T9N/R14W - Sec. 1-4, 8, 9, 10

Date created: 2/19/2020

0 1,000 2,000 3,000 4,000ft





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ASSESSOR

1115 Tuxton
Avenue
Bakersfield CA
93301

8-5 M-F (Except
Holidays)

[About the Assessor](#)

RECORDER

1539 Tuxton
Avenue
Bakersfield CA
93301

8-3 M-F (Except
Holidays)

[About the Recorder](#)

HALL OF RECORDS

1655 Chester Avenue
Bakersfield CA 93301

8-4:30 M-F (Except
Holidays)

Jon Lifquist - Assessor-Recorder

Note: You are not currently in a decline in value status.

Kern Property Profile			
Property Information			
ATN	358-062-23-00-7	Status	Active
Parcel Num.	358-062-23-0	View Assessor's Map	GIS Map
Legal	SECTION 2 TOWNSHIP 9 RANGE 14		
Acres	10.00		
Use Code	0080 - VAC 7-20 AC NO R2 3 4 COMM IND		
Prior APN	-		
Supervisory District	2 - Zack Scrivner		

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Recorded Documents		
Document Number	Document Type	Date Recorded
217096511	Deed - Quitclaim	07/27/2017
202041741	Deed	03/18/2002

Property Characteristics	
Building #0	

Assessment Information for Tax Year		2019-2020
		Assessed Values
Land Value:		7,884
Mineral Value:		0
Improvement Value:		0
Other Improvement:		0
Personal Property Value:		0
Total:		7,884
Less Exemption Value:		0
Net Total Taxable Value:		7,884
Tax Rate Area:	119-004 SO KERN CO UNIFIED	

Note: You are not currently in a decline in value status.

Tax Bill Information		
Questions regarding tax bills should be directed to the Tax Collector at (661) 868-3490.		
2019 Lien Date Bill	19-1257361-00-9	Paid
Net Billed Value	Tax Rate Area	Proration Period

Response to Comment Letter 16: Victor Conforti (April 1, 2020)

16-A: The commenter expresses opposition to the proposed project and claims that project implementation would damage the value of the commenter's property.

The project will have no impact on the ability of adjacent property to develop in accordance with the existing designated land use and there is no evidence that development of the project will impact land values of adjacent properties. Furthermore, these factors are not considered under CEQA. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions are not necessary.