Comment Letter 7: Adams Broadwell Joseph and Cardozo (October 19, 2015)

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VIA E-MAIL AND OVERNIGHT MAIL

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Re: Comments on the Recirculated Draft Environmental Impact Report for the Willow Springs Solar Array Project (PP10232) (State Clearinghouse No. 2010031023)

Dear Mr. Dmohowski:

On behalf of Kern County Citizens for Responsible Solar, we submit these comments on the Recirculated Draft Environmental Impact Report ("RDEIR") prepared by the County of Kern ("County") for the Willow Springs Solar Array Project ("Project") proposed by Willow Springs Solar, LLC ("Applicant"). The Project requires County Zoning Changes, a Specific Plan Amendment and a Conditional Use Permit to allow development of a photovoltaic ("PV") solar power plant with a capacity of 150 megawatts ("MW"), located on a 1,402 acre site over nine parcels. We previously provided comments on the Draft Environmental Impact Report ("Draft EIR") for the Project on April 13, 2015 and on the Final Environmental Impact Report ("FEIR") for the Project on June 24, 2015. **7-A**

Based upon our review of the RDEIR, County records, as well as pertinent public records in the possession of other agencies, we conclude that the RDEIR is so inadequate under CEQA that it must be withdrawn. While the RDEIR corrects a number of errors that were contained in the FEIR, it still fails to disclose or meaningfully evaluate significant Project impacts related to agricultural resources, biological resources, and air quality and public health. It also relies on inadequate **7-B**

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mitigation measures to reduce potentially significant impacts to less than significant levels, fails to evaluate feasible mitigation for impacts determined to be significant and unavoidable, and fails to support many of its findings with substantial evidence. These defects render the RDEIR inadequate as an informational document. The numerous defects in the County's analysis, set forth in greater detail in the following paragraphs, are fatal errors. The County must withdraw the RDEIR and prepare a second revised DEIR which fully complies with CEQA.

7-B

We have reviewed the RDEIR and its appendices with assistance from technical consultants, whose comments and qualifications are attached as follows: Gregory A. House, AFM, ARA, CPAg (**Exhibit A**), and Petra Pless (**Exhibit B**), Scott Cashen (**Exhibit C**), and Dr. Pete Bloom (**Exhibit D**). We incorporate by reference all comments included in these attached expert comments and associated attachments. We also incorporate by reference our comments submitted on the Draft EIR and FEIR.

7-C

I. STATEMENT OF INTEREST

Kern County Citizens for Responsible Solar is a coalition comprised of individuals (including Rosamond residents, Gary Wilcox and Daniel Wilbour, Mojave residents, Gaston Moore, Lorreta Moore and Emilio Pino, and Tehachapi residents, Josh Hernandez and Neal Herman), and groups, including California Unions for Reliable Energy and its members and their families. Kern County Citizens for Responsible Solar was formed to advocate for responsible and sustainable solar development that protects the environment where the coalition members and their families live, work, and recreate.

The individual members of Kern County Citizens for Responsible Solar live in and recreate in and around eastern Kern County. They have a personal interest in protecting the Project site from unnecessary, adverse impacts to the area's plants, wildlife, air and water and agricultural resources. These individuals appreciate and enjoy the ecosystem in and around the Project area.

7-D

California Unions for Reliable Energy ("CURE") is a coalition of labor organizations whose members encourage sustainable development of California's energy and natural resources. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh water resources, causes water and air pollution, and imposes other stresses on the environmental carrying capacity of the state. This in turn jeopardizes future development by causing construction

moratoriums and otherwise reducing future employment opportunities for CURE's members.

Additionally, union members live, recreate and work in the communities and regions that suffer the impacts of projects that are detrimental to human health and the environment. CURE therefore has a direct interest in enforcing environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment. Finally, CURE members are concerned about projects that risk serious environmental harm without providing countervailing economic benefits. The CEQA process allows for a balanced consideration of a project's socioeconomic and environmental impacts, and it is in this spirit that we offer these comments. **7-D**

II. THE COUNTY LACKS SUBSTANTIAL EVIDENCE TO SUPPORT ITS CONCLUSIONS IN THE RDEIR REGARDING THE PROJECT'S SIGNIFICANT IMPACTS AND FAILS TO INCORPORATE ALL FEASIBLE MITIGATION

CEQA has two basic purposes, neither of which the RDEIR satisfies. First, CEQA is designed to inform decisionmakers and the public about the potentially significant environmental impacts of a Project before harm is done to the environment.[1] The DEIR is the "heart" of this requirement.[2] The DEIR 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."[3] **7-E**

To fulfill this function, the discussion of impacts in a RDEIR must be detailed, complete, and "reflect a good faith effort at full disclosure."[4] An adequate RDEIR must contain facts and analysis, not just an agency's conclusions.[5] CEQA requires a RDEIR to disclose all potential direct and indirect, potentially significant environmental impacts of a project.[6]

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[1] CEQA Guidelines § 15002(a)(1); *Berkeley Keep Jets Over the Bay v. Bd. of Port Commissioners.* (2001) 91 Cal.App.4th 1344, 1354; *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[2] *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84.
[3] *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[4] CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.
[5] See *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568.
[6] Pub. Resources Code § 21100(b)(1); CEQA Guidelines § 15126.2(a).

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Second, if a RDEIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.[7] CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.[8] Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the RDEIR to meet this obligation.

Under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, but must ensure that mitigation conditions are fully enforceable through permit conditions, agreements, or other legally binding instruments.[9] A CEQA lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility.[10] This approach helps "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[11] CEQA also requires lead agencies to give due consideration to a project's short-term ***and*** long-term effects.[12] Determining whether a project may have a significant effect plays a critical role in the CEQA process.[13] A lead agency's determination calls for careful judgment and must be based on substantial evidence in the record.[14] Substantial evidence is defined as facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.[15] Substantial evidence is not argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous.[16]

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In this case, the RDEIR fails to satisfy the basic purposes of CEQA and the RDEIR's conclusions regarding, impacts to air, agricultural, and biological resources are not supported by substantial evidence. In preparing the RDEIR, the County: (1)

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[7] Pub. Resources Code §§ 21002.1(a), 21100(b)(3); CEQA Guidelines § 15002(a)(2) and (3); *Berkeley Keep Jets Over the Bay v. Bd. of Port Commissioners.* (2001) 91 Cal.App.4th 1344, 1354; *Laurel Heights Improvement Assn. v. Regents of the University of Cal.* (1998) 47 Cal.3d 376, 400.
[8] Pub. Resources Code §§ 21002-21002.1.
[9] CEQA Guidelines, § 15126.4, subd. (a)(2).
[10] *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement was inadequate mitigation because there was no record evidence that replacement water was available).
[11] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.
[12] CEQA Guidelines, § 15126.2, subd. (a).
[13] CEQA Guidelines, § 15064, subd. (a).
[14] CEQA Guidelines, § 15064, subd. (f).
[15] CEQA Guidelines, §§ 15064, subd. (f)(5), 15384, subd. (b).
[16] CEQA Guidelines, §§ 15064, subd. (f)(5), 15384, subd. (a).

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failed to accurately describe the existing environmental setting; 2) failed to accurately identify and adequately analyze all potentially significant environmental impacts; (3) failed to incorporate adequate measures to mitigate environmental impacts to a less than significant level; and (4) failed to support its findings with substantial evidence. To comply with CEQA, the County must correct these shortcomings and recirculate a second revised DEIR for public review and comment.

7-E

A. The RDEIR Fails to Support its Findings on Agricultural Resources with Substantial Evidence and Continues to Rely on an Inconsistent and Misleading Baseline

The County's determination that the Project's conversion of agricultural land to non-agricultural uses is not a significant impact is unsupported by substantial evidence for five reasons. First, it contradicts the County's own threshold of significance and misquotes the California Department of Conservation's ("DOC") website in order to justify the County's predetermined finding. Second, the County's conclusion relies upon an incorrect, inconsistent and misleading baseline. Third, the County's conclusion is internally inconsistent with other sections of the EIR. Fourth, the County's conclusion arbitrarily ignores the expert opinion of the DOC. Fifth, the County's conclusion violates the County's own policies for evaluating the conversion of agricultural land to Solar PV use. Finally, the County's conclusion fails to provide substantial evidence to support its finding that agriculture is not economically viable due to lack of water.

7-F

i. The Conversion of Important Farmland to Non-Agricultural Use is a Significant Impact Under Kern County's CEQA Threshold of Significance

As set forth in the RDEIR and the Kern County CEQA Implementation Document,[17] the threshold for determining whether a project's impact on agricultural resources will be significant if it: "[c]onverts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses."[18] The Project site contains 119.5 acres of Prime Farmland, 198.1 acres of Farmland of Statewide Importance and 113.2 acres of Unique Farmland, for a total of 430.7 acres of Important Farmland.[19]

7-G

[17] The Kern County CEQA Implementation Document, 2004b.
[18] RDEIR, p. 4.2-10.
[19] RDEIR, p. 3-10.

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Thus, the conversion of this Important Farmland to nonagricultural uses is a significant impact under Kern County's CEQA threshold of significance. The County nonetheless finds that this impact will be less than significant. This finding is based on speculation and misinformation, not substantial evidence. **7-G**

The RDEIR misquotes the DOC criteria for determining Prime Farmland and Farmland of Statewide Importance. The RDEIR states that "[i]n order to be shown on the Farmland Mapping and Monitoring Program maps as Prime Farmland or Farmland of Statewide Importance, the land must have been used for irrigated agricultural production at some time *during the prior four years*."[20] However, DOC actually states that for land to be Prime Farmland or Farmland of Statewide Importance, the land "must have been used for irrigated agricultural production at some time *during the four years* ***prior to the mapping date.***"[21] Similarly, for land to be considered Unique Farmland, the DOC states that land "must have been cropped at some time *during the four years* ***prior to the mapping date***."[22] **7-H**

As the RDEIR readily acknowledges, agricultural activities at the Project site ceased in 2010, two years prior to the most current mapping date. Accordingly, the 430.7 acres of Important Farmland on the Project site meets the criteria for Prime Farmland, Farmland of Statewide Importance, and Unique Farmland according to clear and established DOC criteria. The RDEIR therefore lacks substantial evidence to conclude that the Project will not result in a significant impact from the conversion of Important Farmland. The County must prepare a second revised DEIR that analyzes this significant impact and mitigates the conversion of 430.7 acres of Important Farmland to nonagricultural uses. **7-I**

ii. The RDEIR Relies Upon an Incorrect, Inconsistent and Misleading Baseline

The RDEIR speculates that "the project parcels designated in these categories [Prime, Farmland of Statewide Importance, and Unique] in 2012 would not be considered Important Farmland today and would not be so designated in future mapping exercises or be considered productive farmland by the County."[23] Based on this assumption, the County concludes that the "Lead Agency is not required to find a significant impact [on agricultural resources] based upon an **7-J**

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[20] RDEIR, p. 4.2-11.
[21] *See* http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx (emphasis added).
[22] *Id.* (emphasis added).
[23] RDEIR p. 4.2-13.

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outdated [FMMP] map."[24] Even if this speculation were accurate, it is not relevant to the analysis required under CEQA. 7-J

CEQA guidelines require the baseline to be the environmental setting as it exists at the time the Notice of Preparation ("NOP") is published.[25] The Supreme Court has stated that the reason for looking at conditions at the time of the NOP is so that a "temporary lull or spike in operations that happens to occur at the time environmental review for a new project begins should not depress or elevate the baseline."[26] Otherwise applicants would be encouraged to suspend or increase operations artificially, simply in order to establish a more favorable baseline.[27] Thus, according to established CEQA case law, the proper baseline in this case is the environmental setting as it existed in 2010 when the NOP was issued. In 2010, the most current and up-to-date FMMP map was the 2008-2010, which designated the 430.7 acres of Project land as Prime, Unique and Farmland of Statewide Importance.[28] Accordingly, the 430.7 acres of Important Farmland did meet the DOC criteria for this designation. 7-K

Not only was the 430.7 acres of Project farmland designated as Important under the applicable 2008-2010 FMMP map, but the same farmland on the Project site was *again* designated as such in the 2010-2012 FMMP map – *two years after the NOP for the Project was issued*. The County's argument that a future FMMP map would not designate the 430.7 acres of Project farmland as Prime, Unique or Farmland of Statewide importance is thus not only speculative, it is premised on an incorrect baseline analysis and an incorrect application of the County's own adopted threshold of significance. For these reasons, the County's finding is not supported by substantial evidence. 7-L

iii. The RDEIR's Findings are Internally Inconsistent and Therefore Arbitrary and Capricious

The RDEIR's findings are also internally inconsistent. While the executive summary and Section 4.2 of the RDEIR find that the conversion of Project farmland is a less than significant impact, Section 5.2 of the DEIR (which was not 7-M

[24] RDEIR, p. 4.2-12.
[25] CEQA Guidelines section 15125, subd. (a).
[26] *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 328.
[27] *Id.*
[28] *See* http://www.conservation.ca.gov/dlrp/fmmp/Pages/Kern.aspx; August 13, 2015 phone conversation with DOC confirming 2008-2010 was latest FMMP in 2010.

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recirculated) found that this conversion of farmland would be a significant and unavoidable impact even after mitigation.[29] This internal contradiction, originally noted in our April 13, 2015 comments, remains unaddressed.

7-M

Furthermore, the RDEIR's finding that groundwater restrictions will make it "unlikely that the project site can continue to support irrigated agricultural uses" and thus, "the project site does not have long-term viability for farmland use" is not supported by substantial evidence and directly contradicted later in the RDEIR. In a subsequent section of the RDEIR, the County contradicts itself by stating that the Project's indirect impacts will be less than significant because the Project "will *not permanently* remove the site as potential agriculture land" and that the decommissioning plan will promote the conversion of the site back to agricultural when the Solar power plant ceases operations.[30] The RDEIR cannot, on the one hand, assume that the Project site will no longer support long-term farmland use, and then on the other hand assume that agricultural activities would resume at the end of the Project's operational life. Until this internal inconsistency is reconciled, the County's findings regarding agricultural resources are arbitrary and capricious.

7-N

iv. The RDEIR Fails to Consider and Contradicts Expert Comments Submitted by the California Department of Conservation

The RDEIR's analysis also lacks substantial evidence because it fails to consider and also contradicts the comments submitted by the DOC. The DOC submitted a letter dated April 7, 2010 in response to the NOP for this Project. This letter states that "the soils within the project boundaries are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance." The DOC further finds that the "loss of agricultural land represents a permanent reduction in the State's agricultural land resources" and "should be deemed an impact of at least regional significance." The agency then recommends a variety of mitigation measures that should be imposed. These include requiring "permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land." Despite these recommendations from the very agency responsible for the FMMP, the RDEIR fails to consider the significant and unmitigated impacts from converting 403.7 acres of Important Farmland to non-agricultural purposes.

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[29] RDEIR, p. 42-12; DEIR at p. 5.2.
[30] RDEIR at p. 4.2-12.

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v. The RDEIR Also Violates the County's Own Policies for Evaluating the Conversion of Agricultural Land to Solar PV Use

The RDEIR's analysis is also inadequate because it fails to comply with Kern County's own policies on evaluating and mitigating impacts related to the conversion of agricultural uses for solar development. As noted in the RDEIR, Kern County Board of Supervisors approved a "Pathway for Processing Conversion of Agricultural Land to Solar PV Use in the Central Valley".[31] The Pathway Process requires staff to consider farmland to be productive if it has been designated Prime, Important or Unique Farmland and has been actively farmed 5 years or more out of the last 10 years. Even if staff did not use the date of the NOP as the baseline for determining the significance of agricultural resources on the Project site, the Project farmland would still be considered productive under the Pathway Process because it has been actively farmed for 5 of the past 10 years.[32] The RDEIR's continued failure to apply the County's own CEQA guidelines for determining significance is arbitrary and capricious.

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If a site is determined to be productive under the Pathway Process guidelines, then the County requires the imposition of specific mitigation under CEQA. The Pathway Process requires mitigation for land that has been actively farmed for 5 of the past 10 years to include one of the following: (a) replacement land shall be acquired at a ratio of up to 1.5 to 1; or (b) the Project shall fund, at an equivalent amount, a program that benefits the long term stability of agricultural production in Kern County, such as the Shafter Cotton Research Station, local FFA or 4-H organizations or agricultural pest management programs. In addition, the Pathway Process requires a condition to be placed on the project requiring the submittal of a vertebrate pest and weed management plan. The RDEIR must be revised to include this mitigation.

7-Q

[31] RDEIR p. 4.2-12.

[32] Even if the Project site had been actively farmed for only one to four out of the last ten years, the Pathway Process would require the EIR to analyze the reasons why the site has not been farmed for more than four years to determine if the site is adequate for farming activities. Here, the primary reason the site has not been farmed is because of the pendency of this application.

vi. The RDEIR's Assumption that Agricultural Activities on the Project Site Ceased Due to Lack of Water is Not Supported by Substantial Evidence

The RDEIR also declines to find the conversion of Important Farmland to be significant on the basis that agricultural activities on the Project site would have ceased irrespective of the Project due to "scarc[e] and cost[ly]" groundwater. The RDEIR states:

> The cessation of farming on the site in 2010 coincided with increasing scarcity and cost of water. According to the landowner, farming has not been a viable enterprise in the last five years and therefore the owner has left the land fallow. The County may properly conclude that the cessation of farming in 2010 resulted from a determination by the property owner that the availability and cost of water versus the revenue that would be obtained by farming did not make farming viable.[33]

7-R

The County's finding that long-term agricultural use on the Project site is not economically viable is arbitrary.[34] The cessation of agricultural activities during the pendency of this environmental review and anecdotal testimony from the landowner of the Project site is not substantial evidence that farming is no longer viable at the Project site.

As a threshold matter, the County continues to cherry pick baseline years for different sections of the RDEIR depending on whether that year (or years) support its finding that impacts will be "less than significant." While the RDEIR looks at the cessation of agricultural activities from 2010 through 2015 as evidence that agricultural activities were not sustainable, the RDEIR measures historical water usage by using years 2000 to 2004, years when water usage was at its highest, in order to conclude that the 923 acre feet per year ("AFY") of water legally available is insufficient to sustain any agriculture on the Project site. Yet, according to Table 2 of the water supply assessment, the amount of water used in two of the last five years of agricultural production was well under 910 acre feet, with one other year just a little over 910 acre feet.[35] The assumption that water limitations would make it impossible or highly unlikely that agricultural activities would continue on these

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[33] RDEIR, p. 4.2-12.
[34] RDEIR, p. 4.2-13.
[35] DEIR, Appendix C, Water Supply Assessment at p. 9.

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sites is simply not supported by substantial evidence. The RDEIR's cherry picking of favorable baselines is arbitrary and contradictory, rendering the County's analysis of agricultural impacts legally inadequate. 7-S

Furthermore, substantial evidence presented from Mr. House demonstrate that the 923AFY of groundwater allocated to the Project site as result of the draft judgment in the groundwater adjudication litigation is adequate to grow a variety of vegetables and cereals on at least 430 acres of crops at the Project site.[36]

Eight crops were historically grown on the Project site from 2005 to 2010: alfalfa, barley, carrots, garlic, onions, pistachios, parsnips, and potatoes.[37] Of these eight crops, Mr. House examined the irrigation water requirements for carrots, onions, potatoes and barley/wheat.[38] Alfalfa was not examined because of its lower crop value and high water demand. Garlic and parsnips were not examined due to lack of agronomic and economic information, yet have very similar production practices and water needs to onions and carrots.[39] Finally, pistachios were not examined because as long-lived perennial trees, Mr. House explains that planting pistachio trees and producing pistachios is a costly, multi-year investment process not conducive for this type of study.[40] 7-T

After determining the most reflective crops that have been historically grown on the Project site, Mr. House examined the amount of acres of Project land that can be farmed based on the 923 AFY of groundwater allocated to the Project site. Mr. House began by calculating the water usage of the four crops at the Project site in acre-inches per acre per year. Table 2.1 shows an estimate of the total amount of water as soil moisture that these crops will require from planting to harvest:

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[36] House Comments, p. 19.
[37] House Comments, p. 9.
[38] House Comments, p. 6.
[39] House, p. 9 ("Garlic and parsnips are not examined in detail as there is less agronomic and economic information available on these crops as the selected vegetables (although garlic is similar to onions and parsnips to carrots in terms of production practices and water needs)").
[40] House Comments, p. 9.

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Table 2.1: Water usage (ET) of four crops at the project site reported in acre-inches per acre per year.

Crop	Ref ET × Kc early	Ref ET × Kc mid	Ref ET × Kc end	Total ETc
Carrot	10.58 ac-in × 1	9.44 ac-in × 1.05	12.55 ac-in × 0.95	32.38 ac-in
Onion	10.58 ac-in × 1	9.44 ac-in × 1.25	12.55 ac-in × 0.75	31.78 ac-in
Potato	10.58 ac-in × 1	9.44 ac-in × 1.35	12.55 ac-ic × 0.75	32.68 ac-in
Barley/Wheat	10.58 ac-in × 1	9.44 ac-in × 1.35	12.55 ac-in × 0.25	26.38 ac-in

Next, Mr. House assumed a rotation of the four selected crops in which barley or wheat is grown on one quarter of the acres and vegetable crops are grown on the remaining three-quarters and calculated the annual soil moisture demand to be 23.2 acre-inches per acre per year. Although water-quality issues concerning groundwater are not at issue in this case, Mr. House nevertheless factored in leaching and subtracted 10 percent (or 92 acre feet) from the 923 AFY of available water, leaving 831 AFY (9,972 acre-inches) available.[41] Finally, Mr. House divided the 9,972 acre-inches of available groundwater by the 23.2 acre-inches per acre per year demanded to conclude that at least 430 acres that can be farmed on a sustainable basis provided 923 AFY of groundwater.[42]

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Mr. House then analyzed the profitability of these four crops utilizing data from the Imperial County Crop Reports for 2011 through 2013, the University of California Cooperative Extension cost studies, and the United States Department of Agriculture, National Agricultural Statistics Service.[43] For each of the four crops, Mr. House presented a separate table showing average yields, prices received, and gross revenues:

Table 3.1: Average yields, prices received, and gross revenues from carrots in Imperial County 2010 through 2013.

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Year	Yield 50 lb/ac	Price/ctn	Gross revenue $/acre
2010	850	$8.12	$6,902
2011	835	$14.00	$11,690
2012	950	$9.37	$8,902
2013	900	$9.37	$8,433
4-year avg.	--	--	$8,982

[41] House Comments, p. 6.
[42] House Comments, p. 11.
[43] House Comments, p. 7.

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Table 3.2: Average yields, prices received, and gross revenues from dry onions in Imperial County 2010 through 2013.

Year	Yield 50 lb/ac	Price/ctn	Gross revenue $/acre
2010	1200	$16.00	$19,200
2011	1525	$5.75	$8,769
2012	1301	$8.43	$10,967
2013	1261	$9.22	$11,626
4-year avg	--	--	$12,641

Table 3.3: Average yields, prices received, and gross revenues from potatoes in Imperial County 2010 through 2013.

Year	Yield 50 lb/ac	Price/ctn	Gross revenue $/acre
2010	258	$34.08	$8,793
2011	200	$30.34	$6,068
2012	310	$23.50	$7,285
2013	320	$20.00	$6,400
4-year avg.	--	--	$7,291

Table 3.4: Average yields, prices received, and gross revenues from wheat in Imperial County 2010 through 2013.

Year	Yield 50 lb/ac	Price/ctn	Gross revenue $/acre
2010	258	$34.08	$8,793
2011	200	$30.34	$6,068
2012	310	$23.50	$7,285
2013	320	$20.00	$6,400
4-year avg.	--	--	$7,291

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Mr. House concludes that based on conservative estimates and the 923 AFY of groundwater allocated to the Project site, three of the four crops – onions, potatoes, and cereal grain (barley or wheat) – are profitable to grow on 430 acres of the Project land.[44] Mr. House assembles the income and cost estimates in Table 3.5:

Table 3.5 Estimated per acre average net income of four selected crops on the project land. Based on 2010--2013 average in the foregoing tables.

Crop	Gross Income/ac	Expenses/ac	Net Income/ac
Carrots	$8,982	$10,015	$-1,033
Onions	$12,641	$8,832	$3,809
Potatoes	$7,291	$4,528	$2,763
Barley/Wheat	$920	$845	$75

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Mr. House explains that Table 3.5 demonstrates that onions, potatoes, and barley/wheat all have positive net incomes if produced on the Project land. Accordingly, Mr. House concludes that agriculture is economically viable today on 430 acres of farmland on the proposed Project site. Notably, Mr. House's findings regarding the number of acres of Project farmland that could sustain agriculture were arrived independently from the number of acres of Important Farmland as reported in the RDEIR.[45] Accordingly, the County's finding that the "increasing scarcity of and cost of water" render agricultural activities unsustainable and economically not viable is not supported by substantial evidence.[46] The County must analyze the significant impact from converting Important Farmland to nonagricultural uses and propose all feasible mitigation measures to reduce the Project's significant impacts to agricultural resources in a second revised DEIR. Anything less violates CEQA.

[44] House Comments, p. 13.
[45] House Comments, p. 17.
[46] RDEIR, p. 4.2-13.

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III. The RDEIR Fails to Adequately Disclose, Analyze, and Mitigate Significant Air Quality Impacts

In our April 13, 2015 comment letter on the DEIR and our subsequent June 24, 2015 comment letter on the FEIR, we identified numerous flaws in the County's analysis regarding the Project's air quality impacts. Such flaws included estimating construction emissions using an outdated California Emissions Estimator Model ("CalEEMod"), improperly amortizing annual emissions over a three year period, and using data from the wrong project for dispersion modeling.[47] To correct these and other mistakes, the County recirculated a revised DEIR that included an updated Air Quality section (4.3). Although certain errors were resolved in the RDEIR, such as calculating construction emissions using the latest CalEEMod version, the RDEIR's air quality analysis and conclusions remain flawed and unsupported by substantial evidence.[48] The RDEIR's air quality impact analysis fails to identify, analyze and adequately mitigate significant impacts, and is not supported by substantial evidence. The County must revise and recirculate a second revised DEIR addressing these shortcomings.

7-X

i. The RDEIR's Analysis of Construction Emissions is Not Supported by Substantial Evidence and Fails to Identify and Adequately Mitigate Significant Adverse Impacts to Air Resources

The County estimates Project construction emissions using the revised CalEEMod run that incorporates the more stringent mitigation measures for off-road equipment exhaust.[49] In her attached comments, Dr. Pless identifies numerous incorrect assumptions that were relied upon to support the RDEIR's emission estimates. As a result of these errors, the RDEIR significantly underestimates air emissions and fails to identify significant impacts on air quality.[50]

7-Y

[47] Adams, Broadwell, Joseph & Cardozo ("ABJC") Comments on the Draft Environmental Impact Report (April 13, 2015); ABJC Comments on the Final Environmental Impact Report (June 24, 2015).
[48] Pless Comments.
[49] Pless Comments, p. 3.
[50] Pless Comments, p. 3.

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First, Dr. Pless finds that the emissions from construction worker commuter vehicles and on-site equipment are unaccounted for in the RDEIR. The Project requires four months of testing, cleanup, and restoration involving 20 construction workers, four pick-up trucks, two generators, six backhoes, two motor graders, two scrapers, and two hydro seeders.[51] None of these are accounted for in the RDEIR's air quality estimates. By failing to include these emissions in its analysis, the County underestimated Project construction emissions.

7-Z

Second, dust is an enormous problem in the region where the Project would be constructed. The combination of prolonged drought and multiple large scale solar and wind development projects in the arid desert environments has led to severe dust storms in the Project area. Yet, fugitive dust emissions from wind erosion are unaccounted for in the RDEIR. A shown by the photos below, high-wind events frequently cause substantial emissions of fugitive dust in Eastern Kern County. Due to these frequent dust events and the contribution of commercial solar power generation facilities to fugitive dust emissions in the airshed, the Eastern Kern Air Pollution Control District ("EKAPCD") requires proposed commercial solar generation facilities over 10 acres in Kern County to obtain an Authority to Construct/Permit to Operate ("ATC/PTO").[52]

7-A2

[51] RDEIR, Table 3-3, p. 3-23.
[52] EKAPCD, Complete Commercial Solar Facility Application Package; http://www.kernair.org/Main_Pages/Subpages/Info_Sub/Commercial_Solar.html.

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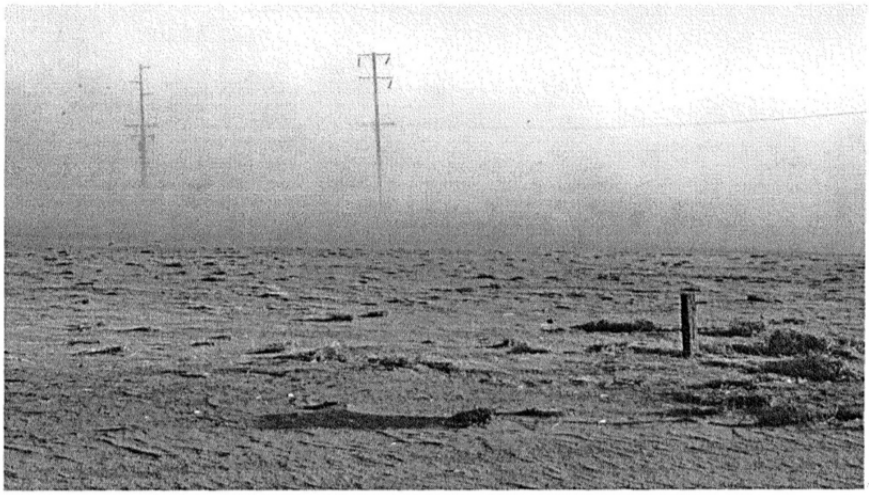
From: KTLA5, Dangerous Dust Storm Shuts Down 14 Freeway, May 28, 2013;
http://ktla.com/2013/05/28/dust-storm-shuts-down-14-freeway-near-lancaster/

7-A2



From: Report from Lancaster CA - Dust Storm 5-28-2013;
http://www.youtube.com/watch?v=wt0sy45uaXo

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Grading activities from construction on the 1402-acre Project site will increase surface material available for entrainment and is expected to contribute significant windblown fugitive dust into the airshed.[53] While the CalEEMod model does not calculate windblown fugitive dust, the air quality management districts recognize that failing to calculate this dust can result in a significant underestimation of fugitive dust emissions from a project.

> Wind-blown fugitive dust is not calculated in CalEEMod because of the number of input parameters required such as soil type, moisture content, wind speed, etc. This limitation could result in underestimated fugitive dust emissions if high wind and loose soil are substantial characteristics for a given land use/construction scenario.[54]

The fact that the CalEEMod model does not calculate wind-blown fugitive dust does not mean that impacts from such dust may be disregarded. A lead agency has a legal duty under CEQA to investigate potential impacts of a project where substantial evidence that such impacts may result has been presented to the agency.[55] The CEQA statute, its Guidelines, and the cases interpreting them are unambiguous: a lead agency must undertake a "thorough investigation" of potential impacts and "must use its best efforts to find out and disclose all that it reasonably can."[56] CEQA places the burden of environmental investigation on the government rather than the public. As a result, an agency is not allowed to "hide behind its own failure to gather relevant data."[57] If an agency fails to gather the relevant data and correct the deficiencies in the record, the EIR will lack the necessary evidentiary foundation to rebut the substantial evidence that an impact is potentially significant.

7-A2

While calculation of fugitive dust takes some work, it is not unduly burdensome. Dr. Pless presents methodology developed by the Maricopa County Air Quality Department ("MCAQD") as evidence that emissions of fugitive windblown dust are not unreasonably difficult to calculate.[58] Dr. Pless calculated

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[53] Pless Comments, p. 5.
[54] CalEEMod, Technical Paper, July 2011, p. 4; http://www.aqmd.gov/docs/default-source/caleemod/techpaper.pdf?sfvrsn=2.
[55] *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344.
[56] CEQA Guidelines § 15144.
[57] *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.
[58] Pless Comments, p. 5.

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fugitive dust PM10 emissions due to wind erosion from disturbed soils using MCAQD's methodology and presented her findings in the table below:

Table 1: Fugitive dust PM10 emissions due to wind erosion from disturbed soil

Wind speed bin (mph)	**12-15**	**15-20**	**20-25**	**25-30**	**30-35**	**Total**
Stable soil PM emission factor[a] (ton/acre/5-min)	1.10E-05	2.93E-05	7.68E-05	1.64E-04	3.10E-04	
Disturbed soil PM emission factor[a] (ton/acre/5-min)	5.44E-05	1.69E-04	5.14E-04	1.24E-03	2.57E-03	
Number of observations[b]	16,402	21,770	21,770	21,770	21,770	**16,402**
Percent of time in wind speed bin[b] (%/year)	24.7%	51.3%	33.3%	11.5%	3.0%	**57%**
Count of 5-minute periods/year in wind speed bin (#/year)[c]	4,051	11,168	7,249	2,504	653	**25,625**
PM10 Emissions (ton/year)						
100 acres disturbed/1300 acres stable	**0.22**	**1.95**	**3.96**	**3.37**	**1.85**	**11.34**
200 acres disturbed/1200 acres stable	**0.44**	**3.90**	**7.92**	**6.73**	**3.69**	**22.69**
300 acres disturbed/1100 acres stable	**0.66**	**5.85**	**11.89**	**10.10**	**5.54**	**34.03**

a. Maricopa County Air Quality Department, 2008 PM10 Periodic Emissions Inventory for the Maricopa County, Arizona, Nonattainment Area, Revised June 2011, Appendix 4. Windblown Dust Emission Estimation Methodology; https://www.maricopa.gov/aq/divisions/planning_analysis/docs/Reports/2008/08_PM10_PEI_Entire.pdf

b. From Western Regional Climate Center - Desert Research Institute for Poppy Park, CA, for October 1, 2010 through October 31, 2015; http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCPOP

c. Count of 5-minute periods/year in wind speed bin = (Number of observations) × (Percent of time in wind speed bin) / 5

d. PM10 Emissions = {(stable soil acreage) × (count of 5-minute periods/year in wind speed bin) × (wind speed bin stable soil PM emission factor) × (PM10/PM: 0.0125)} +{(disturbed soil acreage) × (count of 5-minute periods/year in wind speed bin) × (wind speed bin disturbed soil PM emission factor) × (PM10/PM:

7-A2

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0.0125)} –{(Project site acreage: 1400 acres) × (count of 5-minute periods/year in wind speed bin) × (wind speed bin PM emission factor) × (PM10/PM: 0.0125)}

Dr. Pless illustrates in Table 1 that windblown PM10 emissions *by themselves* have the potential to exceed EKAPCD's 15-ton per year threshold of significance for this pollutant on as little as 200-acres of the Project site (22.69 tons per year).[59] Even if just 100 acres of the 1402 acre Project site are disturbed at one time, the sum of PM10 emissions from windblown dust plus PM10 emissions from the remainder of the Project construction emission exceeds the 15 ton per year significance threshold.[60] Thus, the RDEIR substantially underestimates PM10 emissions from Project construction and as a result, fails to identify a significant impact to air resources.

7-A2

Third, Dr. Pless notes that the CalEEMod run is internally inconsistent with the estimates of Project construction equipment provided in RDEIR Table 3-3. As a result of using lower input values for construction equipment in the CalEEMod run, Dr. Pless finds that emission estimates are underestimated.[61]

7-B2

Fourth, Dr. Pless finds that the RDEIR's CalEEMod run improperly inputed the number of average daily *roundtrips*, rather than the number of average *daily trips*.[62] CalEEMod requires the user to input the number of trips per day, as shown in the screenshot below:

	Phase Name	# Trips Worker (/day)	# Trips Vendor (/day)	Total # Trips Hauling
▶	Grading - Move On	73	0	3,375
	Grading - Site Preparation	110	0	54,000

7-C2

By inputting average roundtrips into CalEEMod, the County underestimates emissions associated with construction worker commuter vehicles and material deliveries by a factor of two.[63] In other words, emissions associated with

[59] Pless Comments, p. 6.
[60] Pless Comments, p. 6.
[61] Pless Comments, p. 7.
[62] Pless Comments, p. 7.
[63] Pless Comments, p. 8.

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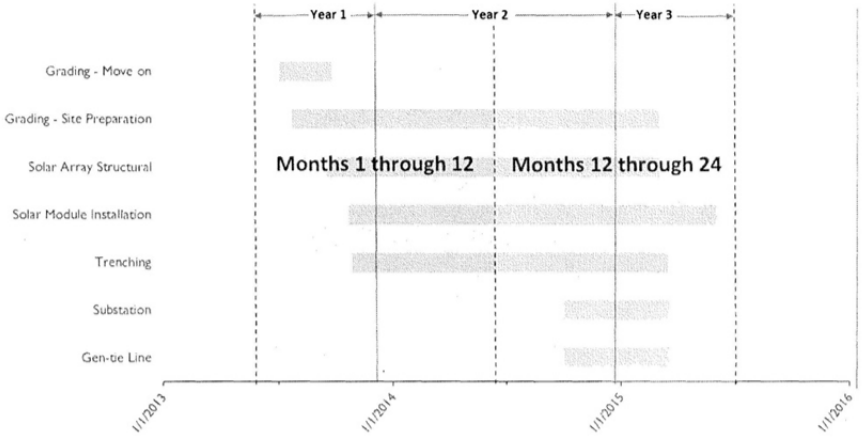
construction worker commuter vehicles and material deliveries would be twice as high if daily trips were inputted into CalEEMod.

7-C2

Fifth, Dr. Pless finds that although CalEEMod provides the user with three different scenarios (annual emissions in tons per year, winter emissions in pounds per day, summer emissions in pounds per day), the County only ran the CalEEMod model for the winter scenario. This results in an underestimation of ROG emissions in the RDEIR.[64] In order to account for the variation in evaporative emissions from vehicles, the RDEIR should have run CalEEMod for annual emissions to determine compliance with the EKAPCD's annual significance threshold.[65] The CalEEMod daily emissions scenarios would thus be the reasonable worst case scenario and should be used to determine PM2.5 and PM10 emissions for dispersion modeling.[66]

7-D2

Finally, just as the County did in the DEIR, the RDEIR improperly splits the 24-month construction period into three calendar years (Year 1, Year 2, and Year 3), starting in July of 2013.[67]



7-E2

[64] Pless Comments, p. 8.
[65] Pless Comments, p. 8.
[66] Pless Comments, p. 8.
[67] RDEIR, p. 3-21 ("Construction expected to last for approximately 24 months . . .").

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The RDEIR relies on the EKAPCD's annual thresholds of significance to assess Project impacts on air quality during construction.[68] Dr. Pless explains that distributing Project emissions over three calendar years, rather than two consecutive 12-month periods, the County arbitrarily avoids exceeding the EKAPCD significance thresholds.[69] As a result of this accounting trick, the RDEIR incorrectly finds that mitigated construction emissions for all pollutants in Year 1 (July 2013 through December 2013) and Year 3 (January 2015 through March 2015) would be below the EKAPCD's annual significance thresholds and would therefore not be significant. This finding is not supported by substantial evidence.

7-E2

Dr. Pless prepared mitigated construction emissions for two 12-month periods based on the RDEIR's emission estimates, adjusting emissions for the number of months each construction phase would occur during a 12-month construction period. The tables below from Dr. Pless' comment letter on the DEIR compare Project emissions estimated for the two consecutive 12-month construction periods to thresholds of significance established by the EKAPCD.[70]

[68] RDEIR, p. 4.3-30.
[69] Pless Comments, p. 9.
[70] Pless Comments on DEIR.

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Construction Phase	Months	ROG	NOx	CO	SO_2	PM10	PM2.5
Grading – Move On	3	0.57	3.81	3.45	0.01	0.55	0.25
Grading – Site Preparation	12	2.62	16.66	13.90	0.02	14.08	2.50
Solar Array Structural	10	0.80	3.83	10.25	-	0.65	0.30
Solar Module Installation	9	1.38	5.58	8.94	-	0.93	0.36
Trenching	9	1.68	5.85	6.15	-	0.54	0.42
Substation Construction	-	-	-	-	-	-	-
Gen-tie Line Construction	-	-	-	-	-	-	-
Water Consumption	12	0.92	9.80	5.68	0.06	0.38	0.36
Total		**7.97**	**45.53**	**48.37**	0.09	17.13	22.96
EKAPCD Threshold of Significance		**25**	**25**	**25**	**27**	**15**	-
Significant?		no	YES	YES	no	YES	-

7-E2

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Construction Phase	Months	ROG	NOx	CO	SO_2	PM10	PM2.5
Grading – Move On	-	-	-	-	-	-	-
Grading – Site Preparation	12	2.90	18.37	14.70	0.03	13.74	1.82
Solar Array Structural	12	1.02	4.98	8.50	0.01	0.86	0.38
Solar Module Installation	12	2.25	9.10	14.15	0.02	1.58	0.61
Trenching	12	3.08	10.70	10.92	0.02	1.00	0.75
Substation Construction	6	0.76	4.60	3.68	-	0.42	0.28
Gen-tie Line Construction	6	0.54	3.36	3.18	-	0.28	0.20
Water Consumption	12	0.91	9.80	5.67	0.05	0.37	0.35
Total		11.46	60.91	60.80	0.13	18.25	4.39
EKAPCD Threshold of Significance		**25**	**25**	**25**	**27**	**15**	-
Significant?		no	YES	YES	no	YES	-

7-E2

As these tables show, Project construction would emit NOx, CO, and PM10 at levels exceeding the EKAPCD's annual thresholds of significance during both 12-month construction periods, even based on the RDEIR's estimates for mitigated emissions. Contrary to what the RDEIR suggests then, these emissions will not be reduced by the proposed mitigation measures because their control efficiency is already accounted for in the mitigated emission estimates.[71] Further, the RDEIR's mitigated emission calculations relied upon in the above tables are substantially underestimated. When corrected, Dr. Pless concludes mitigated emissions of ROG will also likely exceed the EKACPD's threshold of significance.[72]

In response to Dr. Pless' comments, the County stated that "[t]he modeling represents a worst-case scenario, taking into account reasonable assumptions based on what the applicant believes is most likely to occur."[73] But the County's model cannot be a worst-case scenario if the two consecutive 12-month period scenario results in substantially higher annual emissions. Similarly inaccurate, the timing

7-F2

[71] Pless Comments on DEIR.
[72] Pless Comments on DEIR.
[73] Willow Springs Solar Project Final EIR, RTC 5-N.

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and phasing chosen by the County is not based on what is "most likely to occur." The RDEIR incorrectly estimated a construction schedule beginning July 2013. Two years later, the actual start date for Project construction remains just as speculative. Emissions should be conservatively estimated for two consecutive 12-month periods.

According to Dr. Pless, most air districts develop significance thresholds in pounds per day to ensure compliance with short-term ambient air quality standards.[74] Dr. Pless analyzed the Project's maximum daily construction emissions using the County's three calendar year scenario and found that contrary to the RDEIR's findings, NOx and CO emissions exceed the EKAPCD's threshold of significance in all three calendar years, as shown below in Table 3.[75] These are significant impacts the RDEIR fails to even consider. When all the above issues are properly addressed, emissions of PM10 exceed the daily significance threshold.[76] For example, Dr. Pless shows that by including PM10 emissions due to wind erosion of 11.34 tons/year results in average daily emissions of 62.1 lb/day,[77] the daily threshold of significance for this pollutant of 82 lb/day is exceeded in all three years.[78]

7-F2

Table 3: Maximum daily mitigated construction emissions from RDEIR CalEEMod run (lb/day) compared to daily thresholds of significance (lb/day)

	ROG	NOx	CO	SO_2	PM10	PM2.5
Year 1	20.5	279.9	366.3	0.6	25.3	17.5
Year 2	25.7	397.1	471.9	0.8	30.1	21.7
Year 3	24.6	385.8	462.1	0.8	30.8	21.6
Daily Significance Threshold	**137**	**137**	**137**	**148**	**82**	-
Is Threshold Exceeded?						
Year 1	no	**YES**	**YES**	no	no	n/a
Year 2	no	**YES**	**YES**	no	no	n/a
Year 3	no	**YES**	**YES**	no	no	n/a

[74] Pless Comments, p. 10.
[75] Pless Comments, p. 10.
[76] Pless Comments, p. 10.
[77] Dr. Pless calculations: (11.34 ton PM10/year) / (365 days/year) × (2000 lb/ton) = 62.14 lb PM10/day.
[78] Pless Comments, pp. 11 and 12.

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For the reasons discussed above, the emissions disclosed in the RDEIR are substantially underestimated and do not represent the reasonably forseeable worst case scenario. Accordingly, the RDEIR's findings pertaining to Project construction emissions are not supported by substantial evidence and fail to disclose significant air quality impacts. **7-G2**

ii. The RDEIR Fails to Identify Significant Health Risks Due to Exposure of Sensitive Receptors to Toxic Air Contaminants

Appendix J to the RDEIR provides the results of a revised health risk assessment ("HRA") for the construction phase of the Project based on the Office of Environmental Health Hazard Assessment's ("OEHHA") 2015 Guidance Manual and the annual average concentration of diesel particulate matter from mitigated construction equipment for a two-year construction period as modeled with AERMOD. The RDEIR finds an incremental cancer risk at the maximally exposed individual receptor ("MEIR"), *i.e.*, sensitive receptor 20, of 0.90 in one million.[79] The RDEIR concludes that cancer risks due to Project construction diesel particulate matter emissions would be well below the cancer risk threshold of 10 in one million established by the OEHHA and therefore not significant.[80] According to Dr. Pless, the RDEIR's HRA contains eight significant errors which lead to a substantial underestimate of cancer risks. **7-H2**

First, as discussed above, the County substantially underestimated Project particulate matter emissions.[81] Since the HRA relies on these underestimated emissions to model resulting concentrations of diesel particulate matter emissions in ambient air, the cancer risks are likewise underestimated.[82] **7-I2**

Second, the HRA claims that the highest mitigated daily exhaust PM2.5 emissions are 4.36 lb/day.[83] This is incorrect. The 4.36 lb/day value is the result for mitigated on-site exhaust PM2.5 emissions for the Grading–Site Preparation phase. But because the Grading–Site Preparation phase occurs simultaneously with five other phases, the HRA significantly underestimates health risks. Maximum mitigated on-site daily emissions of exhaust PM2.5 from the overlapping six construction periods, which Dr. Pless notes is the the value typically used for HRAs, **7-J2**

[79] RDEIR, Appx. J, p. 28, and Table 2, p. 29.
[80] RDEIR, p. 4.3-44.
[81] Pless Comments on DEIR.
[82] Pless Comments, p. 12.
[83] RDEIR, Appx. J, p. 28.

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are 14.9 lb/day as shown in Table 4. Thus, the health risks are approximately 40% higher than as estimated in the RDEIR.[84]

Table 4: Maximum daily mitigated on-site construction PM2.5 exhaust emissions from RDEIR CalEEMod run, Section 3

Overlapping Construction Periods	PM2.5 exhaust emissions (lb/day)
Grading-Site Preparation	4.3572
Solar Array Structural	1.3339
Solar Module Installation	2.2365
Trenching	3.3591
Substation Construction	2.0319
Gen-Tie Line Construction	1.5836
Total	**14.90**

7-J2

Third, the RDEIR's cancer risk estimate at the MEIR for one of the six age groups, 0 to 2 years, is incorrectly calculated.[85] The RDEIR's HRA calculates a cancer risk for age group 0-2 years of 7.77E-07 or 0.77 in one million. Yet, using the exact same RDEIR assumptions, including the dose through inhalation, cancer potency factor for diesel particulate matter, exposure duration, age sensitivity factor, and fraction of the time at home, Dr. Pless calculated a cancer risk for the age group 0-2 years of 3.03E-06 or 3.03 in one million. Dr. Pless determined that the calculation error for age group 0-2 years was due to an equation error referring to an incorrect cell within the spreadsheet.[86] After correcting this erroneously calculated value and accepting all of the RDEIR's assumptions, Dr. Pless presents a revised cancer risk for the third trimester through 2 years (for the two year construction period) of 3.2 in one million, or almost four times as high as the RDEIR's incorrect value of 0.9 in one million.

7-K2

Fourth, Dr. Pless finds the RDEIR's health risk assessment incorrectly models average annual diesel particulate matter concentrations based on the maximum daily emissions during the grading phase with the atmospheric

7-L2

[84] Pless Comments, p. 13.
[85] Pless Comments, pp. 13-14.
[86] Pless Comments, p. 14.

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dispersion modeling system AERMOD.[87] Due to the irregular shape of the Project site, the RDEIR's health risk assessment divides the entire Project site into "15 individual area sources of approximately 100 acres, which represents the daily disturbed area during construction activities"[88] as input for the AERMOD model run. The RDEIR does not provide a map showing the polygons and provides no explanation how they were derived. Table 7 summarizes the acreage of each of the 15 area sources based on the AERMOD output provided in Appendix J.

Table 7: Acreage for area sources used for AERMOD run

Area Source*	Acres
AREA1	99.5
AREA2	101.6
AREA3	106.5
AREA5	90.6
AREA6	97.6
AREA7	96.7
AREA8	105.9
AREA9	100.1
AREA10	99.1
AREA11	94.6
AREA12	92.9
AREA13	80.2
AREA14	74.5
PAREA4	101.6
PAREA9	93.0
TOTAL	**1,434.3**

* Acreage for rectangular area sources (AREA) calculated as [{length (m) × width (m) from AERMOD} / (4046.8 m²/acre)]

Acreage for polygon area sources (PAREA) determined with online planimeter utility (http://geographiclib.sourceforge.net/cgi-bin/) based on Universal Transverse Mercator ("UTM") vertex coordinates from AERMOD output (m²) / (4046.8 m²/acre)

7-L2

[87] RDEIR, Appx. J, p. 27.
[88] RDEIR, Appx. J, p. 28.

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As shown above, the RDEIR's health risk assessment models diesel particulate matter emissions over 1434 acres. This acreage is inconsistent with the RDEIR's description of the environmental setting which states the site acreage is 1402 acres.[89] More importantly, however, is that this acreage is inconsistent with the assumptions for the CalEEMod modeling run which estimated maximum daily emissions for the Grading–Site Preparation phase for grading of 894 acres, as shown in the screenshot below.

		CalEEMod Default	RDEIR
Move-On	AcresOfGrading	144.38	109.00
Site Preparation	AcresOfGrading	1,409.63	894.00
Move-on	MaterialImported	0.00	27,000.00
Site Preparation	MaterialImported	0.00	432,000.00

7-L2

Thus, as Dr. Pless points shows, the RDEIR's health risk assessment distributed on-site emissions over a much larger area than where they would occur. This affects the concentration of diesel particulate matter (PM2.5) modeled with AERMOD.

Fifth, Dr. Pless finds that the cancer risk assessment is underestimated by a factor of 15. The health risk assessment modeled an emission rate of 5.643E-08 grams per second and square meter ("g/s/m^2") of PM2.5 for each of the 15 area sources. This emission rate was calculated based on daily mitigated emissions (4.36 lb/day[90]) assuming that these emissions would occur from one 100 acre-parcel.[91] The health risk assessment multiplies daily mitigated PM2.5 emissions by a factor of 14.32 because it models 15 approximately 100-acre parcels (with a total of 1432 acres as shown in Table 7). The modeled PM2.5 concentrations are therefore 15 times higher than what is presented.

7-M2

In an apparent attempt to correct this error, the health risk assessment later divides the resulting dose through inhalation ("$DOSE_{air}$") by a factor of 15, as shown in the screenshot below from the risk calculations for the MEIR, *i.e.*, sensitive receptor 20.

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[89] RDEIR, p. 1-10.
[90] Dr. Pless notes that the RDEIR, Appx. J, incorrectly rounds total mitigated emission of 4.3572 lb/day to 4.35 lb/day instead of 4.36 lb/day.
[91] (4.35 lb/day) / (100 acres) × (453.592 g/lb) / (86,400 s/day) / (4046.86 m^2/acre) = 1.414E-07 g/s/m^2.

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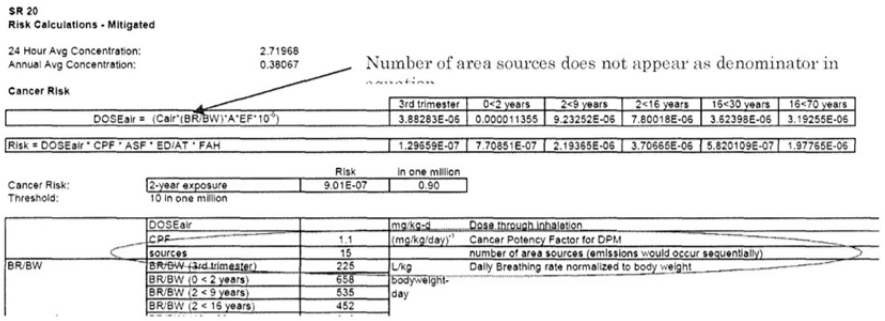


SR 20
Risk Calculations - Mitigated

24 Hour Avg Concentration: 2.71968
Annual Avg Concentration: 0.38067

Number of area sources does not appear as denominator in equation

Cancer Risk

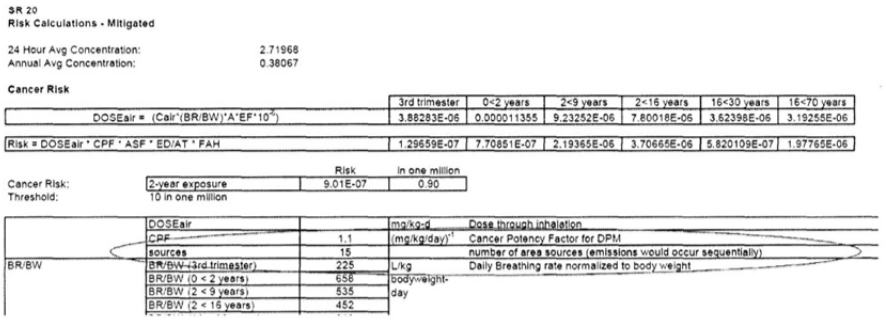
	3rd trimester	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
DOSEair = (Cair*(BR/BW)*A*EF*10^{-6})	3.88283E-06	0.000011355	9.23252E-06	7.80018E-06	3.62398E-06	3.19255E-06
Risk = DOSEair * CPF * ASF * ED/AT * FAH	1.29659E-07	7.70851E-07	2.19365E-06	3.70665E-06	5.820109E-07	1.97765E-06

		Risk	in one million
Cancer Risk:	2-year exposure	9.01E-07	0.90
Threshold:	10 in one million		

	DOSEair		mg/kg-d	Dose through inhalation
	CPF	1.1	(mg/kg/day)$^{-1}$	Cancer Potency Factor for DPM
	sources	15		number of area sources (emissions would occur sequentially)
BR/BW	BR/BW (3rd trimester)	225	L/kg	Daily Breathing rate normalized to body weight
	BR/BW (0 < 2 years)	658	bodyweight-day	
	BR/BW (2 < 9 years)	535		
	BR/BW (2 < 16 years)	452		

However, Dr. Pless finds that this approach underestimates the resulting cancer risk by about 5 percent. The correct approach would have been to divide daily mitigated PM2.5 emissions by the entire Project area under construction (894 acres), which results in a PM2.5 emission rate of 6.3227E-09 g/s/m^2.[92]

7-M2



SR 20
Risk Calculations - Mitigated

24 Hour Avg Concentration: 2.71968
Annual Avg Concentration: 0.38067

Cancer Risk

	3rd trimester	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
DOSEair = (Cair*(BR/BW)*A*EF*10^{-6})	3.88283E-06	0.000011355	9.23252E-06	7.80018E-06	3.62398E-06	3.19255E-06
Risk = DOSEair * CPF * ASF * ED/AT * FAH	1.29659E-07	7.70851E-07	2.19365E-06	3.70665E-06	5.820109E-07	1.97765E-06

		Risk	in one million
Cancer Risk:	2-year exposure	9.01E-07	0.90
Threshold:	10 in one million		

	DOSEair		mg/kg-d	Dose through inhalation
	CPF	1.1	(mg/kg/day)$^{-1}$	Cancer Potency Factor for DPM
	sources	15		number of area sources (emissions would occur sequentially)
BR/BW	BR/BW (3rd trimester)	225	L/kg	Daily Breathing rate normalized to body weight
	BR/BW (0 < 2 years)	658	bodyweight-day	
	BR/BW (2 < 9 years)	535		
	BR/BW (2 < 16 years)	452		

Sixth, the RDEIR's HRA relies on the mean daily breathing rate normalized to body weight ("{BR/BW}") instead of following OEHHA's 2015 Guidance Manual explicit direction to the use of the 95th percentile breathing rates as the high end

7-N2

[92] Dr. Pless calculations: (4.35 lb/day) / (894 acres) × (453.592 g/lb) / (86,400 s/day) / (4046.86 m^2/acre) = 6.3227E-09 g/s/m^2.

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point estimate for Tier 1[93] residential exposure estimates. OEHHA Guidelines state:

> For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose-air) is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. OEHHA used the mother's breathing rates to estimate dose for the 3rd trimester fetus assuming the dose to the fetus during the 3rd trimester is the same as the mother's dose. These age-specific groupings are needed in order to properly use the age sensitivity factors for cancer risk assessment (see Chapter 8). A Tier 1 evaluation uses the high-end point estimate (*i.e.*, the 95th percentiles) breathing rates for the inhalation pathway in order to avoid underestimating cancer risk to the public, including children.[94]

7-N2

OEHHA only permits presentation of the mean breathing rate as *supplemental* information in addition to the 95th percentile to provide a range of risks, as shown in the excerpt from the Guidance Manual:

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[93] From OEHHA Guidance Manual, p. 2-6: "OEHHA recommends using a tiered approach to risk assessment. Tier 1 is a standard point estimate approach using the recommended point estimates presented in this document. If site-specific information is available to modify some point estimates developed in the Technical Support Document for Exposure Assessment and Stochastic Analysis (OEHHA, 2012) and is more appropriate to use than the recommended point estimates in this document, then Tier 2 allows use of that site-specific information. Site-specific information should be presented to the District before being used. The District may contact OEHHA for additional advice. Note that all non-default variates need to be adequately justified to OEHHA and the Districts to be used. In Tier 3, a stochastic approach to exposure assessment is used with the data distributions developed in the TSD (OEHHA, 2012) and presented in this document. Tier 4 is also a stochastic approach but allows for utilization of site-specific distributions, if they are justifiable (to OEHHA and the Districts) and more appropriate for the site under evaluation than those recommended in this document. Persons preparing an HRA that has a Tier 2 through Tier 4 evaluation must also include the results of a Tier 1 evaluation."

[94] OEHHA Guidance Manual, pp. 5-23 and 5-24.

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a: Recommended default values for EQ 5.4.1.1:

1. {BR/BW} = Daily breathing rates by age groupings, see As supplemental information, the assessor may wish to evaluate the inhalation dose by using the mean point estimates in Table 5.6 to provide a range of breathing rates for cancer risk assessment to the risk manager.
2. Table (point estimates) and Table 5.7 (parametric model distributions for Tier III stochastic risk assessment). For Tier 1 residential estimates, use 95th percentile breathing rates in Table 5.6.

Excerpted from: OEHHA Guidance Manual, p. 5-24.

Dr. Pless states that nowhere does OEHHA recommend *relying* on the mean breathing rate alone for determining inhalation cancer risks. As shown below in Table 5.6, mean breathing rates are substantially lower than 95th percentile breathing rates and, consequently, risk calculations based on mean breathing rates substantially underestimate inhalation cancer risks.

7-N2

Table 5.6 Point Estimates of Residential Daily Breathing Rates for 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years (L/kg BW-day)

	3rd Trimester[a]	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
	L/kg-day					
Mean	225	658	535	452	210	185
95th Percentile	361	1090	861	745	335	290

[a] 3rd trimester **breathing rates** based on breathing rates of pregnant women using the assumption that the dose to the fetus during the 3rd trimester is the same as that to the mother.

Seventh, the RDEIR, Appendix J, claims that the health risk calculations were based on an exposure frequency of 0.71 to account for 261 days of construction per 365 calendar days[95], as shown in the excerpt below.

A = Inhalation absorption factor (unitless [1])
EF = exposure frequency (unitless), days/365 days (0.71 [261 days of construction duration])
10^{-6} = conversion factor (micrograms to milligrams, liters to cubic meters)

7-O2a

This claim is incorrect; the health risk calculations are based on an exposure frequency of 0.68 to account for 250 days of construction per 365 calendar days. This is shown in the excerpt from the RDEIR, Appendix J, cancer risk calculations for the MEIR below:

[95] RDEIR, Appx. J, p. 24.

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10^-6	1.00E-06		Micrograms to milligrams conversions, liters to cubic meters conversion
Car	0.38067	ug/m^3	Concentration in air (ug/m^3), modeled annual average concentration
A	1		Inhalation absorption factor
EF	0.68	days/year	Exposure frequency (days/year) (250 construction days/365 days in a year for a resident)
ED (3rd Trimester)	0.25	years	Exposure duration (years)
ED (0 < 2 years)	2		

Dr. Pless finds that this calculation incorrectly sets the exposure frequency to 0.6800, when the correct exposure frequency for 250 days of construction per 365 calendar days is 0.6849.[96] Although this difference appears small, the exposure frequency is a multiplier in the equation to calculate $DOSE_{air}$, and therefore, the lower value used by the RDEIR's health risk assessment underestimates $DOSE_{air}$ by more than 4 percent.[97]

When all above errors are corrected, Dr. Pless concludes that the cancer risk resulting from mitigated on site construction emissions of diesel particulate matter based on the 95th percentile daily breathing rate is 2.83E-05 or 28.27 in one million at the MEIR. This result exceeds the 10 in one million significance threshold by 18 percent.[98] Dr. Pless also finds the cancer risk based on the mean daily breathing rate is 1.71E-05 or 17.1 in one million at the MEIR. This result exceeds the 10 in one million significance threshold by more than 7 percent.[99] Thus, based on the corrected calculations, the construction of the Project results in significant health risks even after accounting for the mitigation measures proposed by the RDEIR. This is a new significant impact that was not identified by the RDEIR. **7-02b**

Additionally, the health risk assessment only accounts for on-site emissions of diesel particulate matter (4.36 lb/day) and entirely ignores off-site emissions of diesel particulate matter from haul and materials delivery trucks and worker commuter vehicles (0.31 lb/day).[100] Dr. Pless states that diesel particulate matter emissions from these sources would further increase the cancer risk along the access routes to the site, particularly for residents near Gaskell Road, the main access route to the project site and near the driveway access points to the project site.[101] Dr. Pless notes that sensitive receptors along 100th Street West coming from Gaskell Road, which include the MEIR (sensitive receptor 20) and sensitive receptors 1, 24, and 25, would be particularly affected as shown in the map below.

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[96] (250 days/365 days) = **0.684932**.
[97] (250 days/365 days) / (261 days/365 days) - 1 = **0.044**.
[98] (28.27112.85/10) – 100% = **18.31029%**.
[99] (17.0968.21/10) – 100% = **7.1582%**.
[100] Pless Comments, p. 25.
[101] RDEIR, p. 3-21.

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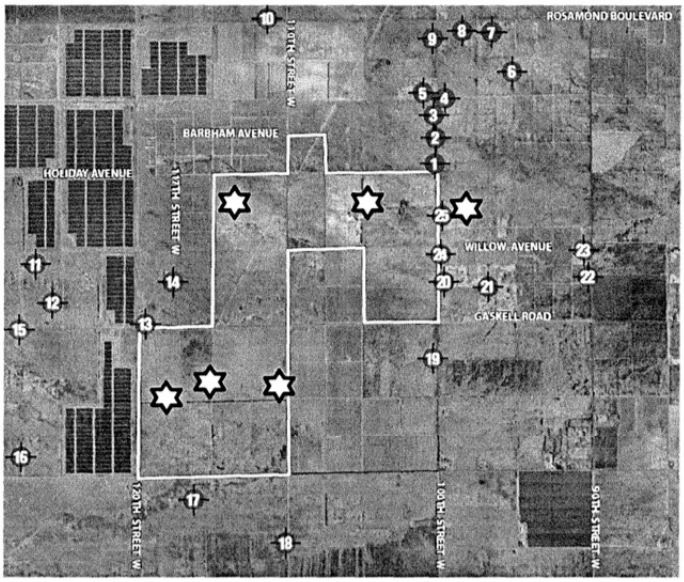
Location of sensitive receptors (red dots) in relation to site access points (white stars)



Map excerpted from: RDEIR, Appx. J, Exhibit 4, Sensitive Receptors

Moreover, cancer risk from the multiple nearby large-scale construction projects[102] would result in substantial cumulative risk, which should be quantified.

7-O2c

Finally, the RDEIR's HRA claim that "excess cancer was calculated on a 70-year lifetime basis, 30-year and 9-year exposure scenarios" is incorrect.[103] Dr. Pless reviewed the calculations and found that cancer risk was only calculated for a 2-year exposure scenario (third trimester through age 2) based on a 70-year lifetime (averaging time) to account for a 2-year construction period.

7-P2

For the above reasons, the County must recirculate a second revised EIR that identifies *all* significant health risks due to exposure of sensitive receptors to Toxic

7-Q2

[102] RDEIR, Table 4.3-11, p. 4.3-51.
[103] RDEIR, Appx. J, p. 23.

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Air Contaminants, and propose feasible mitigation measures to reduce these impacts to less than significant levels, where feasible. 7-Q2

iii. The RDEIR Fails to Adequately Mitigate Project Construction Emissions

Courts have imposed several parameters for the adequacy of mitigation measures. First, the lead agency may not defer the formulation of mitigation measures until a future time, unless the EIR also specifies the specific performance standards capable of mitigating the project's impacts to a less than significant level.[104] Deferral is impermissible where an agency "simply requires a project applicant to obtain a ... report and then comply with any recommendations that may be made in the report."[105] Second, a public agency may not rely on mitigation measures of uncertain efficacy or feasibility.[106] Third, "[m]itigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments."[107] Fourth, mitigation measures that are vague or so undefined that it is impossible to evaluate their effectiveness are legally inadequate.[108] 7-R2

The RDEIR presents mitigation measures either too vague or of uncertain efficacy that they must be considered legally inadequate.[109] For example, Mitigation Measure MM 4.3-5 requires that the project proponent establish a "construction coordinator." The responsibilities of the construction coordinator include: 7-S2

- Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved.
- Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed.

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[104] CEQA Guidelines, § 15126.4(a)(1)(B); *Endangered Habitats League v. County of Orange* (2005) 131 Cal.App.4th 777, 793-94; *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275.
[105] *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275.
[106] *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available).
[107] CEQA Guidelines § 15126.4(a)(2).
[108] *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61,79.
[109] Pless Comments, pp. 19-20.

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- Maintaining an on-going up-to-date log of all construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Community Development Department no later than three business days from request.[110]

As our comments on the DEIR noted, Mitigation Measure MM 4.3-5 is an entirely reactive measure that only requires investigation and remedy in response to local complaints about construction activities. The measure should be revised to require an on-site construction mitigation manager who oversees and enforces implementation of all specified mitigation measures proactively in order to ensure that construction activities do not result in complaints. Without such a requirement, the efficacy of MM 4.3-5 and other mitigation measures in the RDEIR is uncertain and therefore legally inadequate.[111] **7-S2**

Likewise, Mitigation Measures MM 4.3-1. (b) and (c) are not enforceable because both fail to specify how opacity requirements or stabilization of road surfaces equal to or greater than 100 centimeters per second would be measured.[112] The EKAPCD provides a test method for visual determination of opacity and determination of stabilization in Attachment B to Rule 402 of the Clean Air Act. Until specific parameters like those found in the EKAPCD test method are incorporated into the RDEIR, Mitigation Measures MM 4.3-1. (b) and (c) are inadequate under CEQA. **7-T2**

Furthermore, the RDEIR fails to impose all feasible mitigation despite its finding that NOx and CO construction emissions would be significant and unavoidable. Dr. Pless states that the following additional feasible mitigation is available and should required: (1) require construction workers to carpool to the Project; (2) require the Project applicant to contract only with construction companies providing a dedicated fleet of delivery trucks meeting Tier 4 emission standards; and (3) require the Project applicant to pay into a mitigation fund managed by the EKAPCD to fund emission reduction projects such as replacing or retrofitting old agricultural equipment. These mitigation measures are feasible and would substantially reduce NOx and CO emissions. **7-U2**

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[110] RDEIR, p. 4.3-35.
[111] *Kings County Farm Bureau v. City of Hanford*, 221 Cal. App. 3d at 727.
[112] Pless Comments, P. 15.

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Finally, Mitigation Measure MM 4.3-3 (j) is not enforceable because the County again fails to provide any parameters that would allow the agency to assess what is or is not a "regionally competitive price" for Tier 3 crane equipment in the region. By leaving this determination entirely up to the applicant, Dr. Petra concludes that the proposed mitigation does not ensure that crane exhaust emissions do not exceed RDEIR emission estimates. The County must provide parameters for what constitutes "regionally competitive price[s]" for Tier 3 crane equipment. In addition to these added parameters, this mitigation measure should also require that Tier 2 cranes be utilized *before* the applicant is permitted to use Tier 1 standard cranes. Only if both Tier 3 and Tier 2 cranes are "not locally available" should Tier 1 standard cranes be permitted.

7-V2

The RDEIR's continued reliance on unenforceable, or vague mitigation measures to support its findings violates CEQA. CEQA requires that public agencies adopt "feasible" mitigation measures that must "actually be implemented."[113] "When the success of mitigation is uncertain, an agency cannot reasonably determine that significant effects will not occur." Nonbinding measures cannot be relied upon to mitigate potential impacts. Mitigation measures that are vague or so undefined that it is impossible to evaluate their effectiveness are also legally inadequate. Without substantial evidence that these measures will be implemented, the RDEIR's reliance on these measures to support its conclusions is speculative.

7-W2

iv. The RDEIR's Analysis of Operational and Maintenance Emissions is Not Supported by Substantial Evidence and Fails to Identify and Adequately Mitigate Significant Adverse Impacts to Air Resources

The RDEIR finds that the Project's total operational and maintenance emissions will be reduced to less than significant levels when "the emissions displaced by the project as a non-fossil fuel-based energy source is taken into consideration."[114] In other words, the RDEIR assumes that emissions from natural gas and coal fired power plants will be displaced by the proposed Project, thereby offsetting any operational and maintenance emissions of this Project to less than significant levels.[115] However, this finding is entirely speculative and therefore not supported by substantial evidence. There is no evidence in the record, such as

7-X2

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[113] *Federation of Hillside and Canyon Associations v. City of Los Angeles*, 83 Cal. App. 4th 1252, 1261; *see also* Pub. Resources Code § 21002.1, subd. (b).
[114] RDEIR, p. 4.3-41.
[115] RDEIR, p. 4.3-31.

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power purchase agreements or other evidence indicating a replacement of fossil fuel based facilities with renewable energy facilities, which corroborates the County's assertion that the Project will displace fossil fuel-based emissions. Speculation, unsubstantiated opinion or narrative is not substantial evidence under CEQA.[116] 7-X2

Furthermore, even putting aside the speculative nature of these displaced emissions, the RDEIR calculations are nonetheless incorrect and overestimated.[117] Dr. Pless states that the RDEIR uses outdated emission factors from the 1993 South Coast Air Quality Management, District, CEQA Air Quality Handbook, along with updated California Energy Commission, Reference Appendices for the 2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, revised June 2009. Some of these factors are more than 20 years old and are no longer valid given the fact that statewide emissions per MW produced have been reduced substantially since those factors were released. Therefore, Dr. Pless concludes that the RDEIR substantially overestimates displaced emissions by calculating displaced emissions using overinflated emission factors. 7-Y2

Finally, as noted already, frequent high-wind events in Eastern Kern County can cause substantial emissions of fugitive dust that have the potential to exceed the EKAPCD thresholds of significance. Dr. Pless contends that fugitive dust emissions alone could negate the entire amount of PM10 emissions the County claims would be displaced. The County therefore erred by failing to include fugitive dust emissions when analyzing the Project's operational and maintenance emissions. The RDEIR's analysis of particulate matter emissions from the operation and maintenance of this Project is significantly underestimated and not supported by substantial evidence. The County must revise this section in a subsequent EIR that incorporates fugitive dust emissions into its analysis. 7-Z2

C. The RDEIR Fails to Disclose and Adequately Mitigate Significant Impacts to Special Status Species and Fails to Support Its Findings with Substantial Evidence

i. RDEIR Fails to Adequately Describe the Environmental Setting for Special Status Bird Species 7-A3

The County fails to correct in the RDEIR the inaccurate and scientifically unsupported statement that the proposed Project area contains "low-quality

[116] CEQA Guidelines, §§ 15064, subd. (f)(5), 15384, subd. (a).
[117] Pless Comments, p. 21.

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foraging habitat for Swainson's hawk, burrowing owl, and other special status bird species."[118] This characterization of the environmental setting, repeated throughout the RDEIR and supported only by anecdotal statements made by experts, is not supported by substantial evidence. Furthermore, biological experts Scott Cashen and Pete Bloom provide and identify substantial evidence in the record that directly contradicts the RDEIR's unsubstantiated and unsupported assertion regarding the quality of this site.

7-A3

It defies logic for the RDEIR to characterize the Project site as "low-quality" habitat when the Swainson's hawk, burrowing owl, Cooper's hawk, ferruginous hawks, loggerhead shrike, northern harrier, prairie falcon and yellow-headed blackbirds have all been found present on the Project site by the County's own biological consultants.[119] The observation of 15 Swainson's hawks on or within a mile of the Project site within the last five years directly contradicts the County's assertion.[120] The County's own consultant's identified six active Swainson's hawk nests on the Project site in their focused surveys.[121] And just last year, these same consultants observed eight Swainson's hawks nesting or foraging on the Project site.[122] The presence of Swainon's hawk nests confirms that the Project site provides "critical *breeding* resources" for this species, not low quality habitat.[123] Moreover, the known foraging preference for the Swainson's hawks is for areas of low vegetation, such as grasslands or alfalfa fields and in Joshua tree woodlands – exactly the type of land present on the Project site.[124]

7-B3

Likewise, the identification of numerous burrowing owls on the Project site by the County's biological consultants further undermines the County's "low-quality"' habitat determination.[125]

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[118] RDEIR, p. 4.4-58.
[119] Cashen Comments, p.4; Ironwood Consulting, Biological Resources Technical Report Willow Springs Solar Array (December 2011) at pp. 20-21.
[120] RDEIR, p. 4.4-14.
[121] RDEIR, p. 4.4-14.
[122] RDEIR, p. 4.4-14.
[123] Cashen Comments, p. 4.
[124] California Energy Commission and Department of Fish and Game, 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 (June 2, 2010); see also Ironwood Consulting, Biological Resources Technical Report Willow Springs Solar Array (December 2011) at p. 21.
[125] Cashen Comments, p. 4.

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There simply is no substantial evidence in the record to support a "low-quality determination" for these species. The County's biological consultants never attempted to measure the quality of the habitat.[126] Their assertions that the Project site provide low quality habitat are purely speculative, grounded neither in fact nor scientific data. The only evidence the County relies upon to make this determination are the unsupported opinion letters written by biologist Jim Estep and Tanya Moore. These letters do not address or refute our prior comments regarding the suitability of the foraging habitat for burrowing owls, Cooper's hawk, ferruginous hawks, loggerhead shrike, northern harrier, prairie falcon or yellow-headed blackbirds. An expert's opinion, unsupported by data or facts, does not constitute substantial evidence under CEQA. In *Rominger v. County of Colusa*, the court was asked to determine whether an expert's opinion amounted to substantial evidence under CEQA.[127] In that case, the court concluded that the expert's opinion constituted substantial evidence because he supported his opinion by referencing specific facts.[128] Here, no data or facts support a low-quality habitat determination.

7-C3

1. Crude Vegetation Measurements are Unreliable Surrogates for Habitat Quality

The County's consultants evaluated the desert scrub community on the Project site to determine its value as habitat for Swainson's hawks. According to the County's consultant Mr. Ironwood, "[t]he desert scrub onsite is of a low quality saltbush habitat."[129] The *only* justification Ironwood provides for this determination is that the Project site is "a saltbush-species-dominant habitat type with little shrub or annual plant species diversity and *was likely* previously disturbed" and that "the desert scrub on the site has, in most locations, become over grown and very dense.[130] These crude vegetation observations are not reliable evidence of habitat quality. As Mr. Cashen explains, Swainson's hawks forage in numerous types of disturbed habitats, including habitats with no plant diversity (e.g., monocultures). Thus, the two factors Ironwood cites cannot be used to justify a "low quality" determination.[131]

7-D3

Furthermore, Ironwood provides no data to support his statement that the scrub community on the Project site is "too dense" for Swainson's hawks to access

7-E3

[126] Cashen Comments, p. 4.
[127] *Rominger v. County of Colusa*, 229 Cal. App. 4th 690, 721 (2014).
[128] *Id.*
[129] RDEIR, Appendix R.
[130] *Id.* (emphasis added).
[131] Cashen Comments, p. 4.

prey. In fact, Ironwood claimed the opposite in a subsequent portion of his letter (i.e., that shrub density is low) to justify the methods the consultants used for the burrowing owl surveys. Specifically, Ironwood claimed that transects 30 meters apart were sufficient to provide complete visual coverage of the ground surface due to the "*low shrub density*."[132] Moreover, Ironwood's assessment that the "[t]he desert scrub habitats on site potentially offer the hawks a secondary foraging habitat similar to the fallow fields on site" is not supported by substantial evidence. First, Mr. Cashen points out that Ironwood himself observed Swainson's hawks foraging in the desert scrub communities on the Project site.[133] Therefore, it is misleading for Ironwood to state those communities "potentially offer" habitat when it is known that those communities do indeed provide habitat. Second, it is unclear what "secondary foraging habitat" means (e.g., habitat preference, use, quality, value, etc.), and Ironwood provides no data or evidence showing that desert scrub communities and fallow fields at the Project site are "secondary" foraging habitat to the Swainson's hawk population known at the site.[134]

7-E3

For all the above reasons, including Ironwood's contradictory statements devoid of scientific support and the presence of 15 Swainson's hawks on and around the Project site, the RDEIR is legally inadequate under CEQA. The RDEIR must be revised to reflect an accurate representation of the environmental setting for special status bird species at the Project site.

7-F3

2. The RDEIR Fails to Disclose the Status and Demography of the Local and Regional Burrowing Owl Populations

The failure to disclose the status and demography of the local and regional burrowing owl populations precludes the public and decision makers from effectively evaluating the relative significance of the Project's impacts to the overall burrowing owl population.[135]

7-G3

The RDEIR failed to disclose the status and demography of burrowing owl populations because Ironwood never conducted the surveys necessary to establish the abundance and distribution of burrowing owls across the Project site. Ironwood's burrowing owl survey is also out of date because it was conducted over

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[132] RDEIR, Appendix K, p. 13. (emphasis added).
[133] Cashen Comments, p. 5.
[134] Cashen Comments, p. 5.
[135] Cashen Comments, p. 6.

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five years ago.[136] The fluidity of these species necessitates more current surveys of burrowing owls at the Project site that more accurately reflects the number of burrowing owls present. Ironwood acknowledges this fact, stating there is a potential for burrowing owls "to use more of the site than previously anticipated by the 2011 BRTR".[137] Yet, Ironwood justified omitting burrowing owl surveys in 2014 because burrowing owls "are known to occur on the site and a Burrowing Owl Mitigation Report will be completed that will include adaptive management addressing any increase in owl activity discovered during pre-construction surveys."[138]

7-G3

Ironwood's rationale is not valid for two reasons. First, a mitigation measure is not a substitute for CEQA's disclosure requirements. CEQA mandates an agency to adequately describe the environmental setting of the Project. Second, the RDEIR does not include or require future preparation of a Burrowing Owl Mitigation Report with "adaptive management" measures.[139]

3. The RDEIR Improperly Defers the Burrowing Owl Survey Until After the CEQA Review Process

Cashen states that data from protocol "detection" surveys is required in order to fully assess existing conditions, analyze Project impacts, and formulate appropriate mitigation measures.[140] By deferring burrowing owl survey data until after the CEQA review process concludes, one of CEQA's primary purposes[141] is obstructed: the public, resource agencies, and scientific community are precluded from being able to submit informed comments pertaining to Project impacts, and from having those comments vetted during the environmental review process.

7-H3

It is for this reason that the California Department of Fish and Wildlife ("CDFW"), California Burrowing Owl Consortium ("CBOC"), and others have stressed the need for protocol surveys *during* the CEQA review process. CDFW's Staff Report on Burrowing Owl Mitigation ("Staff Report") states:

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[136] Cashen Comments, p. 6.
[137] RDEIR, Appendix N, p. 9.
[138] *Ibid.*
[139] The BRTR misapplies the concept of adaptive management. *See* Williams BK, RC Szaro, CD Shapiro. 2009. Adaptive Management: The U.S. Department of the Interior Technical Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC.
[140] Cashen, p. 7.
[141] CEQA Guidelines § 15002, subd. (a)(1).

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> The following three progressive steps are effective in evaluating whether projects will result in impacts to burrowing owls. The information gained from these steps will inform any subsequent avoidance, minimization and mitigation measures. The steps for project impact evaluations are: 1) habitat assessment, 2) surveys, and 3) impact assessment....Adequate information about burrowing owls present in and adjacent to an area that will be disturbed by a project or activity will enable the Department, reviewing agencies and the public to effectively assess potential impacts and will guide the development of avoidance, minimization, and mitigation measures...Detailed information, such as approximate home ranges of each individual or of family units, as well as foraging areas as related to the proposed project, will be important to document for evaluating impacts, planning avoidance measure implementation and for mitigation measure performance monitoring.[142]

7-H3

Cashen also points to the California Burrowing Owl Consortium mitigation guidelines, which state:

> There is often inadequate information about the presence of owls on a project site until ground disturbance is imminent. When this occurs there is usually insufficient time to evaluate impacts to owls and their habitat. The absence of standardized field survey methods *impairs adequate and consistent impact assessment during regulatory review processes, which in turn reduces the possibility of effective mitigation.*[143]

The RDEIR's failure to include CDFW compliant survey protocols for burrowing owls precludes the County from meaningfully evaluating Project impacts to this species and from meaningfully evaluating the ability of proposed mitigation measures to reduce impacts below a level of significance. The County must revise and recirculate the EIR and include survey protocols for burrowing owls.

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[142] Cashen Comments, p. 7; California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, pp. 5, 6 and 29.

[143] *Id.*; *see also p. i In:* The California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. [emphasis added].

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4. The RDEIR Fails to Provide an Adequate Account of the Existing Environmental Setting for the Mountain Plover

The mountain plover is a federal and state listed Species of Special Concern that has previously been considered for listing under the federal Endangered Species Act.[144] The special-status listing associated with mountain plovers in California applies to birds on their wintering grounds. Notably, the Antelope Valley is one of four critical wintering areas for mountain plovers in California.[145]

Although the RDEIR acknowledges the Project site provides suitable habitat for mountain plovers, the County ultimately found a "low" potential for the species to occur on the Project site because it was absent during the surveys.[146] However, as Cashen points out, Ironwood never conducted focused surveys for mountain plovers. As Figure 2 below from eBird's database show, the surveys were conducted for other taxa and did not coincide with the time of year mountain plovers are even present in California.[147] Consequently, Cashen concludes the RDEIR lacks any evidence to support its claim that the species has a low potential to occur at the Project site.[148]

7-13

[144] Cashen Comments, p. 8.
[145] Audubon California. 2012. 2012 Mountain Plover Winter Survey. Report to the U.S. Fish and Wildlife Service Region 8-Migratory Bird Program. Audubon California, Sacramento (CA).
[146] RDEIR, p. 4.4-16; Appendix K, Table 2; and Appendix N, Figure 2.
[147] Cashen Comments, p. 8.
[148] *Id.*

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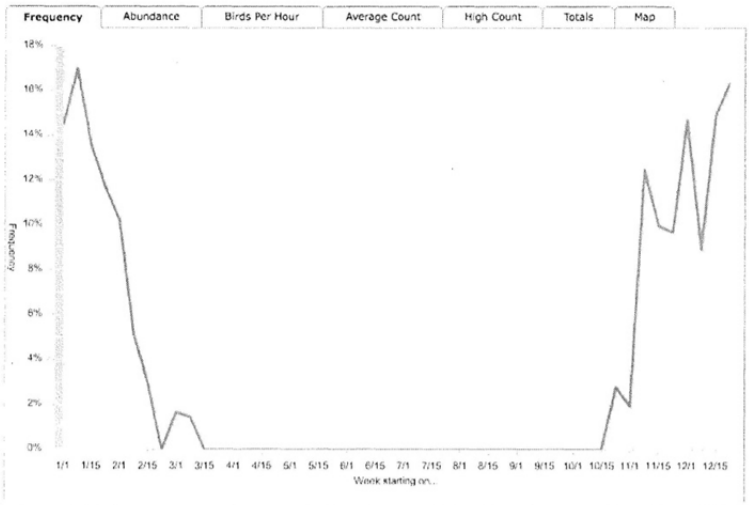

Figure 2. Frequency of mountain plover detection in the Antelope Valley, California.[149] Graph demonstrates surveys at the Project site were conducted after most mountain plovers have left their wintering grounds.

7-I3

5. The RDEIR Fails to Provide an Adequate Account of the Existing Environmental Setting for the Ferruginous Hawk

The RDEIR states the Project site is not important foraging habitat for ferruginous hawks because the species typically uses the majority of California as a non-breeding wintering range. This claim is speculative and not supported by substantial evidence. The fact that the wintering range for ferruginous hawks encompasses the majority of California does not mean ferruginous hawks exist, or are even likely to exist, in the majority of California according to Cashen.[150] The RDEIR fails to take into account that this area of the Antelope Valley has been recognized as providing particularly important foraging habitat to ferruginous hawks. While ferruginous hawks may be found at times throughout most of California, they are considered by the CDFW to be an "uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central

7-J3

[149] eBird. 2015. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available at: <http://www.ebird.org>. (Accessed: 2015 Oct 7).
[150] Cashen Comments, p. 9.

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Valley, and Coast Ranges."[151] In contrast, CDFW designates the ferruginous hawk as "a fairly common winter resident of grasslands and agricultural areas in southwestern California."[152]

The REDEIR also lacks substantial evidence to support its assumption that "there is no evidence to suggest that the [Project] site provides important foraging habitat to ferruginous hawk." To the contrary, twenty-three ferruginous hawks were recorded during the 2010 surveys despite the majority of these surveys being conducted *after* the species had departed California for its breeding grounds.[153] The relative frequency of ferruginous hawk observations at the Project site provides evidence that the site provides important foraging habitat. **7-J3**

Furthermore, the eBird database has numerous records of ferruginous hawks occurring at the Project site.[154] Cashen concludes that the data derived from the eBird database, in conjunction with data collected by Ironwood, are evidence that there may be a communal roost at the Project site.[155] Many of the database records are of multiple hawks occurring together as a group, sometimes up to twenty-five. Ferruginous hawk clusters of this size are unusual because ferruginous hawks are usually solitary and widely spaced during foraging, and thus are strong evidence that this area provides important winter foraging habitat.[156] **7-K3**

Finally, according to the species account provided in the BLM's West Mojave Plan, the Antelope Valley contains the *highest* number and density of wintering ferruginous hawks in southern California.[157] The BLM's West Mojave plan also states that the "conversion of agricultural lands in the Antelope Valley to urban uses could result in loss of wintering habitat in two important localities within the WMPA [West Mojave Plan Area]." [158] And according to Dr. Peter Bloom, the portion **7-L3**

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[151] California Department of Fish and Game, California Interagency Wildlife Task Group. 1999 [update]. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.

[152] California Department of Fish and Game, California Interagency Wildlife Task Group. 1999 [update]. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.

[153] Cashen Comments, p. 10.

[154] Cashen Comments, p. 10.

[155] Cashen Comments, p. 10.

[156] Cashen Comments, p. 10.

[157] Cashen Comments, p. 10 (emphasis added).

[158] Bureau of Land Management. 2005. Final environmental impact report and statement for the West Mojave Plan: a habitat conservation plan and California desert conservation area plan

of the Antelope Valley where the Project site is located is probably the *single most important* wintering area for ferruginous hawks in all of southern California.[159]

The RDEIR must be revised to evaluate the evidence that the Project site provides important wintering habitat for ferruginous hawks and to identify mitigation to address this impact. **7-L3**

6. The RDEIR Fails to Provide an Adequate Account of the Existing Environmental Setting for the Northern Harrier and Prairie Falcon

The RDEIR's conclusion that fallow lands at the Project site "are not considered good foraging habitat for the northern harrier" and that the Project site provides "low quality " foraging habitat for the prairie falcon is not supported by substantial evidence.

First, this conclusion is inconsistent with the RDEIR's statement that the Project site contains a prey base for raptors.[160] The northern harrier and prairie falcon are raptors. **7-M3**

Second, the evidence in the record demonstrates that the Project provides exactly the type of habitat associated with Northern Harrier foraging activities.[161] Northern Harriers breed and forage in a variety of open habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered hunting, plucking, and lookout perches such as shrubs or fence posts.[162] In California, such habitats include grasslands, weed fields, some croplands, sagebrush flats, and desert sinks; the very habitat present at the Project site.[163] According to the biological resources consultants for the Antelope Valley Solar Project, just 5 miles west of the Project site, the northern harrier "has a high potential to nest in the tall vegetation in fallow agricultural areas."[164]

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amendment. Moreno Valley (CA): U.S. Dept. of the Interior, Bureau of Land Management, California Desert District.

[159] Cashen Comments, p. 10.
[160] RDEIR, p. 4.4-58.
[161] Cashen Comments, p. 11.
[162] Cashen Comments, p. 11.
[163] Cashen Comments, p. 11.
[164] Kern County. 2012. Addendum to the Environmental Impact Report for the Antelope Valley Solar Project, Appendix A, p. 30.

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In terms of the Prairie falcons, Cashen states this species is associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas; again the very habitat this Project site provides.

Accordingly, the County's conclusion that the site lacks good foraging habitat for these two species is not supported by any scientific data or other substantial evidence.

7-M3

7. The RDEIR's Designation of a Low Likelihood of Occurrence for the Silvery Legless Lizard, Desert Kit Fox, and Tehachapi Pocket Mouse is Not Supported by Substantial Evidence

The County fails to support with substantial evidences the RDEIR's designation of a "low" likelihood of occurrence for the silvery legless lizard, desert kit fox, and Tehachapi pocket mouse. Consequently, the County's finding that the Project will not have a significant impact on these species is likewise not supported by substantial evidence.

7-N3

The silvery legless lizard is listed as a California Species of Special Concern. According the RDEIR:

> "The species is usually found near sources of water in the desert. The closest known habitat to the project site is in the Tehachapi Mountains, west of this area. No silvery legless lizards were observed during the biological surveys. Based on the results of the various biological surveys, the silvery legless lizard has a low potential to occur onsite."[165]

7-O3

The above finding is not supported by any substantial evidence. First, Cashen notes that the RDEIR does not provide scientific evidence to support its statement that "the species is usually found near sources of water in the desert."[166] Cashen reviewed several sources of scientific information to which none indicated

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[165] RDEIR, p. 4.4-10.

[166] Jennings MR, MP Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report to the California Department of Fish and Game. *See also* California Department of Fish and Game, California Interagency Wildlife Task Group. 2000 [update]. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California. *See also* Jones, L.C., and R.E. Lovich, eds. 2009. Lizards of the American Southwest: A Photographic Field Guide. Rio Nuevo Publishers, Tucson (AZ). 567 pp.

the species is usually found near sources of water in the desert.[167] Second, the statement that "the closest known habitat to the project site is in the Tehachapi Mountains" is simply not accurate. A silvery legless lizard was recently detected at the site for the proposed Del Sur Solar Project, which is approximately 6.25 miles south of the Project site.[168] Moreover, both the Biological Resources Technical Report ("BRTR") and the "Project Impacts" section of the RDEIR acknowledge the Project site contains suitable habitat for the species.[169] As shown in Figure 3 below, there is substantial evidence of a distinct population of silvery legless lizards living in the Antelope Valley.[170]

7-03

[167] Cashen Comments, p. 12; *see also* Jennings MR, MP Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report to the California Department of Fish and Game. *See also* California Department of Fish and Game, California Interagency Wildlife Task Group. 2000 [update]. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California. *See also*

Jones, L.C., and R.E. Lovich, eds. 2009. Lizards of the American Southwest: A Photographic Field Guide. Rio Nuevo Publishers, Tucson (AZ). 567 pp.

[168] City of Lancaster. 2015 June. Draft Environmental Impact Report for the Del Sur Solar Project, Table C.5-3 and Attachment B to Attachment 4.

[169] RDEIR, p. 4.4-36 and Appendix K, Table 2.

[170] Cashen Comments, p. 17.

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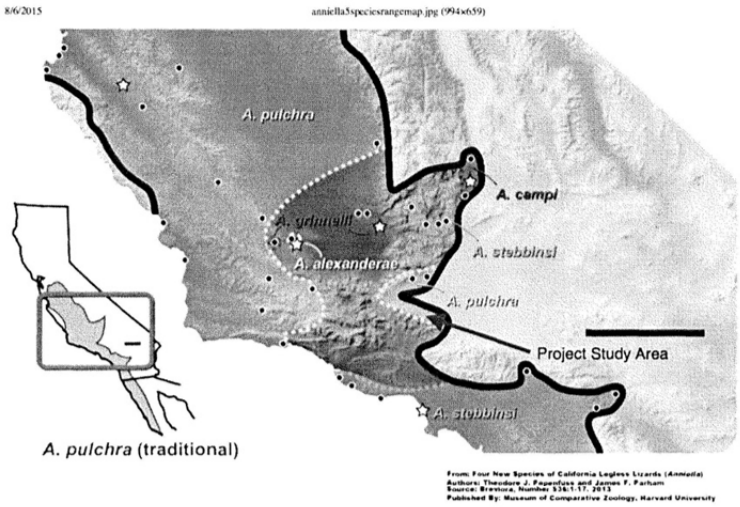

7-03

Figure 3. Silvery legless lizard range in California.[171] Arrow points to approximate location of the Project site.

Finally, Cashen explains that the silvery legless lizard is a secretive, fossorial organism that is rarely detected aboveground.[172] For this reason, specialized techniques, such as raking suitable substrates, are required to identify presence of the species.[173] The County's biologists did not implement these specialized techniques and so the surveying is inadequate. Accordingly, the County lacks substantial evidence to support its determination that the Project will not have a significant impact on the silvery legless lizard because it has a low potential to occur on the Project site.

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[171] Papenfuss TJ, JF Parham. 2013. Four New Species of California Legless Lizards (*Anniella*). Breviora 536:1-17. Map available at: <http://www.californiaherps.com/lizards/maps/anniella5speciesrangemap.jpg>.

[172] Jennings MR, MP Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report to the California Department of Fish and Game. *See also* California Department of Fish and Game, California Interagency Wildlife Task Group. 2000 [update]. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.

[173] Cashen Comments, p. 12.

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The RDEIR's determination that the desert kit fox has a low potential of occurring on the Project site and thus the Project will have less than significant impacts on this species is also not supported by substantial evidence.[174] Cashen points to evidence in the record that directly contradicts the County's claims that the Project site does not contain suitable foraging and breeding habitat for the species.[175] For example, the 2011 BRTR detected the kit fox at the Project site.[176] Furthermore, kit foxes are almost entirely nocturnal, and daytime activity is confined to the vicinity of the den.[177] This is important to note because the 2014 survey effort was limited to a one-day "windshield level habitat assessment" by a single biologist, conducted during the daytime when kit foxes are generally confined to their burrows.[178] By failing to search the Project site for burrows or other signs of kit fox occupancy, the biologist's failure to detect kit fox during the 2014 survey is not substantial evidence that the species has a low potential of occurring on the Project site.[179]

7-P3

The RDEIR also fails to disclose the potential for the Tehachapi pocket mouse to occur on the Project. The Tehachapi pocket mouse is listed as California Species of Special Concern and it has a State rank of S1S2, which indicates its population is "imperiled" to "critically imperiled."[180] A critically imperiled population is defined as one that is extremely rare (often 5 or fewer) or has been affected by factors such as very steep declines making it especially vulnerable to extirpation from the state.[181] The RDEIR claims that the Tehachapi pocket mouse has a low potential to occur on the Project site because it has not been found within Kern County since 1998, and because its historical populations have been associated with the foothills of the Tehachapi Mountain range, rather than any areas near the Project.[182] These claims are not supported by substantial evidence.

7-Q3

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[174] RDEIR, Table 4.4-2 and p. 4.4-19.

[175] RDEIR, p. 4.4-55.

[176] RDEIR, Appendix B to Appendix K, p. 60.

[177] Cashen Comments, p. 13.

[178] RDEIR, Appendix N, p. 5

[179] RDEIR, Appendix N, pp. 5 and 9.

[180] California Department of Fish and Wildlife, California Natural Diversity Database. 2015 July. Special Animals List. Available at: <https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf>.

[181] *Id.*

[182] FEIR, p. 7-271.

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A review of the California Natural Diversity Database shows that this species was detected at two locations approximately five miles northwest of the Project site as recently as 2011.[183] This evidence directly contradicts the County's determination that the mouse has not been found within Kern County since 1998. Furthermore, habitats at those locations were very similar to the habitat found on much of the Project site - "desert scrub, creosote, and non-native grassland."[184] Neither location was within the foothills.

By failing to determine whether the Tehachapi pocket mouse occurs on the Project site, the RDEIR fails to support its determination for this species with substantial evidence. This inadequate and unsupported determination precludes a thorough understanding of existing conditions, the relative severity of Project impacts to sensitive biological resources, and the sufficiency of the proposed mitigation. **7-Q3**

For the above reasons, the County must revise these sections and recirculate the EIR for further public review and comment.

8. The RDEIR is Inadequate Because Protocol-Level Rare Plant Surveys Were Never Conducted for the Project

The RDEIR is inadequate under CEQA because the Ironwood never conducted protocol-level rare plant surveys for the Project. Ironwood's surveys were limited to just four days (between May 29 and June 1, 2010), during which time, these same biologists also surveyed the Rosamond Solar Array Project site, an 1,175-acre solar project. Cashen contends that because the biologists had to split their time between two very large solar projects, their effort would have been incapable of inferring absence of special-status species. [185] This is especially true because as Cashen notes, some of the botanical species that could occur at the site are extremely diminutive (e.g., *Canbya candida* is the size of a dime).[186] **7-R3**

Ironwood's plant surveys were also limited to a very narrow window of time, rendering them incapable of capturing the appropriate phenological stage of all

[183] California Natural Diversity Database. 2015 Sep 1. RareFind 5 [Internet]. California Department of Fish and Wildlife.
[184] *Ibid.*
[185] Cashen Comments, p. 15.
[186] Cashen Comments, p. 15.

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potentially occurring rare plant species.[187] Moreover, contrary to CDFW guidance, Ironwood failed to visit reference sites to confirm that the target special-status species were evident and identifiable at the time of the botanical surveys.[188] Without visiting reference sites, Ironwood's conclusion that certain plant species were not present was speculative since not all the target special-status species would have been identifiable at the time of the survey. **7-R3**

Ironwood's description of the existing botanical setting on the Project site is also deficient because it limited its survey to special-status plant species on a pre-determined list.[189] CDFW guidance warns that the "list approach" for botanical inventories cannot be relied upon to identify all rare and special status plants on a survey site:

> "This list [of special-status plants with potential to occur within a particular region] can serve as a tool for the investigators and facilitate the use of reference sites; however, special status plants on site might not be limited to those on the list. Field surveys and subsequent reporting should be comprehensive and floristic in nature and *not restricted to or focused only on this list*..."Focused surveys" that are limited to habitats known to support special status species or are restricted to lists of likely potential species are not considered floristic in nature and are not adequate to identify all plant taxa on site to the level necessary to determine rarity and listing status."[190] **7-S3**

Experts warn that the "list approach" is especially problematic in desert regions because (a) there is a general lack of botanical survey data for the Desert Floristic Province, and (b) surveys in the Desert Floristic Province often yield completely unexpected results.[191]

Based on Cashen's review of the available literature and databases, and **7-T3**

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[187] Cashen Comments, p. 15.

[188] CDFG. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Available at: <http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Plants>.

[189] Cashen Comments, p. 15.

[190] CDFG. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Available at: <http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Plants>. [emphasis added].

[191] Cashen Comments, p. 15; Dr. James Andre, Director of the Sweeney Granite Mountains Desert Research Center for the University of California personal communication with Scott Cashen, 2012 July 21.

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through consultation with recognized experts on desert plants, additional special-status species other than those considered by Ironwood and the County have the potential to occur on the Project site:

- Barstow woolly sunflower (*Eriophyllum mohavense*, CRPR 1B.2). This species is known to occur on disturbed habitat in the western Mojave. Ironwood's botanical survey effort was not rigorous enough to infer absence of this species, which is approximately the size of a quarter.
- Desert cymopterus (*Cymopterus deserticola,* CRPR 1B.2). This perennial herb species is known to occur in Mojavean desert scrub communities. Ironwood's botanical surveys were conducted too late in the year to detect this species.[192]
- Rosamond woolly star (*Eriastrum rosamondense*, CRPR 1B.1). This is a recently described species that didn't exist when Ironwood conducted its surveys in 2010. The species is known to occur between Lancaster and Rosamond, and it could occur on the Project site (especially because its overall distribution isn't completely understood).[193]

7-T3

Because of Ironwood's reliance on the list approach and its failure to include the above plants on the list it surveyed, the RDEIR lacks substantial evidence to determine that these special status species plants are not present on the Project site. The Project's potential disturbance of these species is a significant impact that must be evaluated and mitigated in a second revised DEIR.

9. <u>The BRTR Failed to Identify All Plant Species to the Taxonomic Level Necessary to Determine Rarity</u>

According to the BRTR, *Camissonia boothii* (now recognized as *Eremothera boothii*) was detected on the Project site.[194] This species is comprised of infraspecific taxa (subspecies), including *Eremothera boothii* ssp. *boothii*, which is known to occur in the western Mojave and has a rare plant rank of 2B.3.[195] Ironwood's failure to identify the plant(s) on the Project site to the taxonomic level necessary to determine rarity impedes the County from being able to rule out the potential for

7-U3

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[192] *Data provided by the participants of the Consortium of California Herbaria. Available at: <ucjeps.berkeley.edu/consortium/>.* (Accessed 12 Oct 2015).

[193] *See* <http://www.rareplants.cnps.org/detail/3784.html>.

[194] RDEIR, Appendix A to Appendix K.

[195] Cashen Comments.

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the Project to have significant impacts on *Eremothera boothii* ssp. *boothii*.[196] The Project's potential disturbance of this species is a significant impact that must be evaluated and mitigated in a second revised DEIR. 7-U3

10. The RDEIR Fails to Disclose and Analyze Significant Impacts to Sensitive Natural Communities

ADesert Saltbush Scrub occurs across approximately one-third of the Project site.[197] Desert Saltbush Scrub has a natural heritage rank of S3.2, and thus it is considered a sensitive natural community.[198] The RDEIR violates CEQA by failing to disclose and evaluate significant impacts to this sensitive natural community. 7-V3

11. The RDEIR Fails to Disclose, Analyze, or Minimize the Adverse Effects Associated with the Translocation or Relocation of Wildlife

The Project may require the translocation (or relocation) of wildlife species off of the Project site.[199] The translocation of wildlife from the Project area to new habitat constitutes a potentially significant impact under CEQA. The RDEIR, however, fails to disclose, analyze, or mitigate such impacts. As Cashen explains, wildlife uprooted from their home environment and forced into new territory are particularly vulnerable to a number of risks that can cause mortality. 7-W3

Cashen states that efforts to translocate (or relocate) animals often fail.[200] Animals that are captured, handled, and/or forced to move from their territory usually become stressed.[201] According to his expertise, this can lead to the increased production of lactic acid or "stress hormones" in the affected organism. [202] These physiological changes can cause mortality in that species.[203] Cashen explains that the relocation of an animal into an unfamiliar environment threaten its survival because the relocated species has no knowledge of the habitat resources,

[196] Cashen Comments, p. 15.
[197] Cashen Comments, p. 15.
[198] Cashen Comments, p. 15.
[199] Cashen Comments, pp. 22-23.
[200] Cashen Comments, p. 22.
[201] Cashen Comments, p. 22.
[202] Cashen Comments, p. 22, citing Tracy C.R., K. E. Nussear, T. C. Esque, K. Dean-Bradley, C. R. Tracy, L. A. DeFalco, K. T. Castle, L. C. Zimmerman, R. E. Espinoza, and A. M. Barber. 2006. The importance of physiological ecology in conservation biology. Integrative and Comparative Biology. pp. 1–15.
[203] Cashen Comments, p. 22.

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shelter, or predators in the vicinity, making the species particularly vulnerable to predation and other dangers.[204] Moreover, many species exhibit an intrinsic homing response that is energetically taxing, and that may preclude procurement of food and cover.[205]

Cashen also states that translocation can cause several other types of adverse effects to translocated individuals and individuals at the recipient site. Even if the translocated animal is moved to an area with readily available resources, aggressive competitors may prevent the displaced animal from accessing the resources and from mating.[206] For example, Cashen points to research demonstrating that translocating Tipton kangaroo rats to occupied habitats may cause territorial disputes with existing residents.[207] Cashen explains that this often leads to detrimental effects on both the translocated and resident animals. In addition, translocation can spread disease by introducing diseased animals into a healthy population, or by translocating healthy animals into an afflicted area.[208] Finally, Cashen states that if animals are moved into an area that is already at its carrying capacity, the entire population can crash.[209]

7-W3

Several studies have examined the fate of translocated animals. In the Dodd and Seigel (1991) study, they reviewed projects involving relocation, repatriation, and translocation ("RRT") of amphibians and reptiles.[210] The authors concluded "[m]ost RRT projects involving amphibians and reptiles have not demonstrated success as conservation techniques and should not be advocated as if they are acceptable management and mitigation practices." [211] In the Germano and Bishop (2009) study, efforts to translocate birds and mammals had a high failure rate. [212]

7-X3

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[204] Cashen Comments, p. 22.
[205] Cashen Comments, p. 22.
[206] Cashen Comments, p. 22.
[207] Goldingay RL, PA Kelly, DF Williams. 1997. The Kangaroo Rats of California: endemism and conservation of keystone species. Pacific Conservation Biology. Volume 3; p. 47-60. Sydney: Surrey Beatty & Sons.
[208] Cashen Comments, p. 22.
[209] Cashen Comments, p. 22.
[210] Cashen Comments, p. 23.
[211] Dodd CK Jr., RA Seigel. 1991. Relocation, repatriation, and translocation of amphibians and reptiles: Are they conservation strategies that work? Herpetologica 47(3):336-350.
[212] Dickens MJ, DJ Delehanty, LM Romero. 2009. Stress and translocation: alterations in the stress physiology of translocated birds. Proceeding: Biological Sciences 276(1664):2051-2056. *See also* Chipman R., D. Slate, C. Rupprecht, and M. Mendoza. 2007. Downside risk of wildlife translocation. Pages 223–232 in Dodet B., A. R. Fooks, T. Muller, N. Tordo, editors. Proceedings: towards the elimination of rabies in Eurasia. Joint OIE/WHO/EU International Conference, Paris, France.

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In that Study, the authors concluded that "[i]f the release habitat is not of high quality, then the chances of a positive outcome are low even when all other factors are taken into consideration. Although we could not evaluate habitat quality in the publications we reviewed, poor or unsuitable habitat was one of the most often reported reasons for translocation failure."[213] **7-X3**

The RDEIR's proposed mitigation measures that involve a biologist relocating special-status reptiles to other habitat outside the construction area is a particularly significant impact in and of itself. The RDEIR does not identify the distribution, quantity, condition, and ownership of "replacement habitat" in the vicinity of the Project site, nor does it establish criteria for ensuring the presence of suitable habitat at the translocation site. This precludes the decision makers and public from being able to assess the probability that suitable receptor will be identified, and thus the probability that translocated animals could survive.[214] As a result, the RDEIR lacks substantial evidence to support its assumption that its mitigation measures requiring translocation of special status species found on the Project site would be sufficient to reduce impacts to these species below a level of significance. **7-Y3**

ii. The RDEIR Lacks Substantial Evidence for Its Conclusion that Direct Impacts to Swainson's Hawk Will Be Mitigated Below a Level of Significance and Fails to Follow Department of Fish & Game Mitigation Protocol

The RDEIR is inadequate because it lacks substantial evidence for its conclusion that mitigation proposed in the RDEIR is sufficient to reduce the Project's direct impacts below a level of significance. The proposed mitigation is arbitrary and fails to follow CDFW guidance. **7-Z3**

In 2010, the CDFW and the California Energy Commission ("CEC") evaluated the impacts to the Antelope Valley population of Swainson's hawk from renewable energy projects and issued the following guidance document to mitigate these impacts: *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los*

[213] Germano, J.M. and Bishop, P.J. (2008) Suitability of amphibians and reptiles for translocation. Conservation Biology 23:(1) 7-15.

[214] Cashen Comments, p. 23.

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Angeles and Kern Counties, California ("*Swainson's Hawk Protocol*").[215] The *Swainson's Hawk Protocol* requires mitigating the loss of Swainson's Hawk foraging habitat due to the conversion of land to solar power plants by providing appropriate compensatory HM lands within the Antelope Valley and the Swainson's Hawk breeding range, "at a *minimum* 2:1 ratio."[216]

As our previous comments explained, by use of the term minimum, CDFW has determined that suitable foraging habitat of any quality must be mitigated at a 2:1 ratio, but provides that a higher ratio may be appropriate for habitat that is of particular importance to the Antelope Valley population of Swainson's hawk. The 0.5:1 ratio proposed by Mr. Estep is insufficient and fails to comply with CDFW guidelines for replacement ratios – even if they were correct regarding the quality of habitat that will be converted (which, as discussed above, they are not). Likewise, the RDEIR's proposed compensatory mitigation of 1:1 for Project impacts to Swainson's hawk foraging habitat fails to comply with CDFW guidelines and is not supported by any substantial evidence that would support a finding that it is sufficient to reduce impacts below a level of significance.

7-Z3

1. Ironwood's Review of Swainson's Hawk Impacts and Proposed Mitigation Measures are Inadequate

Ironwood's review of Swainson's hawk mitigation is flawed, contradictory and unsupported by any evidence or data. For this reason, the County's finding that Project impacts to Swainson's hawk will be reduced to less than significant through the implementation of the above listed mitigation measures lacks substantial evidence.

7-A4

Ironwood claims that five years is long enough to make the fallow fields on the Project site "low quality" foraging habitat for Swainson's hawks. This claim is not speculative and is not supported by substantial evidence. First this claim contradicts Ironwood's acknowledgement that "fallow fields are considered primary and/or secondary for the hawks in many research documents throughout the state."[217] Ironwood also implicitly acknowledges that there is no scientific research to back up its assumption that five years is long enough to make the fallow fields on

[215] California Energy Commission and Department of Fish and Game, 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 (June 2, 2010).
[216] *Id.* at p. 8 (emphasis added).
[217] RDEIR, Appendix Q, p. 2.

the Project site "low quality" foraging habitat. Ironwood states that the literature "provides no distinction as to the proximity of fallow lands to active agriculture, the length of time the land has been fallow, the type of vegetation that has reestablished on the site, or the abundance of prey base for foraging hawks."[218] Thus, Ironwood admits there is no evidentiary support for his conclusion.

CEQA requires conclusions in an EIR to be supported by substantial evidence.[219] Conclusory statements "unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind" are insufficient to support a finding of insignificance.[220] Moreover, an EIR must provide the reader with the analytic bridge between its ultimate findings and the facts in the record.[221] Here, the RDEIR fails to describe the "analytic route" it traveled in determining that the mitigation measures required would reduce Swainson's hawk impacts to a level of insignificance. The RDEIR's conclusion that the Project's impacts on Swainson's hawk will be less than significant after mitigation is conclusory and fails to meet the requirements of CEQA.

7-A4

The assumption that fallow fields become low quality Swainson's hawk foraging habitat after five years is also inconsistent with the available scientific evidence. Cashen states that studies have found that Swainson's hawk use of foraging habitat is largely a function of prey abundance and availability.[222] Accordingly, land fallowed for five years may in actuality provide *better* foraging habitat than land that is actively farmed, especially when farming involves practices (e.g., plowing and pesticide application) that harm small mammal populations (small mammals are a principal component of the Swainson's hawk diet).[223] This inference is supported by research. In the Heroldova et al. (2007) six-year study, the structure and diversity of small mammal communities within various agricultural landscapes were examined. Cashen summarizes this study, stating that small mammal abundance and diversity were greatest in fallow

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[218] RDEIR, Appendix Q, p. 2.

[219] Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).

[220] *People v. County of Kern* (1974) 39 Cal.App.3d 830, 841-842.

[221] *Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 733; see CEQA Guidelines § 15091.

[222] Woodbridge, B. 1998. Swainson's Hawk (*Buteo swainsoni*). *In* The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. Available at: < http://www.prbo.org/calpif/htmldocs/species/riparian/swainsons_hawk.htm>.

[223] Cashen Comments, p. 26.

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fields.[224] Alfalfa fields had the lowest species diversity and the third lowest relative abundance of small mammals (cereal fields had the lowest) according to this study. Cashen points out that the results of the Heroldova et al. study are consistent with other studies that have shown fallow fields support rodent populations year-round by providing cover; a diverse and consistent food supply; and by preserving burrowing systems.[225]

7-A4

Ironwood acknowledges the Project, in conjunction with other projects in the region, could have a "measurable effect" on foraging habitat for the species in the face of his own acknowledgement that the absence of research on the amount of foraging habitat required by individual hawks or breeding pairs precludes him from being able to conduct a risk assessment. Ironwood states "an alternate approach to a conservation-based objective, which would offset the possible effects of habitat conversion, would be to assess how impacts to this species are currently being mitigated for throughout California." Cashen finds Ironwood's review and ultimate conclusion that "an alternate approach to a conservation-based objective, which would offset the possible effects of habitat conversion, would be to assess how impacts to this species are currently being mitigated for throughout California" baseless for three primary reasons.[226]

7-B4

First, the Applicant's other biological expert, Jim Estep, has used research on foraging habitat requirements to conduct risk assessments for other solar energy projects. Thus, contrary to what Ironwood's review suggests, it is indeed possible for the Applicant to conduct a Project risk assessment and Habitat Equivalency Analysis. For those projects that Mr. Estep reviewed, he claimed each nesting pair of Swainson's hawks requires 6,820 acres of foraging habitat.[227] Mr. Estep derived that value from his research on radio-tagged birds occupying agricultural environments in the Central Valley (Estep 1989). If there is a direct relationship between Swainson's hawk density and habitat type (as Ironwood and Estep suggest), any birds occupying an environment with less agriculture than the birds

7-C4

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[224] Heroldova M, J Bryja, J Zejda, E Tkadlec. 2007. Structure and diversity of small mammal communities in agriculture landscapes. Agriculture, Ecosystems and Environment 120:206-210.

[225] Cashen Comments, p. 26. Sietman BE, WB Fothergill, EJ Finck. 1994. Effects of haying and old-field succession on small mammals in tallgrass prairie. American Midland Naturalist 131:1-8. *See also* Witmer GW. 2007. The ecology of vertebrate pests and integrated pest management (IPM). USDA National Wildlife Research Center - Staff Publications. Paper 730. Available at: <http://digitalcommons.unl.edu/icwdm_usdanwrc/730>

[226] Cashen Comments, p. 26.

[227] Estep J. 2011. The Distribution and Abundance of Nesting Swainson's Hawks in the Vicinity of the Proposed RE Kansas South LLC Solar Generation Facility. p. 37.

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in Estep's study would require more than 6,820 acres of foraging habitat. Without an analysis of how much foraging habitat is available to the affected Swainson's hawk nesting pairs, the assumption that the loss of the Project habitat in Antelope Valley would not be significant lacks evidentiary support.

7-C4

Second, The RDEIR lacks substantial evidence for its reliance on an assessment of how impacts to the species are currently being mitigated throughout California. How impacts to the species are currently being mitigated throughout California has nothing to do with the Project's threat to Swainson's hawks (i.e., a risk assessment). Ironwood provides no evidence that: (a) mitigation "for similar projects" ranges from 0.5:1 to 2:1 (and on average is 1:1); (b) that "many resource agencies" have accepted mitigation incorporated by other lead agencies; or that (c) past mitigation practices have been effective. For all projects that may affect Swainson's hawks in the Antelope Valley, both the CEC and CDFW recommend mitigation at a minimum 2:1 ratio.[228] In the 23 years of working as a biologist, Cashen is unaware of the CEC and CDFW ever consenting to a lower ratio for projects in the Antelope Valley.[229]

In fact, in the CDFW's five-year status review of the species, the agency concluded several State-sponsored projects resulted in "no suitable mitigation for lost habitat," and that "[o]verall cooperation and compliance with the State Endangered Species Act by State lead agencies requires significant improvement."[230] The status review indicated the situation with projects sponsored by county and city planning agencies was even worse. It reported:

7-D4

> Despite the Department's best efforts, and the development of mitigation guidelines to assist the project reviewer and project sponsor alike in development of suitable mitigation, most projects approved by local governments destroyed significant amounts of habitat without providing suitable compensation for the loss.[231]

Based on Cashen's review of pertinent CEQA documents for literally dozens of other development projects, the situation described in CDFW's status review has not improved. Cashen has seen most other solar projects in the Antelope Valley have provide little or no compensatory mitigation for impacts to Swainson's hawk

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[228] State of California, California Energy Commission and Department of Fish and Game. 2010 Jun 2. 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.

[229] Cashen Comments, pp. 26-27.

[230] California Department of Fish and Game. 1993. Five-year Status Review: Swainson's Hawk. p. 8.

[231] *Ibid.*

habitat, resulting in cumulative significant impacts to Swainson's hawks in the Antelope Valley.[232] 7-D4

Finally, Ironwood's conclusion that compensatory mitigation at a 0.5:1 ratio is sufficient does not constitute substantial evidence because it is based upon a number of unsupported and incorrect assumptions. These unsupported assumptions include: (1) the site is made up of fallow fields and its source of water for agricultural production is severely limited; (2) there are active alfalfa fields and/or other grain fields within the home range of the current hawks' nests, (3) minimization measures for direct and indirect impacts to the individual birds and their nests are being proposed, and (4) Swainson's hawk in this region are not currently accepted as genetically distinct or completely isolated from the rest of the state's hawk populations.

The claim that the site is "made up of fallow fields" is incorrect.[233] One-third of the solar facility site is comprised of Desert Saltbrush Scrub, not fallow fields. The claim that there are sufficient active alfalfa fields and/or other grain fields within the home range of the current hawks' nests to make the foraging opportunities on the Project site unnecessary is not supported by any evidence or analysis. 7-E4

Ironwood provides no evidence that the minimization measures for direct and indirect impacts to the individual birds and their nests that are being proposed are sufficient to justify reduction of compensatory mitigation land below the CDFW 2:1 ratio minimum. CDFW guidance requires minimization measures for direct and indirect impacts *in addition to* compensatory mitigation. Furthermore, the RDEIR allows the Applicant to remove nest trees as long as removal does not occur between October 1 and February 28.[234] This constitutes an indirect impact under CEQA for which no analysis or mitigation measure is proposed.

In addition, MM 4.4-9 fails to protect the threatened population of Swainson's hawk that will be directly impacted by the Project because it allows the replacement habitat to be located within the Central Valley, rather than in Antelope Valley.[235] Although the RDEIR indicates priority should be provided to "replacement habitat" 7-F4

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[232] Cashen Comments, p. 27.
[233] Cashen Comments, p. 27.
[234] RDEIR, p. 4.4-53.
[235] RDEIR, p. 4.4-38.

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in the Antelope Valley, the RDEIR allows replacement habitat to be located in the Central Valley if compensatory habitat in the Antelope Valley is not available at "commercially reasonable prices." The County provides no parameters identifying what the County considers a "commercially reasonable price" and fails to investigate whether any compensatory habitat would likely be available in Antelope Valley at this undefined price.

Accordingly, the County's proposed mitigation measure is vague and not enforceable. An applicant can choose the Central Valley simply on the grounds that the Antelope Valley prices were slightly more expensive. Mitigation measures providing replacement habitat in the Central Valley does not mitigate significant impacts to Swainson's hawks living in the Antelope Valley, and no evidence has been provided to show otherwise. Even if replacement habitat were found in Antelope Valley, the RDEIR does not require that it be located near enough the affected Swainson's hawk population to offset the loss of foraging habitat on the Project site. The RDEIR thus provides no evidence to support its finding that this mitigation will reduce impacts below a level of significance.[236]

7-F4

Ironwood also lacks substantial evidence for its assumption that the geographical isolation of the affected Swainson's hawk population is not significant and does not need to be taken into account when determining the appropriate mitigation measures. According to the California Energy Commission ("CEC") and CDFW, there is geographical isolation of the Antelope Valley Swainson's hawk population from other breeding populations.[237] This is consistent with information provided in Estep's letter and the RDEIR.[238] The RDEIR cites to no evidence to dispute the findings that 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 "extirpation."[239] To the contrary, Mr. Estep acknowledges the Project would "possibly accelerate the likely abandonment of some of these nesting territories" (i.e., heighten the susceptibility of Swainson's hawks extirpation from the Antelope Valley).[240]

7-G4

[236] Cashen Comments, p. 27.
[237] State of California, California Energy Commission and Department of Fish and Game. 2010 Jun 2. 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.
[238] RDEIR, Appendix P and p. 4.4-13.
[239] State of California, California Energy Commission and Department of Fish and Game. 2010 Jun 2. 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.
[240] RDEIR, Appendix P.

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Because the Antelope Valley constitutes the southernmost breeding range for the species in California, extirpation would substantially reduce the breeding range in California and have significant implications on recovery of the species.[241]

The RDEIR's evaluation of impacts and the sufficiency of mitigation for loss of Swainson's hawk habitat are deficient under CEQA because they fail to take into account the critical nature of the Swainson's hawk habitat on the Project site and fail to require mitigation that would benefit the affected population. . The RDEIR's finding that the proposed mitigation would be sufficient to reduce Project impacts to Swainson's hawk foraging below a level of significance is not supported by substantial evidence. **7-G4**

2. Estep's Review of Swainson's Hawk Impacts and Proposed Mitigation Measures are Inadequate

On behalf of the Applicant, biologist Jim Estep submitted a letter summarizing his professional opinion regarding mitigation for Project impacts to the Swainson's hawk. The RDEIR relies upon his letter to support the finding that the Project site contains "low quality" habitat. Mr. Estep does provide the scientific rationale for this conclusion.

Cashen re-examined the 1986-1987 research study that Estep relies upon in to determine what basis for Estep's "low quality" foraging habitat determination. In the publication that resulted from his research, Estep (1989) reported: "[t]he cover-types most compatible with Swainson's Hawk foraging are those shown to be most preferred by foraging birds."[242] Cashen was unable to find anywhere in the publication information suggesting fields fallowed for five years are any less important than the fallow fields in Estep's study.[243] To the contrary, Cashen states the information that was presented in Estep's publication cases doubt on how he was able to conclude the Project site provides "low quality" foraging habitat.[244] **7-H4**

First, Mr. Estep's letter does not support the RDEIR's reliance on compensatory mitigation in the Central Valley. Mr. Estep's letter acknowledges **7-I4**

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[241] Cashen Comments.
[242] Estep JA. 1989. Biology, movements, and habitat relationships of the Swainson's Hawk in the Central Valley of California, 1986-87.Calif. Dept. Fish and Game, Nongame Bird and Mammal Sec. Rep., p. 41.
[243] Cashen Comments, p. 29.
[244] Cashen Comments, pp. 39 - 43.

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that the Project could "accelerate the likely abandonment of some of these [Swainson's hawk] nesting territories. Compensatory mitigation is only a viable mitigation option if it addresses the impact of concern, which in this case is the abandonment of nesting territories that encompass the Project site.[245] Compensatory mitigation in the Central Valley thus does not address the impact of concern raised by Mr. Estep (i.e., territory abandonment in the Antelope Valley. Mr. Estep's letter thus recommends compensatory mitigation *in the Antelope Valley*.[246]

7-14

Second, Mr. Estep's letter recommends that compensatory mitigation be "appropriately scaled" to reflect the value of the land impacted relative to the value of the land conserved.[247] Mr. Estep, however, fails to demonstrate that his proposed compensatory mitigation ratio of 0.5:1 would be sufficient to reduce impacts to the Antelope Valley Swainson's hawk below a level of significance.[248] The sole reasoning Estep provides for using 0.5:1 as compensatory mitigation is that he himself thinks its "reasonable."[249] Estep never explains why 0.5:1 should be considered "reasonable," nor does he provide any valid evidence, data or other similarly scaled project in the region justifying why his starting point is four times less than the 2:1 minimum recommended by the CEC and CDFW.[250]

7-J4

Third, Estep's letter expresses his opinion that native desert scrub and grassland habitats provide the highest value and most sustainable habitat conditions for Swainson's hawks in the future.[251] According to Estep, these lands support at least twice the value of abandoned farmlands.[252] Estep does not provide scientific evidence or otherwise explain why grassland and scrub habitats are at least twice as valuable as abandoned farmlands. Cashen explains that the actual accepted technique for calculating compensatory mitigation is a Habitat Equivalency Analysis ("HEA")—not baseless professional opinion.[253] In sum, the

7-K4

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[245] Cashen Comments, p. 29.
[246] Cashen Comments, p. 30.
[247] Cashen Comments, p. 30.
[248] Cashen Comments, p. 30.
[249] Cashen Comments, p. 30.
[250] State of California, California Energy Commission and Department of Fish and Game. 2010 Jun 2. 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.
[251] Cashen Comments, p. 30.
[252] Cashen Comments, p. 30.
[253] *See* U.S. Fish and Wildlife Service, Pacific Southwest Region. 2010. Region 8 Interim Guidelines for the Development of a Project-Specific Avian and Bat Protection Plan for Solar Energy Plants and Related Transmission Facilities.

RDEIR lacks substantial evidence to support a "low-quality determination" and a finding that impacts to Swainson's hawks would be reduced to below significant levels from the proposed mitigation measures. An expert's opinion, unsupported by data or facts, does not constitute substantial evidence under CEQA.[254] **7-K4**

iii. The RDEIR Lacks Substantial Evidence for Its Conclusion that Impacts to Burrowing Owls Will Be Mitigated Below a Level of Significance and Fails to Meet Applicable Guidelines

The RDEIR correctly determines that the Project will result in significant impacts on burrowing owls. To reduce these impacts below a level of significance, it relies on the implementation of MM 4.4-8. Among its requirements, MM 4.4-8 requires preconstruction surveys "of the permanent and temporary impact areas, plus a 150 meter (approximately 492 foot) buffer." The RDEIR lacks substantial evidence to support this finding. **7-L4**

1. Preconstruction Surveys with a 150 Meter Buffer are Inadequate to Mitigate Project Impacts to Burrowing Owls to Less than Significant

As a threshold matter, this condition is not consistent with CDFW guidelines, which recommend an initial pre-construction survey within the 14 days prior to ground disturbance, followed by a subsequent survey within 24 hours prior to ground disturbance.[255] As CDFW's Staff Report acknowledges, "burrowing owls may re-colonize a site after only a few days."[256] As a result, a single pre-construction survey up to 14 days in advance of construction is insufficient to avoid and minimize take of burrowing owls. **7-M4**

Additionally, the CDFW's Staff Report makes clear that "take avoidance" surveys cannot be used a substitute for the four "detection" surveys required to thoroughly assess Project impacts and formulate appropriate mitigation. The RDEIR does not require burrowing owl "detection" surveys prior to Project construction.[257] As a result, Cashen concludes that the RDEIR "does not ensure

[254] *Rominger v. County of Colusa*, 229 Cal. App. 4th 690, 721 (2014).

[255] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, pp. 29-30.

[256] *Ibid*, p. 30.

[257] *Ibid*, Appendix D.

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reliable information on the presence, abundance, and habitat use activities of burrowing owls on the Project site prior to construction."[258]

Furthermore, the RDEIR lacks substantial evidence to support its assumption that Mitigation Measure MM 4.4-8's 150 meter buffer zone surrounding Project impact areas is sufficient to avoid significant indirect impacts to burrowing owls.[259] As the RDEIR acknowledges, disturbance activities within 500 meters (1,640 feet) of an occupied burrow can indirectly impact burrrowing owls.[260] Therefore, a 150 meter buffer zone is insufficient to reduce Project impacts to this species to less than significant levels. Burrowing owl buffer zones must extend 500 meters beyond all disturbance areas in order to both adequately minimize Project impacts and comply with CDFW guidance documents. For these reasons, the mitigation measures proposed to reduce Project impacts to burrowing owls to less than significant is not supported by substantial evidence.

7-M4

2. The RDEIR Fails to Consider Potentially Significant Impacts to Burrowing Owls From Passive Relocation

The RDEIR states: "[i]f avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the *2012 Staff Report on Burrowing Owl Mitigation.*"[261] This statement is misleading to the public and decision makers because it suggests the CDFW accepts passive displacement of owls as a mitigation technique. To the contrary, CDFW's Staff Report states:

7-N4

> Exclusion in and of itself is not a take avoidance, minimization or mitigation method. Eviction of burrowing owls is a potentially significant impact under CEQA…Therefore, exclusion and burrow closure are not recommended where they can be avoided. The current scientific literature indicates consideration of all possible avoidance and minimization measures before temporary or permanent exclusion and closure of burrows is implemented, in order to avoid take.[262]

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[258] Cashen Comments, p. 32.
[259] Cashen Comments, p. 32.
[260] RDEIR, p. 4.4-50.
[261] RDEIR, p. 4.4-50.
[262] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, p. 10.

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Despite unambiguous guidance from the CDFW to avoid passive relocation if possible, the RDEIR permits the Applicant to displace owls from their burrows without having to consider "all possible avoidance and minimization measures."[263]

Cashen further explains that research on this issue has shown that passive relocation is most likely to be successful when there are suitable replacement burrows within 100 meters of the destroyed burrow(s), and when foraging habitat adjacent to the replacement burrow(s) is protected.[264] The CDFW's Staff Report suppots this, stating that "[i]deally, exclusion and burrow closure is employed only where there are adjacent natural burrows and non-impacted, sufficient habitat for burrowing owls to occupy with permanent protection mechanisms in place."[265] Cashen states that the likelihood that passive relocation would significantly impact burrowing owls at the Project site cannot be evaluated because: (1) the Applicant has not prepared a Burrowing Owl Exclusion Plan; and (2) the RDEIR does not describe the distribution and abundance of suitable replacement burrows and foraging habitat adjacent to the Project site. **7-N4**

Finally, the RDEIR allows the Applicant to disturb occupied burrowing owls during the breeding season if a qualified biologist verifies through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.[266] These exemptions, however, were derived from an outdated Staff Report and are no longer accepted by the CDFW.[267]

3. <u>The RDEIR's Proposed Habitat Compensation Mitigation is Inadequate to Reduce Impacts to Less Than Significant</u>

The previous DEIR and FEIR for the Project incorporated two measures to ascertain the appropriate amount of compensatory mitigation for Project impacts to burrowing owls and their habitat: (1) site-specific analysis, and (2) consultation with the CDFW.[268] Both measures were inexplicitly removed from the RDEIR, even though CDFW guidance identifies these two measures as "integral components of **7-O4**

[263] Cashen Comments, p. 33.
[264] *Ibid.*
[265] *Ibid.*
[266] RDEIR, p. 4.4-50.
[267] Kern County. 2014. Kingbird Solar Photovoltaic Project, Vol 3, Chapter 7, comment 5E.
[268] RDEIR, pp. 4.4-51 and -52; Cashen Comments, p. 34.

an effective mitigation strategy."[269] Even in the FEIR, the County acknowledged: "site-specific analysis allows for better protection of burrowing owl" and that consultation with the CDFW "would ensure that mitigation lands are provided sufficiently to mitigate project impacts to the species to a less than significant level."[270] The failure to include these recommended mitigation measures is arbitrary. Without explanation and evidence showing that these measures are unnecessary, the RDEIR's finding that the remaining proposed mitigation measure are sufficient to prevent significant impacts is arbitrary and lacks evidentiary support.

7-O4

The RDEIR's assumption that conservation of just 10 acres of foraging habitat for each pair of owls that is passively relocated would be sufficient to avoid significant impacts is also not supported by substantial evidence.[271] Cashen concludes that the RDEIR's proposal suffers the following flaws:[272]

1. The RDEIR fails to provide any scientific evidence justifying 10 acres as being sufficient to mitigate Project impacts to a less than significant level. As indicated in CDFW's 2012 Staff Report: "the current scientific literature supports the conclusion that mitigation for permanent habitat loss necessitates replacement with an equivalent or greater habitat area," and that "offsite mitigation may not adequately offset the biological and habitat values impacted on a one to one basis."[273] The continued decline of the species in the Antelope Valley and the rest of the state, underscores the failure of compensatory mitigation requirements to protect Swainson's hawk habitat sufficiently to reduce habitat loss impacts below a level of significance.[274]

7-P4

2. The 10 acre compensatory mitigation proposal is inconsistent with CDFW guidance. Ten acres would be on the low end even under CDFW's prior

7-Q4

[269] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, pp. 8 through 12.

[270] FEIR, pp. 7-302 and -303.

[271] RDEIR, p. 4.4-51.

[272] Cashen Comments, pp. 34-35.

[273] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, pp. 8 and 12.

[274] Wilkerson RL and RB Siegel. 2011. Distribution and Abundance of Western Burrowing Owls (*Athene Cunicularia Hypugaea*) in Southeastern California. The Southwestern Naturalist 56(3): 378-384. *See also* Wilkerson RL and RB Siegel. 2010. Assessing changes in the distribution and abundance of burrowing owls in California, 1993-2007. Bird Populations 10:1-36.

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guidance that the protection of 6.5 to 19.5 acres of foraging habitat for each bird (or pair of birds) requiring translocation. Those guidelines are no longer accepted by the CDFW because they have *proven ineffective* in the conservation of burrowing owls.[275] The RDEIR provides no rationale or evidence to support why the provision of 10 acres of compensatory habitat per pair of burrowing owls requiring translocation would be sufficient here. Given the rate of habitat conversion for solar projects in Antelope Valley and the continued decline of Antelope Valley's burrowing owl population, there is no reason to assume that compliance with the low end of out-of-date CDFW mitigation ratio recommendations would be sufficient to mitigate Project impacts to a less than significant level. **7-Q4**

3. The RDEIR suggests the Applicant will provide compensatory mitigation "for lost breeding and/or wintering habitat" in accordance with the CDFW Staff Report.[276] This mitigation measure cannot be accomplished because the Applicant has not surveyed the site to determine its use by wintering owls.[277] In addition, the RDEIR does not require a breeding season survey even though it indicates the site may be used more extensively by breeding owls "than previously anticipated by the 2011 BRTR".[278] Because the RDEIR requires only a single pre-construction survey within 14 days of construction (which would provide data on breeding owls, or wintering owls, but not both), the RDEIR allows the Applicant to impact burrowing owl habitat without any knowledge of how that impact would affect the wintering population, or alternatively, the current breeding population. It is not possible to effectively assess the extent of Project impacts on burrowing owls, or ensure effective mitigation, until surveys that adhere to CDFW guidelines have been conducted. Accordingly, the RDEIR's sole reliance on preconstruction surveys to determine the level of mitigation required is arbitrary and not supported by substantial evidence. **7-R4**

4. Habitat loss, degradation, and fragmentation are the greatest threats to burrowing owls in California.[279] The proposed Project would eliminate, **7-S4**

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[275] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, p. 1.

[276] RDEIR, p. 4.4-51.

[277] Cashen Comments.

[278] RDEIR, Appendix N, p. 9.

[279] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>, p. 22.

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degrade, and fragment at least 1,402 acres of burrowing owl habitat. The Project site is known to be occupied by breeding burrowing owls. Nevertheless, the RDEIR only requires compensatory mitigation *if* burowing owls are detected during the pre-construction surveys, and then only *if* owls need to be relocated from their burrows. Significant impacts to burrowing owls due to habitat loss, degradation, and fragmentation is not limited to owls that are passively relocated.[280] Furthermore, the failure to locate burrowing owls during a pre-construction survey is not sufficient evidence that the site is no longer occupied.[281] Therefore, the need for compensatory mitigation should not be contingent solely on the results of the pre-construction surveys.

7-S4

5. According to the RDEIR, mitigation land for passive relocation of burrowing owls may be combined with other off-site mitigation requirements of the Project. The RDEIR fails to provide evidence that compensatory habitat at a distant location (e.g., in the Central Valley) would mitigate impacts to owls that are displaced from the Project site. Furthermore, it fails to identify how compensatory habitat would be "deemed suitable to support the species" and that it "is comparable to or better than that of the impact area."[282]

7-T4

6. The RDEIR allows the Applicant to conserve *unoccupied* burrowing owl habitat as mitigation for Project impacts to *occupied* burrowing owl habitat. Provision of unoccupied habitat does not mitigate impacts to occupied habitat unless measures are taken to improve habitat conditions at the mitigation site, followed by monitoring that reveals colonization of the mitigation site by burrowing owls.[283] Accordingly, the RDEIR lacks substantial evidence for its assumption that conservation of *unoccupied* burrowing owl habitat would be sufficent to reduce burrowing owl impacts below a level of significance. Conservation of *occupied* burrowing owl habitat is feasible and should be required unless proof of future colonization of the *unoccupied* burrowing owl habitat is required.

7-U4

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[280] Cashen Comments.
[281] Cashen Comments.
[282] RDEIR, pp. 4.4-51 and -52.
[283] Cashen Comments.

2467-008j

7. The RDEIR does not identify success criteria for the Burrowing Owl Exclusion Plan or the compensatory mitigation site. As a result, it lacks substantial evidence to support its assumption that these future actions will be sufficient to reduce impacts below a level of significance. 7-V4

8. For all the above reasons, the proposed mitigation aimed at reducing Project impacts to burrowing owls to less than significant levels is inadequate. 7-W4

Due to the issues discussed above, the RDEIR lacks substantial evidence to support its conclusion that its proposed mitigation of burrowing owl impacts would be sufficient to reduce those impacts below a level of significance. Accordingly, the RDEIR must be revised to evaluate and mitigate impacts to burrowing owls in compliance with the requirements of CEQA. 7-X4

VI. A SECOND REVISED DRAFT EIR MUST BE RECIRCULATED FOR PUBLIC REVIEW

A Draft EIR must be recirculated if: (1) it reveals new substantial environmental impacts not disclosed in the draft EIR; (2) it reveals a substantial increase in the severity of impacts (unless mitigated); (3) comments have been received that identify new feasible mitigation measures, but the feasible mitigation measures are not adopted; or (4) it is so fundamentally and basically inadequate and conclusory in nature that public comment on the draft EIR was essentially meaningless.[284] 7-Y4

The courts have held that the failure to recirculate an EIR turns the process of environmental evaluation into a "useless ritual" which could jeopardize "responsible decision-making."[285] Both the opportunity to comment and the preparation of written responses to those comments are crucial parts of the EIR process.

[284] CEQA Guidelines § 15088.5, subd. (a).
[285] *Sutter Sensible Planning v. Sutter County Board,* (1981) 122 Cal.App.3d 813, 822.

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These comments have identified substantial environmental impacts that were again not discussed at all in the RDEIR or were not meaningfully considered. These include direct and cumulative impacts on special status species, air quality impacts, and agricultural impacts. The RDEIR must be withdrawn, revised and recirculated to properly evaluate these impacts.[286]

These comments have also identified feasible mitigation measures for significant, unmitigated impacts that have not been evaluated or proposed for adoption by the RDEIR. Under CEQA Guidelines, a Draft EIR must be revised and recirculated to allow for public comment on these unadopted, feasible mitigation measures.[287] These deficiencies result in an RDEIR "so fundamentally inadequate and conclusory in nature that public comment on the draft was in effect meaningless."[288] The RDEIR must be revised to correct its errors, fully disclose and evaluate all Project impacts and to identify feasible mitigation that is enforceable and effective. Once those corrections are made, recirculation for public comment and review of these revisions is required.

7-Y4

VII. CONCLUSION

This Project is one of approximately 48 approved or proposed solar power plants that will cumulatively covert over 35,000 acres of agricultural land and special status species habitat to an industrial use.[289] While these projects will employ solar technology, each one will unavoidably tax the State's limited water, land, air, and biological resources to a potentially significant cumulative extent. In addition, many of the projects are on agricultural land that has provided substantial employment to Kern County residents - employment opportunities that will not be replaced by the meager operational staff required to operate these land intensive solar projects. Due to the unprecedented scope of large scale development projects taking place in this region, it is essential that the County's EIR adequately identify and analyze the Project's foreseeable direct, indirect and cumulative impacts. It is also imperative that any and all feasible mitigation measures be presented and discussed. Indeed, CEQA requires nothing less.

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[286] CEQA Guidelines § 15088.5, subd. (a).
[287] *Id.*
[288] *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1130.
[289] http://www.co.kern.ca.us/planning/pdfs/renewable/solar_projects.pdf

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As discussed above, the Project will result in significant impacts in a number of areas, including air quality, biological resources, and agricultural resources. The RDEIR continues to mischaracterize, underestimate, or fail to identify many of these impacts, despite our previous comments pointing out these errors in the environmental review process. Furthermore, many of the mitigation measures relied upon by the RDEIR will not in fact mitigate impacts to the extent claimed. The RDEIR must be revised again in order to resolve its inadequacies and must be recirculated for public review and comment.

7-Z4

Sincerely,

Thomas A. Enslow

TAE:ljl

Attachments: A compact disc with referenced documents is provided. Paper copies of these documents will be provided upon request.

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