



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
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EDMUND G. BROWN JR., Governor
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Governor's Office of Planning & Research

March 13, 2020

MAR 13 2020

STATE CLEARINGHOUSE

Randall Cates, Planner III
Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, California 93301-2323

Subject: EIR 06-17; AV Apollo Solar (Project)
Draft Environmental Impact Report (DEIR)
SCH No. 2017081038

Dear Mr. Cates:

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

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects on the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code. CDFW acknowledges that our comments are arriving past the comment period deadline. CDFW respectfully requests that our comments be reviewed and incorporated into the final Environmental Impact Report (EIR) as appropriate prior to the Project being heard for approval.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State (Fish and G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd.

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

(a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

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

In this role, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (e.g., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

Protected Furbearing Mammals: CDFW has jurisdiction over furbearing mammals pursuant to Title 14, California Code of Regulations, section 460. This section states, "Fisher, marten, river otter, desert kit fox and red fox may not be taken at any time"; therefore, CDFW cannot authorize their take.

PROJECT DESCRIPTION SUMMARY

Proponents: Sunbow Solar I LLC, Syracuse Solar LLC and Tours Solar LLC

Objective: The Project proponents are requesting the following: (a) three (3) Conditional Use Permits (CUPs), each to allow for the construction and operation of a 20 megawatt (MW) solar photovoltaic electrical generating facility (Site 1=Syracuse; Site 2=Tours; Site 3=Sunbow) for a total of 493.5 acres of undeveloped desert land. Depending upon market conditions, the Project may also include or be developed with up to 60 MWs of advanced energy battery storage units; (b) one CUP to allow for the construction and operation of a communication tower on the Syracuse Site (CUP 41, Map 214); and (c) an Amendment to the Circulation Element of the Kern County General Plan to eliminate future road reservation along the east-west mid-section line in Section 19, T10N/R13W SBB&M, in Zone Map 214 (General Plan Amendment 5, Map 214).

The Project components would include PV panels, service roads, a communication tower, communication cables, overhead and underground transmission lines, an electrical switching station, up to 3 substations, up to 3 operations and maintenance facilities, and 125 feet of off-site generation tie-in (gen-tie) lines to connect to the existing Southern California Edison Antelope-Cal Cement-Rosamond 66-kilovolt overhead distribution lines that run parallel to Backus Road.

Location: The Project is located approximately 9 miles southwest of the unincorporated community of Mojave and approximately eight miles northwest of the unincorporated community of Rosamond, generally bound by Trotter Avenue to the North, the Golden Gate Avenue alignment to the south, Tehachapi Willow Springs Road to the east, and 100th Street West to the west. The Project is located in Sections 18 and 19, Township 10 North, Range 13 West, SBB&M, County of Kern, State of California.

Timeframe: Unspecified.

RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the County in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

I. Environmental Setting and Related Impact

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?

Review of the California Natural Diversity Database (CNDDB) reveals records for several special-status species within the vicinity of the Project area including, but not limited to, the State candidate-listed as endangered Crotch bumble bee (*Bombus crotchii*), the State and federally threatened desert tortoise (*Gopherus agassizii*); the State threatened Mohave ground squirrel (*Xerospermophilus mohavensis*); the State threatened Swainson's hawk (*Buteo swainsoni*); and the State protected furbearing mammal desert kit fox (*Vulpes macrotis* ssp. *macrotis*). Per the draft EIR and a review of aerial imagery, the Project site is vacant desert habitat. The Project therefore has the potential to impact biological resources. An analysis of potential impacts and recommended mitigation measures, summarized by species, follows below.

Comment 1: Crotch Bumble Bee (CBB)

Issue: On June 28, 2019, the Fish and Game Commission published findings of its decision to advance CBB to candidacy as endangered. Pursuant to Fish and Game Code section 2074.6, CDFW has initiated a status review report to inform the Commission's decision on whether listing of CBB, pursuant to CESA, is warranted. During the candidacy period, consistent with CEQA Guidelines, section 15380, the status of the CBB as a candidate species under CESA (Fish & G. Code, § 2050 et seq.) qualifies it as an endangered, rare, or threatened species under CEQA. It is unlawful to import into California, export out of California or take, possess, purchase, or sell within California, CBB and any part or product thereof, or attempt any of those acts, except as authorized pursuant to CESA. Under Fish and Game Code section 86, take means to hunt, pursue, catch, capture, or kill, or to attempt to hunt pursue, catch, capture, or kill. Consequently, take of CBB during the status review period is prohibited unless authorization pursuant to CESA is obtained. The DEIR states on page 4.4-19 that impacts to individual CBB would not be significant; however, no information is provided to support the finding, nor does it include any avoidance, minimization or mitigation measures for the species. CDFW does not know how the threshold for significance was determined and cannot conclude the Project will avoid significant impacts to the species.

CBB are generalist foragers using a wide variety of flowering plants. Suitable CBB habitat includes areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows. CBB primarily nest in late February through late October underground in abandoned small mammal burrows, but may also nest under perennial bunch grasses or thatched annual grasses, under brush piles, in old bird nests, and in dead trees or hollow logs (Williams et al. 2014; Hatfield et al. 2015). Overwintering sites utilized by CBB mated queens include soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Therefore, ground disturbance and vegetation removal associated with Project construction and maintenance has the potential to significantly impact local CBB populations.

Specific impact: Without appropriate avoidance and minimization measures for CBB, potentially significant impacts associated with ground- and vegetation-disturbing activities associated with construction of the Project include loss of foraging plants, changes in foraging behavior, burrow collapse, nest abandonment, reduced nest success, reduced health and vigor of eggs, young and/or queens, in addition to direct mortality by squashing or collisions with vehicles or equipment in violation of Fish and Game Code.

Evidence impact is potentially significant: CBB was once common throughout most of the central and southern California; however, it now appears to be absent from most of it, especially in the central portion of its historic range within California's Central Valley (Hatfield et al. 2014). Analyses by the Xerces Society et al. (2018) suggest there have been sharp declines in relative abundance by 98% and persistence by 80% over the last ten years.

Recommended Potentially Feasible Mitigation Measure(s)

To evaluate potential impacts to CBB associated with the Project, CDFW recommends incorporating the following mitigation measures into the EIR prepared for this Project and implementing the following mitigation measures as a condition of approval for the Project.

Recommended Mitigation Measure 1: CBB Surveys

CDFW recommends that a qualified biologist conduct focused surveys for CBB and their requisite habitat features to evaluate potential impacts resulting from ground- and vegetation-disturbance associated with Project ground-disturbing activities.

Recommended Mitigation Measure 2: CBB Take Avoidance

If surveys cannot be completed, CDFW recommends that all small mammal burrows and thatched/bunch grasses be avoided by a minimum of 50 feet to avoid take and potentially significant impacts. If ground-disturbing activities will occur during the overwintering period (October through February), consultation with CDFW is warranted to discuss how to implement Project activities and avoid take.

Recommended Mitigation Measure 3: CBB Take Authorization

If CBB is observed in the Project area, consultation with CDFW is warranted to determine if the Project can avoid take. If take cannot be avoided, take authorization prior to any ground-disturbing activities may be warranted. Take authorization would occur through issuance of an Incidental Take Permit (ITP) by CDFW, pursuant to Fish and Game Code section 2081(b).

COMMENT 2: Desert Tortoise

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

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

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

tortoise habitat through conversion, may increase habitat fragmentation, and expand urbanization into the area.

Recommended Potentially Feasible Mitigation Measure(s)

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

Recommended Mitigation Measure 4: Desert Tortoise Surveys

The DEIR states that protocol-level survey efforts conducted in 2016 found a potential desert tortoise burrow. Because the surveys were conducted approximately four years ago, there is the potential for desert tortoise to have moved onto the Project site. CDFW recommends that a qualified biologist conduct protocol-level surveys following the USFWS's "Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*)" (USFWS 2017). In addition, CDFW advises pre-construction surveys for desert tortoise be conducted within 10 days of Project implementation.

Recommended Mitigation Measure 5: Desert Tortoise Take Authorization

If desert tortoise are found within the Project area during protocol-level surveys, preconstruction surveys, or during construction activities, consultation with CDFW is advised to discuss how to implement the Project and avoid take; or if avoidance is not feasible, to acquire an ITP prior to any ground-disturbing activities, pursuant Fish and Game Code § 2081(b).

COMMENT 3: Mohave ground squirrel (MGS)

Issue: Based on aerial imagery, the Project site appears to contain suitable habitat for MGS and there is potential for MGS to occur on the Project site (CDFW 2020a).

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

Evidence impact is potentially significant: Major threats to the MGS are drought, habitat destruction, habitat fragmentation, and habitat degradation (Gustafson 1993). MGS is restricted to a small geographic range and the greatest habitat loss has occurred near desert towns including California City (Gustafson 1993). Natural cycling is anticipated in MGS populations, therefore, the true indicators of the status of the species are the quantity, pattern of distribution, and quality of habitat

(Gustafson 1993). Project activities may result in the loss of potential MGS habitat through conversion, may increase habitat fragmentation, and expand urbanization into the area.

Recommended Potentially Feasible Mitigation Measure(s)

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

Recommended Mitigation Measure 6: Mohave ground squirrel surveys

CDFW recommends that a qualified permitted biologist conduct protocol surveys for MGS following the methods described in the "Mohave Ground Squirrel Survey Guidelines" (CDFG 2003) during the appropriate survey season prior to Project implementation, including any vegetation- or ground-disturbing activities. Results of the MGS surveys are advised to be submitted to the CDFW. Please note MGS surveys are valid for one year and CDFW recommends surveys be conducted within a year of the start of ground-disturbing activities.

Recommended Mitigation Measure 7: Mohave ground squirrel avoidance

If protocol surveys will not be conducted, in order to implement full avoidance for MGS, CDFW recommends a 50-foot no-disturbance buffer be employed around all burrows that could be used by MGS.

Recommended Mitigation Measure 8: Mohave ground squirrel Take Authorization

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

COMMENT 4: Swainson's Hawk (SWHA)

Issue: SWHA have the potential to nest near the Project site, and forage within the Project site. The CNDDDB has 3 SWHA records located less than 1 mile southwest from the Project site (CDFW 2020a).

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

Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year. Approval of the Project may lead to subsequent ground-disturbing activities that involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment and loss of foraging habitat, significantly impacting local nesting SWHA.

Recommended Potentially Feasible Mitigation Measure(s)

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

Recommended Mitigation Measure 9: SWHA No-disturbance Buffer

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

Recommended Mitigation Measure 10: SWHA Take Authorization

In the event an active SWHA nest is detected and a ½-mile no-disturbance buffer is not feasible, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the issuance of an ITP, pursuant to Fish and Game Code section 2081(b) is necessary to comply with CESA.

Recommended Mitigation Measure 11: Loss of SWHA Foraging Habitat

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

Recommended Mitigation Measure 12: SWHA Nest Trees

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

II. Editorial Comments and/or Suggestions

Notification of Lake and Streambed Alteration: CDFW has regulatory authority with regard to activities occurring in streams and/or lakes that could adversely affect any fish or wildlife resource, pursuant to Fish and Game Code sections 1600 et seq. Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; or (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial in nature.

For additional information on notification requirements, please contact our staff in the Lake and Streambed Alteration Program at (559) 243-4593. It is important to note, CDFW is required to comply with CEQA, as a Responsible Agency, when issuing a Lake or Streambed Alteration Agreement (LSAA). If inadequate, or no environmental review, has occurred, for the Project activities that are subject to notification under Fish and Game Code section 1602, CDFW will not be able to issue the Final LSAA until CEQA analysis for the project is complete. This may lead to considerable Project delays.

Desert Kit Fox: The proposed Project site is within desert kit fox range and, as stated in the Biological Assessment, contains two potential desert kit fox dens. The desert kit fox is protected under Title 14, California Code of Regulations, Section 460, which prohibits take of the species at any time. CDFW recommends that the USFWS "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (2011) be followed and that surveys be conducted

accordingly and prior to commencing any Project-related activities. Two potential desert kit fox dens have been observed in the Project area and consultation with CDFW would be warranted for guidance on take avoidance measures for the desert kit fox.

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

Habitat within the Project area likely provides nesting habitat for birds. For this reason, CDFW encourages Project implementation occur during the non-nesting bird season. However, if ground-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

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

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

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status-species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form can be found at the following link:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data#44524420-pdf-field-survey-form>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

FILING FEES

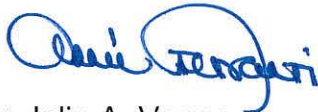
If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is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

CONCLUSION

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

If you have any questions, please contact Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014, extension 254, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,



 Julie A. Vance
Regional Manager

Attachment

Literature Cited

- CDFG, 2003. Mohave Ground Squirrel Survey Guidelines. California Department of Fish and Game, January 2003.
- California Energy Commission and California Department of Fish and Game (CEC & CDFG). 2010. Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California. California Department of Fish and Game. 2 June 2010.
- CDFW, 2020a. Biogeographic Information and Observation System (BIOS). <https://www.wildlife.ca.gov/Data/BIOS>. Accessed February 24, 2020.
- CDFW, 2020b. California Wildlife Habitat Relationship System, Desert Tortoise. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2659&inline=1>. Accessed February 24, 2020.
- Doak, D., Kareiva, P. and Kleptka, B., 1994. Modeling Population Viability for the Desert Tortoise in the Western Mojave Desert. Ecological Applications, August 1994.
- Goulson, D. 2010. Bumblebees: behaviour, ecology, and conservation. Oxford University Press, New York. 317pp.
- Gustafson, J., 1993. Report to the Fish and Game Commission: A Status Review of the Mohave Ground Squirrel (*Spermophilus mohavensis*). California Department of Fish and Game, March 1993.
- Hatfield, R, S. Colla, S. Jepsen, L. Richardson, R. Thorp, and S. Foltz Jordan. 2014. Draft IUCN Assessments for North American *Bombus* spp. for the North American IUCN Bumble Bee Specialist Group. The Xerces Society for Invertebrate Conservation, www.xerces.org, Portland, OR.
- Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. *Bombus crotchii*. The IUCN Red List of Threatened Species. <http://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937582A46440211.en>. Accessed February 21, 2020.
- USFWS, 2011. Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. United States Fish and Wildlife Service, January 2011.
- USFWS, 2017. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). United States Fish and Wildlife Service, August 2017.

Williams, P. H., R. W. Thorp, L. L. Richardson, and S .R. Colla. 2014. Bumble bees of North America: An Identification guide. Princeton University Press, Princeton, New Jersey. 208pp.

Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and Center for Food Safety. 2018. A petition to the state of california fish and game commission to list the Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. October 2018.

Attachment 1

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

PROJECT: EIR 06-17; AV Apollo Solar Project

SCH No.: 2017081038

RECOMMENDED MITIGATION MEASURE	STATUS/DATE/INITIALS
<i>Before Disturbing Soil or Vegetation</i>	
Mitigation Measure 1: CBB Surveys	
Mitigation Measure 2: CBB Take Avoidance	
Mitigation Measure 3: CBB Take Authorization	
Mitigation Measure 4: Desert Tortoise Surveys	
Mitigation Measure 5: Desert Tortoise Take Authorization	
Mitigation Measure 6: Mohave ground squirrel surveys	
Mitigation Measure 7: Mohave ground squirrel avoidance	
Mitigation Measure 8: Mohave ground squirrel Take Authorization	
Mitigation Measure 9: SWHA No-disturbance Buffer	
Mitigation Measure 10: SWHA Take Authorization	
Mitigation Measure 11: Loss of SWHA Foraging Habitat	
Mitigation Measure 12: SWHA Nest Trees	
<i>During Construction</i>	
Mitigation Measure 2: CBB Take Avoidance	
Mitigation Measure 7: Mohave ground squirrel avoidance	
Mitigation Measure 9: SWHA No-disturbance Buffer	