Significant Ecological Areas Biological Constraints Analysis and Biota Report for the Catalina Airport Solar Project on Santa Catalina Island County of Los Angeles, California

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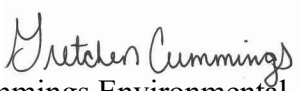
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Attachments:

Table 1 – Vascular Plants Observed During the Biological Survey at the Catalina Airport Solar Project Study Area Near the Buffalo Springs Significant Ecological Area on Santa Catalina Island
Table 2 – Wildlife Species Observed During the Biological Survey at the Catalina Airport Solar Project Study Area Near the Buffalo Springs Significant Ecological Area on Santa Catalina Island
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Figure 1 – Catalina Airport Solar Project Shown in Relation to the Buffalo Springs SEA on the U.S.G.S 7½-min Santa Catalina North Quad Map
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I. Introduction

A. Project Description

The Catalina Airport Solar Project is located between Avalon and Two Harbors on the east side of Catalina Island. Specifically, the proposed project impact site and study area (which extends out 200-feet from the edge of the proposed impact area) is found on the north side of Airport Road just south of the Catalina Airport runway (see Figures 1 and 2). This Biological Constraints Analysis and Biota Report is being prepared by Gretchen Cummings of Cummings Environmental, Inc. due to the property's proximity to the Buffalo Springs Significant Ecological Area (SEA) – see Figures 1 and 2.

The proposed solar project area encompasses approximately 0.63-acre of land located on the surrounding grounds of the Santa Catalina Island's Airport in the Sky. The Airport in the Sky is a small private aircraft runway that hosts a public restaurant, nature center, and a visitor's center on the airport grounds which operates from 8:00 am to 4:00 pm. Through the leveling and blasting of the adjoining two peaks, the airport was constructed in 1941. The proposed impact area is 790-feet to the southeast of the Buffalo Springs SEA at its closest point. As can be seen on Figure 2, the Buffalo Springs SEA is situated on the north side of the airport runway while the proposed solar project location is on the south side of the airport runway. The solar system will be situated on the south-facing slope located south of the airport and north of Airport Road. This location is currently not accessible to the public. As can be seen in Figure 3, the study area which is defined as the impact area plus 200-feet around the impact area contains development and native habitat. No public trails pass through the area, and it is bounded on three sides by development.

The proposed project is a high-profile solar project highlighting the Catalina Island Conservancy's efforts and commitment to sustainable use of natural resources on the island. The project consists of a 10,400 square foot, non-invasive ground mounted (chosen method to allow for little to no grading at site), grid-tied solar photovoltaic (PV) system installation (see Appendix A for the site plans). The photovoltaic installation will be fenced around the perimeter of the panels. All materials for the project will be driven up to the site from Avalon along the existing Airport Road.

B. Summary of Project Impacts and Impact Avoidance Measures

The proposed solar project location is not located within the Buffalo Springs SEA but is found 790-feet to the southeast of this SEA. Given this proximity, an analysis of the proposed solar project and the biological resources found at this location was conducted to see if there would be any impacts to the nearby SEA. As proposed, there will be no direct impacts to the Buffalo Springs SEA. The proposed location of the solar project is on the opposite side of the airport runway

from the SEA approximately 790-feet at its closest point. All materials will be transported to the site via the Airport Road which is also located on the south side of the airport runway. As such, no additional vehicular traffic will pass through the SEA.

The project will result in 0.36-acre of direct, permanent impacts and 0.09-acre of direct, temporary impacts to native vegetation near the Buffalo Springs SEA. Specifically, the 0.36-acre of permanent impacts and 0.09-acre of temporary impacts within the project site contain native vegetation consisting of a *Rhus integrifolia* Shrubland Alliance. As can be seen in Figure 3, the impact area has been situated adjacent to Airport Road and an abandoned utility road in an area with fewer shrubs and disturbed edges.

Two sensitive plant species, the Nuttall's Island Bedstraw (*Galium nuttallii ssp. insulare*) and Palmer's Grapplinghook (*Harpagonella palmeri*) were identified within the proposed solar project location (see Figure 3). One individual Nuttall's Island Bedstraw will be impacted by the solar project but all of the Palmer's Grapplinghook plants have been avoided through project design and avoidance measures.

There are several bird species protected under the Migratory Bird Treaty Act that could nest within the proposed impact area. As such, it is recommended the removal of native vegetation be conducted outside of the breeding bird season. The breeding bird season generally occurs between 15 February and 31 August.

With regard to birds, it should also be noted that the undersigned contacted Dr. Peter Sharpe of the Institute for Wildlife Studies and Julisa Portugal, Environmental Scientist for the California Department of Fish and Wildlife, regarding the reintroduction and monitoring of the Bald Eagle and Peregrine Falcon on Santa Catalina Island. Emails between Julisa Portugal and the undersigned occurred in March and April of 2023. In the most recent email exchange on 7 April 2023, Julisa stated that, "From my knowledge, there are no Bald Eagle and Peregrine Falcon reintroduction programs that CDFW is currently implementing. In the 1970's, there were reintroduction programs for these species, but I don't believe these are active programs." However, she went on to say that the CEQA document for the project should discuss impacts to these species. Following is an analysis of the data Dr. Sharpe emailed on 1 April 2023 for the nine Bald Eagle territories monitored by the Institute for Wildlife Studies on Santa Catalina Island in 2022 and an analysis of Dr. Sharpe's paper on the monitoring results for the Peregrine Falcon on Santa Catalina Island in 2022. Per Dr. Sharpe's Bald Eagle data, the closest Bald Eagle nest to the study area is 1.7-miles to the northeast at Twin Rocks. There are no suitable nest sites or foraging opportunities for the Bald Eagle within the study area as it is located inland from the coastline just south of the Santa Catalina Island's Airport in the Sky and it does not contain tall trees or large rock outcrops. As such, there will be no impacts to the Bald Eagle. According to Dr. Sharpe's paper on the monitoring

results for the Peregrine Falcon, two territories were observed on Santa Catalina Island in 2022. The closest Peregrine Falcon nest from the proposed project is 6.4-miles to the southeast at Lone Tree. As with the Bald Eagle, there are no suitable nest sites within the study area. There are no cliff faces or tall trees. However, the study area does contain potential prey species, but as mentioned above, the closest nest is 6.4-miles away, so impacts to potential foraging habitat for this species are not expected.

Lastly, although there is a low probability that the Santa Catalina Island Fox occupies the leased property, certain avoidance measures and precautions are recommended. First, it is recommended that the use of mechanical equipment be avoided if at all possible, but at a minimum, it should limited to outside of the mating and denning season (this season occurs from late January when mating begins through the end of July when the pups leave the den). Second, it is recommended that any pipes, trenches, or holes should be covered when not being actively worked on OR are equipped with escape ramps for any animals that could fall into them.

II. Methodology of Biological Survey

The proposed solar project location was surveyed by the author on 3 April 2023 (see Table A below). The entire impact area plus an additional 200-feet beyond the edges of the impact area (cumulatively referred to as the study area) was walked. During this field visit, the survey focused on vegetation, sensitive plants, and wildlife species. Transects were walked during the vegetation surveys. A comprehensive plant species list was recorded, and habitats were mapped on an aerial photo. Sensitive plant species locations were recorded with a GPS unit. During the wildlife survey portion of the visit, all sign (including track, scat, and others), direct observation, and auditory inputs (such as songs and calls) were utilized to identify the species present.

Table A. Field Visit Date and Weather Data

Survey	Date	Beginning of Observation Period				End of Observation Period			
		Time	Cloud Cover	Wind	Air Temp	Time	Cloud Cover	Wind	Air Temp
Vegetation and Wildlife	3 Apr	0800	100%	8.2 – 15.1 mph	47.4°F	1015	25%	9.7 – 16.4 mph	53.6°F

III. Site Characteristics

A. SEA and Project Location Description

The proposed solar project location is found approximately 790-feet to the southeast of the Buffalo Springs SEA. The Buffalo Springs SEA is an approximately 50-acre SEA containing two water reservoirs surrounded by native vegetation. A dirt road winds along the northern section of the SEA, and the Trans Catalina Trail (a pedestrian trail) bisects the SEA in a northeasterly/southwesterly fashion (see Figure 2).

The Buffalo Springs SEA is separated from the proposed location of the solar project by the Catalina Airport runway. The runway is elevated above both the Buffalo Springs SEA and the proposed solar project location. The runway is on the northern edge of the airport facility. It is laid out in a northeast/southwest alignment. The land slopes down to the north from the runway into the Buffalo Springs SEA. The southern portions of the airport facility include a restaurant, visitor center, airplane storage/parking, and a native garden. The Airport Road occurs south of the airport facility and provides the vehicular access to the airport. The proposed solar project location is in between the airport and Airport Road on a gentle, south-facing slope occupied by native vegetation but surrounded on three sides by development (see Figure 3).

B. Description of Natural Geographic Features

The underlying geology mapped at the proposed solar project site is Serpentine from the early Mesozoic period (Rowland, 1984). This area has been identified as a location of convergent plate boundaries.

C. Vegetative Community Descriptions

There are two vegetation classifications within the Catalina Airport solar panel study area: Developed Area; and *Rhus integrifolia* Shrubland Alliance. Please see Figure 3 for a vegetation map of the Sawyer, Keeler-Wolf, Evans (2009) alliances, and Table 1 for a list of vascular plant species observed during the field survey. As described above, the study area consists of the project impact area plus 200-feet around the impact area. The study area encompasses approximately 6.3-acres, and the proposed project site occupies roughly 0.63-acre of those 6.3-acres that were surveyed. Please see photo 5a in Figure 5 and the photo location on Figure 4 for a picture of the overall survey area taken from the Airport in the Sky patio.

1. Developed Area

Approximately 1.3-acres of the 6.3-acre study area is currently developed (see Figure 3). These developed lands occur outside of the impact area and include Airport Road, a structure on the edge of the airport runway, a portion of the cleared airport grounds, non-native landscaping adjacent to the airport facilities, and an abandoned utility road and shed (see photo location on Figure 4 and photo 5b in Figure 5).

2. *Rhus integrifolia* Shrubland Alliance

The entire impact area is occupied by the *Rhus integrifolia* Shrubland Alliance, as is most of the study area outside of the impact area (see Figures 3, 4, and 6). The area occupied by this alliance contains the following co-dominant species:

Rhus integrifolia	Lemonade Berry
Heteromeles arbutifolia	Toyon
Opuntia littoralis	Coastal Prickly-pear

It should also be noted that one Catalina Cherry (*Prunus ilicifolia* ssp. *lyonii*) was identified in this vegetation classification within the study area but outside of the impact area (see inset to the right and Figure 3 for location). The Catalina Cherry tree was seen just to the south/southwest of the abandoned utility shed northwest of the impact area. This native tree species has three trunks measured at 5", 3", and 2.5" diameter at breast height (dbh).

D. Flora and Fauna

During the field survey, forty-three plant species and only seven wildlife species were documented within the study area (see Tables 1 and 2). The seven wildlife species noted were American Bison, Catalina Ground Squirrel, Feral Cat, Common Raven, Bewick's Wren, House Finch, and Yellow-rumped Warbler. Of the forty-three plant species identified, two of them were sensitive plant species. Those two sensitive plant species were the Nuttall's Island Bedstraw (*Galium nuttallii* ssp. *insulare*) and Palmer's Grapplinghook (*Harpagonella palmeri*). They are described as follows:

1. Nuttall's Island Bedstraw

The Nuttall's Island Bedstraw was observed as a single individual near a cacti patch nestled underneath a Lemonade Berry shrub on the edge of a

cluster of Lemonade Berry and Toyon shrubs (see Figure 3 for location and top photo in Figure 7).

2. Palmer's Grapplinghook

Palmer's Grapplinghook was found on the west edge of the abandoned utility road, on the north side of Airport Road, and in the southwest corner of the impact area (see Figure 3 for locations). The two occurrences outside of the impact area but within the larger study area totaled eighty-four individual plants. The occurrence of this species within the impact area totaled seventy-two individual plants (see bottom photo in Figure 7). Together, the total number of individual plants within the study area is one hundred and fifty-six.

E. Wildlife Movement/Habitat Linkage

The proposed solar project is located just south of Catalina Airport. The runway and airport layout form somewhat of a barrier between the Buffalo Springs SEA to the north of the airport and the proposed project site to the south of the airport. However, the water reservoirs within the Buffalo Springs SEA provide a water source for the wildlife in the area, such as the American Bison, other mammals, and bird species. Evidence of American Bison were noted as dried droppings to the east and south of the impact site but within the study area indicating that wildlife do move throughout the area but probably go around the impact area due to the steep, south-facing slope that occurs on the north side of the impact area. As such, the movement is forced around to the west and east of the impact area on more gently sloping terrain to get from the south to the water reservoirs north of the airport. Since the proposed solar project impact area is nestled up against the south side of the airport on a steep, south-facing slope, American Bison movement is not expected to occur north and south through the impact area, but rather around it to the east and west where there is more gently sloping terrain and more open vegetation. Smaller wildlife, such as the Santa Catalina Island Fox, would not see this steep, south-facing slope as a movement deterrent. As such, the proposed 6-foot high, chain link fence will have 7-inch gaps along the bottom of the fence to allow for passage of these smaller wildlife species. The 6-foot high, chain link fence is required under the California Electrical Code to keep the public from entering the high voltage areas for safety and fire prevention reasons.

IV. Characteristics of the Surrounding Area

As mentioned previously, the proposed solar project impact area is adjacent and south of the Catalina Airport and 790-feet to the southeast of the Buffalo Springs SEA at its closest point. Airport Road runs south of the impact area providing vehicular access to and from the airport. Outside of the developed airport envelope, the surrounding area is occupied by native habitats (see Figure 2).

V. Project Impact Analysis

A. Project Impacts

The proposed solar project will permanently impact 0.36-acre of *Rhus integrifolia* Shrubland Alliance habitat *outside* of an SEA, temporarily impact 0.09-acre *Rhus integrifolia* Shrubland Alliance habitat *outside* of an SEA, and permanently impact one individual of the sensitive plant species, Nuttall's Island Bedstraw. The temporary impacts are due to trenching for the underground conduit which will be buried and a work buffer around the edge of the solar array fencing during installation. The permanent impacts are a result of the solar array and chain link fence around the solar array, 10-feet of brush clearing away from the solar array, and the installation of the utility disconnect.

The mitigation for these impacts will be located north of the airport runway approximately 1,200-feet to the northeast of the impact site (see Figure 2). The mitigation ratio for the 0.36-acre of permanent impacts will be 2:1 ratio (0.72-acre), and the mitigation ratio of the 0.09-acre of temporary impacts will be 1:1 (0.09-acre) totaling 0.81-acre of required mitigation. The Catalina Island Conservancy has identified a 0.81-acre project mitigation area owned by them containing disturbed Lemonade Berry Shrub Alliance vegetation. The Catalina Island Conservancy is planning to restore this project mitigation area by removing invasive plants, installing erosion control measures, and seeding with a mix of Coyote Brush (*Baccharis pilularis*), Bush Sunflower (*Encelia californica*), Goldenbush (*Isocoma menziesii*), Buckwheat (*Eriogonum fasciculatum*), Lupines (*Lupinus* spp.), and California Sagebrush (*Artemisia californica*). Container stock may also be planted including Scrub Oak (*Quercus pacifica*), Lemonade Berry (*Rhus integrifolia*), and possibly Manzanita (*Arctostaphylos* spp.).

B. Project Consistency with SEA CUP Compatibility Criteria

1. The requested development is designed to be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas.

The proposed solar project is *not* located within an SEA. The closest SEA is Buffalo Springs SEA found 790-feet to the northwest on the other side of the Catalina Airport. The proposed project has been positioned close to the existing airport on the south side next to existing development to minimize impacts and reduce edge effects.

Three other locations to the west of the current proposed location were considered but rejected. All three locations were west of the airport building comprising the Airport in the Sky restaurant, gift shop, and nature center, and were close the edge of the runway. These locations were rejected due to their proximity to the runway as they lacked a sufficient runway setback. One location was the same distance

away from the Buffalo Springs SEA as the current proposed location and the other two locations were closer to the Buffalo Springs SEA.

2. The requested development is designed to maintain water bodies, watercourses, and their tributaries in a natural state.

There are no water bodies, watercourses, or tributaries within the proposed solar project impact area.

3. The requested development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state.

The location of the proposed solar project is situated on the south side of the existing airport property north of Airport Road. These existing developed areas already cause wildlife movement to divert around the airport. The proposed solar project will not change that movement pattern.

4. The requested development retains sufficient natural vegetative cover and/or open space to buffer critical resources, habitat areas, or migratory paths.

The proposed solar project will be permanently impacting 0.36-acre of *Rhus integrifolia* Shrubland Alliance habitat *outside* of an SEA and temporarily impacting 0.09-acre of *Rhus integrifolia* Shrubland Alliance habitat *outside* of an SEA within the 0.63-acre project area.

5. The roads and utilities serving the proposed development area located and designed so as not to conflict with critical resources, habitat areas or migratory paths.

The proposed project does not include any new roads. Equipment and materials will be transported to the solar project site via the existing Airport Road. The abandoned utility road and shed will be used as the staging area. The abandoned conduit box associated with the abandoned utility shed will be used so that trenching will not be required.

VI. Impact Avoidance Measures

A. Palmer's Grapplinghook

The solar panel array has been reconfigured to avoid direct impacts to the Palmer's Grapplinghook within the impact area (see Appendix A). A small, permanent exclusionary fence around the population that could be impacted by vegetation maintenance will be erected with an educational sign posted nearby about this sensitive plant species (see Figure 3 for location). The adjacent

population is outside of the proposed vegetation maintenance but inside the chain link fence (again see Figure 3 for location).

To avoid impacts to the Palmer's Grapplinghook individuals outside of the impact area but on the edge of the roads being used for the proposed project, temporary construction fencing, and signs will be placed around the population at the edge of the pavement instructing vehicles to stay on the paved portion during installation of the solar panels (see Figure 3 and Appendix A).

B. Breeding Birds

There are a number of bird species protected under the Migratory Bird Treaty Act that could nest within the proposed impact area. As such, it is recommended that the installation of the solar panels be conducted outside of the breeding bird season. The breeding bird season generally occurs between 15 February and 31 August.

C. Santa Catalina Island Fox

The mating season of the Santa Catalina Island Fox occurs from late January through March with young being born from mid-April through May. The young will spend the first two months in and around the den. By July, the pups have left the den. Although the proposed solar project site has a low probability of being occupied by the Santa Catalina Island Fox, certain avoidance measures are recommended to ensure that no impacts occur to this species. First, it is recommended that the use of mechanical equipment be limited to outside of the mating and denning season (this season occurs from late January when mating begins through the end of July when the pups leave the den). Second, it is recommended that any pipes, trenches or holes should be covered when not being actively worked on OR are equipped with escape ramps for any animals that could fall into them. Third, the 6-foot tall chain link fence will have 7-inch gaps along the bottom to allow for movement of the Santa Catalina Island Fox and other small wildlife through the area.

VII. Conclusions

The proposed solar project impact area is located on 0.63-acre of land located on the surrounding grounds of the Santa Catalina Island's Airport in the Sky. The area is situated to the south of the airport and to the north of Airport Road. The area is currently undeveloped but is surrounded on three sides by development. This proposed solar project will permanently impact 0.36-acre and temporarily impact 0.09-acre of *Rhus integrifolia* Shrubland Alliance habitat containing two sensitive plant species, the Nuttall's Island Bedstraw and Palmer's Grapplinghook. Only one individual Nuttall's Island Bedstraw will be impacted. All the Palmer's Grapplinghook plants have been avoided by project design and through the proposed construction of a split rail fence and

posting of an educational sign as an avoidance measure. As such, these direct impacts are not considered significant.

One indirect impact is to possible nesting avian species due to clearing of nesting habitat. Therefore, it is recommended that the installation of the solar panels occur outside of the avian breeding season which occurs between 15 February and 31 August.

Although the Santa Catalina Island Fox has a low probability of being found within the proposed project impact area, two impact avoidance measures are recommended to ensure that no impacts occur to this species if it were to be found on-site. First, it is recommended that the use of mechanical equipment be limited to outside of the mating and denning season (this season occurs from late January when mating begins through the end of July when the pups leave the den). Second, it is recommended that any pipes, trenches or holes should be covered when not being actively worked on OR are equipped with escape ramps for any animals that could fall into them. Third, the 6-foot tall chain link fence will have 7-inch gaps along the bottom to allow for movement through the area.

Given the location of the project impact area outside of the Buffalo Springs SEA, combined with the insignificant direct impacts and the impact avoidance measures mentioned above, the proposed Catalina Airport Solar Project will not have a significant environmental impact.

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Table 1

Vascular Plants Observed During the Biological Survey at the Catalina Airport Solar Project Study Area Near the Buffalo Springs Significant Ecological Area on Santa Catalina Island County of Los Angeles, California

Plant Family	*Scientific Name* Common Name	Native (N) or Introduced (I)	Occurrence at the Project Site and/or in the Vicinity
Anacardiaceae Sumac Family	*Malosma laurina* Laurel Sumac	N	Uncommon, individual shrubs scattered in the study area.
	Rhus integrifolia Lemonade Berry	N	Common, clustered in patches with Toyon.
	Toxicodendron diversilobum Western Poison Oak	N	Infrequent, but found growing as one large patch in the southern part of the study area.
Arecaceae Palm Family	*Washingtonia robusta* Mexican Fan Palm	I	Uncommon, but clustered in the southwest portion of the study area.
Asteraceae Sunflower Family	*Artemisia californica* California Sagebrush	N	Uncommon, scattered in the northern portion of the study area along the south-facing slope between the structure and the impact area.
	Baccharis pilularis Coyote Brush	N	Infrequent, a few individuals were noted within the study area.

Plant Family	*Scientific Name* Common Name	Native (N) or Introduced (I)	Occurrence at the Project Site and/or in the Vicinity
	Encelia californica California Encelia	N	Uncommon, scattered in the southwestern portion of the study area.
	Heterotheca grandiflora Telegraph Weed	N	Infrequent, a few individuals were noted in the more disturbed areas of the study area.
	Hypochaeris glabra Smooth Cat's Ear	I	Frequent, scattered within the study area in the open, herbaceous habitat.
	Isocoma menziesii Coastal Goldenbush	N	Frequent, scattered within the study area in the open, herbaceous habitat.
	Logfia gallica Daggerleaf Cottonrose	I	Frequent, scattered within the study area in the open, herbaceous habitat.
	Pseudognaphalium californicum California Everlasting	N	Occasional, scattered within the study area in the open, herbaceous habitat.
	Sonchus oleraceus Common Sow Thistle	I	Infrequent, scattered within the study area in the open, herbaceous habitat.
Boraginaceae Borage Family	*Amsinckia menziesii* Common Fiddleneck	N	Infrequent but concentrated along the road to the abandoned utility shed.

Plant Family	*Scientific Name* Common Name	Native (N) or Introduced (I)	Occurrence at the Project Site and/or in the Vicinity
	Harpagonella palmeri Palmer's Grapplinghook	N	Infrequent, but concentrated in a few patches in the southwest corner of the impact area and just outside of the impact area to the west within the study area.
	Pectocarya linearis ssp. *ferocula* Slender Pectocarya	N	Common, found within the herbaceous habitat.
Cactaceae Cactus Family	*Opuntia ficus-indica* Mission Cactus	I	Infrequent, but clustered in a large patch to the northwest of the abandoned utility shed.
	Opuntia littoralis Coastal Prickly-pear	N	Common, forming cacti patches within the study area.
Caryophyllaceae Pink Family	*Silene gallica* Windmill Pink	I	Uncommon, a few scattered individuals were noted within the herbaceous habitat.
Crassulaceae Stonecrop Family	*Aeonium haworthii* Kiwi Aeonium	I	Infrequent, but concentrated on the south-facing slope to the north of the abandoned utility shed.
	Crassula connata Pigmy Weed	N	Frequent, ground cover in certain areas of the herbaceous habitat.
	Crassula ovata Jade Plant	I	Infrequent, one or two individuals were noted near the abandoned utility shed.

Plant Family	*Scientific Name* Common Name	Native (N) or Introduced (I)	Occurrence at the Project Site and/or in the Vicinity
Cucurbitaceae Gourd Family	*Marah macrocarpa* Chilicothe	N	Uncommon, a few individuals were noted climbing over shrubs within the study area.
Fabaceae Legume Family	*Acmispon argophyllus* var. *argenteus* Channel Islands Silver Lotus	N	Uncommon, a few individuals were noted along Airport Road to the south of the impact area.
	Acmispon micranthus Small-flowered Lotus	N	Frequent, found scattered within the herbaceous habitat in the study area.
	Medicago polymorpha California Burclover	I	Infrequent, but concentrated along the road to the abandoned utility shed.
Geraniaceae Geranium Family	*Erodium botrys* Long-beaked Filaree	I	Frequent, seen within the herbaceous habitat.
	Erodium cicutarium Redstem Filaree	I	Common, within the herbaceous habitat.
Lamiaceae Mint Family	*Salvia mellifera* Black Sage	N	Infrequent, a few scattered individuals were noted within the study area.
Myrsinaceae Myrsine Family	*Lysimachia arvensis* Scarlet Pimpernel	I	Frequent, seen concentrated along the road to the abandoned utility shed, and scattered within the herbaceous habitat.

Plant Family	*Scientific Name* Common Name	Native (N) or Introduced (I)	Occurrence at the Project Site and/or in the Vicinity
Oxalidaceae Oxalis Family	*Oxalis pes-caprae* Bermuda Buttercup	I	Infrequent, but concentrated in the shaded areas near the abandoned utility shed.
Plantaginaceae Plantain Family	*Plantago erecta* Dot-seed Plantain	N	Common, forming dense patches within the herbaceous habitat.
Poaceae Grass Family	*Avena barbata* Slender Wild Oat	I	Frequent, forming clumps of 2-foot-tall stands within and along the periphery of the herbaceous habitat.
	Bromus diandrus Ripgut Grass	I	Infrequent, seen scattered within the herbaceous habitat.
	Bromus rubens Red Brome	I	Frequent, seen as a component of the herbaceous habitat.
	Digitaria sanguinalis Crab Grass	I	Frequent, seen as a component of the herbaceous habitat.
	Lamarckia aura Goldentop	I	Infrequent, a couple of small patches were noted around rocky outcrops.
	Stipa pulchra Purple Needle Grass	N	Infrequent, seen as scattered individuals within the herbaceous habitat.
Rosaceae Rose Family	*Heteromeles arbutifolia* Toyon	N	Common, clustered in patches with Lemonade Berry.

Plant Family	*Scientific Name* Common Name	Native (N) or Introduced (I)	Occurrence at the Project Site and/or in the Vicinity
	Prunus ilicifolia ssp. *lyonii* Catalina Cherry	N	Uncommon, one individual was noted to the southwest of the abandoned utility shed within the study area.
Rubiaceae Madder Family	*Galium nuttallii* ssp. *insulare* Nuttall's Island Bedstraw	N	Uncommon, one individual was noted near a cacti patch on the edge of a cluster of Lemonade Berry and Toyon.
Selaginellaceae Spike-Moss Family	*Selaginella bigelovii* Bigelow's Spike-Moss	N	Frequent, seen within the herbaceous habitat often forming patches on bare dirt and dirt with scattered rocks.
Themidaceae Brodiaea Family	*Dipterostemon capitatus* ssp. *capitatus* Blue Dicks	N	Infrequent, individuals were scattered within the herbaceous habitat within the study area.

43 Species

[:\1946PlantList.doc]

Table 2

Wildlife Species Observed During the Biological Survey at the Catalina Airport Solar Project Study Area Near the Buffalo Springs Significant Ecological Area on Santa Catalina Island County of Los Angeles, California

Common Name *(Scientific Name)*	**Vegetative Community in which the Species was Observed**	**Occurrence at the Project Site and/or in the Vicinity**
Mammals		
American Bison (*Bison bison*)	*Rhus integrifolia* Shrubland Alliance	Bison droppings were noted within the study area south and east of the impact area.
Catalina Ground Squirrel (*Otospermophilus beecheyi* ssp. *nesioticus*)	*Rhus integrifolia* Shrubland Alliance	Five California Ground Squirrels were observed within the study area. Four of the five were seen in a cacti patch in the impact area, and the other one was noted to the south of the impact area.
Feral Cat (*Felis domesticus*)	Developed Area	A feral cat was seen to the west of the study area at the Airport in the Sky Restaurant.
Birds		
Common Raven (*Corvus corax*)	N/A	One Common Raven was seen as an overflight on 3 April.
Bewick's Wren (*Thryomanes bewickii*)	*Rhus integrifolia* Shrubland Alliance	Two Bewick's Wrens were observed within the study area. One was heard singing on the southwestern edge of the study area, and the other one was heard scolding to the south of the impact area.

Common Name ***(Scientific Name)***	**Vegetative Community in which the Species was Observed**	**Occurrence at the Project Site and/or in the Vicinity**
House Finch (*Carpodacus mexicanus*)	*Rhus integrifolia* Shrubland Alliance	Heard singing and seen foraging within the study area.
Yellow-rumped Warbler (*Setophaga coronata*)	*Rhus integrifolia* Shrubland Alliance	Two Yellow-rumped Warblers were seen foraging in the shrubs in the impact area.

7 Species

[:\1946 Wildlife List.doc]

Table 3

Sensitive Plant Species Known to Occur on Santa Catalina Island

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Abronia maritima Red Sand-Verbena	Rank 4.2/S3?/-/-	Found on Coastal Dunes at elevations under 330 feet.	N	U	There are no Coastal Dunes within the study area. Also, this species is nearly extirpated in southern California (CNPS, 2023).
Acmispon dendroideus var. *dendroideus* Island Broom	Rank 4.2/S3/-/- CA Endemic	Grows on dry ridges, in woodlands, and on coastal bluffs within Closed-cone Coniferous Forest, Coastal Scrub, Chaparral, Coastal Bluff Scrub, and Cismontane Woodland habitats at elevations of 10 – 1,510 feet.	N	M	There is Coastal Scrub within the study area. However, the elevations within the study area are at the upper end of the known elevational range and higher. Island Broom has been documented within the Santa Catalina North quad (CNPS, 2023).
Aphanisma blitoides Aphanisma	Rank 1B.2/S2/-/-	Found on bluffs and slopes near the ocean at elevations of 5 - 1,000 feet.	N	U	The study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Aphyllon parishii ssp. brachylobum Short-lobed Broomrape	Rank 4.2/S3/-/-	Found on sandy soils near beaches at elevations of 10 – 1,000 feet.	N	U	The study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Arctostaphylos catalinae Santa Catalina Island Manzanita	Rank 1B.2/S2?/-/- Santa Catalina Island Endemic	Found on volcanic soil within Chaparral habitat. Elevations range from 245 – 1,970 feet.	N	U	There is no Chaparral habitat mapped within the study area.
Arctostaphylos crustacea ssp. *subcordata* Santa Cruz Island Manzanita	Rank 4.2/S3/-/- CA Endemic	Found in Chaparral and Closed-cone Coniferous Forest habitats at elevations of 330 – 2,395 feet.	N	U	There are no Chaparral or Closed-cone Coniferous Forest habitats mapped within the study area.
Atriplex coulteri Coulter's Saltbush	Rank 1B.2/S1S2/-/-	Found in Coastal Bluff Scrub, Coastal Dunes, Coastal Scrub, and Valley and Foothill Grassland habitats at elevations of 10 – 1,510 feet.	N	L	There is Coastal Scrub within the study area. However, the elevations within the study area are at the upper end of the known elevational range and higher.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Atriplex pacifica South Coast Saltscale	Rank 1B.2/S2/-/-	Found in Coastal Bluff Scrub, Coastal Dunes, Coastal Scrub, and Playas at elevations of 0 – 460 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Atriplex serenana var. *davidsonii* Davidson's Saltscale	Rank 1B.2/S1/-/-	Known from Coastal Scrub and Coastal Bluff Scrub at elevations ranging from 35 – 655 feet	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Bergerocactus emoryi Golden-Spined Cereus	Rank 2B.2/S2/-/-	Found along the coast in Coastal Scrub, Chaparral, and Closed-cone Coniferous Forest habitats at elevations of 10 – 1,295 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Calochortus catalinae Catalina Mariposa Lily	Rank 4.2/S3S4/-/- CA Endemic	Found in Valley and Foothill Grassland, Chaparral, Coastal Scrub, and Cismontane Woodland habitats at elevations of 50 – 2,295 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevations of the species.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Calystegia macrostegia var. *amplissima* Island Morning-Glory	Rank 4.3/S4/-/- CA Endemic	Found at rocky sites within Coastal Bluff Scrub, Coastal Dune, and Valley and Foothill Grassland habitats at elevations of 35 – 900 feet.	N	U	The study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Ceanothus megacarpus var. *insularis* Island Ceanothus	Rank 4.3/S4/-/- CA Endemic	Found in Chaparral on slopes and canyons near the coast at elevations of 100 – 1,970 feet.	N	U	There is no Chaparral habitat within the study area.
Centromadia parryi ssp. *australis* Southern Tarplant	Rank 1B.1/S2/-/-	Found in mesic areas adjacent to marshes, in vernal pools, and in vernally mesic grasslands. The known elevations of the subspecies range from 0 – 1,575 feet.	N	L	There are a couple of dry drainages within the study area that may carry water during high rain events. However, the closest (and only) CNDDB record on Catalina Island is 6.1-miles to the southeast near Avalon (CDFW, 2023).
Cercocarpus betuloides var. *blancheae* Island Mountain-Mahogany	Rank 4.3/S4/-/- CA Endemic	Found in Chaparral and Closed-cone Coniferous Forest habitats at elevations of 100 – 1,970 feet.	N	U	There are no Chaparral or Closed-cone Coniferous Forest habitats within the study area.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Cercocarpus traskiae Catalina Island Mountain-Mahogany	Rank 1B.1/S1/CE/FE Santa Catalina Island Endemic	Found in Chaparral and Coastal Scrub habitats on saussurite gabbro at elevations of 330 – 820 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species. Also, this species is known to occur naturally only in Wild Boar Gully on the southwestern coast of Santa Catalina Island (CNPS, 2023).
Cirsium occidentale var. *compactum* Compact Cobwebby Thistle	Rank 1B.2/S2/-/- CA Endemic	Found in Chaparral, Coastal Dunes, Coastal Prairie, and Coastal Scrub habitats at elevations of 15 – 490 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Cistanthe maritima Seaside Cistanthe	Rank 4.2/S3/-/-	Found on sandy sites within Coastal Bluff Scrub, Coastal Scrub, and Valley and Foothill Grassland habitats at elevations of 15 – 985 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Constancea nevinii Nevin's Woolly Sunflower	Rank 1B.3/S3/-/- CA Endemic	Found in Coastal Bluff Scrub and Coastal Scrub habitats on slopes and cliffs at elevations of 15 – 1,345 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species. NOTE: *Eriophyllum nevinii* is a synonym.
Convolvulus simulans Small-flowered Morning-glory	Rank 4.2/S4/-/-	Found in Chaparral, Coastal Scrub, and Valley and Foothill grassland habitats at elevations of 100 - 2,430 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevations of the species. Small-flowered Morning-glory has been documented within the Santa Catalina North quad (CNPS, 2023).
Crocanthemum greenei Island Rush-rose	Rank 1B.2/S3/-/FT CA Endemic	Found on rocky sites within Chaparral, Coastal Scrub, Cismontane Woodland, and Closed-cone Coniferous Forest at elevations of 50 – 1,610 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevations of the species. Also, the closest CNDDB record is ½-mile to the southwest of the study area on the north side of Cottonwood Canyon (CDFW, 2023). NOTE: *Helianthemum greenei* is a synonym.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Crossosoma californicum Catalina Crossosoma	Rank 1B.2/S3/-/-	Found in Chaparral and Coastal Scrub habitats, Specifically, it is found on rocky sea bluffs, wooded canyons, and dry, open sunny spots on rocky clay at elevations of 0 – 1,640 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevational range of the species. The closest CNDDB record is 0.7-mile to the southwest of the study area along the El Rancho Escondido Road (CDFW, 2023).
Cryptantha catalinensis Catalina Cryptantha	-/-/-/- Santa Catalina Island Endemic	Found in Coastal Sage Scrub at elevations of under 167 feet.	N	U	There is Coastal Scrub within the study area, but the known elevational range of the species if much lower than the elevations within the study area. NOTE: This is a newly identified endemic previously thought to be *Cryptantha wigginsii*.
Cryptantha wigginsii Wiggins' Cryptantha	Rank 1B.2/S1/-/-	Found in Coastal Scrub often on clay soils at elevations of 65 – 900 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Deinandra clementina Island Tarplant	Rank 4.3/S4/-/- CA Endemic	Found in Coastal Bluff Scrub and Valley and Foothill Grassland habitats at elevations of 50 – 655 feet.	N	U	There are no Coastal Bluff Scrub or Valley and Foothill Grassland habitats within the study area. Also, the known elevational range of the species is much lower than the elevations within the study area.
Dendromecon harfordii var. *rhamnoides* South Island Bush-Poppy	Rank 3.1/S1/-/- CA Endemic	Found in Chaparral, Cismontane Woodland, and Coastal Scrub habitats at elevations of 490 – 1,705 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevational range of this variety. The closest CNDDB record is 1.0-mile to the southeast on the west side of Black Jack Mountain (CDFW, 2023).
Dichondra occidentalis Western Dichondra	Rank 4.2/S3S4/-/-	Found within Chaparral, Cismontane Woodland, Coastal Scrub, and Valley and Foothill Grassland habitats at elevations of 165 – 1,640 feet.	N	H	There is Coastal Scrub in the study area within the known elevational range of the species. Also, this species has been recorded within the Santa Catalina North quad (CNPS, 2023).
Diplacus traskiae Santa Catalina Island Monkeyflower	Rank 1A/SX/-/- Santa Catalina Island Endemic	Grows in Coastal Scrub habitat.	N	U	This species is presumed to be extinct in California (CNPS, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Dissanthelium californicum California Dissanthelium	Rank 1B.2/S1/-/- CA Endemic	Found in Coastal Scrub habitat at elevations of 15 – 1,640 feet.	N	H	There is Coastal Scrub in the study area within the known elevational range of the species. The closest CNDDB record is 1.0-mile to the southwest on the north side of Cottonwood Canyon (CDFW, 2023).
Dithyrea maritima Beach Spectaclepod	Rank 1B.1/S1/CT/-	Found in Coastal Dunes and Coastal Scrub habitats at elevations of 10 – 165 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Dudleya virens ssp. *hassei* Catalina Island Dudleya	Rank 1B.2/S2/-/- Santa Catalina Island Endemic	Found on rocky substrates within Coastal Scrub and Coastal Bluff Scrub habitats at elevations of 0 – 1,310 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the subspecies. NOTE: This subspecies hybridizes with *Dudleya virens* ssp. i*nsularis.*

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Dudleya virens ssp. i*nsularis* Island Green Dudleya	Rank 1B.2/S3/-/- CA Endemic	Found on rocky substrates within Coastal Scrub and Coastal Bluff Scrub and Coastal Scrub habitats at elevations of 15 – 985 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the subspecies. NOTE: This subspecies hybridizes with *Dudleya virens* ssp. *hassei.*
Dudleya virens ssp. *virens* Bright Green Dudleya	Rank 1B.2/S2/-/-	Found on rocky substrates within Coastal Scrub, Chaparral, and Coastal Bluff Scrub and Coastal Scrub habitats at elevations of 15 – 1,310 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the subspecies.
Eriogonum giganteum var. *giganteum* Santa Catalina Island Buckwheat	Rank 4.3/S3/-/- Santa Catalina Island Endemic	Found at rocky sites within Chaparral and Coastal Scrub habitats at elevations of 35 – 1,755 feet.	N	H	There is Coastal Scrub in the study area within the known elevational range of this variety. Also, this variety has been documented within the Santa Catalina North quad (CNPS, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Eriogonum grande var. *grande* Island Buckwheat	Rank 4.2/S4/-/- CA Endemic	Found on dry rocky cliffs and bluffs within Coastal Bluff Scrub, Coastal Scrub, and Valley and Foothill Grassland habitats at elevations of 10 – 1,510 feet.	N	M	There is Coastal Scrub within the study area. However, the elevations within the study area are at the upper end of the known elevational range of this variety and higher. Island Buckwheat has been documented within the Santa Catalina North quad (CNPS, 2023).
Eschscholzia ramosa Island Poppy	Rank 4.3/S4/-/-	Found on steep canyon banks near the sea within Coastal Bluff Scrub, Coastal Scrub, and Chaparral habitats at elevations of 0 – 1,245 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Euphorbia misera Cliff Spurge	Rank 2B.2/S2/-/-	Found at rocky sites in Coastal Bluff Scrub, Coastal Scrub, and Mojavean Desert Scrub habitats at elevations of 35 – 1,640 feet.	N	L	There is Coastal Scrub in the study area within the known elevational range of the species. However, the closest CNDDB record (and only record on the island) is 3.3-miles to the southwest on the slopes to the northeast of Little Harbor (CDFW, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Galium catalinense ssp. *catalinense* Santa Catalina Island Bedstraw	Rank 1B.3/S2/-/- Santa Catalina Island Endemic	Found in Chaparral and Coastal Scrub habitats at elevations of 15 – 1,445 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the subspecies. The closest CNDDB record is 2.1-miles to the southeast at White's Landing (CDFW, 2023).
Galium nuttallii ssp. *insulare* Nuttall's Island Bedstraw	Rank 4.3/S4/-/- CA Endemic	Found in Cismontane Woodland, Chaparral, Coastal Scrub, and Lower Montane Coniferous Forest habitats at elevations of 10 – 1,445 feet.	Y	Observed	One Nuttall's Island Bedstraw plant was found within the study area underneath a Lemonade Berry shrub.
Gambelia speciosa Showy Island Snapdragon	Rank 1B.2/S3/-/-	Found on rocky cliffs and canyons in Coastal Scrub habitat at elevations of 0 – 2,955 feet.	N	L	Although the study area contains Coastal Scrub habitat, the area is a gentle, south-facing slope, that does not contain rocky cliffs or canyons. The closest CNDDB record is 1.0-mile to the northeast in Little Gibraltar on a steep sea cliff (CDFW, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Gilia nevinii Nevin's Gilia	Rank 4.3/S4/-/-	Found in Coastal Scrub, Coastal Bluff Scrub, and Valley and Foothill Grassland habitats at elevations of 15 - 1,310 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Graphis saxorum Baja Rock Lichen	Rank 3/S1/-/-	Found on volcanic rocks in moderately shaded, usually north-facing areas at elevations of 100 – 260 feet.	N	U	The study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species. Also, there are only two records of this lichen on Santa Catalina are at near Little Harbor and Isthmus Cove (CDFW, 2023).
Harpagonella palmeri Palmer's Grapplinghook	Rank 4.2/S3/-/-	Found in clay soils within Chaparral, Coastal Scrub, and Valley and Foothill Grassland habitats at elevations of 65 - 3,135 feet.	Y	Observed	Palmer's Grapplinghook was observed within the study area. There were 72 plants observed within the impact area of the solar project and 84 plants observed outside the impact area but within the larger study area.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Hordeum intercedens Vernal Barley	Rank 3.2/S3S4/-/-	Occurs in Coastal Dunes, Coastal Scrub, Valley and Foothill Grassland depressions, and Vernal Pool basins at elevations of 15 - 3,280 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevational range of the species. Also, Vernal Barley has been documented within the Santa Catalina North quad (CNPS, 2023).
Isocoma menziesii var. *decumbens* Decumbent Goldenbush	Rank 1B.2/S2/-/-	Associated with Coastal Scrub and Chaparral habitats on sandy soils at elevations of 35 – 820 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Jepsonia malvifolia Island Jepsonia	Rank 4.2/S4/-/-	Found within Chaparral and Coastal Scrub habitats at elevations of 50 – 3,280 feet.	N	U	There is Coastal Scrub habitat in the study area within the known elevational range of the species. Also, Island Jepsonia has been documented within the Santa Catalina North quad (CNPS, 2023).
Juncus acutus ssp. leopoldii Southwestern Spiny Rush	Rank 4.2/S4/-/-	Found in mesic Coastal Dunes, Coastal Scrub, Meadows and Seeps, and coastal Marshes and Swamps at elevations that range from 10 - 2,955 feet.	N	U	Although there is Coastal Scrub habitat in the study area within the known elevational range of this subspecies, there are no areas that hold water long enough to anticipate this plant.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Lavatera assurgentiflora ssp. *assurgentiflora* Island Mallow	Rank 1B.1/S1/-/- CA Endemic	Found in Coastal Bluff Scrub, and Coastal Scrub habitats at elevations of 50 – 805 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the subspecies.
Lavatera assurgentiflora ssp. *glabra* Southern Island Mallow	Rank 1B.1/S1/-/- CA Endemic	Found in Coastal Bluff Scrub habitat at elevations of 15 – 820 feet.	N	U	There is no Coastal Bluff Scrub within the study area. Also, the known elevational range of the subspecies is much lower than the elevations found within the study area.
Lepechinia fragrans Fragrant Pitcher Sage	Rank 4.2/S3/-/- CA Endemic	Found in Chaparral at elevations of 65 – 4,300 feet.	N	U	There is no Chaparral habitat found within the study area.
Lonicera subspicata var. *subspicata* Santa Barbara Honeysuckle	Rank 1B.2/S2?/-/- CA Endemic	Found in Chaparral, Cismontane Woodland, and Coastal Scrub habitats at elevations of 35 – 3,280 feet.	N	M	There is Coastal Scrub habitat in the study area within the known elevational range of the Santa Barbara Honeysuckle. The closest CNDDB record is 2.4-miles to the southeast on the west side of the canyon between White's Landing and Moonstone Beach (CDFW, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Lycium brevipes var. *hassei* Santa Catalina Island Desert-Thorn	Rank 3.1/S1/-/- CA Endemic	Grows on coastal bluffs and slopes in Coastal Bluff Scrub and Coastal Scrub habitats at elevations of 215 – 985 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this variety.
Lycium californicum California Box-Thorn	Rank 4.2/S4/-/-	Found in Coastal Bluff Scrub and Coastal Scrub habitats at elevations of 15 – 490 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of the species.
Lyonothamnus floribundus ssp. *floribundus* Santa Catalina Island Ironwood	Rank 1B.2/S2/-/- Santa Catalina Island Endemic	Grows on north exposures on rocky slopes and canyons in Broadleaf Upland Forest, Chaparral, and Cismontane Woodland habitats at elevations of 245 – 1,640 feet.	N	U	There are no Broadleaf Upland Forest, Chaparral, or Cismontane Woodland habitats within the study area.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Malacothamnus fasciculatus var. *catalinensis* Santa Catalina Island Bush-mallow	Rank 4.2/S2/-/- Santa Catalina Island Endemic	Found in Chaparral and Coastal Scrub habitats at elevations of 35 – 1,050 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this variety.
Microseris douglasii ssp. *platycarpha* Small-flowered Microseris	Rank 4.2/S4/-/-	Found on clay soils in Cismontane Woodland, Coastal Scrub, Valley and Foothill Grassland, and Vernal Pool habitats at elevations of 50 - 3,510 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevational range of this subspecies. Also, this subspecies has been recorded within the Santa Catalina North quad (CNPS, 2023).
Nemacaulis denudata var. *denudata* Coast Woolly-Heads	Rank 1B.2/S2/-/-	A species found in Coastal Dunes at elevations ranging from 0 – 330 feet.	N	U	There are no Coastal Dunes within the study area just south of the Catalina Airport.
Ophioglossum californicum California Adder's-tongue	Rank 4.2/S4/-/-	Found in mesic situations at the periphery of Vernal Pools, in Chaparral, and Valley and Foothill Grassland habitats at elevations of 195 - 1,725 feet.	N	M	There are a couple of dry drainages within the study area that may carry water during high rain events, but probably not enough water to anticipate this species. This species has been documented within the Santa Catalina North quad however (CNPS, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Pentachaeta lyonii Lyon's Pentachaeta	Rank 1B.1/S1/CE/FE CA Endemic	Found in Coastal Scrub, Chaparral, and Valley and Foothill Grassland habitats at elevations of 100 – 2,265 feet.	N	L	There is Coastal Scrub habitat in the study area within the known elevational range of this species. However, the one (and only) CNDDB record on the island is 4.0-miles to the northwest (CDFW, 2023).
Phacelia lyonii Lyon's Phacelia	Rank 1B.2/S2/-/- CA Endemic	Occurs in Coastal Bluff Scrub, Chaparral, Coastal Dunes, and Coastal Scrub habitats at elevations of 0 – 1,510 feet.	N	H	There is Coastal Scrub habitat in the study area within the known elevational range of this species. Also, the closest CNDDB record is 0.8-mile to the southwest on the north slope of Cottonwood Canyon (CDFW, 2023).
Piperia cooperi Chaparral Rein Orchid	Rank 4.2/S3S4/-/-	Found in Chaparral, Cismontane Woodland, and Valley and Foothill Grassland habitats at elevations of 50 – 5,200 feet.	N	L	There are no Chaparral, Cismontane Woodland, or Valley and Foothill Grassland habitats within the study area. However, this species has been recorded within the Santa Catalina North quad (CNPS, 2023).

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Quercus pacifica Island Scrub Oak	Rank 4.2/S4/-/- CA Endemic	Found in Chaparral, Closed-cone Coniferous Forest, and Cismontane Woodland habitats at elevations of 0 – 1,410 feet.	N	U	There are no Chaparral, Closed-cone Coniferous Forest, or Cismontane Woodland habitats within the study area. Also, the study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this species.
Quercus tomentella Island Oak	Rank 4.2/S3S4/-/-	Found in Chaparral, Closed-cone Coniferous Forest, Riparian Woodland, and Cismontane Woodland habitats at elevations of 50 – 2,395 feet.	N	U	There are no Chaparral, Closed-cone Coniferous Forest, Riparian Woodland, or Cismontane Woodland habitats within the study area.
Rhamnus pirifolia Island Redberry	Rank 4.2/S4/-/-	Found in Closed-cone Coniferous Forest, Chaparral, Cismontane Woodland, and Coastal Scrub habitats at elevations of 65 – 1,410 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this species.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Ribes viburnifolium Santa Catalina Island Currant	Rank 1B.2/S2?/-/-	Found in canyons within Chaparral and Cismontane Woodland habitats at elevations of 100 – 1,150 feet.	N	U	There are no Chaparral or Cismontane Woodland habitats within the study area. Also, the study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this species.
Scrophularia villosa Santa Catalina Figwort	Rank 1B.2/S3/-/- CA Endemic	Grows in rocky canyons in Chaparral and Coastal Scrub habitats at elevations of 150 – 1,675 feet.	N	M	Although the study area contains Coastal Scrub habitat, the area is a gentle, south-facing slope, that does not contain rocky canyons. However, the closest CNDDB record is 0.4-mile to the southeast near Black Jack Mountain (CDFW, 2023).
Senecio aphanactis Chaparral Ragwort	Rank 2B.2/S2/-/-	Found in Chaparral, Coastal Scrub, and Cismontane Woodland habitats at elevations of 50 - 2,625 feet.	N	U	Although there is Coastal Scrub within the study area, the only CNDDB record of this species on the island is at Avalon from a 1901 collection (CDFW, 2023).
Sibara filifolia Santa Cruz Island Winged-Rockcress	Rank 1B.1/S2/-/FE CA Endemic	Grows on rocky, volcanic soil on shady slopes within Coastal Scrub habitat at elevations of 195 – 1,000 feet.	N	U	Although there is Coastal Scrub habitat within the study area, the area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this species.

Scientific Name Common Name[2]	Sensitivity Code and Status[3]	Habitat Preference	Found On-site (Y or N)	Potential On-site[4]	Factual Basis for Potential
Solanum wallacei Wallace's Nightshade	Rank 1B.1/S2/-/-	Grows on rocky sites in canyons within Chaparral and Cismontane Woodland habitats at elevations of 10 – 1,345 feet.	N	U	There are no Chaparral or Cismontane Woodland habitats within the study area.
Suaeda taxifolia Woolly Seablite	Rank 4.2/S4/-/-	Found along the margins of Coastal Salt Marshes at elevations of 0 - 165 feet.	N	U	There are no salt marshes within the study area located just south of the Catalina Airport.
Tortula californica California Screw Moss	Rank 1B.2/S2?/-/- CA Endemic	A moss that grows on sandy soils in Chenopod Scrub and Valley and Foothill Grasslands at elevations of 35 – 4,790 feet.	N	U	There are no Chenopod Scrub or Valley and Foothill Grassland habitats within the study area. Also, there is only one CNDDB record for this species on the island, and it is located 2.2-miles to the southeast at White's Landing (CDFW, 2023).
Trifolium palmeri Southern Island Clover	Rank 4.2/S4/-/-	Found in Coastal Bluff Scrub and Valley and Foothill Grassland habitats at elevations of 35 – 590 feet.	N	U	There are no Coastal Bluff Scrub or Valley and Foothill Grassland habitats within the study area. Also, the study area is located just south of the Catalina Airport at elevations ranging between 1,490 – 1,560 feet which is higher than the known elevations of this species.

72 Species

[1] This plant list was generated by searching all four quads on Catalina Island using the search function of the on-line California Native Plant Society (CNPS) inventory. This list was augmented with plants from the search of the four quads on Catalina Island on the California Natural Diversity Data Base (CNDDB) and a newly identified plant not yet in either database, Catalina Cryptantha, was also added to the list.
[2] The Common Names were taken from Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., Rosatti, T.J., and Wilken, D.H. eds. 2012. The Jepson Manual Vascular Plants of California, 2nd Edition. University of California Press, Berkeley, xxii + 1568 pp.
[3] The first line in the "Sensitivity Code and Status" column shows the California Rare Plant Rank with threat code extensions/the state ranking of the California Natural Diversity Database (CNDDB) with the threat rank extension/the California state threatened and endangered status code/the federal threatened and endangered status code. The second line in the "Sensitivity Code and Status" column identifies whether the species is a California Endemic as identified by the CNPS or a Santa Catalina Island Endemic as identified by the Catalina Island Conservancy or neither (blank second line). Following is a key to the codes in the table.

Key to the California Rare Plant Ranking System

Rank 1A — Presumed extirpated or extinct in California
Rank 1B — Plants rare, threatened or endangered in California and elsewhere
Rank 2A — Plants presumed extirpated in California but common elsewhere
Rank 2B — Plants rare, threatened or endangered in California but common elsewhere
Rank 3 — Plants about which more information is needed; a review rank
Rank 4 — Uncommon in California (a watch rank)

Key to the California Rare Plant Rank Threat Code Extensions

.1 — Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 — Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
.3 — Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Key to the State Ranking of the CNDDB

S1 — Critically Imperiled
S2 — Imperiled
S3 — Vulnerable
S4 — Apparently Secure
S5 — Secure
S#S# — Range rank used to indicate any range of uncertainty
S? — Inexact or uncertain numeric rank
SX — All sites in California are extirpated

State and Federal Threatened and Endangered Species Status Codes

CR — State of California listed as rare
CE — State of California listed as endangered

CT — State of California listed as threatened
PT — Proposed for listing as Threatened under the Federal Endangered Species Act
PE — Proposed for listing as Endangered under the Federal Endangered Species Act
FC — Candidate for listing under the Federal Endangered Species Act
FE — Designated Endangered under Federal Endangered Species Act
FT — Designated as Threatened under the Federal Endangered Species Act

[4] The "Potential On-site" column assesses the potential for the species to occur on the subject property given the known habitat preferences and distribution of that species. The codes used in this column are defined as follows:

Observed — Individuals of this species were found within the bounds of the site
H — The potential for occurrence is "high". Habitats on-site are considered suitable for the species, and the species is known from the immediate vicinity.
M — The potential for occurrence is "medium". Habitats and conditions on-site are considered possible for the species.
L — The potential for occurrence is "low". The habitats present on-site are marginal for the species and/or extremely limited in extent. In other words, the species is not anticipated, but its occurrence cannot be precluded.
U — The potential for occurrence is "unlikely". The habitat requirements of the species are not present on the subject property.

[:\1946-Sensitive Plant List.doc]

Table 4

Sensitive Wildlife Species Known to Occur on Santa Catalina Island[1]

Scientific Name Common Name	Sensitivity Code and Status[2]	Habitat Preference	Found On-site (Y or N)	Potential On-site[3]	Factual Basis for Potential
Mollusks					
Haplotrema catalinense Santa Catalina Lancetooth	-/-/-	A terrestrial snail found under rocks and, to a lesser extent, leaf litter.	N	U	The only CNDDB record has no observation date or location (CDFW, 2023). However, according to Magney (2016), there are no observation records in the vicinity of the study area.
Pristiloma shepardae Shepard's Snail	-/-/-	Usually found in moist leaf litter of Coastal Scrub habitat.	N	U	According to Magney (2016), the only location on the island is in a canyon behind the Avalon Power Plant.
Radiocentrum avalonense Catalina Mountainsnail	-/-/-	Found in Coastal Scrub habitat dominated by *Salvia* and *Opuntia*. Known only from the southeast end of Catalina.	N	U	The study area is located just south of the Catalina Airport near the middle of the island approximately 8-miles from the known occurrence of this species (CDFW, 2023).

Scientific Name Common Name	Sensitivity Code and Status[2]	Habitat Preference	Found On-site (Y or N)	Potential On-site[3]	Factual Basis for Potential
Sterkia clementina San Clemente Island Blunt-top Snail	-/-/-	Found in Coastal Scrub habitat on the undersides of rocks or the soil beneath *Mesembryanthemum* sp.	N	U	The only occurrence of this species on Catalina Island is within the Santa Catalina South quad, not the Santa Catalina North quad in which the study area occurs. Also, no *Mesembryanthemum* sp. was identified within the study area.
Insects					
Cicindela hirticollis gravida Sandy Beach Tiger Beetle	-/-/-	Found in Coastal Dunes in light-colored sand in the upper zone.	N	U	There are no Coastal Dunes within the study area located just south of the Catalina Airport. The only CNDDB record on Catalina Island is a historical record. This species is considered to be extirpated on Catalina (CDFW, 2023).
Coelus globosus Globose Dune Beetle	-/-/-	Found in Coastal Dunes in foredunes and sand hummocks where it is most common beneath dune vegetation.	N	U	There are no Coastal Dunes within the study area located just south of the Catalina Airport. The only CNDDB record is from a 1976 publication (CDFW, 2023).
Reptiles					
Thamnophis hammondii Santa Catalina Garter Snake	-/-/-	Associated with Marsh, Swamp, Riparian Scrub, Riparian Woodland, and Wetland habitats.	N	U	There are no wetland habitats within the study area. The closest CNDDB record is ½-mile to the southeast in Cottonwood Canyon (CDFW, 2023).

Scientific Name Common Name	Sensitivity Code and Status[2]	Habitat Preference	Found On-site (Y or N)	Potential On-site[3]	Factual Basis for Potential
Mammals					
Corynorhinus townsendii Townsend's Big-eared Bat	-/CC/-	Found in a wide variety of habitats, but it is most common at mesic sites. Roosts in the open, hanging from walls and ceilings.	N	U	The study area is not a mesic site. The closest CNDDB record is 1.5-miles to the southeast at White's Landing from 1941 (CDFW, 2014). This species is highly sensitive to human disturbance due to its roosting habits. Given the location of the study area just south of the Catalina Airport, this species is not anticipated.
Sorex ornatus willetti Santa Catalina Shrew	-/-/-	Found in moist areas within larger, stream-bearing canyons with Riparian Scrub habitat. It uses stumps, logs, and leaf litter for cover.	N	U	There are no large, stream-bearing canyons with Riparian Scrub within the study area.
Urocyon littoralis catalinae Santa Catalina Island Fox	FE/CT/-	Found in Chaparral, Cismontane Woodland, and Coastal Scrub habitats with a preference for layered vegetation with a high density of perennial fruiting shrubs and rocky places for cover.	N	L	There is Coastal Scrub habitat within the study area, but there are many open areas between the larger shrubs that lack cover. The presence of cats and humans at the Catalina Airport just to the north of the study area most likely discourage use of this area by the fox.

Scientific Name Common Name	Sensitivity Code and Status[2]	Habitat Preference	Found On-site (Y or N)	Potential On-site[3]	Factual Basis for Potential
Birds					
Falco peregrinus anatum American Peregrine Falcon	FDR/SDR/-	Nests on ledges (commonly in areas with cliffs) near open areas for foraging.	N	U	There are no cliffs or other ledges within the study area that are suitable for Peregrine Falcons to use as a nest site.
Haliaeetus leucocephalus Bald Eagle	D/CE/-	Nests in large, old-growth, or dominant trees with open branches near the ocean.	N	U	There are no trees large enough to support a Bald Eagle nest. In addition, all the active Bald Eagle nests and territories are coastal (Personal communication with Dr. Peter Sharpe of the Institute for Wildlife Studies, March 31, 2023).
Synthliboramphus scrippsi Scripps's Murrelet	-/CT/-	Nests in rock crevices, under bushes, in old burrows, and among man-made debris.	N	U	Breeding Scripps's Murrelets were only observed along the northwestern coast of Catalina Island (CDFW, 2023).

13 Species

[1] This sensitive wildlife list is based on a search of the California Natural Diversity Data Base (CNDDB), and Fish and Wildlife, California Department of. 2023. California Natural Diversity Data Base: State & Federally Listed Endangered & Threatened Animals of California. The Author, Sacramento, California, 37 pp. [available at http://www.dfg.ca.gov/wildlife/nongame/list.html], edition of April 2023.

[2] The status codes are given in the sequence "federal/state/other". A "-" indicates no status at that level. The codes used are defined as follows:

FE — Federal Endangered
pFE — A petition for Federal Endangerment status has been submitted
FT — Federal Threatened
FC — Federal Candidate
FDR — Federally Delisted (Recovered)
D — Delisted from the Endangered Species Act

BCC — Birds of Conservation Concern on the BCC 2008 list within BCR 32
CE — State Endangered
CT — State Threatened
CC — State Candidate
SDR — State Delisted (Recovered)
CSC — California Special Concern species
WL — California Department of Fish and Game Watch List

[3] The "Potential On-site" column assesses the potential for the species to occur on the subject property given the known habitat preferences and distribution of that species. The codes used in this column are defined as follows:

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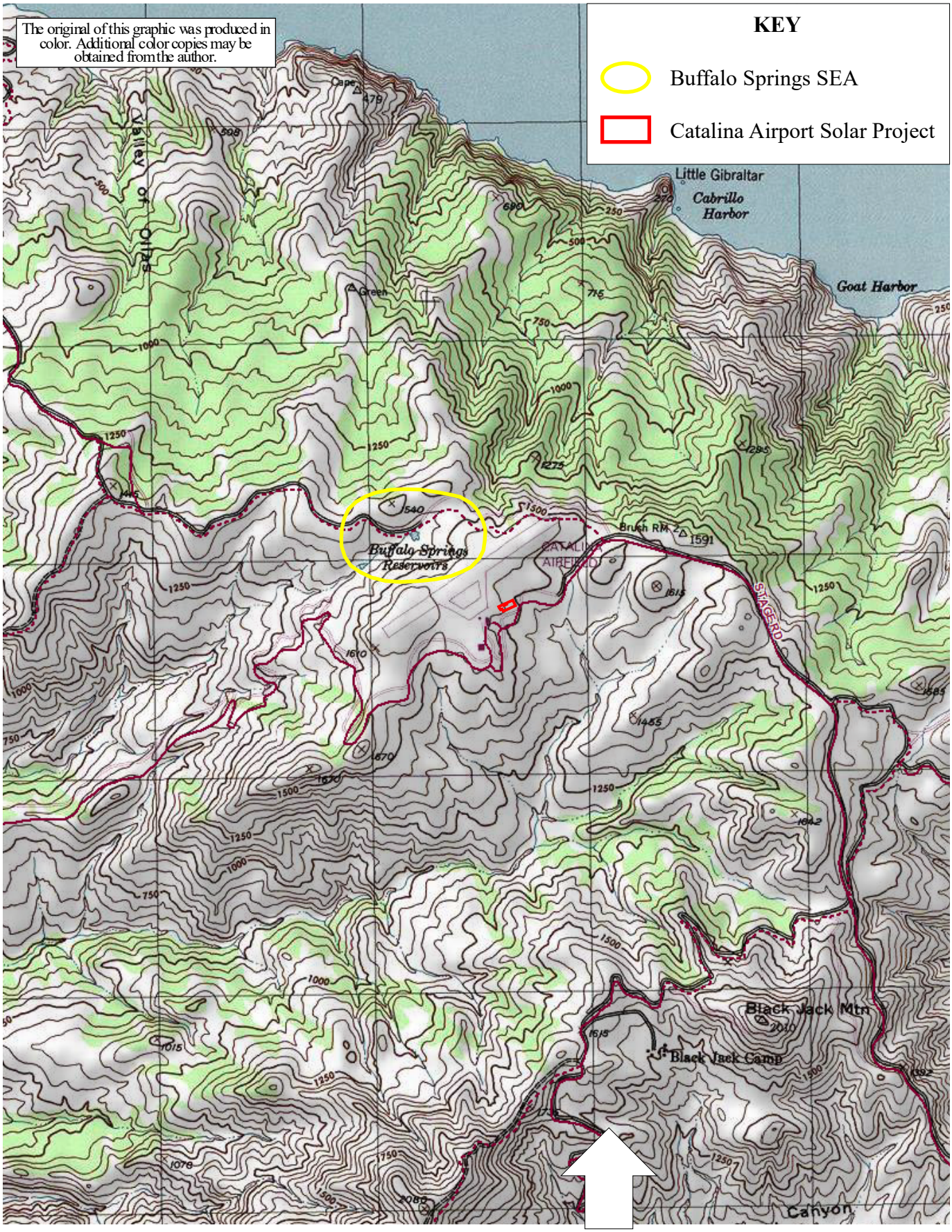
L — The potential for occurrence is "low". The habitats present on-site are marginal for the species and/or extremely limited in extent. In other words, the species is not anticipated, but its occurrence cannot be precluded.
U — The potential for occurrence is "unlikely". The habitat requirements of the species are not present on the subject property.

[:\1946-Sensitive Wildlife List.doc]

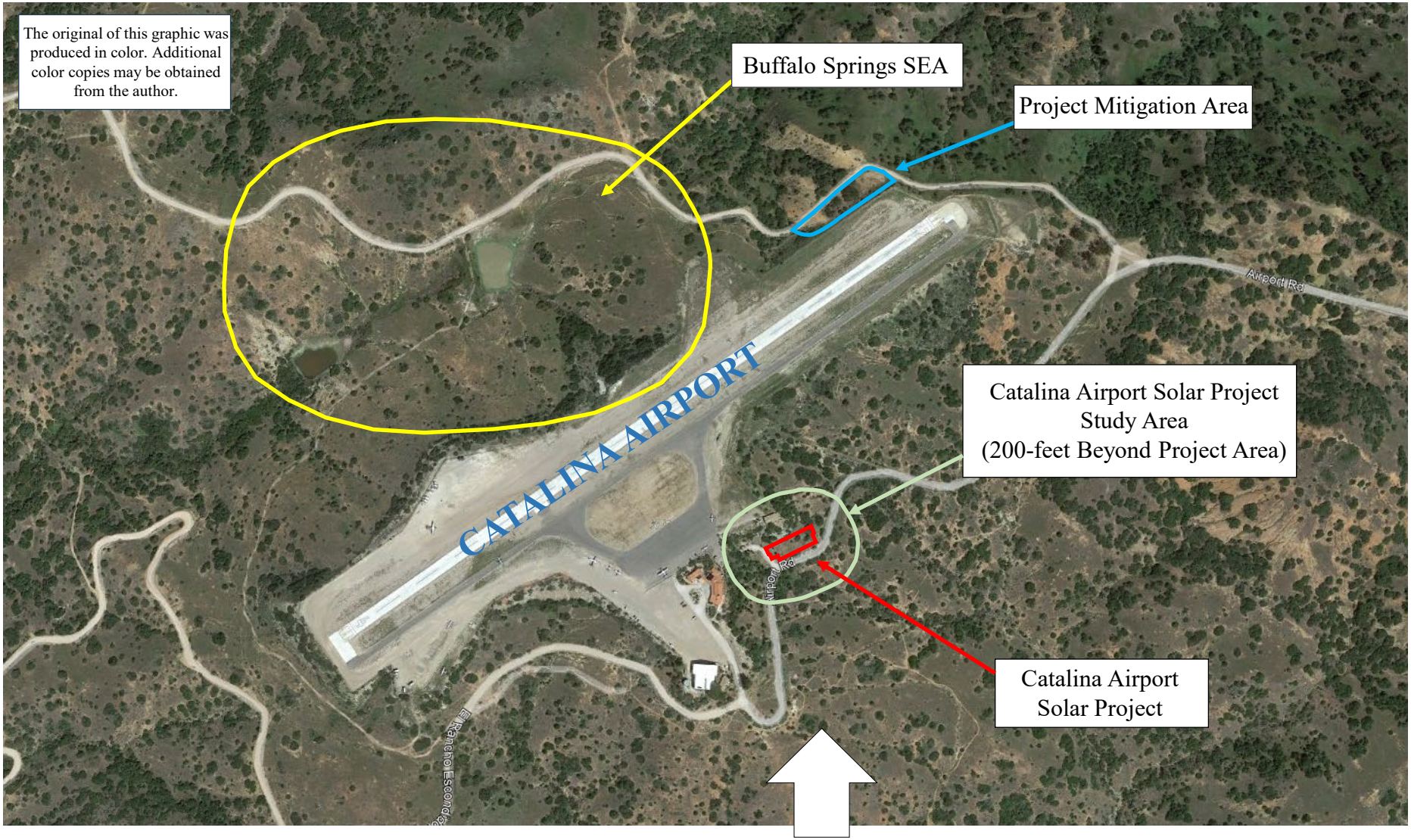


Cummings Environmental Job Number 1946.CAT 11 May 2023 Scale: 1-inch = 2,000-feet [:\1946-Fig-1.pptx]

Cummings Environmental

Catalina Airport Solar Project Shown in Relation to the Buffalo Springs SEA on the U.S.G.S. 7½-min Santa Catalina North Quad Map [Base Map Created with TOPO!® ©2006 National Geographic; ©2005 Tele Atlas]

Figure 1



Cummings Environmental Job Number 1946.CAT 6 December 2024

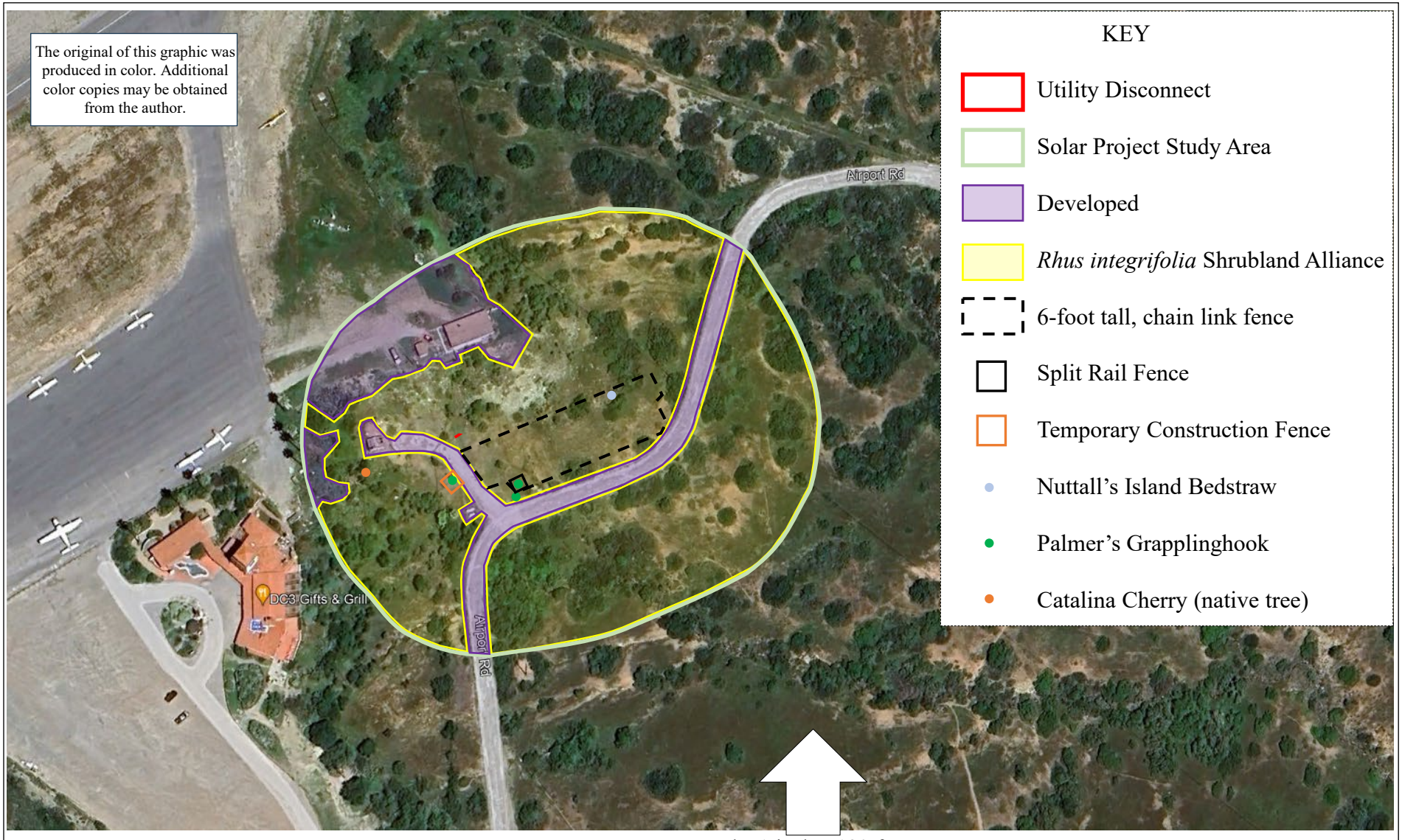
Scale: 1-inch = 600-feet

[:\1946-Fig-2-rev3rd.pptx]

Cummings Environmental

Catalina Airport Solar Project in Relation to Buffalo Springs SEA, Project Mitigation Area, and Catalina Airport Shown on an Aerial Photo [Base Photo © 2023 TerraMetrics; Imagery Date 4/2022]

Figure 2

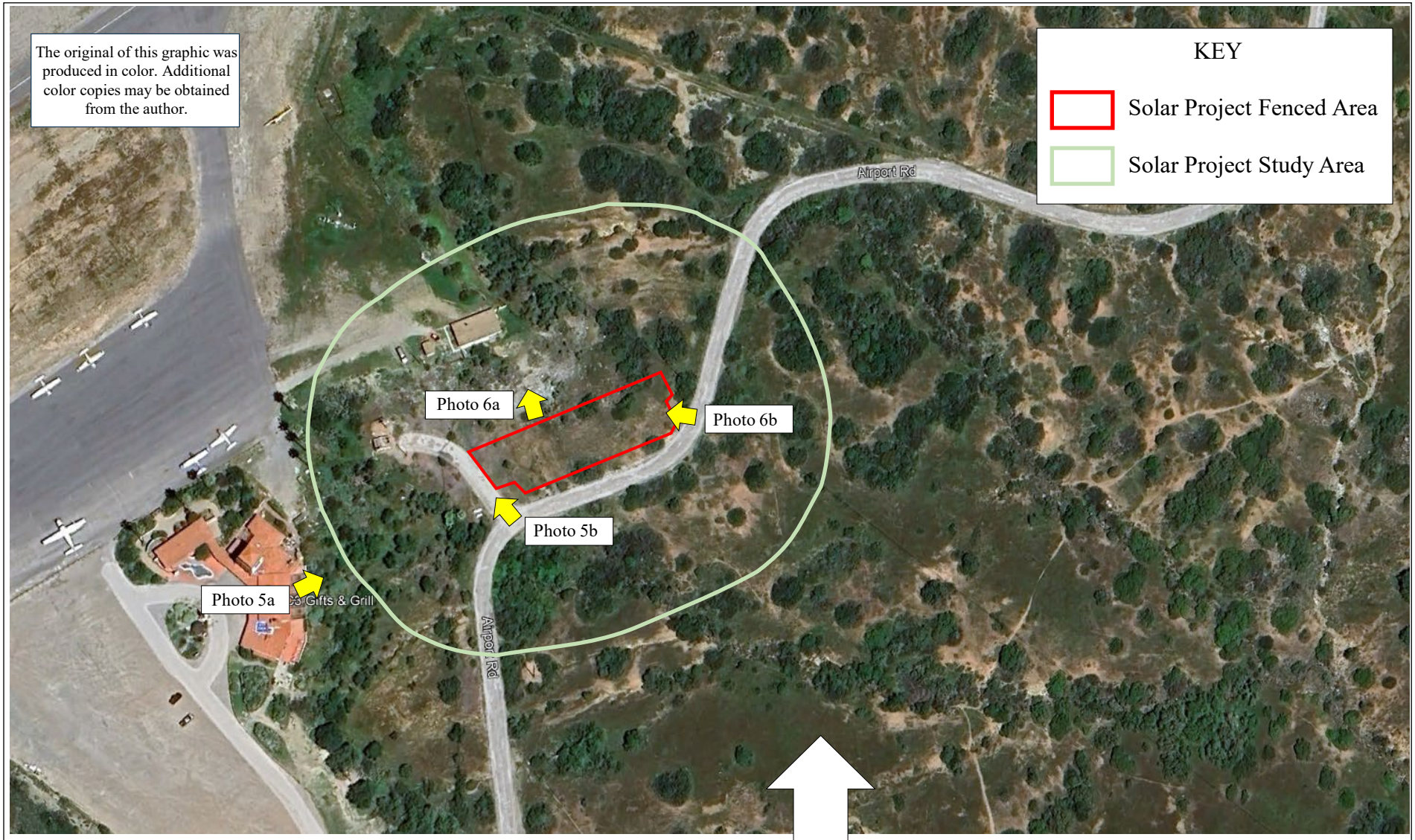


Cummings Environmental Job Number 1946.CAT 6 December 2024 Scale: 1-inch = 180-feet [:\1946-Fig-3rev4th.pptx]

Cummings Environmental

Vegetation Map, Sensitive Species, and Tree Locations at the Catalina Airport Solar Project Study Area Shown on an Aerial Photo
[Base Photo ©2024 Airbus; Imagery Date 4/18/2023]

Figure 3



Cummings Environmental Job Number 1946.CAT 6 December 2024 Scale: 1-inch = 180-feet [:\1946-Fig-4rev2nd.pptx]

Cummings Environmental

Photo Point Locations For the Following Photos in Figures 5 and 6 at the Catalina Airport Solar Project Shown on an Aerial Photo
[Base Photo © 2024 Airbus, Imagery Date 4/18/2023]

Figure 4

Cummings Environmental Job Number 1946.CAT 25 May 2023 [:\1946-Fig-5.pptx]

Cummings Environmental	**Site Photos: Photo 5a (top) of Study Area Taken From the Airport in the Sky Patio; Photo 5b (bottom) of Abandoned Utility Road**	**Figure 5**

Cummings Environmental Job Number 1946.CAT 25 May 2023 [:\1946-Fig-6.pptx]

Cummings Environmental	Site Photos: Photo 6a (top) of Rocky Slope to the North of the Impact Area; Photo 6b (bottom) of Impact Area Taken from Airport Road	**Figure 6**

Cummings Environmental Job Number 1946.CAT 25 May 2023 [:\1946-Fig-7.pptx]

Cummings Environmental	**Site Photos: Top Photo of Nuttall's Island Bedstraw; Bottom Photo of Palmer's Grapplinghook**	**Figure 7**

Appendix A

Site Plans for the Catalina Island Conservancy
Ground Mounted Solar Photovoltaic System Project

October 2024