APPENDIX C-3
USFWS comment letter on EISPN

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
2010-TA-0527

OCT 2 8 2010

Mr. Michael Summers
Senior Associate
Chris Hart & Partners, Inc.
115 North Market Street
Wailuku, Hawaii 96793

Subject: Technical Assistance for the Environmental Impact Statement Preparation Notice for the Proposed Maui Research and Technology Park Master Plan Update, Maui

Dear Mr. Summers:

We received your letter, dated September 24, 2010, on September 28, 2010, requesting our comments regarding Maui Research Partners, LLC's plan to update the Master Plan for the Maui Research and Technology Park in Kihei, Maui. An Environmental Impact Statement (EIS) preparation notice enclosed in your letter included an Environmental Assessment addressing the project. The proposed action entails the construction of a mix of housing, office, civic, live-work, park, and retail facilities on 58 acres of the project site, development of a "Village Center" flanked by 100 acres of residential development. The site is located on the dry leeward slopes of Haleakala and it is currently managed as pastureland dominated by kiawe (*Prosopis pallid*) and buffelgrass (*Cenchrus ciliaris*).

Based on the information in your EIS preparation notice and pertinent information in our files including data compiled by the Hawaii Biodiversity and Mapping Program, we compiled a list of species and critical habitat known to occur in the vicinity of the proposed project (Table 1). Other rare endemic plant species in the vicinity include *Achyranthes splendens* var. *splendens, Capparis sandwichiana*, *Portulaca villosa*, and *Reynoldsia sandwicensis*.

The project area is located immediately downslope from one of the most intact examples of native dryland forests remaining in Hawaii. The forest is on State of Hawaii Department of Hawaiian Home lands property and portions of it are actively managed to conserve natural and cultural resources with funding from the Hawaii Department of Land and Natural Resources, the U.S. Fish and Wildlife Service, the U.S. Geological Survey Biological Resources Discipline, the National Park Service, and volunteer groups.

cc: Mike + Brett

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Landscape Architecture and Planning
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Table 1. Species and critical habitat known to occur in the project vicinity; increased wildfire threat may result in adverse effects to listed species and critical habitat outside the project footprint.

Common Name	Scientific Name	Status
Mammals		
Hawaiian hoary bat	*Lasiurus cinereus semotus*	Endangered
Birds		
Hawaiian coot	*Fulica alai*	Endangered
Hawaiian duck	*Anas wyvilliana*	Endangered
Hawaiian goose	*Branta sandvicensis*	Endangered
Hawaiian petrel	*Pterodroma phaeopygia sandwichensis*	Endangered
Hawaiian stilt	*Himantopus mexicanus knudseni*	Endangered
Newell's shearwater	*Puffinus auricularis newelli*	Threatened
Insects		
Anthricinan yellow-faced bee	*Hylaeus anthracinus*	Petitioned for listing
Assimulans yellow-faced bee	*Hylaeus assimulans*	Petitioned for listing
Blackburn's sphinx moth	*Manduca blackburni*	Endangered
Easy yellow-faced bee	*Hylaeus facilis*	Petitioned for listing
Longhead yellow-faced bee	*Hylaeus longiceps*	Petitioned for listing
Hilaris yellow-faced bee	*Hylaeus hilaris*	Petitioned for listing
Plants		
Awikiwiki	*Canavalia pubescens*	Candidate
Native yellow hibiscus	*Hibiscus brackenridgei*	Endangered
No common name	*Bonamia menziesii*	Endangered
Critical Habitat		
Blackburn's sphinx moth	*Manduca blackburni*	3,965-acre Unit 1: adjacent to project area

We recommend you incorporate the following measures into the project EIS to minimize potential impacts to these resources:

Avoid Direct Impacts to Hawaiian Hoary Bats: Although the botanical and fauna surveys conducted at the site indicated Hawaiian hoary bats were not found on the property, these animals are known to have large home ranges which may result in this species' intermittent use of the subject property. Hawaiian hoary bats roost in exotic and native woody vegetation at heights greater than 15 feet. If trees or shrubs suitable for bat roosting are cleared during the bat breeding season (April to August), there is a risk that breeding bats could inadvertently be harmed or killed. Young bats, which are incapable of flight, are particularly vulnerable during the bat birthing and pup rearing season (May 15 through August 15). To minimize potential impacts to the Hawaiian hoary bat, woody plants greater than 15 feet tall should not be removed or trimmed between May 15 and August 15 throughout the development and ongoing operation of the proposed project.

Minimize Light Impacts to Seabirds: The Newell's shearwater and Hawaiian petrel may traverse the project site in flights between their mountain nesting sites and the ocean. Outdoor lighting, such as street lights can adversely impact listed seabird species and migratory seabird species protected under the Migratory Bird Treaty Act [16 U.S.C. 703-712]. By attracting seabirds, artificially-lighted areas can disorient the birds and result in their exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer. Once grounded, they are vulnerable to predators or collision with vehicles. Any increase in night-time lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in seabird injury or mortality. Therefore, we recommend minimizing the use of outdoor lights. Where outdoor lights are necessary, the level of illumination should be minimized and the light should be shielded so the bulb can be seen only from below. Enclosed, please find a one-page enclosure (Enclosure 1) to assist you with your selection of light fixtures.

Minimize Attraction and Impacts to other Listed Birds: The endangered Hawaiian goose, Hawaiian coot, Hawaiian duck, and Hawaiian stilt may be attracted to drainage ditches, golf course water features, and mowed grass areas in the project site increasing their vulnerability to collision with vehicles, injuries due to golf operations, and exposure to domesticated animal predators. To minimize potential project impacts to these species, we recommend standing water be minimized, free movement of pets be prohibited, public education programs to discourage the feeding of feral animals be implemented, and sturdy animal-proof garbage containers be used to prevent increases in the populations of house mice, rats, mongoose, and feral cats. These measures should be incorporated into any project or community rules and regulations to ensure they are implemented by future occupants of project areas.

Avoid or Address Impacts to the Blackburn's Sphinx Moth: The Blackburn's sphinx moth is likely to breed and feed within the area proposed for development. The adult moth feeds on nectar from native plants including beach morning glory (*Ipomoea pes-caprae*), iliee (*Plumbago zeylanica*), maiapilo (*Capparis sandwichiana*), and the larvae feed upon non-native tree tobacco (*Nicotiana glauca*) and the native aiea (*Nothocestrum latifolium*). Other host plants in the Solanaceae family include non-native commercial tobacco (*Nicotiana tabacum*), eggplant (*Solanum melongena*), tomato (*Lycopersicon esculentum*), and possibly jimson weed (*Datura stramonium*). Larvae of *Manduca sexta,* a close relative of the Blackburn's sphinx moth, are known to feed on a wide variety of taxa in the Solanceae family including: sweet and chili pepper (*Capsicum* spp.), ornamental plants (*Cestrum* spp. *and Lycium* spp.), tomarillo (*Cymphomandra* spp.), petunia (*Petunia* spp.), tomatillo and ground cherry (*Physalis* spp.), *Solandra* spp., and *Solanum* spp. (potato, eggplant, Christmas cherry, nightshade). The Blackburn's sphinx moth may also use these plants. Blackburn's sphinx moth pupae are known to lay dormant in the soil within 33 feet of host plants for one-year periods. To avoid potential impacts to the Blackburn's sphinx moth, we recommend you have a qualified biologist survey the project area for the presence of the Blackburn's sphinx moth and its potential host plants. We recommend that a knowledgeable entomologist and botanist thoroughly survey the entire site for Blackburn's sphinx moth and potential host plants used by this species during the wettest portion of the year (usually November-April). If host plants are found, please coordinate with our office and the State of Hawaii Department of Land and Natural Resources.

Survey for Yellow-Faced Bees and Protected Plant Species: We recommend a qualified entomologist survey the site for the five species of yellow-faced bee petitioned for listing to determine the extent of their occurrence on the project site. The project's Botanical and Fauna Survey, prepared by Robert Hobdy in October 2008, indicates no threatened or endangered plants were found in the areas of the project that were sampled during the dry season. We recommend that a knowledgeable botanist thoroughly survey the entire site for listed and candidate plant species during the wettest portion of the year (usually November-April).

Minimize Wildfire Impacts: Your Botanical and Fauna Survey document indicates that wildfires have burned the project area a number of times. The subject property is adjacent to one of the most intact examples of native dryland forests remaining in Hawaii, which serves as critical habitat for the Blackburn's sphinx moth. This native forest and other nearby natural resources on the leeward slopes of Haleakala would be severely impacted by a wildfire. Therefore, it is critical that actions related to your project do not result in fire impacts outside the project footprint. Along the upper edge of the project area, you should develop and maintain a drivable firebreak in conjunction with a 150-foot wide fuelbreak within which grass fuel loading does not exceed one ton per acre. In addition, we recommend you work closely with the Maui County Department of Fire and Public Safety wildland fire management specialists to minimize the risk of wildfires occurring outside the project footprint, as a result of any increases in local population that may result from the project. Preliminary calculations reviewed at the June 9, 2009, Maui Wildfire Coordinating Group meeting indicate that current fire suppression response is inadequate to achieve initial attack containment of wildfires burning under average summer fire danger conditions. We recommend you ensure fuel treatments, in combination with fire suppression responses, are adequate to ensure wildfires do not burn listed species and critical habitat in the vicinity of the project footprint.

Minimize the Spread of Invasive Species: Hawaii's native ecosystems are heavily impacted by exotic invasive plants. Whenever possible we recommend using native plants for landscaping purposes. If native plants do not meet the landscaping objectives, we recommend choosing species that are thought to have a low risk of becoming invasive. The following websites are good resources to use when choosing landscaping plants: Pacific Island Ecosystems at Risk (http://www.hear.org/Pier/), Hawaii-Pacific Weed Risk Assessment (http://www.botany.hawaii.edu/faculty/daehler/wra/full_table.asp) and Global Compendium of Weeds (www.hear.org/gcw).

We hope this information assists you in developing a comprehensive and thorough Draft EIS. We appreciate your efforts to conserve endangered species. If you have questions, please contact Michelle Bogardus or Dawn Greenlee, Consultation and Habitat Conservation Planning Program Biologists (phone: 808-792-9400, fax: 808-792-9400). Please note that future correspondence should be addressed to me.

Sincerely,

for Loyal Mehrhoff
Field Supervisor

Enclosure

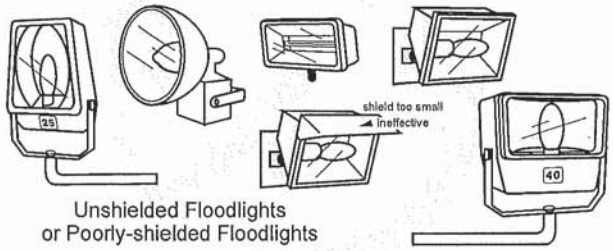
cc:
Scott Fretz, Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife, Honolulu

SEABIRD FRIENDLY LIGHTING SOLUTIONS

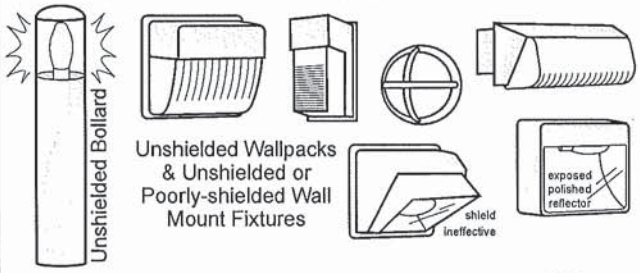
Help eliminate seabird light attraction. Select the best fixture for your application using this guide. Avoid uplighting, always shield floodlights, and aim downlights carefully to avoid light trespass. For more information go to www.kauai-seabirdhcp.info.

Unacceptable / Discouraged

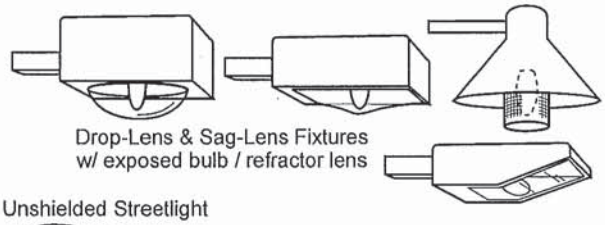
Fixtures that produce glare and light trespass



Unshielded Floodlights
or Poorly-shielded Floodlights

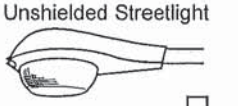


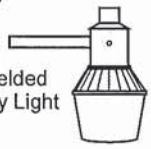
Unshielded Wallpacks
& Unshielded or
Poorly-shielded Wall
Mount Fixtures



Drop-Lens & Sag-Lens Fixtures
w/ exposed bulb / refractor lens

Unshielded Streetlight

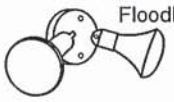




Unshielded
Security Light

Unshielded
'Period' Style
Fixtures

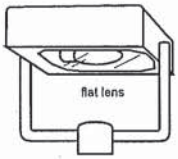
Unshielded PAR
Floodlights



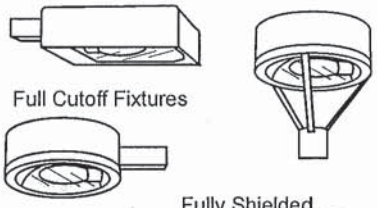
Drop-Lens Canopy
Fixtures

Acceptable

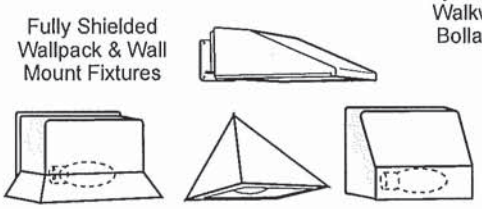
Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



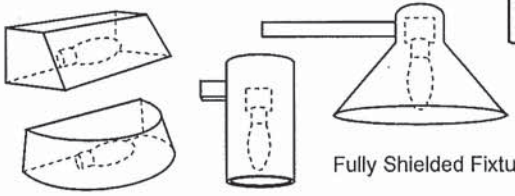
Full Cutoff Fixtures



Fully Shielded
Wallpack & Wall
Mount Fixtures



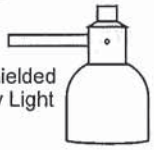
Fully Shielded
Walkway
Bollards



Fully Shielded Fixtures

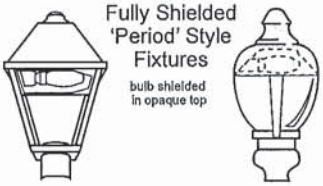
Full Cutoff Streetlight

Fully Shielded
Security Light



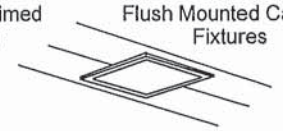
Fully Shielded
'Period' Style
Fixtures

bulb shielded
in opaque top

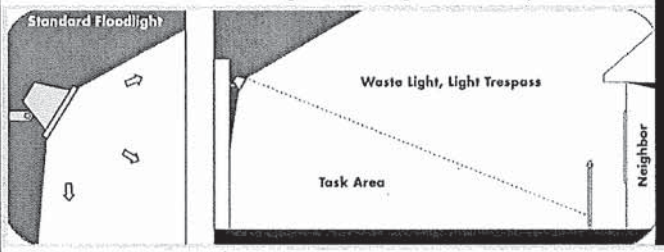


Shielded / Properly-aimed
PAR Floodlights

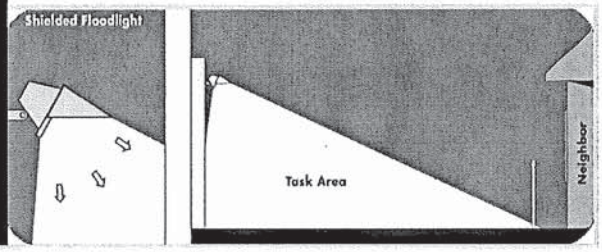
Flush Mounted Canopy
Fixtures



Unshielded floodlight that is angled incorrectly



Shielded floodlight that is angled correctly



illustrations from
www.darksky.org and
www.darkskysociety.org