

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

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DIRECTOR DESIGNATE

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DEPUTY DIRECTOR

2014/SUP-6(ry)

March 13, 2015

**MEMORANDUM**

TO: Dean I. Hazama, Chair  
and Members of the Planning Commission

FROM: George I. Atta, FAICP, Director *George I. Atta*  
Department of Planning and Permitting

SUBJECT: Request for a Special Use Permit (SUP) to Establish a Solar Energy Facility  
Kawailoa, North Shore, Oahu  
Tax Map Keys: 6-1-005: Portion 1 and 6-1-006: Portion 1

Transmitted for appropriate action is our report and recommendation for **approval** of the SUP application for a solar energy facility (SEF), subject to conditions. A 1.9-acre portion of the SEF, which includes underground cabling and no above-surface facilities associated with the SEF, is located within Class A and B lands. However, I have determined that this portion of the SEF does not constitute a use requiring Special Use Permit review and, therefore, it is not being included in the SUP site area.

The Applicant, Kawailoa Solar, LLC, proposes to establish a 50-megawatt SEF and accessory uses and structures that exceed the maximum area permitted by Act 55, Session Laws Hawaii, 2014, and therefore, requires a SUP.

As the Project exceeds the 15-acre threshold, a favorable decision by the Planning Commission will require State Land Use Commission review.

GIA:kh

Enclosure

cc: CH2MHILL  
Kamehameha Schools  
State Land Use Commission

DEPARTMENT OF PLANNING AND PERMITTING  
OF THE CITY AND COUNTY OF HONOLULU

STATE OF HAWAII

IN THE MATTER OF THE APPLICATION OF )  
 )  
 KAWAIILOA SOLAR, LLC )  
 )  
 FOR A )  
 )  
 SPECIAL USE PERMIT )  
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FILE NO. 2014/SUP-6

FINDINGS OF FACT, CONCLUSIONS  
OF LAW, AND RECOMMENDATION

I. APPLICATION

A. Basic Information.

APPLICANT:	Kawailoa Solar, LLC
OWNER:	Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools
LOCATION:	In the vicinity of Ashley Road, approximately 6,000 feet south of Waimea Beach Park and 4 miles northeast of Haleiwa Town, at Kawailoa, North Shore, Oahu, Hawaii (Exhibit 1)
TAX MAP KEYS:	6-1-005: Portion of 001 and 6-1-006: Portion of 1
AREA OF SPECIAL USE:	Approximately 382.2 Acres (Exhibit 2)
RECORDATION:	Land Court
STATE LAND USE DISTRICT:	Agricultural (Exhibit 3)
NORTH SHORE SUSTAINABLE: COMMUNITIES PLAN	Agriculture
EXISTING ZONING:	AG-1 Restricted Agricultural District (Exhibit 4)

**LAND STUDY BUREAU RATING:**

Overall Master Productivity Rating of Class "B", "C", and "E" (Exhibit 5)

**EXISTING USE:**

Wind Energy Generation System and Open Space

**SURROUNDING LAND USE:**

Pasture, Crop Production, Open Space

- B. Proposal. Kawaiiloa Solar, LLC (Applicant) proposes to construct a 50-megawatt solar energy facility (SEF) (Project) on portions of two tax map parcels totaling 382.2 acres<sup>1</sup> (Petition Area). The Petition Area consists of 8 sites with Sites 1 through 7 primarily containing horizontal single-axis tracking, ground-mounted photovoltaic (PV) panels, generally facing south. Site 8 contains one of two proposed substations and Site 9 is the portion of the Project located in Land Study Bureau lands rated Class "A" and "B" and includes underground cables to transmit power to the existing Makai Switchyard. The panels are mounted about 4-½ feet to 9-½ feet above existing grade, with each panel generating power at one kilo volt (kV). The PV system will include other electrical equipment such as combiner boxes, below surface collector lines, inverters, transformers, weather monitoring stations, and switch gear.

A second electrical substation is proposed within Site 1 and both proposed substations will be operated by Hawaiian Electric Company (HECO) and are referred to as the Mauka (located in Site 8) and Makai Substations (located in Site 1). Energy generated by the western portion of the Project will be transmitted to the electrical grid via the existing Makai Switchyard which connects to the HECO Waiialua-Kahuku 46 kV sub-transmission line. Energy from the eastern portion of the Project will be transmitted to the electrical grid via an existing Mauka Switchyard located adjacent to Site 7 which was constructed for the existing wind energy generation system. The Mauka Switchyard connects to the HECO Waiialua-Kuilima 46 kV sub-transmission line.

The open switchrack designed substations would occupy an area of approximately 150 feet by 180 feet and be enclosed by an 8-foot high perimeter fence. Telecommunications will be via an existing fiber optic cable.

In addition, the Applicant proposes to construct internal gravel roadways and security perimeter fencing encompassing each of the eight sites which would also support sheep farming by keeping predators from entering these sites. Access to the Project site is provided via Ashley Road.

In accordance with Act 55, 2014 Session Laws of Hawaii, which creates a new Subsection 205-4.5(a)(21), of the Hawaii Revised Statutes (HRS), the Applicant, through its parent company First Wind<sup>2</sup>, intends to lease portions of the subject parcel to a local ranch to raise sheep. The Applicant submitted, as part of the Special Use Permit (SUP) application, a Letter of Intent to lease the property to a local ranching business to pasture sheep on the site to provide meat for consumption and to maintain overgrowth.

<sup>1</sup> The Director of the Department of Planning and Permitting has determined that a 1.9-acre portion of the Project that proposes underground cables located in Class A and B rated lands, and along Ashley Road, does not constitute a use requiring Special Use Permit review and is thus permitted. Therefore, the Director's Report and Recommendation is for the remaining 8 sites totaling 382.2 acres.

<sup>2</sup> Kawaiiloa Solar, LLC is a wholly owned subsidiary of Kawaiiloa Solar Holdings, LLC, which is a wholly owned subsidiary of First Wind Solar Portfolio, LLC, which is a wholly owned subsidiary of First Wind Holdings, LLC. The application references First Wind (d.b.a. Kawaiiloa Solar, LLC) as the entity proposing the Project.

The lease would commence after the Project is operational and would be at a lease rent rate of no more than 50 percent of the fair market rate for similar agricultural properties. The lease would also provide the rancher with use of the fencing and roadways and other infrastructure at the project site.

The Project will not be manned on a regular basis. On occasion, maintenance staff will be onsite to clean the panels, effect repairs as needed, and supplement grass and brush removal to maintain clear access to sunlight. No parking areas will be required for maintenance of the Project. Sheep pasturing support facilities, other than perimeter fencing of the eight sites, will be provided by the local rancher.

The Applicant anticipates that upon receiving all land use and building permit approvals, the construction, operation, and decommissioning of the SEF would be completed in 35 years.

Energy generated by the PV panels will be sold to HECO.

- C. Other Permits and Approvals. The Project is subject to obtaining a Conditional Use Permit, Minor, and grading and building permits.
- D. Environmental Impact Statement. The Project is not subject to environmental disclosure requirements of Chapter 343, HRS.

## II. FINDINGS OF FACT

- A. Site Description and Surrounding Uses. The Petition Area is located on former sugar cane plantation lands and consists of tablelands. Kaalaea Gulch separates Sites 1, 2, 6, 7, and 8 from Sites 3, 4, and 5. Topography of the Petition Area and surrounding lands ranges from relatively flat or moderate slopes in the former sugar cane fields to steep slopes in the gulches. Elevation of the Petition Area ranges from 200 feet on the western end to 800 feet above mean sea level on the eastern end. Currently, the majority of the Petition Area is vacant open grasslands interspersed with shrubs and trees. With the exception of the wind energy facilities, there are no other developments in the area. Surrounding lands to the east, west, north and south are owned by Bernice Pauahi Bishop Trust Estate (Bishop Estate) and are either fallow or in diversified agriculture. Beyond these lands to the north is Waimea Valley, managed by Hiipaka, LLC, and to the east is land used for military training.

Access to the site is via Ashley Road, a private roadway which is maintained for the existing wind farm, and connects to Kamehameha Highway.

- B. Climate and Wind Patterns. There is no current climate data for the Petition Area. According to data provided by the National Oceanic & Atmospheric Administration at their Waimea Arboretum Station located about a mile north of the Petition area, temperatures range from mid 60's to the mid 80's. Average annual rainfall is approximately 55 inches.

C. Soil Type and Quality of Agricultural Land.

1. United States Department of Agriculture. According to the U. S. Department of Agriculture Soil Conservation Service, the predominant soil types within areas to be occupied by the Project include Wahiawa Silty Clay, 3 to 15 percent slopes (WaB and WaC and Leilehua Silty Clay, 2 to 12 percent slopes (LeB and LeC). Permeability of these soils is moderately rapid, runoff is slow to medium, and erosion hazard is slight to moderate.
2. Agricultural Lands of Importance to the State of Hawaii. The Agricultural Lands of Importance in the State of Hawaii (ALISH) Map, prepared by the State Department of Agriculture (DOA), classify lands into three categories: 1) Prime Agricultural Land (IAL), 2) Unique Agricultural Land, and 3) Other Important Agricultural Land. The Petition Area is comprised of Prime Agricultural Lands. Prime Agricultural Lands are best suited for the production of food, feed, forage, and fiber crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when properly managed (including water management).
3. Land Study Bureau Classification. The Petition Area comprises of Class B, C, and E soils, according to the Land Study Bureau (LSB) overall master productivity rating system. The LSB rating system is based on the agricultural productivity of soils throughout the State, accounting for characteristics such as texture, slope, salinity, erodibility, and rainfall. The productivity ratings are used to designate each area as Class A, B, C, D, or E, with Class A representing the most productive soils and Class E representing the least productive soils.
4. IAL. On March 5, 2015, the State Land Use Commission (also referred to as "LUC") approved the landowner's request in LUC Docket No. 14DR-52 to designate the Property and surrounding lands as IAL, pursuant to Section 205-4.5, HRS.

D. Agency Comments. The following government agencies provided significant substantive comments on the SUP application. A summary of their comments are as follows:

Table 1 – Summary of Agency Comments

Source	Comments Summary
U. S. Fish & Wildlife Service (USFWS)	<p>The federally endangered Hawaii hoary bat may forage and roost in the Project area. Young bats may be left unattended in trees while parents forage during the breeding season and clearing the site for the Project may lead to inadvertent bat kills. Trees over 15 feet high should not be disturbed during birthing and pup rearing season (June 1 through September 15) and land clearing should be timed accordingly. Barbed wire should not be used on fencing due to the potential snagging of these bats.</p> <p>Birds have been known to be attracted to PV panels due to their resemblance as water bodies. Bird injuries and mortalities have been recorded at California PV projects and the State has many federally endangered bird species including Hawaiian coot, Hawaiian stilt, Hawaiian gallinule, Hawaiian duck, and the Hawaiian goose. Bird activity at the site should be monitored and personnel educated about</p>

Source	Comments Summary
	potential for inadvertent harm to important bird species.
State Department of Land and Natural Resources, Historic Preservation Division (SHPD)	No historic properties affected; concurs with Applicant's proposed archaeological monitoring during project construction to ensure proper documentation and treatment of any inadvertent finds, including possible additional features related to Sites 7171 and 7716.
State Department of Land and Natural Resources, Division of Aquatic Resources (DAR)	Best Management Practices (BMPs) were not included with the SUP application. DAR requests that BMPs be included for their review prior to start of the Project. BMPs to mitigate impact of sheep grazing, soil exposure, erosion and resulting runoff from reaching the river valley below should be submitted for review. Any changes to the Project plans should be submitted to DAR for review and comment.
DOA	<p>Recommendation - Strongly supports existing farming operations and those seeking to start new farming enterprises. Also supports solar energy operations in combination with compatible local food production on "B" and "C" rated agricultural land per Act 55. "B" rated agricultural lands are scarce and valuable resource for food self-sufficiency. Utility-scale solar energy facilities should locate on "D" and "E" rated agricultural lands.</p> <p>Landowner received LUC approval to designate Petition Area and surrounding lands as IAL. Landowner will use revenues from the Project to make infrastructure improvements to their agricultural areas at Kawaihoa.</p> <p>Utility-scale solar energy facilities on IAL appears inconsistent with the IAL objective of maintaining agricultural land that can support diversified agricultural activities and opportunities that expand agricultural income and job opportunities and increase agricultural self-sufficiency for current and future generations. Recommends that SUP approval be subject to establishment of an agricultural enterprise on the Property for the duration of the solar energy generation facility.</p> <p>Demand for Sheep – Statewide, statistics show a decrease in sheep farming. Indicators that decreased include the number of farms, sheep and lambs, sheep and lambs sold, and small sheep farms. For Oahu, indicators show increases in nearly every category. Sale of sheep and lambs increased from 13 in 2007 to 75 in 2012, representing less than 2 percent of the total statewide sales of sheep and lamb. The Project and the Waiawa proposal (2014/SUP-3) together would double the sheep population on Oahu. Successful sheep market depends on lamb meat quality and supply and a large sheep pasture operation would be more likely to provide a consistent quality and supply that retailers and restaurants prefer.</p> <p>Alternative Compatible Agriculture - Beekeeping, aquaponics, aquaculture, or other livestock would be considered should the sheep pasturage be unsuccessful. Except for beekeeping, other agricultural options will require sufficient supply of clean water. Water delivery may be costly during dry periods.</p>

Source	Comments Summary
State Office of Planning (OP)	<p>No objections but statewide concerns remain with regards to seeking a balance in maintaining the availability of high quality agricultural lands while promoting renewable energy resources such as solar facilities on lands within the Agricultural District.</p> <p>Although “agri-voltaic” projects are technically feasible, agricultural aspect is sometimes not implemented as represented, i.e., the number of sheep or other grazing animals co-located within the solar facility is negligible. Located on Prime Agricultural land, the facility would preclude productive agricultural land from being used for agricultural purposes and contributing to the State’s goal of assuring long-term availability of agricultural lands for agricultural use if the pasturage of sheep does not occur.</p> <p>Sheep pasturage is a viable agricultural activity if implemented appropriately. After the SEF’s operational life, the lands may be restored for future agricultural use.</p> <p>Supports the DOA’s comments in the letter dated January 29, 2015, to the OP regarding Docket No. DR14-52, which indicates the DOA would support IAL designation of the Project area if the landowner commits to using a substantial portion of the energy generated by the Project directly for agricultural purposes, and/or commits to using a substantial portion of the income derived by selling electricity to the utility company for agricultural activities within the Petition Area.</p> <p>Requirements of Section 205-4.5(a)(21)(A), (B), and (C), HRS should be included as conditions of the permit, should it be approved.</p>
State Department of Transportation (DOT)	<p>Airports Division – Acknowledges glint and glare analysis for aircraft approaching Wheeler Army Airfield and Dillingham Airfield but glint and glare could occur for other aircraft flights in the vicinity of the Project area. If PV array creates hazardous conditions for pilots, the Applicant must be prepared to immediately mitigate hazard upon notification by the Airports Division or the Federal Aviation Administration.</p> <p>Highways Division – Still conducting its review and the Statewide Transportation Office will notify the DPP of further comments.</p>

Other government agencies contacted included the following, but did not provide comments as of the date of this Report:

State: Business, Economic Development & Tourism  
Land Use Commission

Federal: Federal Aviation Administration (FAA)  
Department of the Army  
U. S. Department of Agriculture, Natural Resources Conservation Services (NRCS)

All comments are included in Attachment 1.

- E. Community Concerns. Copies of the SUP application were transmitted to the North Shore Neighborhood Board (NB) No. 27. On January 27, 2015 the NB considered the Project but did not take a vote on the Project.

Community comments are attached in Attachment 1.

### III. ANALYSIS

#### A. Laws and Public Policies.

1. Land Use Law, Chapter 205, HRS. The Petition Area is within the State Land Use Agricultural District.

Section 205-6, HRS, allows the "county planning commission to permit certain unusual and reasonable uses within the agricultural and rural districts other than those for which the district is classified... The county planning commission may, under such protective restrictions as may be deemed necessary, permit the desired use, but only when the use would promote the effectiveness and objective of this chapter."

In determining whether a proposed use is deemed "unusual and reasonable," Section 2-45 of the Planning Commission Rules established five guidelines (five tests) to be applied. These guidelines are also found in Title 15-15, of the Hawaii Administrative Rules for the LUC.

The Director finds that the proposal to allow the SEF meets the requirements of Chapter 205, HRS. The five guidelines of Section 2-45 of the Planning Commission Rules are as follows:

**Guideline 1: Such use shall not be contrary to the objectives sought to be accomplished by the State Land Use Law and Regulations.**

Pursuant to Section 205-4.5(a)(21), HRS, solar energy facilities proposed on SLU Agricultural District lands rated Class B or C by the LSB are permitted to exceed the maximum land of 10 percent of the area of a parcel, or 20 acres, whichever is less, if granted a SUP, provided that the Project is made subject to three conditions:

- a. The area occupied by the solar energy facilities is also made available for compatible agricultural activities at a lease rate that is at least 50 percent below the fair market rent for comparable properties;
- b. Proof of financial security to decommission the facility is provided to the satisfaction of the appropriate county Planning Commission (PC) prior to date of commencement of commercial generation; and
- c. Solar energy facilities shall be decommissioned at the owner's expense according to the following requirements:



- (i) Removal of all equipment related to the solar energy facility within twelve months of the conclusion of operation or useful life; and
- (ii) Restoration of the disturbed earth to substantially the same physical condition as existed prior to the development of the SEF.

The Petition Area occupies approximately 382.2 acres, which is rated as Class B, C, and E lands by the LSB. Since the area on Class B and C lands exceed 20 acres, a SUP is required.

The Applicant submitted, as part of its application materials, information relating to the provision of land area occupied by PV panels for compatible agricultural use at a lease rent of 50 percent below market value, a preliminary description of its plan for decommissioning estimated at \$4 million.

The proposed Project is not contrary to the objectives sought to be accomplished by the State Land Use Law and regulations. The proposal may be considered an unusual but reasonable use of agricultural lands. Under current technology, utility scale PV facilities require large amounts of relatively gentle terrain, sited in close proximity to an existing electrical grid. The site was formally used for pineapple cultivation and is currently in pasture use. The Applicant proposes to continue agricultural use of the site by making available the area under the PV panels for sheep pasturage and the Applicant submitted a Letter of Intent between the Applicant and a local rancher to pasture sheep on the Petition Area. The sheep will be beneficial to the Project for vegetation control and provide a food source in compliance with the intent of Act 55.

Currently, the PC and the LUC have no rules to implement the provisions of Act 55. Such rules would better define and implement the intent of Act 55 and perhaps clarify what lands are to be made available for compatible agricultural use. On its face value, the statutory provision requiring that lands occupied by the SEF be made available for compatible agriculture, cannot be fully met as the substation, switchyard, communications building, and other accessory structures, cannot be used for compatible agriculture because the lands occupied by these structures would be completely built upon. Thus, compatible agricultural activities on these portions of the Petition Area are not possible or practical. To address this, the Director of the DPP recommends that the Applicant submit an agricultural site plan showing the area set aside for compatible agricultural use, as a condition of SUP approval.

With respect to the Applicant's proof of financial security to fund the decommissioning of the Project after its useful life, the Applicant did not provide evidence of financial security. The Applicant suggested decommissioning efforts could be funded by its parent company and the required proof of financial security could be in the form of a Letter of Credit.

Compliance with decommissioning requirements, may ultimately be the responsibility of the landowner, should the Project, in the future, be abandoned. The Director of the DPP would place the "burden of proof" upon the Applicant to provide documentation which shows that it has the financial ability to

decommission the Project and return the Petition Area to a condition prior to establishment of the Project, as a condition of SUP approval.

The OP recommend approval of the SUP with conditions that impose the statutory requirements of Section 205-4.5(a)(21) which relate to site availability for compatible agriculture, removal of all equipment within 12 months of cessation and restoration of the site to substantially the same physical condition as existed prior to development of the Project, and; proof of financial security to fund decommissioning and restoration. Since the OP's recommendation is essentially to re-state what is required by Section 205-4.5(a)(21), the DPP deems the OP's recommendation is duplicative and thus, a condition of approval to re-state Section 205-4.5(a)(21) is unnecessary.

With respect to protection of endangered species and their habitats, the USFWS raised concerns that the Project may adversely impact breeding Hawaiian hoary bats and endangered or migratory birds. The USFWS indicated that bats and their young may forage in the site and surrounding area and recommends suspending any disturbance of trees over 15 feet in height until after breeding and pup-rearing season which runs from June 1 through September 15. The USFWS stated that barbed wire fencing may snag avifauna and recommends avoiding barbed wire fencing. The USFWS also indicates that birds have been known to mistake PV panels from bodies of water and flying into the panels could result in unintended bird kills, injuries, or predation of injured birds. The USFWS recommends an on-site monitoring of bird activity and coordination with the USFWS to assist in minimizing impacts.

To protect endangered species and migratory birds, the Applicant should consult with the USFWS.

**Guideline 2: The desired use would not adversely affect surrounding property.**

The Project site is presently mostly vacant with land immediately adjoining the site is used for a wind energy generation facility. Beyond the immediate area are other lands in diversified agriculture, open space and military training. The DOA did not indicate the Project would have an adverse impact on surrounding agricultural uses.

The nearest residential areas to the Project are along Kamehameha Highway and in the Pupukea Country zoning district, approximately 0.7 mile to the west, and about one mile to the north, respectively.

Noise or odors are not anticipated to adversely affect surrounding properties. Short-term noise impacts may result from construction activities and supplemental grass trimming by mechanical means.

The Applicant submitted a view study with simulations showing minimal impacts on public roadways, parks, or other public spaces. The existing wind turbines, which are permitted under Chapter 205, HRS, have a larger impact on public views than the Project. The switchyard and substation, which pales in view comparison to the existing wind turbines, do not adversely affect existing public

views which have been impacted by the wind turbines. Thus, a condition of SUP approval is not required.

With respect to the DAR's comments, on March 10, 2015, the Applicant submitted a report prepared by a civil engineer which contains proposed BMPs to the DAR for review and comment. The engineering report addresses storm water quantity management, temporary and permanent Best Management Practices, fire hazard, PV panel maintenance, and air quality. As of the date of the DPP's Report and Recommendation, no additional comments have been received from the DAR.

**Guideline 3: The use would not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, police, and fire protection.**

The Project would not unreasonably burden public agencies to provide roads, sewers, drainage, schools, police, and fire protection based on the following:

**Traffic** - Access to the Petition Area is via a private access road known as Ashley Road with gated ingress/egress off Kamehameha Highway. Maintenance and inspection of the solar facilities (including supplemental mowing, landscaping, panel cleaning, and electrical maintenance) would occur irregularly where employees would drive to various locations throughout the site on a network of internal gravel roads. No centralized parking facilities are planned.

The City Department of Transportation Services (DTS) and the DOT Highways Division did not provide any comments. The public does not have access to Ashley Road which is gated where it connects to Kamehameha Highway. Therefore, a condition of approval relating to roadway infrastructure is not required.

With respect to traffic within the Project, DPP notes that operational requirements between the existing wind energy project, the proposed SEF, and future farming operations, may result in internal traffic concerns or conflicts. The Applicant should be aware of potential impacts between users and coordinate the internal circulation needs of all users. Coordination should consider the operational needs of future agriculture such as sheep ranching and associated fencing or other infrastructure requirements to avoid traffic conflicts with the Project and/or the wind energy generation facilities.

**Wastewater** - Normal operation of the facility would not require onsite personnel. Therefore, the site would not be permanently manned and no permanent wastewater facilities would be required.

**Water Supply** - The Project site is not serviced by the Honolulu Board of Water Supply.

Small amounts of water would be required for occasional irrigation of landscaping, as well as periodic cleaning of the solar panels. Water would be

available either from rainwater catchment equipment, onsite irrigation ponds, or transported in via truck. No hook-up to the municipal water system is planned and the Board of Water Supply indicated that they do not provide water service to the Petition area.

**Drainage, School Improvements, Fire, and Police Protection** - The Project is being proposed on gently sloping, former sugarcane cultivation lands which are currently overgrown with a mix of grasses, shrubs and trees. The area appears well drained and the development of a SEF is not anticipated to change existing drainage patterns which generally sheet flow into the surrounding gullies. No residential use is being proposed and the SEF sites will be completely fenced. As the Petition Area is only accessible via a private and gated agricultural road, additional police protection services are not anticipated.

The Honolulu Fire Department (HFD) provided standard comments with respect to the provision of fire protection infrastructure. Building permits for the Project would be circulated to the HFD for review. Any fire fighting infrastructure required by the HFD may be imposed at that time. Therefore, recommendations of the HFD need not be included as conditions of SUP approval.

The Applicant did not provide information on the potential for brush fires. Sheep pasturing and other compatible agricultural areas in the Petition Area should minimize brush fire potential. However, surrounding lands may be susceptible to brush fires and the Project could sustain damage from off-site fires. The Applicant should consider establishing driveways or setbacks between the PV panels and the Project's fence line to minimize impacts from wildfires originating from beyond the Petition Area.

**Guideline 4: Unusual conditions, trends and needs have arisen since the district boundaries and regulations were established.**

Large-scale solar energy facility development on Oahu is a recent phenomena as tax incentives and the increasing cost for traditional fuels have contributed to a growing industry for large- and small-scale PV installations, in addition to other alternative and renewable energy solutions such as wind, geothermal, hydroelectric, biofuels, and natural gas. As of December 2013, HECO reports that there are no utility scale PV projects in the Central Oahu to North Shore areas where most of the high quality agricultural lands are located. The DPP is aware of several large-scale (over 10 megawatts) projects under review for approval in the Central Oahu and other areas, as follows:

Table 2 – Proposed Utility-Scale PV Projects in Agricultural Land per Hawaii State Energy Office (SEO) Webpage

Project Name	Capacity Megawatts	Location	Approx. Acreage	Land Rating*
Waiawa Solar Farm (SunEdison)**	115	Waiawa, Central Oahu	655	Primarily A & B
Hoohana Solar LLC**	46	Royal Kunia, Central Oahu	124	Primarily A
Mililani South Solar Park	35	South of Mililani, Central Oahu	72	D
Waiawa PV, LLC	47	Waiawa, Central	313	Primarily

Project Name	Capacity Megawatts	Location	Approx. Acreage	Land Rating*
		Oahu		B & C
Ka La Nui Solar Project	15	Waianae at Mountain View Dairy, Waianae	76	E
Eurus Waianae Solar	30	Waianae, mauka of Uluwehi	195	E
Totals	288		1,435	

\*LSB types A, B, C, D, or E

\*\* SLU Urban District

Due to the reduction in panel costs and government subsidies, large-scale PV has become a viable economic alternative to plantation agriculture. These solar energy projects typically have long-term leases commensurate to the hardware's expected life. Thereafter, the panels may be removed and recycled or replaced by newer panels, subject to a modification of the SUP, should the Project owner exercise its options to extend energy production beyond the projected life of the Project. The trend to use large areas of land for energy generation was not anticipated at the time the State Land Use Law was being established. And, the local cost for energy from fossil fuels continue to rise and is presently two to four times the cost for energy as the U. S. mainland<sup>3</sup>.

**Guideline 5: The land upon which the proposed use is sought is unsuited for the uses permitted within the district.**

The parcel is rated good quality agricultural land and is suitable for uses permitted within the district. Except for the existing wind energy generation facility, the subject land is presently vacant. Section 205-4.5(a)(21), HRS, allows the granting of a SUP for the proposed SEF provided that certain conditions are met. One of these conditions require that the same lands be made available for compatible agriculture should an SUP be granted for a SEF. Thus, the statutory requirement to retain lands subsequently approved for a SEF, for the dual purpose of energy and agricultural production, results in little loss of high quality agricultural land. Therefore, the Petition Area is essentially available to the uses permitted in Section 204-4.5(a)(1), (2), and (3), HRS, and thus suitable for the establishment of the Project.

The Applicant proposes to establish a sheep farm and has explored alternative agriculture operations should the sheep farm prove infeasible such as apiculture (bee farming), aquaponics, or other crop or livestock production. In addition, the Applicant states it will comply with decommissioning requirements of Section 205-4.5(a)(21)(C), HRS, which would restore the land to its condition prior to establishment of the Project.

The DOA supports solar energy operations in combination with compatible local food production. The DOA, along with the OP, commented that the Applicant should comply with the intent of Act 55, SLH 2014, and recommends that a condition of approval be imposed to require that the Applicant, and its successors/assignors either establishes a compatible agricultural enterprise on

<sup>3</sup> Source: U. S. Energy Information Administration.

the site for the duration of the SEF operation or is actively seeking to establish an agricultural enterprises(s). This is recommended as a condition of SUP approval.

2. Hawaii State Plan. The Hawaii State Plan (Chapter 226, HRS, as amended) provides the overall theme, goals, objectives, policies, and priority guidelines for statewide planning. The proposal is consistent with the following objectives and policies of the Hawaii State Plan:

**Section 226-7: Objectives and policies for the economy--agriculture.**

- (a) *Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:*
- (2) *Growth and development of diversified agriculture throughout the State.*
  - (3) *An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.*
- (b) *To achieve the agriculture objectives, it shall be the policy of this State to:*
- (2) *Encourage agriculture by making best use of natural resources.*

The Project proposes to incorporate compatible agricultural uses within the same site as the PV panels by pasturing sheep around and under the panels which has the dual purpose of providing food in the form of lamb meat, and by limiting vegetation growth from pasturing sheep. The dual use of the Project site would contribute to the growth of diversified agriculture and make best use of the underlying natural resource.

**Section 226-18: Objectives and policies for facility systems--energy.**

- (a) *Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:*
- (1) *Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;*
  - (2) *Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased;*
  - (3) *Greater energy security and diversification in the face of threats to Hawaii's energy supplies and systems; and*
  - (4) *Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use.*

- (b) *To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.*
- (c) *To further achieve the energy objectives, it shall be the policy of this State to:*
  - (1) *Support research and development as well as promote the use of renewable energy sources.*

The proposal supports the energy goals of the State Planning Act, Chapter 226, HRS by providing alternative fuel-sourced energy, that is capable of contributing to the needs of the people and support energy self-sufficiency. Operation of the Project also contributes to the reduction of greenhouse gases by offering a “clean” energy alternative to fossil fuel based energy production.

- 3. City General Plan. The General Plan consists of comprehensive objectives and policies that outline the City’s long-range development goals. The proposed Project conforms to the following objectives and policies of the City’s General Plan as cited below:

**Energy**

***Objective A – To maintain an adequate, dependable, and economical supply of energy for Oahu residents***

*Policy 3 – Support programs and projects which contribute to the attainment of energy self-sufficiency on Oahu.*

The Project would contribute toward energy self-sufficiency by converting solar energy to electricity and reduce the amount of fossil fuels needed to provide Oahu’s energy needs.

- 4. North Shore Sustainable Communities Plan (NSSCP).
  - a. **Community Growth Boundary (CGB).** The site is located outside the NSSCP’s CGB that was established to provide long-term protection from urbanization of Prime and Unique Agricultural Lands and for preservation of open space while providing adequate land for residential, commercial, and industrial uses needed in the North Shore, Oahu for the foreseeable future. The intent is to prevent urban zoning beyond this boundary.

The Applicant does not propose to establish urban type zoning in order to develop the Project. The proposal is to establish the use via a SUP that is best suited for SEFs on large open spaces in the Agricultural District, and does not result in an urban type zone change. An urban zone change would designate the site from an agricultural use to permit the proposal in an urban setting. In the instant case, the Project could be removed and the land returned to agriculture after its useful life. In addition, a majority of the site is being made available for compatible agricultural use as a sheep

pasturing operation. Thus, the Project is consistent with the intent of the CGB.

- b. **Agriculture Designation.** The Project site is located within areas designated by the NSSCP as Agriculture. The agriculture policies and guidelines protect Prime Agricultural Lands designated under ALISH, from urban development as they are among the best in the State. These lands are supported by an extensive, well-developed agricultural infrastructure, and are near the major transportation hub for export markets. The Applicant's plans for sheep pasturing addresses both the need to retain these lands in agricultural use and the maintenance of undergrowth by establishing a compatible agricultural use in the area of the PV panels, in accordance with Section 205-4.5(a)(21), HRS.

Except for an existing wind energy project, the Project site is currently vacant. Land occupied by the Project will be leased to a local rancher who proposes to raise hair sheep on the site. The Project will also be designed to protect the surrounding environment through appropriate design measures and the adherence to relevant health and safety requirements of the Department of Health and the Environmental Protection Agency.

- c. **Scenic Resources and Scenic Views.** Portions of the site are visible from Kamehameha Highway and Farrington Highway. Views of the site and the background Koolau Mountains are shown on the Open Space Map as protected panoramic views.

The Applicant's consultant prepared a view study with simulations showing before and after completion of the Project. The view study indicates that the Project will not impact views any more than the existing wind energy generation project has. Thus, the Project is consistent with relevant provisions of the NSSCP. A condition of SUP approval addressing landscaping is not required and any unanticipated view impacts will be further reviewed under the Conditional Use Permit (CUP).

5. **Land Use Ordinance.** The Project is located within the AG-1 Restricted Agricultural District. It is considered a "Utility Installation, Type 2" facility and is subject to obtaining a CUP.
6. **Special Management Area (SMA).** The Project site is located outside of the SMA and a Special Management Permit is not required.
7. **Coastal Zone Management (CZM).** All lands of the State, including the area extending seaward of the shoreline to the seaward limits of the State's jurisdiction, are included in the CZM Area.

The proposal is consistent with the CZM objectives and policies as follows:

(3) *Scenic and open space resources*

(A) *Identify valued scenic resources in the CZM area;*



- (B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) *Encourage those developments that are not coastal dependent to locate in inland areas.*

The site is located on the North Shore's table lands, about one mile mauka of the shoreline. Existing wind turbines already impact public views of the Koolau Mountains and the proposed SEF would have a negligible impact on public views when compared to the wind turbines.

(8) *Public participation*

- (A) *Promote public involvement in CZM processes;*
- (B) *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and*
- (C) *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

The Applicant made a presentation to the area's neighborhood board. In addition, the SUP application is available online at the DPP's webpage. Based on the above analysis, the Director finds that the proposed Project is in compliance with the objectives and policies of the CZM Program.

- B. Archaeological Resources. The Applicant's consultant prepared a draft archaeological assessment in November 2014 with minor revisions dated January 15, 2015. The assessment involved research of historical and archaeological resources and documents. The site was used for plantation agriculture and contains fields, plantation roadways, and other related infrastructure. The archaeological consultant conducted a complete pedestrian survey of the Petition Area and documented previously recorded Site 50-80-04-7171 and newly recorded Site 50-80-04-7716, both of which are located in the makai collector line corridor and are both portions of abandoned irrigation ditches. The assessment concludes that both sites are significant in that these sites have yielded, or is likely to yield, information important for research on prehistory or history. It further states that no historic properties are affected and recommends archaeological monitoring to address inadvertent finds.

The SHPD stated that they concur with archaeological site assessment. Therefore, a condition of SUP approval relating to archaeological impacts is not recommended. Should unanticipated cultural resources be uncovered during site work, the Applicant is required to comply with Section 6E, HRS.

C. Social Impacts. The Project will have minimal impact on population increases or decreases in the area and minimal adverse impact, if any, on the area's farming community. Positive impacts of the Project would result in an increase in energy produced by a renewable source for use by the Island's businesses and residences. The establishment on a sheep pasturing operation, should it be successful, would add to the supply of lamb meat for consumption.

D. Decommissioning and Restoration. According to Section 205-4.5(a)(21)(C), HRS the Applicant is required to remove all equipment related to the SEF within 12 months of the conclusion of operations or useful life, and restore the disturbed earth to substantially the same physical condition as existed prior to the development of the SEF<sup>4</sup>.

The Applicant indicates that the Project is expected to have an operational life of approximately 35 years. Thereafter, the facility may be re-powered with new equipment or decommissioned, and the site reclaimed. Should the Applicant decide to renew the SEF with a modern system, the Applicant must obtain a new SUP or modify the existing approvals to extend its deadline to decommission, and reclaim the site.

Decommissioning would involve removal of all above ground structures, including the panels, transformers, and substation equipment, as well as removal of all below-ground structures and foundations to a depth of 36 inches below grade. It is anticipated that most of the materials would be either salvaged or recycled, with the majority of this material likely being shipped to a recycling facility on the mainland. The remaining materials would be disposed of by the contractor at authorized sites in accordance with applicable laws. Site restoration would be based on site-specific requirements and techniques commonly employed at the time of decommissioning. It is expected to include grading, spot replacement of topsoil, removal of gravel, and revegetation of all disturbed areas with an appropriate hydroseed mix, such that the physical conditions of the Project site would be comparable to the existing conditions prior to construction of the Project.

The Applicant is required to comply with Section 205-4.5(a)(21)(C), HRS, and a condition of SUP approval is not required.

E. Glint and Glare. The Applicant's consultant prepared a glint and glare study in accordance with the FAA's recommendations. PV panels are typically designed with anti-reflective glass front surfaces to capture and retain as much of the solar spectrum as possible. In general, solar module glass has less reflectivity than water or window glass. The consultant study indicates that there are no significant glare or glare impacts on observation points that would adversely affect military training aircraft and concluded that due to the variability of training times, locations and elevations, the potential for significant glare impacts is unlikely.

The DOT indicates in their comments that glint and glare may affect other aircraft within the vicinity of the Petition Area beyond the typical flight paths used by aircraft approaching Wheeler Army Airfield and Dillingham Airfield. The DOT also added that the Applicant should be prepared to immediately mitigate hazardous conditions due to glint and glare upon notification by the DOT Airports Division or the FAA.

---

<sup>4</sup> Act 55 provides no timeframe for the restoration of the disturbed earth to substantially the same physical condition as existed prior to development of the SEF.

#### IV. CONCLUSION

The proposal addresses the energy goals of the State and City.

Approval of the SEF, along with the integration of compatible agricultural uses, addresses the requirements of Section 205-4.5(a)(21)(A), HRS relating to the provision of the Project site for compatible agriculture.

The proposal is also in compliance with relevant State and City policies and no adverse infrastructure impacts are anticipated. Thus, the proposed Project to allow a SEF on high quality agricultural land is "unusual and reasonable" as set forth in Chapter 205-6, HRS, and meets the five guidelines established by the Planning Commission, pursuant to Section 2-45 of the Planning Commission Rules.

#### V. RECOMMENDATION

The Director of the Department of Planning and Permitting (DPP) recommends that Special Use Permit (SUP) Application File No. 2014/SUP-6, for a solar energy facility (SEF) on approximately 382.2 acres, Portion of Tax Map Key 6-1-005: 001 and Portion of Tax Map Key 6-1-006: Parcel 001, as shown on Exhibit A, be approved, subject to the following conditions:

1. Usable lands of the Petition Area, including areas under PV panels, shall be made available for compatible agricultural use at a lease rate that is at least 50 percent below the fair market rent for comparable properties, as long as the Project is in operation. Compatible agricultural operations shall be established, or Applicant shall be actively seeking to have such operations established, within one year of the start of commercial power generation. Extensions to this deadline may be granted by the Director of the DPP for unforeseen extenuating circumstances
2. The Applicant shall submit for review and obtain the approval of the following from the Director of the DPP, prior to the issuance of a grading or building permit:
  - a. A survey map accompanied by a metes and bounds description of the approved Petition Area.
  - b. A site plan showing the area required under Condition 1, above, relating to the minimum land area to be made available for compatible agricultural use.
3. Prior to the closing of the building permit for the SEF, the Applicant shall submit to the DPP proof of financial security, such as a posted letter of credit or similar mechanism from a creditworthy financial institution, in favor of the owner of the land subject to the SUP, in the amount of \$4,000,000.00, which security shall remain in place for the duration of the operation of the Project, with evidence of same provided to the Director of the DPP on an annual basis, to decommission the Project and restore the Petition area to substantially the same physical condition as existed prior to the development of the SEF.

The Applicant shall decommission the SEF within 12 months following the termination of operations of the SEF. A change in Project ownership or a change in ownership of the

land subject to the SUP, which warrants a new proof of financial security to decommission the Project, shall be submitted to the DPP for processing through the Planning Commission (PC), within 3 months of the ownership change.

4. The Applicant shall comply with the recommendations of the U. S. Fish & Wildlife Service regarding the protection of endangered or migratory bird activity at the Petition Area.
5. The Applicant shall establish the Project within 2 years of the date of the State Land Use Commission's (LUC) Decision and Order approving the SUP. Requests for extension of this deadline shall be submitted to the Director of the DPP prior to the expiration of the deadline. The LUC may grant an extension to the deadline to establish the Project due to unforeseen circumstances that were beyond the control of the Applicant. This SUP shall be valid for a period of 35 years from the date of the State LUC's Decision and Order approving the SUP, subject to further extensions upon a timely request for extension filed with the Commission at least 120 days prior to the SUP's expiration.
6. On or before December 31 of each year that the SUP is in effect, the Applicant or its successor shall file an annual report to the DPP that demonstrates the Applicant's compliance with conditions of the SUP.
7. Major modifications to: (1) the Project plans, including but not limited to significant increases in the number of PV panels; (2) amendments to the conditions of approval; (3) significant expansions of the approved area; or (4) change in uses stated herein, shall be subject to the review and approval of the PC and the LUC. Minor modifications including minor additions to accessory uses and structures, and new incidental uses and structures in the approved area are subject to review and approval by the Director of the DPP.
8. The Applicant and/or landowner shall notify the Director of the DPP of:
  - a. Any change or transfer of licensee on the property;
  - b. Any change in uses on the property;
  - c. Termination of any uses on the property; and/or
  - d. Transfer in ownership of the property.

The PC, in consultation with the Director of the DPP, shall determine the disposition of this SUP, and the facilities permitted herein.

9. Enforcement of the conditions of the SUP shall be pursuant to the Rules of the Planning Commission, including the issuance of an order to show cause as to the reason the SUP should not be revoked if the PC has reason to believe that there has been a failure to perform the conditions imposed herein.

Dated at Honolulu, Hawaii this 13<sup>th</sup> day of March 2015.

DEPARTMENT OF PLANNING AND PERMITTING  
CITY AND COUNTY OF HONOLULU  
STATE OF HAWAII

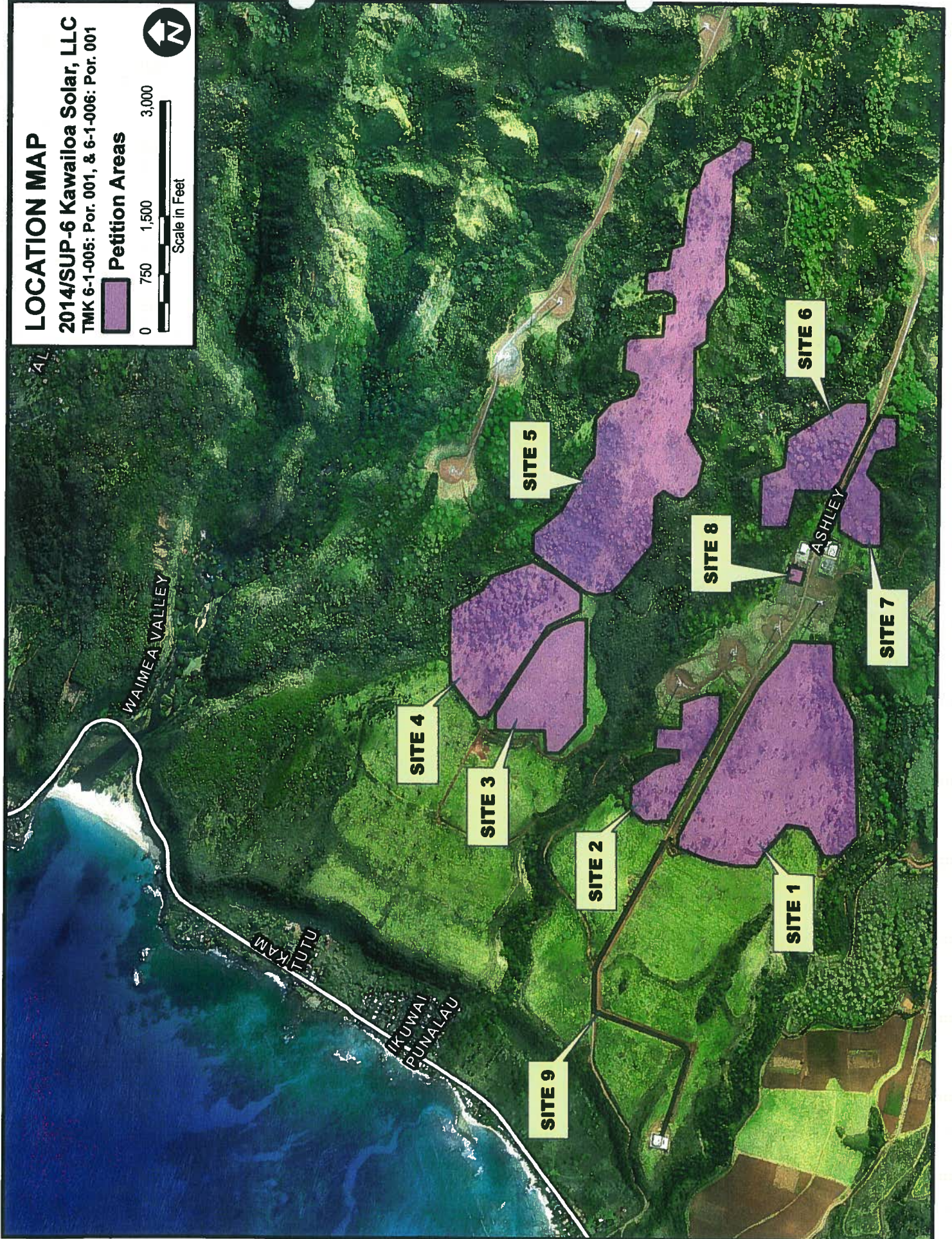
By *George I. Atta*  
George I. Atta, FAICP  
Director

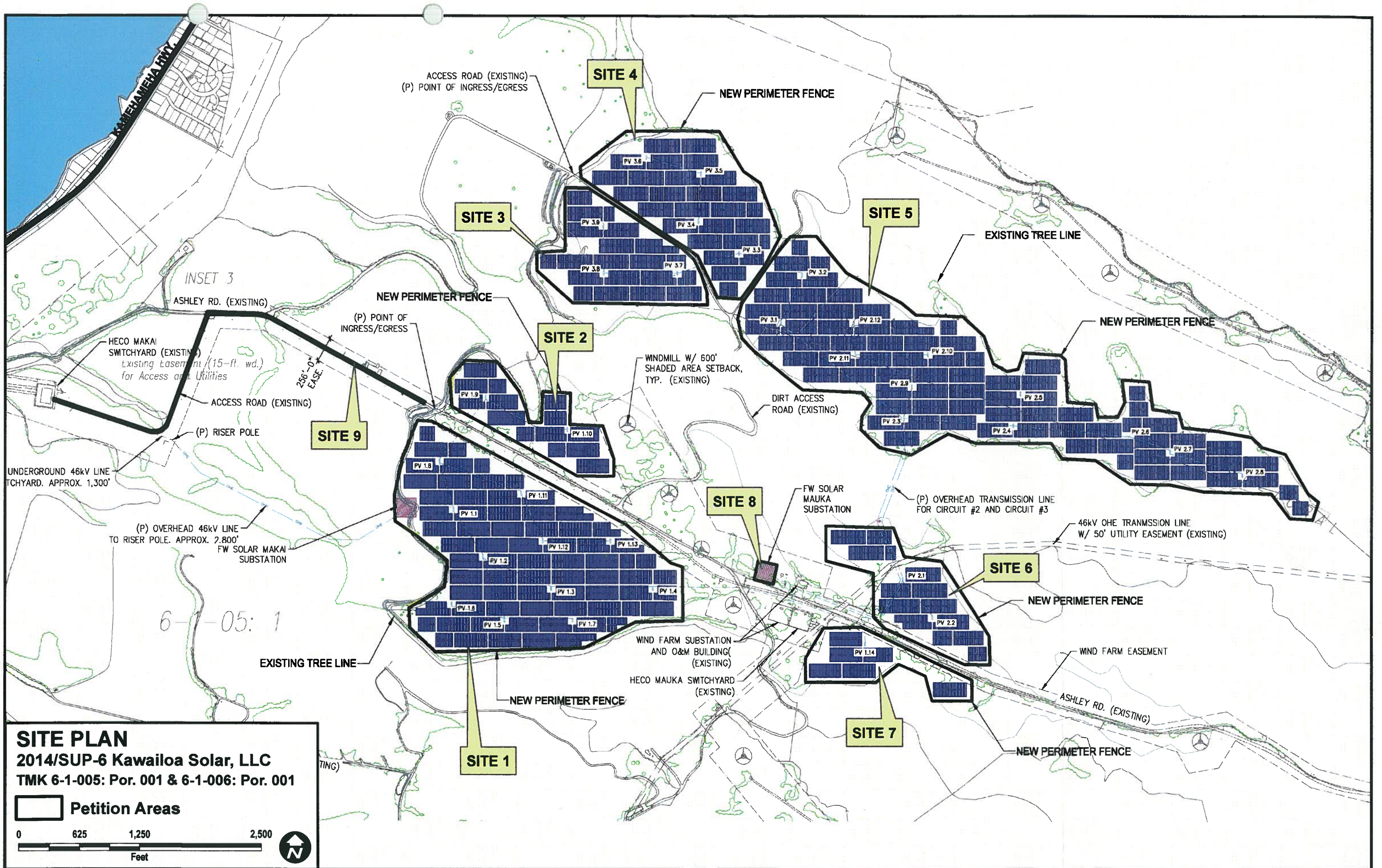
Attachment

# LOCATION MAP

2014/SUP-6 Kawaiiloa Solar, LLC  
TMK 6-1-005: Por. 001, & 6-1-006: Por. 001

 Petition Areas





**SITE PLAN**  
**2014/SUP-6 Kawaihoa Solar, LLC**  
**TMK 6-1-005: Por. 001 & 6-1-006: Por. 001**

**Petition Areas**



**STATE LAND USE DISTRICTS**

2014/SUP-6 Kawaihoa Solar, LLC  
TMK 6-1-005: Por. 001, & 6-1-006: Por. 001

**Petition Areas**



**CONSERVATION**

**URBAN**

**AGRICULTURAL**

WAIMEA VALLEY

KAMAHAMUA

POWAI

ASHLEY

SITE 3

SITE 2

SITE 9

SITE 4

SITE 5

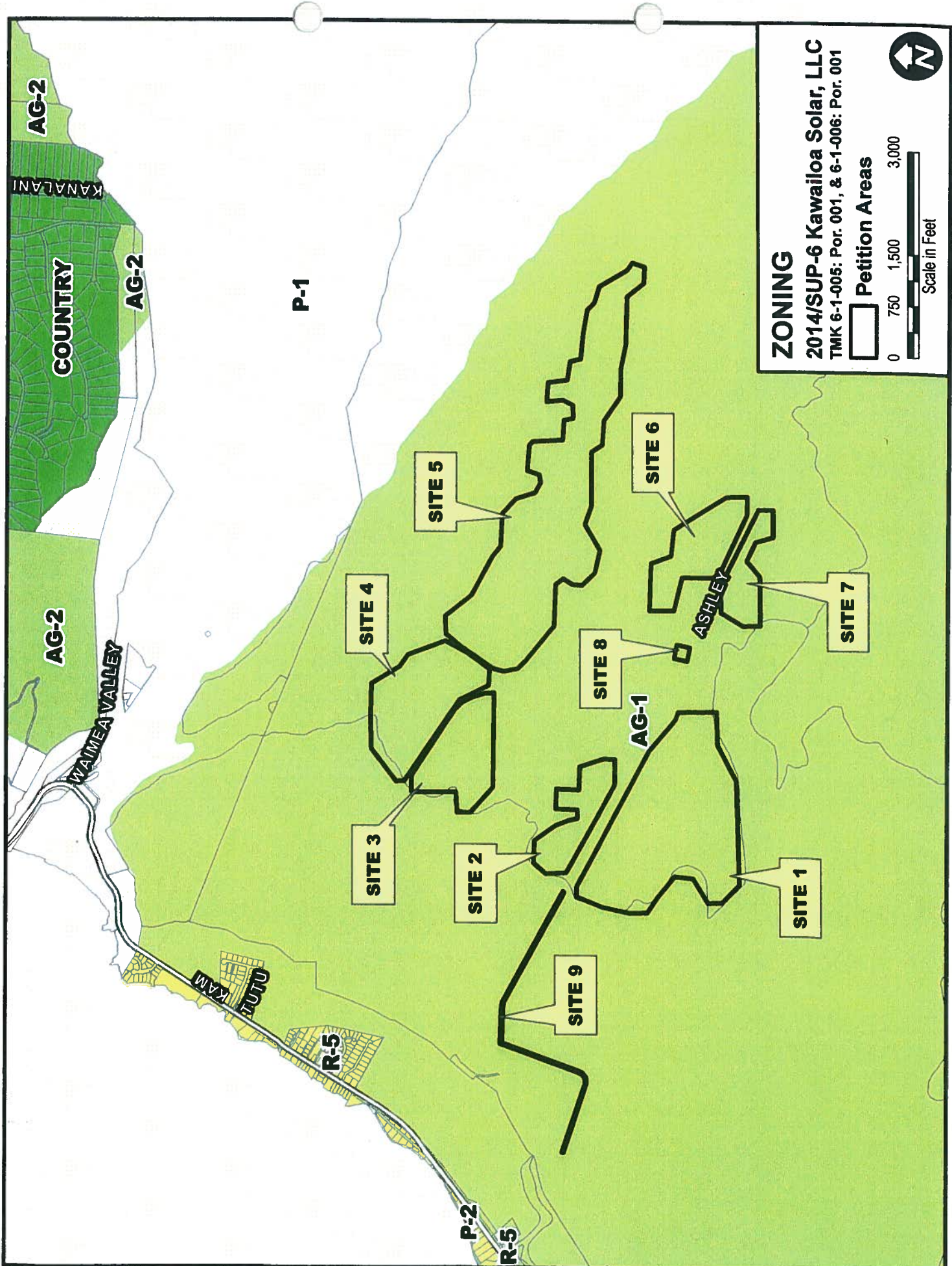
SITE 8

SITE 6

SITE 1

SITE 7



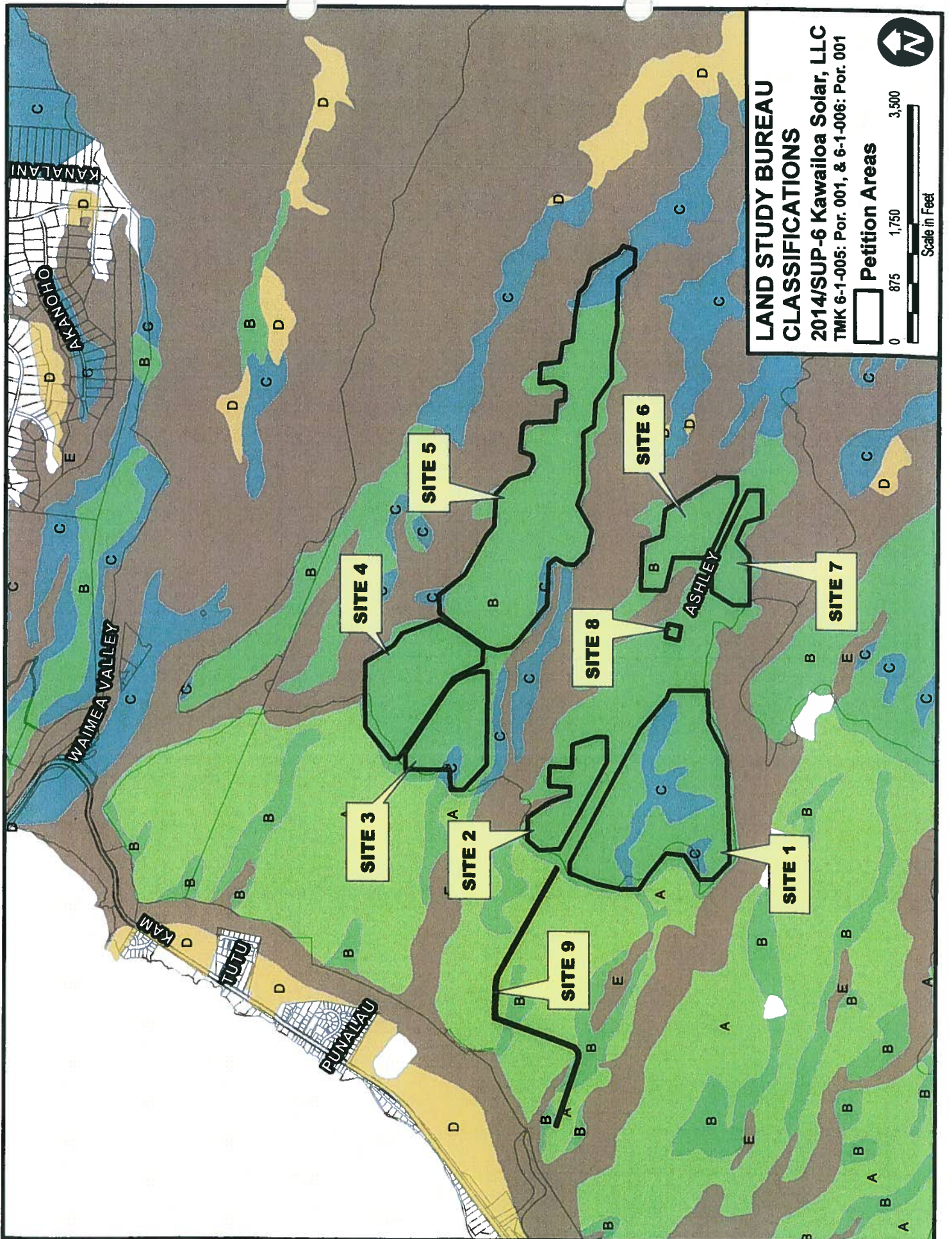


**ZONING**  
 2014/SUP-6 Kawaiiloa Solar, LLC  
 TMK 6-1-005: Por. 001, & 6-1-006: Por. 001

**Petition Areas**

0 750 1,500 3,000  
 Scale in Feet

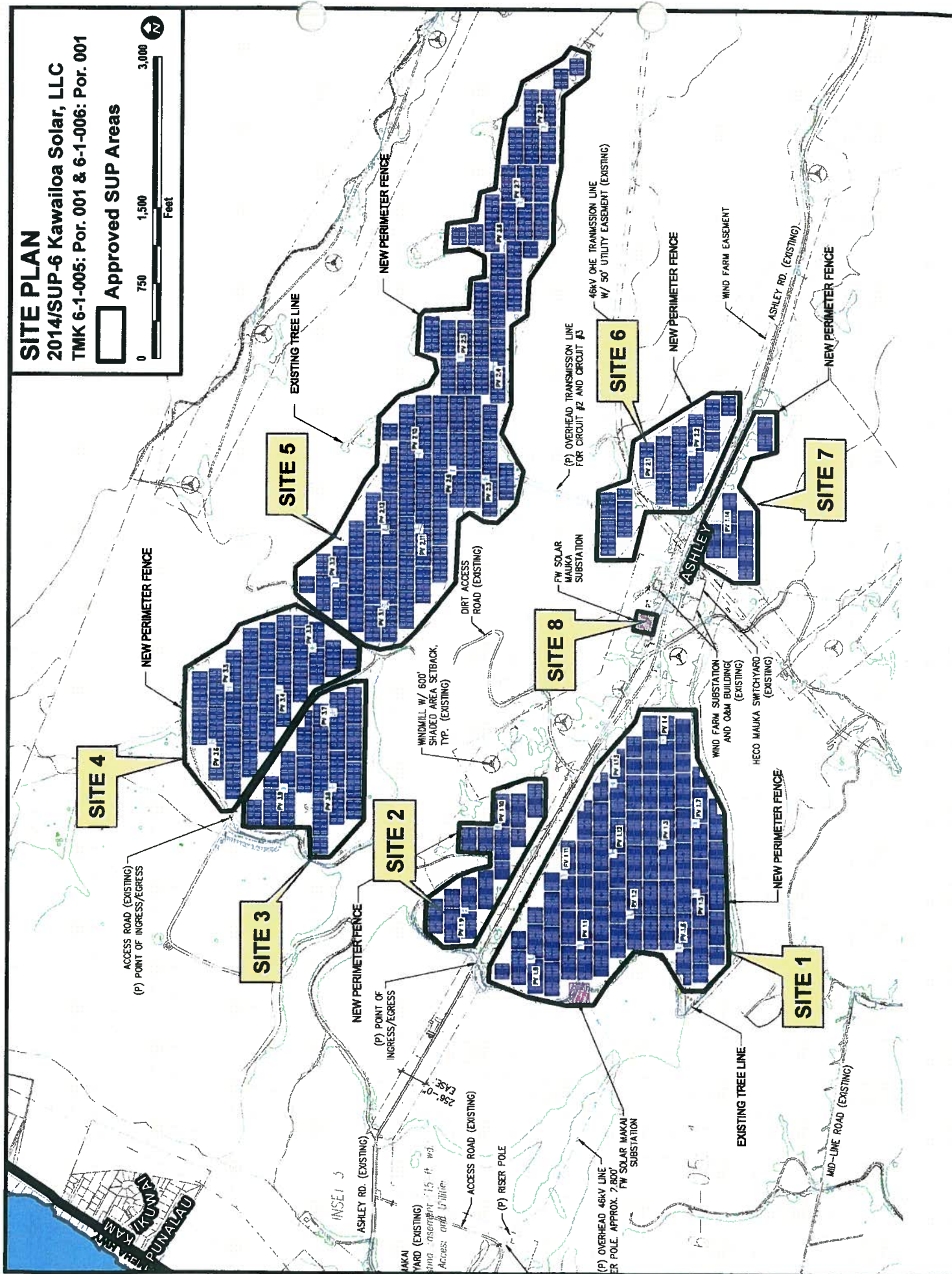
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# SITE PLAN

2014/SUP-6 Kawailoa Solar, LLC  
TMK 6-1-005: Por. 001 & 6-1-006: Por. 001

Approved SUP Areas



# **Attachment 1**

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

CARTY S. CHANG  
INTERIM CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

DANIEL S. QUINN  
INTERIM FIRST DEPUTY

W. ROY HARDY  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

March 3, 2015

City and County of Honolulu  
Department of Planning and Permitting  
Attention: Mr. George I. Atta  
Mr. Raymond Young  
650 South King Street, 7th Floor  
Honolulu, Hawaii 96813

via email: [rcsyoun@honolulu.gov](mailto:rcsyoun@honolulu.gov)

Dear Mr. Atta and Mr. Young,

SUBJECT: Application for a Special Use Permit, Solar Energy Facility, Kawailoa, North Shore, Oahu

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments sent to you dated February 13, 2015, enclosed are additional comments from the Historic Preservation Division on the subject matter. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to be "Russell Y. Tsuji".

Russell Y. Tsuji  
Land Administrator

Enclosure(s)

2015 MAR 4 AM 11 13  
DEPT OF PLANNING  
and PERMITTING  
CITY & COUNTY OF HONOLULU

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING  
601 KAMOKILA BLVD, STE 555  
KAPOLEI, HAWAII 96707

CARTY S. CHANG  
INTERIM CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

DANIEL S. QUINN  
INTERIM FIRST DEPUTY

W. ROY HARDY  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

February 25, 2015

Russell Y. Tsujii, Land Administer  
Land Division  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, HI 96809

Mr. George I. Atta, Director  
City and County of Honolulu  
Department of Planning and Permitting  
650 South King Street, 7th Floor  
Honolulu, HI 96813

Dear Mr. Sirs:

**SUBJECT: Chapter 6E-42 Historic Preservation Review  
Application for a Special Use Permit-Solar Energy Facility (2014/SUP-6)  
Kawailoa Ahupua'a, Waialua District, Island of O'ahu  
TMK: (1) 6-1-005:001 portion, (1) 6-1-006:001 portion**

LOG NO: 2015-00284  
DOC NO: 1502GC09  
Archaeology

2015 MAR 4 AM 11 13  
DEPT OF PLANNING  
and PERMITTING  
CITY & COUNTY OF HONOLULU

Thank you for the opportunity to review and comment on the subject application for a special use permit to develop a 50 MW solar farm on approximately 304 acres of 3,492 acres owned by Kamehameha Schools. The proposed solar farm will be co-located with the existing Kawailoa wind farm. We received this application on January 26, 2015, along with a link to the Department of Land and Natural Resources, Land Division website for the permit submittal documentation. The applicant, First Wind, indicates the proposed solar farm will include a series of ground-mounted single axis photovoltaic panels, various electrical distribution systems, two on-site *Mauka* and *Makai* substations, connectors to existing switchyards, and a series of interior service roads.

A review of our records indicate that an archaeological inventory survey (AIS) was conducted adjacent to and within portions of the proposed solar farm project area (Rechtman et al. 2012). The AIS report identifies seventeen archaeological sites dating to the historic period within the project area. The sites were likely associated with WWII military communication and fire control networks (Sites 50-80-14-7155 through 7158), and plantation-era activities (Sites 50-80-14-7157 and 7159 through 7171). The SHPD Architecture Branch determined that reasonable and adequate information was collected during the AIS to warrant a determination of no further work; however project proponents recommended and conducted archaeological monitoring (Log No. 2012.0600, Doc. No. 1203RS17, 1112NN05). An archaeological monitoring report was submitted and accepted by SHPD on June 24, 2013 (Log No. 2012.3352, Doc. No. 1305NN19). The archaeological monitoring work resulted in the identification and documentation of an historic refuse pit dating to the mid-twentieth century. No other historic properties were encountered, and no further work was recommended (Log No. 2012.3352, Doc. No. 1305NN19).

Further review of our records indicate that an AIS was conducted in support of the present project. The report was submitted and accepted by SHPD on February 2, 2015 (Log No. 2014.05215, Doc. No. 1502SL02). The AIS further documented previously-recorded Site 50-80-04-7171, and newly recorded Site 50-80-04-7716, both of which are within the *makai* Collector Line Corridor. These two sites were assessed as significant pursuant to Hawaii

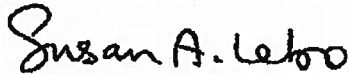
Mr. Tsujii and Mr. Atta  
February 25, 2015  
Page 2

Administrative Rules (HAR) §13-284-6 under Criterion "d" (has yielded, or is likely to yield, information important for research on prehistory or history). The project effect recommendation was "no historic properties affected" as both historic properties were sufficiently documented. However, mitigation in the form of archaeological monitoring was recommended to address possible inadvertent finds.

Based on the above information, we concur with an archaeological monitoring program during the construction phases of this project to ensure proper documentation and treatment of any inadvertent finds, including possible additional features related to Sites 7171 and 7716. We request on-site archaeological monitoring of all ground disturbing activities associated with this project and request that an archaeological monitoring plan be submitted to our office for review and acceptance pursuant to HAR §13-279-4 prior to any ground disturbing activities,

Please contact me at (808) 692-8019 or at [Susan.A.Lebo@hawaii.gov](mailto:Susan.A.Lebo@hawaii.gov) if you have any questions regarding this letter.

Aloha,



Susan A. Lebo, PhD  
Oahu Lead Archaeologist  
Acting Archaeological Branch Chief

cc: Steve Molmen, DLNR Land Division ([Steve.L.Molmen@hawaii.gov](mailto:Steve.L.Molmen@hawaii.gov))  
Raymond Young, City and County of Honolulu, DPP ([rcsyong@honolulu.gov](mailto:rcsyong@honolulu.gov))

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843

RECEIVED  
15 FEB 27 P1 :10



February 25, 2015

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair  
ADAM C. WONG, Vice Chair  
THERESIA C. McMURDO  
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio  
FORD N. FUCHIGAMI, Ex-Officio

ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.  
Deputy Manager and Chief Engineer *EL*

DEPT OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

TO: GEORGE I. ATTA, FAICP, DIRECTOR  
DEPARTMENT OF PLANNING AND PERMITTING

FROM: ERNEST Y. W. LAU, P.E. MANAGER AND CHIEF ENGINEER *EYWL*

SUBJECT: YOUR MEMORANDUM DATED JANUARY 16, 2015 REQUESTING  
COMMENTS ON THE APPLICATION FOR A SPECIAL USE PERMIT  
FOR THE SOLAR ENERGY FACILITY, 2014/SUP-6 (RY)  
TAX MAP KEY: 6-1-005: 001; 6-1-006: 001

Water service cannot be made available to the proposed solar energy facility. The development is located above the service limit of our North Shore 225' water system.

We understand that the proposed project will not require water service from the Board of Water Supply.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.



DAVID Y. IGE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI  
DIRECTOR

Deputy Directors  
JADE T. BUTAY  
ROSS M. HIGASHI  
EDWIN H. SNIFFEN  
DARRELL T. YOUNG

IN REPLY REFER TO:

STP 8.1756

February 23, 2015

Mr. George I. Atta, FAICP  
Director  
City and County of Honolulu  
Department of Planning and Permitting  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawaii 96813

Dear Mr. Atta:

Subject: Kawailoa Solar Farm Project  
State Special Use Permit Application (2014/SUP-6)  
Kawailoa, North Shore, Oahu, Hawaii  
TMK: (1) 6-1-005: Portion of 001 and 6-1-006: Portion of 001

Our Department of Transportation's (DOT) comments on the subject project are as follows:

Airports Division

Photovoltaic (PV) systems can create a hazardous condition for a pilot due to possible glint and glare reflected from the PV array. We acknowledge a glint and glare analysis was conducted for typical flight paths used by aircraft approaching and departing Wheeler Army Airfield and Dillingham Airfield and other aircraft flights within the vicinity of the project area. However, the possibility of glint and glare could still occur under certain conditions.

If glint or glare from the PV array creates a hazard condition for pilots, the applicant must be prepared to immediately mitigate the hazard, upon notification by the DOT Airports Division or the Federal Aviation Administration (FAA).

Highways Division

The DOT Highways Division is still conducting its review and has not yet provided comments. The Statewide Transportation Planning Office will inform you of any further DOT comments once received.

DEPT. OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

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RECEIVED

Mr. George I. Atta, FAICP  
February 23, 2015  
Page 2

STP 8.1756

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Sincerely,



FORD N. FUCHIGAMI  
Director of Transportation

c: Gordon Wong, Federal Aviation Administration

DAVID Y. IGE  
Governor

SHAN S. TSUTSUI  
Lt. Governor



State of Hawaii  
DEPARTMENT OF AGRICULTURE  
1428 South King Street  
Honolulu, Hawaii 96814-2512  
Phone: (808) 973-9600 FAX: (808) 973-9613

SCOTT E. ENRIGHT  
Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER  
Deputy to the Chairperson

February 19, 2015

Mr. George I. Atta, FAICP  
Director  
Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street 7<sup>th</sup> Floor  
Honolulu, Hawaii 96813

Dear Mr. Atta:

Subject: Application for Special Use Permit (2014/SUP-6)  
First Wind (d.b.a. Kawaihoa Solar, LLC)  
Solar Energy Facility, Kawaihoa, North Shore, Oahu  
Tax Map Key: 6-1-005:001(por.) and 6-1-006:001(por.)  
Total Area: 384.1 acres

The Department of Agriculture (DOA) has reviewed the subject application and offers the following comments and a recommendation.

### Background

A solar energy facility is proposed for a 384.1-acre site that is entirely within the State Agricultural District and outside the City's Urban Community Boundary (North Shore Sustainable Communities Plan, May 2011, Land Use Map). The project site has Land Study Bureau (LSB) Overall Productivity Ratings of "B" (332.3 acres), "C" (37.9 acres), and "E" (12 acres) (Detailed Land Classification – Island of Oahu, Land Study Bureau, December 1972). Department staff did a cursory review of the project site using the original LSB maps (22, 23). They determined that the Overall Productivity Ratings of B21 and B121 both would have improved to "A" with very good productivity potential for most agricultural uses if irrigation was available at the time of the study. The potential productivity of the "C" and "D" rated lands further mauka do not improve with irrigation.

For the "B" and "C" rated lands, the proposed facility in combination with a compatible agricultural activity may be permitted by special permit, pursuant to Act 55, Session Laws of Hawaii (SLH) 2014, now codified as Section 205-4.5(a)(21), HRS. The compatible agricultural activity contemplated is raising of sheep. The project will also include 550 linear feet of underground electrical lines on 1.9 acres of "A" rated soils of

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which is entirely comprised of an existing roadway. At the end of the solar energy facility's operational life, the facility may be re-powered with new equipment, subject to permitting, or decommissioned and the land area returned to its pre-solar energy facility state (Application, page 5).

**Recommendation**

The DOA strongly supports existing farming operations and those seeking to start new farming enterprises. The DOA also supports solar energy operations in combination with compatible local food production on "B" and "C" rated agricultural land as provided for in Act 55, SLH 2014. "B" rated agricultural lands are a scarce and valuable resource with good capacity to contribute substantially to food self-sufficiency. Notwithstanding the law, the Department encourages proponents of utility-scale solar energy facilities to consider sites on "D" and "E" rated agricultural land that does not have acreage limitations or special use permit requirements.

The DOA notes that the landowner of the project site, Kamehameha Schools (KS), has just received approval by the Land Use Commission (LUC) to have the entire project site and surrounding agricultural land designated as Important Agricultural Lands (IAL) (Docket No. DR14-52). Representatives of KS indicated that they will use the revenue generated from the proposed solar farm facility to make improvements in support of agriculture development at Kawaihoa, which is in accordance with their agricultural plan for the area. We also understand that the photovoltaic modules will be installed four to seven feet off the ground and be spaced apart to allow sunlight through.

This is the first Special Use Permit (SUP) application on the 100,000+ acres of IAL designated agricultural lands in the State. State law provides for a SUP to allow solar energy facilities in excess of what is allowed in Section 205-4.5(a)(20) (10 percent of the acreage of the parcel or 20 acres whichever is less). The permissible uses on IAL in State law are the same as those currently allowed on non-IAL agricultural land. Nevertheless, utility-scale solar energy facilities on agricultural land designated as IAL appears inconsistent with the IAL objective of maintaining "...a strategic agricultural land resource base that can support a diversity of agricultural activities and opportunities that expand agricultural income and job opportunities and increase agricultural self-sufficiency for current and future generations." (Section 205-42(b), HRS) Additionally, IAL designation indicates that the project site is well suited for intensive agricultural production, which appears to be contrary to one of the LUC's guidelines in determining an "unusual and reasonable use" – that the land upon which the proposed use is sought is unsuited for the uses permitted within the (Agricultural) district.

Therefore, the DOA believes this large-scale project with lands that have been designated as IAL should comply fully with the purpose and intent of Act 55, SLH 2014, Section 1 which is to "...enable the complementary uses of utility scale solar energy generation and local food production..." (emphasis added) on "B" and "C" rated agricultural land. We recommend the City impose a condition to the effect that the

applicant and its successors and/or assigns shall have established a sheep pasture operation or other agricultural enterprise on the property in compliance with Act 55, 2014 Session Laws of Hawaii for the duration of the operation of the solar energy generation facility.

**Demand for sheep and lambs**

The DOA reviewed the statewide sheep and lamb statistics as found in the 2012 Census of Agriculture. From 2007 to 2012, there were decreases in the total number of farms, the total number of sheep and lambs, the total number of sheep and lambs sold, and the number of small (1-24 head) sheep farms. The number of farms selling sheep and lambs was stable.

The 2007 to 2012 statistics for sheep and lamb farms on Oahu show that the island represents a very small fraction of the statewide numbers. However, there have been increases in nearly every category. The total number of sheep and lambs sold is an indication of demand, and sales increased from 13 in 2007 to 75 in 2012. However, this represents less than 2 percent of the total statewide sales of sheep and lamb. This small number of sales is surprising as 67 percent of Hawaii's de facto population (residents and visitors) in 2013 are on Oahu.

We also note there have been no sheep farms on Oahu with more than 100 sheep since 2007. There were 5 farms with a total of 266 sheep in 2012, or an average of 53 sheep per farm.

**Proposed sheep operation**

The lease rent to be charged to a local ranching business will be about \$10.00 per acre/year, or about 50 percent below the fair market rent for similar agricultural properties (Application, Attachment 5). The lease of 5 years or longer would commence after the solar farm is operational and will allow the tenant the use of the property's perimeter fencing, roadways, and other infrastructure (Application, pages 7-8). The applicant will work with the rancher, as needed, to facilitate watering systems, electrified fencing, pens, and loading facilities (Application, page 8). We believe the applicant's assistance in establishing the aforementioned infrastructure is very important for the sheep ranching operation to succeed.

The project site is said to possess adequate forage to support 100-200 head of sheep (Application, page 7). If the envisioned sheep pasture operation takes full advantage of the carrying capacity of the property, this would result in a 50 percent increase over Oahu's 2012 sheep population (2012 Census of Agriculture, Sheep and Lambs, Oahu). We note that the sheep operation analysis and recommendations are identical to that made for the Waiawa solar energy facility (2014/SUP-3). The subject Kawailoa project and the Waiawa proposal together would double the sheep population on Oahu.

Mr. George I. Atta  
February 19, 2015  
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Kualoa Ranch has signed a letter of intent with the applicant to pasture sheep on the property (Application, Attachment 5). Kualoa Ranch has a 4,000 acre ranch on windward Oahu and manages around 500 head of cattle. The Ranch does not manage any sheep; however, Kualoa Ranch has stated that their management team has experience with sheep (Phone call with Mr. David Morgan on February 13, 2015).

The key to selling local lamb meat is quality and supply (Application, Attachment 5, page 3). It appears that a large sheep pasture operation would be more likely to provide a consistent quality and supply that retailers and restaurants prefer. We agree with the summary in Attachment 5 (page 9-10) that "[c]areful planning in advance, establishing goals for the entire enterprise as well as those that will be keeping the sheep, a clear understanding what inputs are available, the costs of the infrastructure and inputs in the expected outcomes are all necessary for this enterprise to succeed."

#### **Other agricultural operations**

If the sheep operation is not successful, other agricultural activities compatible with a solar farm will be considered such as beekeeping, aquaponics, aquaculture, or other livestock (Application, page 8). With the exception of beekeeping, the other agricultural options will require a reliable and sufficient supply of clean water.

#### **Water supply**

The water supply for the project site will be by rainwater catchment, onsite irrigation ponds, or delivered by water truck (Application, page 8). Water delivery may become costly during dry periods. Adult sheep require up to 4 gallons of fresh water per day, so a 200-head sheep operation may require up to 800 gallons per day and distributed throughout the grazing area. Larger livestock may require more water. Aquaponic systems appear to require the least amount of water for replenishment. An aquaculture pond requires a million gallons per acre to fill and another million gallons per year to replace water lost due to evaporation and seepage (Model Aquaculture Recirculation System, Engineering and Operations Manual; National Council for Agricultural Education; Alexandria, Virginia; 1995, page 5).

Thank you for the opportunity to provide our input. Should you have any questions, please contact Earl Yamamoto at 973-9466 or email at earl.j.yamamoto@hawaii.gov.

Sincerely,



Scott E. Enright  
Chairperson, Board of Agriculture

c: Office of Planning



## OFFICE OF PLANNING STATE OF HAWAII

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LEO R. ASUNCION  
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OFFICE OF PLANNING

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Ref. No. P-14652

February 17, 2015

Mr. George I. Atta, Director  
Department of Planning and Permitting  
City and County of Honolulu  
650 S. King Street, 7th Floor  
Honolulu, Hawaii 96813

Dear Mr. Atta:

Subject: Kawailoa Solar Farm  
Project No.: 2014/SUP-6  
Tax Map Keys: 6-1-006:001 and 6-1-005:001  
Location: Kawailoa, Oahu, Hawaii

Thank you for the opportunity to review the subject application for a Special Use Permit to establish a 50-megawatt (MW) solar photovoltaic (PV) system in Kawailoa, Oahu. The proposed project would consist of solar panels and appurtenant facilities on approximately 384.1 acres of land located within the State Agricultural District and in the City and County of Honolulu AG-1 Restricted Agriculture zone. The PV system would be comprised of a horizontal single-axis tracking, ground-mounted PV system and would connect to existing Hawaiian Electric Company, Inc. (HECO) switchyards. In combination with the solar energy facility, the Applicant intends to lease the project area for the pasturage of sheep. The project would be located on approximately 332.3 acres (87%) of Class B land and 37.9 acres (10%) of Class C land, as rated by the Land Study Bureau (LSB) productivity rating system. Under the Agricultural Lands of Importance to the State of Hawaii (ALISH) system, the soils on the property are classified as Prime. The project area also includes approximately 1.9 acres (0.5%) of existing roadway on Class A land, and would involve installation of approximately 550 linear feet of underground electrical line beneath the roadway.

The Office of Planning (OP) notes the landowner of the subject property, Kamehameha Schools, has petitioned the Land Use Commission (LUC) to designate the subject project area, as well as 8,787 acres of the adjacent land in Kawailoa, as Important Agricultural Land (IAL). The LUC is expected to decide on the petition at a hearing on February 18, 2015. OP further notes that neither the subject application for the solar energy facility nor the petition to designate IAL state whether the power generated by the solar farm will be used for on-site agricultural activities. Instead, the application for the solar energy facility states that "the proposed project involves installation of a...solar energy facility to provide...renewable power to HECO for

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Mr. George Atta, Director  
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integration into their electrical distribution system for delivery to customers on the island of Oahu” (p. 4).

The guidelines for Special Permits are contained within Hawaii Administrative Rules (HAR) § 15-15-95 which allow certain “unusual and reasonable” uses within Agricultural and Rural Districts other than those for which the district is classified. HAR § 15-15-95 lists six (6) guidelines for determining whether a proposed use is “unusual and reasonable.” The following assesses the proposed project relative to the Special Permit guidelines:

**1. The use shall not be contrary to the objectives sought to be accomplished by Chapters 205 and 205A, HRS, and the rules of the Commission.**

Hawaii Revised Statutes (HRS) Chapter 205 seeks to protect agricultural lands and ensure their continued availability for agricultural use. It provides that the Agricultural District shall include lands with a high capacity for agricultural production, grazing, or other agricultural uses. Chapter 205 also recognizes, however, that some lands in the Agricultural District may not be suitable for the uses permitted in the Agricultural District and, therefore, other uses may be allowed with a Special Permit.

Pursuant to HRS §§ 205-2 and 205-4.5, as amended by Act 55 and Act 52, solar energy facilities may be permitted on land with Class B or C soils. More specifically, HRS §§ 205-2 and 205-4.5 state the following:

- HRS § 205-2(6)(A) and (B): Solar energy facilities may be permitted on land with soil classified by the LSB as overall (master) productivity rating class B, C, D, or E. Solar energy facilities placed within land rated Class B or C, however, shall not occupy more than ten percent of the acreage of the parcel, or 20 acres of land, whichever is lesser, unless a special use permit is granted.

Under this statute, the proposed project requires a Special Permit as it would occupy approximately 332.2 acres (greater than 20 acres) of Class B soils and 37.9 acres of Class C soils.

- HRS § 205-4.5(a)(3): Within the Agricultural District, the raising of livestock, including poultry, bees, fish, or other animal or aquatic life that are propagated for economic or personal use are permitted.

Under this statute, the proposed pasturage of sheep, in combination with the solar energy facility, is an allowable use.



- HRS § 205-4.5(a)(21)(A),(B) and (C): Solar energy facilities on land rated Class B or C for which a special use permit is granted are permitted provided that:
  - (A) The area occupied by the solar energy facilities is also made available for compatible agricultural activities at a lease rate that is at least fifty per cent below the fair market rent for comparable properties;
  - (B) Proof of financial security to decommission the facility is provided to the satisfaction of the appropriate county planning commission prior to date of commencement of commercial generation; and
  - (C) Solar energy facilities shall be decommissioned at the owner's expense and according to certain requirements.

The Applicant represents that each of the above criteria would be met upon approval of the Special Permit or prior to beginning commercial operation.

Regarding the objectives of HRS Chapter 205A, the application sufficiently addresses the project's compliance with applicable Coastal Zone Management (CZM) program objectives and policies and it appears that the proposed use is not contrary to the objectives of the program.

Additionally, an archaeological inventory survey (AIS) has been provided. The results of the survey indicate that there are two historic sites that could potentially be affected by the project. The application states that a draft report has been submitted to the State Historic Preservation Division (SHPD) for their review and concurrence. It further states that **no ground-altering activities will occur prior to obtaining approval of the AIS from SHPD.**

**2. The desired use would not adversely affect surrounding property.**

According to the application, the proposed project is not anticipated to directly or indirectly affect adjacent uses. With the exception of the existing Kawaihoa wind farm, the areas immediately surrounding the project site are undeveloped, but they support a variety of uses, including agriculture, conservation, and military operations. The existing 69-megawatt (MW) Kawaihoa wind farm consists of 30 2.3 MW wind turbines, some of which are located within the vicinity of the proposed solar farm. (Refer to Applicant's Figure 4).

Construction of the solar facilities would result in short-term impacts that are temporary, intermittent, and localized. Long-term impacts related to operations and maintenance, including glare, noise, ambient temperature, and electric and magnetic fields would be minimal.

As noted above, the landowner of the subject property has petitioned the LUC to designate the subject project area, as well as 8,787 acres of the surrounding property, as IAL. Pursuant to HRS § 205-42, in order to achieve the objectives for the identification of important agricultural lands, the State shall:

- (1) Promote agricultural development and land use planning that delineates blocks of productive agricultural land and areas of agricultural activity for protection from the encroachment of nonagricultural uses; and
- (2) Establish incentives that promote:
  - (A) Agricultural viability;
  - (B) Sustained growth of the agriculture industry; and
  - (C) The long-term agricultural use and protection of these productive agricultural lands.

OP finds that the existing wind turbines and the proposed solar energy facility, alone, do not further the State's objective for the identification of IAL because they are non-agricultural activities that do not promote agricultural development, nor do they promote the incentives listed above. OP notes the project area would also be leased for the pasturage of sheep, which OP does recognize as a viable agricultural activity if implemented appropriately.

**3. The use would not unreasonably burden public agencies to provide streets, sewers, water, drainage, schools, fire, and police resources.**

According to the application, the proposed project would not require infrastructure support from public agencies due to the following:

- Access to the site is provided by a private agricultural road (Ashley Road), which extends from Kamehameha Highway through the project area, and is maintained as part of the existing wind farm. There is no public access to the site.
- No permanent wastewater facilities would be required.
- Small amounts of water would be required for occasional cleaning of the solar panels and to support co-located ranching operations. Water would be available either from rainwater catchment equipment, onsite irrigation ponds, or transported in via truck. No hook-up to the municipal water system is planned.
- Drainage across the site currently exists in the form of surface runoff based on the natural topography; the proposed project would not significantly alter the existing drainage patterns.
- It would be unlikely to use fire or police protection services.

**4. Unusual conditions, trends, and needs have arisen since the district boundaries and rules were established.**

OP recognizes the State interest in reducing our islands' dependency on fossil fuels and increasing efficiency measures, with a goal to generate 40 percent clean energy by 2030. OP also recognizes the State interest in conserving the State's agricultural land resource base and assuring the long-term availability of agricultural lands for agricultural use. OP acknowledges the proposed project seeks to balance these interests by providing both renewable energy generation and agricultural production at below-market value rent.

**5. The land upon which the proposed use is sought is unsuited for the uses permitted within the district.**

The land upon which the proposed use is sought is suited for the uses permitted within the district. As noted above, the project would be located on approximately 332.3 acres (87%) of Class B land, as rated by the LSB productivity rating system. The project area also includes approximately 1.9 acres (0.5%) of existing roadway on Class A land. Under the ALISH system, the soils on the subject property are classified as Prime.

Having reviewed the application and applied the available information to the applicable Special Permit guidelines, OP supports the intent of the proposed project to provide renewable energy for the island of Oahu and offers the following comments:

- Concerns will remain with regard to the statewide challenge in seeking a balance of maintaining the availability of high quality agricultural lands while promoting renewable energy sources such as solar facilities on lands within the Agricultural District.
- OP also has concerns that while "agri-voltaic" projects such as this one are technically feasible, the agricultural aspect of these projects is sometimes not implemented as represented by the applicant, i.e. the number of sheep or other grazing animals co-located within the solar facility is negligible. The proposed project would be located on soils rated ALISH Prime; the proposed solar facility would, therefore, preclude productive agricultural land from being used for agricultural purposes and contributing to the State's goal of assuring the long-term availability of agricultural lands for agricultural use if the pasturage of sheep does not occur.

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February 17, 2015  
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- Similarly, the subject property is under consideration by the LUC to be designated as IAL. OP notes the project area would be leased for the pasturage of sheep, which OP does recognize as a viable agricultural activity if implemented appropriately. OP also notes the proposed project is expected to have an operational life of approximately 25-30 years, following which the lands may be restored to conditions comparable to their existing conditions, such that future agricultural use may occur.
- OP supports the State Department of Agriculture's (DOA) comment from a letter dated January 29, 2015 to the Office of Planning regarding Kamehameha Schools' petition to designate IAL that "the DOA would support the IAL designation for the area proposed for the solar energy facility on the Kawaihoa lands if the Petitioner commits to using a substantial portion of the energy generated by the solar energy facility directly for agricultural purposes, and/or commits to using a substantial portion of the income derived from the selling of electricity to the utility for agricultural activities within the petitioned area" (p. 7). (Refer to the attached Exhibit A).
- Should the Special Permit be granted, OP recommends that the requirements of HRS § 205-4.5(a)(21)(A), (B), and (C), relating to: 1) compatible agricultural activities; 2) proof of financial security for decommissioning; and 3) decommissioning requirements, be included as specific conditions of approval.

If you have any questions, please contact Katie Mineo of our Land Use Division at (808) 587-2883.

Sincerely,



Leo R. Asuncion  
Acting Director

Attachment

c: Land Use Commission

DAVID Y. IGE  
Governor  
SHAN S. TSUTSUI  
Lt. Governor



SCOTT E. ENRIGHT  
Chairperson, Board of Agriculture  
PHYLLIS SHIMABUKURO-GEISER  
Deputy to the Chairperson

State of Hawaii  
DEPARTMENT OF AGRICULTURE  
1428 South King Street  
Honolulu, Hawaii 96814-2512  
Phone: (808) 973-9600 FAX: (808) 973-9613

January 29, 2015

Mr. Daniel Orodener  
Executive Officer  
Land Use Commission  
235 South Beretania Street, Suite 406  
Honolulu, Hawaii 96813

Dear Mr. Orodener:

Subject: Docket No. DR14-52  
Petition for Declaratory Order to Designate Important Agricultural Lands in  
Kawailoa and Punaluu, Oahu  
Tax Map Keys: Kawailoa (9,171.161 acres): 6-1-05: 1(Por.); 6-1-06:  
1(Por.); 6-1-07: 1; 6-2-09: 1(Por.); 6-2-10: 1(Por.); 6-2-11: 1(Por.); 6-2-11:  
21. Punaluu (420.887 acres): 5-3-01: 41 (Por.); 5-3-03: 1 (Por.); 5-3-04: 5;  
5-3-04: 7; 5-3-04- 13; 5-3-04: 18(Por.); 5-3-04: 19; 5-3-07: 23(Por.)  
Total Area: 9,592.048 acres

Thank you for the opportunity to comment on this important petition. The Department of Agriculture (DOA) expresses its appreciation to the petitioner for their interest in and effort to identify potential Important Agricultural Lands (IAL). We note that the petitioner is not seeking a reclassification of land pursuant to Section 205-45(b), Hawaii Revised Statutes (HRS) in conjunction with this petition to designate IAL. The petitioner is also voluntarily waiving all rights to claim any credits due pursuant to Section 205-45(h), HRS (Petition, page 23). This is the third IAL petition involving agricultural lands on the island of Oahu and the ninth IAL petition statewide.

In the following, we provide responses to the petitioner's statements as to how the petitioned area meets the eight criteria for identifying IAL (Section 205-44, HRS).



Mr. Daniel Orodener  
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### Land Currently Used for Agricultural Production

#### *Past agricultural production*

According to the Agricultural Land Assessment (ALA) found in Appendix G of the petition, the lands of Kawaihoa were used for taro and other various agricultural crops in the 1800's. (ALA, p. 2). Starting in the mid-1800's, sugar cultivation was the primary agricultural crop that was being cultivated by Castle and Cooke and later managed by Waialua Sugar Company. Upon further review by Department staff, sugarcane appears to have been planted throughout Kawaihoa with the exception of the middle section where pineapple also appeared to be cultivated.

Punaluu was also used for taro and other various agricultural crops in the 1800's. (ALA, p. 3). Sugar cultivation was the primary agricultural crop in early 1900's to 1970. Upon further review by Department staff, sugarcane appears to have been planted throughout Punaluu. Taro and pineapple were also produced in smaller quantities. (ALA, p. 3).

#### *Current Agricultural Production*

According to the petition, only around 11% of the land in Kawaihoa is currently in agricultural production. Approximately 722 acres (7.8%) of land is utilized for diversified agriculture and include seed corn, banana, taro, papaya, mango, and hydroponic lettuce. (ALA, p. 4). The location of current diversified agricultural production appears to be on the lower half of Kawaihoa (ALA, Figure 1A). Other agricultural uses include approximately 60-80 head of cattle on 297 acres (3%), and 0.7 acres of koa windbreak (Petition, Exhibit H). The livestock use appears to be in the middle of the Kawaihoa area abutting Anahulu Valley (ALA, Figure 1A). All current agricultural uses appear to be on lands that are near existing irrigation infrastructure (ALA, Figure 6A). Approximately 30 wind turbines for electrical generation occupy a portion of the property above 600 feet elevation (Petition, Exhibit H).

According to the petition, around 36% of the land in Punaluu is currently in agricultural production (ALA, p. 5). Approximately 120 acres (29%) of land is utilized for diversified agriculture and include banana, papaya, mango, cucumber, mixed vegetable, taro, and cacao. There also exists approximately 22 acres (5%) of livestock, 11 acres (3%) of aquaculture, and several nurseries. Additional research by Department staff determined that the location of the existing agricultural uses indicated in ALA Figure 1B is generally consistent with the location of past sugarcane cultivation on the land.

#### *Future agricultural production*

For Kawaihoa, diversified agriculture will remain the primary focus. (ALA, p. 4). The mauka unirrigated lands are designated for multiple uses consisting of livestock, orchard, forestry and renewable energy (Petition, p. 9). These planned future uses appear to be in consonance with the Moku O Waialua North Shore Plan (Exhibit C, p. 2).

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Petitioner plans to increase renewable energy development by increasing the amount of wind turbines on the land, and is considering a 50MW facility on 500 acres of land which includes sheep grazing. (ALA, p. 4). The DOA notes that according to the Moku O Waialua North Shore Plan, alternative energy development is designated to be located in the eastern region of Kawaihoa (Exhibit C, p. 2). Petitioner also plans to increase the availability of lands to farmers and provide long term leases (ALA, p. 4).

For Punaluu, diversified agriculture will remain the primary focus (see ALA, Figure 2B). The petitioner's "Punaluu Ahupuaa Plan" (Petition, Exhibit D) states that 175 acres of agricultural use will be added to what we presume to be the existing 133 acres of diversified agriculture, livestock, and aquaculture. This will bring the total area in agriculture to 308 acres, or 73 percent of the petitioned area. Petitioner also plans renovate the agricultural water system in the area, develop an overall agriculture production and land conservation plan, establish longer term leases with tenants, and construct a central agricultural baseyard facility (ALA, p. 5). These planned future uses appear to be in consonance with the Punaluu Ahupuaa Plan (Petition, Exhibit D).

**Land with soil qualities and growing conditions that support agricultural production of food, fiber, or fuel- and energy-producing crops**

According to the Land Study Bureau's Detailed Land Classification (LSB) for the Island of Oahu, 3,034.663 acres (33.3%) in Kawaihoa is rated "A", 1,632.211 acres (17.8%) is rated "B", 1,134.423 acres (12.4%) is rated "C", 241.536 acres (2.6%) is rated "D", and 3,054.79 acres (33.3%) is rated "E" (see ALA, Figure 3A). Additional research by Department staff indicates that the majority of "C", "D", and "E" rated lands in Kawaihoa would not improve in rating if irrigation was available. Soil rockiness and/or unfavorable slope severely limits agricultural use of these lands.

According to the LSB, 39.44 acres (9.4%) in Punaluu is rated "B", 146.313 acres (34.7%) is rated "C", 51.859 acres (12.3%) is rated "D", and 183.257 acres (43.5%) is rated "E" (see ALA, Figure 3B). Additional research by Department staff indicates that the majority of "D" and "E" rated lands in Punaluu would not improve if irrigation was available. The majority of "C" rated lands in Punaluu is already irrigated.

**Lands identified under agricultural productivity ratings systems, such as the Agricultural Lands of Importance to the State of Hawaii (ALISH) system adopted by the Board of Agriculture on January 28, 1977**

According to the Agricultural Lands of Importance to the State of Hawaii (ALISH) classification system, the Kawaihoa site is comprised of 5,852.319 acres (63.8%) in "Prime", 198.572 acres (2.2%) is in "Other Important", and 3,120.27 acres (34%) is not classified according to ALISH (see ALA, Figure 5A). The lands in Kawaihoa that are not in ALISH are generally consistent with the lands designated as "E" by the LSB.

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January 29, 2015  
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For the Punaluu site, 25.243 acres (6%) is in "Prime", 262.547 acres (62.4%) is in "Other Important", and 133.097 (31.6%) is not classified according to ALISH (see ALA, Figure 5B). Some of lands in Punaluu that are not in ALISH are not consistent with the lands designated as "E" by the LSB.

**Land types associated with traditional native Hawaiian agricultural uses, such as taro cultivation, or unique agricultural crops and uses, such as coffee, vineyards, aquaculture, and energy production**

The Kawaiiloa and Punaluu areas have been historically associated with traditional native Hawaiian agricultural uses. In Kawaiiloa, archaeological surveys indicate that traditional native Hawaiian agricultural uses were limited to the lower lands and gulches, while the upper table lands did not exhibit any traditional sites (Petition, p. 14). Historic native Hawaiian uses included taro pond fields, water courses/ditches, and dry planting fields for cultivation of taro, awa, hala, ipu, kukui, koa, banana, sugarcane, sweet potato, and wauke (Petition, p. 14).

In Punaluu, archaeological surveys and cultural impact assessments indicated that traditional native Hawaiian uses were prevalent in (Petition, p. 15). Historic native Hawaiian uses include taro pond fields, water courses/ditches, and dry planting fields for cultivation of taro, awa, hala, ipu, kukui, koa, banana, noni, olona, sweet potato, and wauke (Petition, p. 15). Approximately 11 acres (Petition, Exhibit I) is currently being used to cultivate taro, and approximately 11 acres is in aquaculture (ALA, p. 5).

**Lands with sufficient quantities of water to support viable agricultural production**

Along with good quality soil, a reliable and sufficient supply of irrigation water is critical for maximal agricultural production. Irrigation water should be available in a quantity that meets the maximum daily demand over a sustained period of time which usually occurs during the summer months. Information on the location and total acreage of irrigated lands, the existing and estimated future irrigation water demands, and the available amount of water for irrigation per day is necessary to determine whether or not lands have sufficient quantities of water to support viable agricultural production.

The existing irrigation system services all of the southern portion (Opae'ula) of the Kawaiiloa area, but only services approximately 2/5ths of the makai half of the northern portion (Kawaiiloa). The irrigation system in Kawaiiloa connects Waimea River, Ka'alaea Stream, Kawaiiloa Stream, Laniakea Stream, and Anahulu River with ditches, pipelines and reservoirs (see ALA, Figure 6A). Petitioner plans to maintain and fix aging irrigation infrastructure and has recently expended over \$13 million to improve agricultural water resources for current and planned future irrigation needs (ALA, p. 7). Kawaiiloa receives between 35 to 80 inches of rain per year (see ALA, Figure 6A).



Mr. Daniel Orodener  
January 29, 2015  
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The petition states that the proposed IAL lands in Punaluu are primarily irrigated by the Punaluu Stream and ditches that are connected to the stream. Petitioner has upgraded the existing water system by piping over 5,000 linear feet of the former Punaluu irrigation ditch (ALA, p. 8). Petitioner states that from 2009 to 2014, approximately \$1.5 million has been invested in upgrading the irrigation system in Punaluu, and plans to invest another \$5 million for stream restoration work (ALA, p. 8). Punaluu receives between 65 to 120 inches of rain per year.

The DOA notes that for both the Kawaihoa and Punaluu areas, the petitioner may need to petition the Commission on Water Resource Management to amend the interim instream flow standard for any new or expanded diversions of surface water.

**Land whose designation as Important Agricultural Lands is consistent with general, development, and community plans of the County**

The petition area is fully within the State Agricultural District. The Kawaihoa area is zoned as AG-1 (Restricted Agriculture) by the City and County of Honolulu, and the Punaluu area is zoned as AG-2 (General Agriculture). The Kawaihoa area is primarily designated as Agricultural in the North Shore Sustainable Communities Plan, except for the streams and fringes of the streams which are designated as Preservation. The Punaluu area is largely designated as "Agricultural" in the Koolau Loa Sustainable Communities Plan, except for the streams and fringes of streams which is in Preservation. The Punaluu lands appears to abut the Urban District on the makai edges of the petition area.

**Land that contributes to maintaining a critical land mass important to agricultural operating productivity**

The Kawaihoa/Opaepala area (9,171.161 acres) has a history of sugarcane and pineapple cultivation on the lands that were level enough to support agricultural activity. The lower two-fifths of Kawaihoa contains nearly all the "A" and "B" rated land and is relatively unbroken by gulches. Similarly, the makai two-thirds of Opaepala possesses all the "A" and "B" rated lands and is relatively unbroken by gulches. The upper reaches of both Kawaihoa and Opaepala appear to have more land area in gulches which makes it difficult for agricultural use in both areas above the ditch system. Further, the Kawaihoa area is entirely separated from the Opaepala area by Opaepala Gulch. We note what appears to be a large number of kuleana properties within the Gulch. With the exception of Drum Road on the mauka edge of both areas, there are no roadways connecting Kawaihoa and Opaepala.

The petitioner's "North Shore Plan – Paalaa to Kapaeloa" states that the upper reaches of Kawaihoa and Opaepala are to be used for "Establish alternative energy uses" such as solar energy, wind, and hydro-power (Petition, Exhibit C), and leaves the lower lands for diversified agriculture. There are 30 wind turbine operating in upper Kawaihoa, on

Mr. Daniel Orodener  
January 29, 2015  
Page -6-

plateaus between the gulches. Given the agricultural history and the land use plan for Kawaihoa/Opaeula, the "critical land mass" criterion would clearly apply to the lower elevations where the petitioner identifies "Diversified Agriculture" as the primary use of the land (Petition, Exhibit C).

The Punaluu area (420.887 acres) appears to have been the eastern terminus of the former Kahuku Plantation Company. Unlike the Kawaihoa/Opaeula site, Punaluu has a substantial acreage classified as Preservation along the branches of the Punaluu Stream, according to the Koolauloa Sustainable Communities Plan (Petition, Exhibit G, Figure 7B). The property also abuts the Urban District along the makai edge (Petition, Exhibit G, Figure 8B). The current agricultural operations (Petition, Exhibit G, Figure 1B) is largely verified by recent satellite imagery. There appears to be agricultural activity in lands adjacent and to the northwest of the Punaluu site. There is a relatively steep area along the southern boundary that forms an arc.

The petitioner's "Punaluu Ahupuaa Plan" (Petition, Exhibit D) states that 175 acres of agricultural use will be added to what we presume to be the existing 133 acres of diversified agriculture, livestock, and aquaculture. This will bring the total area in agriculture to 308 acres, or 73 percent of the petitioned area. The Punaluu stream is fundamental to the agricultural activities in the area and is appropriate to be included in the petition. Given the agricultural history and the agricultural land use plan for the Punaluu site, the "critical land mass" criterion would to most of the petitioned area.

**Land with or near support infrastructure conducive to agricultural productivity, such as transportation to markets, water, or power**

Kawaihoa is near Kamehameha Highway and Haleiwa Village. In the future, petitioner plans to increase the residential and commercial areas in Haleiwa Village. (Petition, Exhibit C). The service area for the existing irrigation system in the northern Kawaihoa area (Kawaihoa) appears to be limited to approximately 2/5ths of the makai half of the proposed designation.

**CONCLUSION**

The DOA supports the majority of the petitioner's request to have 9,592 acres of agricultural land in the Kawaihoa/Opaeula and Punaluu areas designated as Important Agricultural Land.

In the Kawaihoa/Opaeula site, the petitioner's plan for the eastern part of the property is to undertake alternative energy uses such as wind, hydro, and solar energy. Specifically, the petitioner states that 500 acres will be set aside for a 50MW solar energy facility with compatible sheep grazing. This area is also the most poorly suited to agricultural use because of the numerous gulches, poorer soil quality, and lack of

Mr. Daniel Orodener  
January 29, 2015  
Page -7-

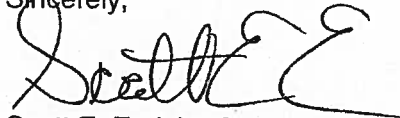
supplemental irrigation water supply. Further, we do not recall any other request for IAL designation that included acreage for a utility-scale solar energy facility.

Notwithstanding our concerns, if the petitioner confirms and commits to using a substantial portion of the energy generated by the proposed solar energy facility directly for agricultural purposes, and/or confirms and commits to using a substantial portion of the income derived from the selling of electricity to the utility for agricultural activities within the petitioned area, the Department would support IAL designation for the area proposed for the solar energy facility as described in the petition (Exhibit C, "Plan Map and Projects").

Also for the Kawailoa/Opaepa site, the petitioner should provide the Commission with information showing that the irrigation water system and improvements will provide a quantity of irrigation water sufficient to maintain plant and animal health during dry periods.

In the Punaluu site, there appears to be abundant irrigation water supply, fairly productive soils, and 120 acres of existing diversified agricultural activities. We note from Exhibit I of the petition that there is existing agricultural activity on some of the LSB "E" rated land that is also not classified by the Agricultural Lands of Importance to the State of Hawaii. There appears to be agricultural land to the north of the petitioned area that are in crop production. The Department believes that the Punaluu site, in its entirety, should be designated as IAL.

Sincerely,



Scott E. Enright, Chairperson  
Board of Agriculture

c: Office of Planning



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawai'i 96850



DEPT OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

In Reply Refer To:  
2015-TA-0154

Mr. George I. Atta  
FAICP, Director  
Department of Planning and Permitting  
City and County of Hawai'i  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawai'i 96813

**FEB 17 2015**

Subject: Technical Assistance for the Special Use Permit for the Kawaihoa Solar Farm Project, O'ahu

Dear Mr. Atta:

The U.S. Fish and Wildlife Service received your letter on January 22, 2015, requesting our comments on the Application for a Special Use Permit for First Wind's (d.b.a. Kawaihoa Solar, LLC) proposed development of the Kawaihoa Solar Farm Project, a 55 megawatt (MW) solar energy facility on approximately 384.1 acres<sup>2</sup> on the north shore of O'ahu [TMK: (1) 6-1-005:001 (por.) and 6-1-006:001 (por.)]. The proposed solar farm would be co-located with the existing Kawaihoa wind farm. By interconnecting to the same electrical switchyards and transmission lines as the existing wind farm, the proposed solar project builds on work that was done to support the wind farm and enables connection to Hawaiian Electric Company, Inc.'s electrical grid without the need for new interconnection infrastructure.

The solar farm would be comprised of a horizontal single-axis tracking, ground-mounted photovoltaic system, designed to maximize the use of the terrain, with the panels facing approximately due south. Each panel would generate power at 1,000 volts and on average, are expected to extend approximately 4 feet 6 inches to 9 feet 6 inches off the ground. Electrical equipment including combiner boxes, collector lines, inverters, weather monitoring stations, and switch gear would be installed in the vicinity of the panels, as needed to increase the electrical voltage and aggregate the generated electricity for transmittal via the collector system. The proposed Kawaihoa Solar Farm would produce clean, low-cost renewable energy for the island of O'ahu.

The area was historically part of a large sugar plantation, and is comprised of agricultural fields located atop a series of tablelands interspersed with gulches formed by intermittent drainages. First Wind intends to lease the proposed site for sheep ranching. Except for the transformers,

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most of the fenced area would be available to support 100-200 head of sheep on a year-round basis.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it pertains to listed species and designated critical habitat in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). Our data indicate that the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*) (collectively referred to as Hawaiian waterbirds), endangered Hawaiian goose (*Branta sandvicensis*), threatened Newell's shearwater (*Puffinus auricularis newelii*), and federally endangered Hawaiian petrel (*Pterodroma sandwichensis*) could transit the area and be impacted by components of your project. The federally endangered Hawaii hoary bat (*Lasiurus cinereus semotus*) may forage and roost in the project area. There is no proposed or designated critical habitat located in the vicinity of the proposed project area. We offer the following comments to assist the Planning Commission and First Wind.

The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to Hawaiian hoary bats in the project area. Additionally, Hawaiian hoary bats have been snagged on barbed wire fencing while flying. We recommend that the solar facility fence design be designed to avoid the use of barbed wire.

Please note that some photovoltaic systems on the continental United States are resulting in impacts to migratory waterfowl and shorebirds. This source of mortality has been described previously (McCrary et. al. 1986), and recent impacts are being observed at solar facilities in California, including the Desert Sunlight Solar Farm and Genesis Solar Energy Project. Birds have been inadvertently attracted to these sites due to solar panels' resemblance to water and their proximity to important migratory flyways (Donnelly-Shores 2013 and Clarke 2013). Once attracted, collisions with the solar arrays have resulted in injuries and mortalities; once grounded, birds are also subject to predation (Kagan et. al. 2014). While attraction to solar arrays has not yet been documented in Hawai'i, the State harbors a significant diversity of waterbird and shorebird species. We recommend that personnel at the solar site be educated about the potential for birds to be attracted and inadvertently harmed. If monitoring indicates that species are occurring at the photovoltaic system, or additional information about the facility's impacts to native Hawaiian species becomes available, please contact us so we may assist you in avoiding and minimizing impacts.

We hope this information assists the Planning Commission with their approval process. We appreciate your efforts to conserve listed species. If you have questions about our comments,

Mr. George I. Atta

3

please contact Jiny Kim, Island Team Biologist; O'ahu, Kaua'i, North Western Hawaiian Islands, and American Samoa Geographic Team (phone: 808-792-9400, fax: 808-792-9581).

Sincerely,



Aaron Nadig  
Island Team Manager  
O'ahu, Kaua'i, North Western Hawaiian Islands,  
and American Samoa

DEPARTMENT OF TRANSPORTATION SERVICES  
CITY AND COUNTY OF HONOLULU  
RECEIVED  
650 SOUTH KING STREET, 3RD FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

15 FEB 17 AM 11:34  
KIRK CALDWELL  
MAYOR



DEPT OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

MICHAEL D. FORMBY  
DIRECTOR

MARK N. GARRITY, AICP  
DEPUTY DIRECTOR

TP1/15-595784R

February 13, 2015

**MEMORANDUM**

TO: George I. Atta, FAICP, Director  
Department of Planning and Permitting

FROM:   
Michael D. Formby, Director  
Department of Transportation Services (DTS)

SUBJECT: Application for a Special Use Permit, Solar Energy Facility, Kawailoa,  
North Shore, Oahu, Project Number 2014/SUP-6, TMK: 6-1-005:  
Portion of 001 and 6-1-006: Portion of 001

This responds to your correspondence of January 16, 2015, regarding the subject project. Based on our review, we have no comments to offer at this time. However, the DTS recommends that prior to the start of the project, the affected Neighborhood Board, residents, and businesses should be regularly apprised of the status of the project and implementation actions.

Thank you for the opportunity to review this matter. Should you have any further questions on the matter, you may contact Virginia Sosh of my staff at 768-5461.

**Young, Raymond**

---

**From:** Steve.Molmen@hawaii.gov  
**Sent:** Friday, February 13, 2015 3:22 PM  
**To:** Young, Raymond  
**Subject:** Application for a Special Use Permit, Solar Energy Facility, Kawaihoa, North Shore, Oahu  
**Attachments:** 20150213151720627.pdf

Dear Mr. Atta and Mr. Young,

Attached, please find our comments on the subject project. No hard copy will be sent.

Best regards,

Steve Molmen, Supervising Land Agent  
Land Division  
Department of Land and Natural Resources  
State of Hawaii  
1151 Punchbowl Street, Suite 220  
Honolulu, HI 96809-0621  
Tel.: (808) 587-0439  
Fax: (808) 312-6357  
Email: [steve.molmen@hawaii.gov](mailto:steve.molmen@hawaii.gov)

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DAVID Y. IGE  
GOVERNOR OF HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

February 13, 2015

CARTY S. CHANG  
INTERIM CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

DANIEL S. QUINN  
INTERIM FIRST DEPUTY

W. ROY HARDY  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

City and County of Honolulu  
Department of Planning and Permitting  
Attention: Mr. George I. Atta  
Mr. Raymond Young  
650 South King Street, 7th Floor  
Honolulu, Hawaii 96813

via email: [rcsyoun@honolulu.gov](mailto:rcsyoun@honolulu.gov)

Dear Mr. Atta and Mr. Young,

**SUBJECT:** Application for a Special Use Permit, Solar Energy Facility, Kawailoa, North Shore, Oahu

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Land Division – Oahu District; (2) Engineering Division; and (3) Division of Aquatic Resources. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji  
Land Administrator

Enclosure(s)

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 22, 2015

MEMORANDUM

CARTY S. CHANG  
ACTING CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
FIRST DEPUTY  
WILLIAM M. TAM  
INTERIM DEPUTY DIRECTOR - WATER  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

TO:

**DLNR Agencies:**

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division - Oahu District
- Historic Preservation

FROM:

*[Signature]* Russell Y. Tsuji, Land Administrator

SUBJECT:

Application for a Special Use Permit, Solar Energy Facility, Kawailoa, North Shore, Oahu

LOCATION:

Kawailoa, North Shore, Oahu; Tax Map Key: 6-1-005: Portion of 001 and 6-1-006: Portion of 001

APPLICANT:

Kawailoa Solar, LLC by its consultant CH2M Hill

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: <https://sp01.ld.dlnr.hawaii.gov/LD>
2. Login: Username: LD\Visitor Password: 0pa\$\$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Application for a Special Use Permit, Solar Energy Facility, Kawailoa, North Shore, Oahu", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or [Jonathan.C.Real@hawaii.gov](mailto:Jonathan.C.Real@hawaii.gov))

Please submit any comments by **February 12, 2015**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- ( ) We have no objections.
- (✓) We have no comments.
- ( ) Comments are attached.

Signed:

Print Name:

Date:

*[Signature]*  
TAMM Chee  
1/27/2015  
*[Signature]*

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 22, 2015

MEMORANDUM

CARTY S. CHANG  
ACTING CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
FIRST DEPUTY  
WILLIAM M. TAM  
INTERIM DEPUTY DIRECTOR - WATER  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
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ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

TO: PH

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Oahu District
- Historic Preservation

FROM: TO:

Russell Y. Tsuji, Land Administrator

SUBJECT: Application for a Special Use Permit, Solar Energy Facility, Kawaihoa, North Shore, Oahu  
 LOCATION: Kawaihoa, North Shore, Oahu; Tax Map Key: 6-1-005: Portion of 001 and 6-1-006: Portion of 001  
 APPLICANT: Kawaihoa Solar, LLC by its consultant CH2M Hill

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: <https://sp01.ld.dlnr.hawaii.gov/LD>
2. Login: Username: LD\Visitor Password: 0pa\$\$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Application for a Special Use Permit, Solar Energy Facility, Kawaihoa, North Shore, Oahu", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or [Jonathan.C.Real@hawaii.gov](mailto:Jonathan.C.Real@hawaii.gov))

Please submit any comments by **February 12, 2015**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- ( ) We have no objections.
- ( ) We have no comments.
- (✓) Comments are attached.

Signed: *Carty S. Chang*  
 Print Name: Carty S. Chang, Chief Engineer  
 Date: 2/9/15

15 JAN 26 PM 08:47 ENGINEERING

**DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION**

**LD/Russell Y. Tsuji**

**REF: Special Use Permit Application for Solar Energy Facility, Kawaiiloa, North Shore  
Oahu.005**

**COMMENTS**

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone D, an area where flood hazards are undetermined.
- ( ) Please take note that the project site according to the Flood Insurance Rate Map (FIRM), is located in Zone \_\_\_\_.
- ( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is \_\_\_\_.
- ( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- ( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
- ( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
- ( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.
- ( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.
- ( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- ( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
- ( ) Additional Comments: \_\_\_\_\_  
\_\_\_\_\_
- ( ) Other: \_\_\_\_\_  
\_\_\_\_\_

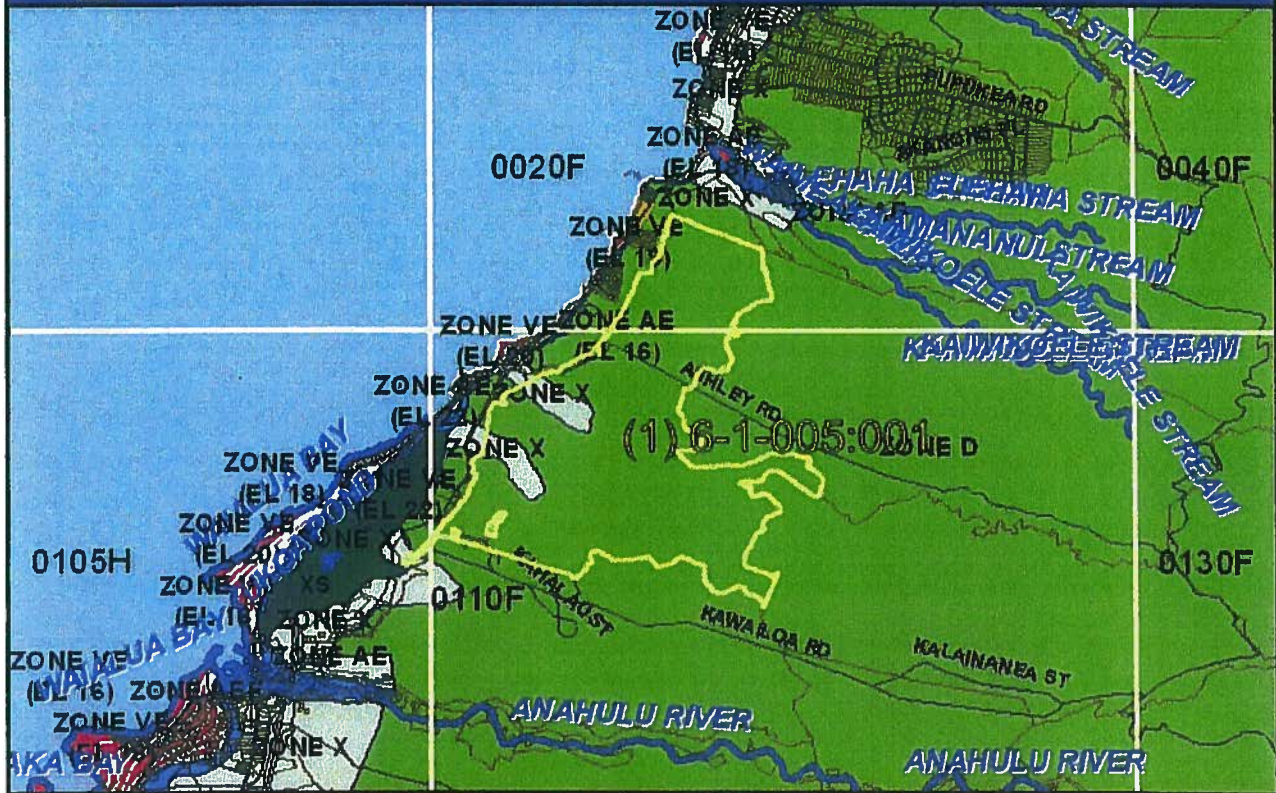
Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: Cary S. Chang  
CARTY S. CHANG, CHIEF ENGINEER

Date: 2/9/15



# FLOOD HAZARD ASSESSMENT REPORT



## NATIONAL FLOOD INSURANCE PROGRAM

### FLOOD ZONE DEFINITIONS

**SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD** – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- Zone A: No BFE determined.
- Zone AE: BFE determined.
- Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
- Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
- Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

**NON-SPECIAL FLOOD HAZARD AREA** – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

### OTHER FLOOD AREAS

- Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

### PROPERTY INFORMATION

**COUNTY:** HONOLULU  
**TMK NO:** (1) 6-1-005-001  
**PARCEL ADDRESS:** 62-350 KAWAIOA DR  
 WAHIAWA, HI 96786  
**FIRM INDEX DATE:** NOVEMBER 05, 2014  
**LETTER OF MAP CHANGE(S):** NONE  
**FEMA FIRM PANEL(S):** 15003C0105H-JANUARY 19, 2011  
 15003C0110F-SEPTEMBER 30, 2004  
 15003C0020F-SEPTEMBER 30, 2004

**PARCEL DATA FROM:** APRIL 2014  
**IMAGERY DATA FROM:** MAY 2006

### IMPORTANT PHONE NUMBERS

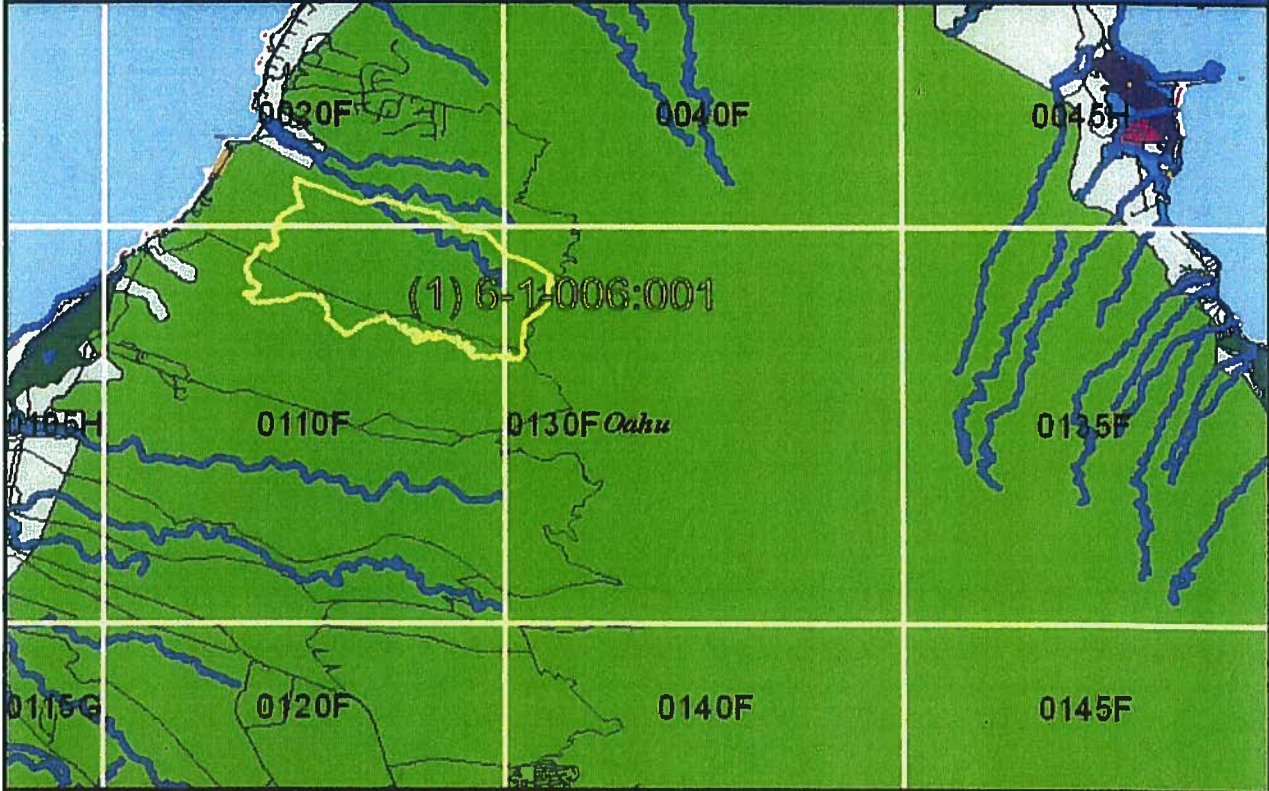
**County NFIP Coordinator**  
 City and County of Honolulu  
 Mario Siu-Li, CFM (808) 768-8098  
**State NFIP Coordinator**  
 Carol Tyau-Beam, P.E., CFM (808) 587-0267

*Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use.*

*If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official/legal decisions, regulatory compliance, or flood insurance rating. Contact your county NFIP coordinator for flood zone determinations to be used for compliance with local floodplain management regulations.*



# State of Hawaii FLOOD HAZARD ASSESSMENT REPORT



## NATIONAL FLOOD INSURANCE PROGRAM

### FLOOD ZONE DEFINITIONS

**SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD** – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- Zone A: No BFE determined.
- Zone AE: BFE determined.
- Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
- Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
- Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

**NON-SPECIAL FLOOD HAZARD AREA** – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

### OTHER FLOOD AREAS

- Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

### PROPERTY INFORMATION

COUNTY: HONOLULU  
 TMK NO: (1) 6-1-006-001  
 PARCEL ADDRESS:  
 FIRM INDEX DATE: NOVEMBER 05, 2014  
 LETTER OF MAP CHANGE(S): NONE  
 FEMA FIRM PANEL(S):  
 15003C0110F-SEPTEMBER 30, 2004  
 15003C0020F-SEPTEMBER 30, 2004  
 15003C0130F - PANEL NOT PRINTED

PARCEL DATA FROM: APRIL 2014  
 IMAGERY DATA FROM: MAY 2006

### IMPORTANT PHONE NUMBERS

County NFIP Coordinator  
 City and County of Honolulu  
 Mario Siu-Li, CFM (808) 768-8098  
State NFIP Coordinator  
 Carol Tyau-Beam, P.E., CFM (808) 587-0267

*Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use.*  
*If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official/legal decisions, regulatory compliance, or flood insurance rating. Contact your county NFIP coordinator for flood zone determinations to be used for compliance with local floodplain management regulations.*

DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

January 22, 2015

MEMORANDUM

CARTY S. CHANG  
ACTING CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
  
FIRST DEPUTY  
  
WILLIAM M. TAM  
INTERIM DEPUTY DIRECTOR - WATER  
  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS



DAR #5065

JK  
PM

TO:

**DLNR Agencies:**

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Oahu District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Application for a Special Use Permit, Solar Energy Facility, Kawaihoa, North Shore, Oahu

LOCATION:

Kawaihoa, North Shore, Oahu; Tax Map Key: 6-1-005: Portion of 001 and 6-1-006: Portion of 001

APPLICANT:

Kawaihoa Solar, LLC by its consultant CH2M Hill

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: <https://sp01.ld.dlnr.hawaii.gov/LD>
2. Login: Username: LD\Visitor Password: 0pa\$\$word0 (first and last characters are zeros)
3. Click on: Requests for Comments. Click on the subject file "Application for a Special Use Permit, Solar Energy Facility, Kawaihoa, North Shore, Oahu", then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Jonathan Real, Applications/Systems Analyst at 587-0427 or [Jonathan.C.Real@hawaii.gov](mailto:Jonathan.C.Real@hawaii.gov))

Please submit any comments by **February 12, 2015**. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Print Name:

Date: 2/6/15

DAVID Y. IGE  
GOVERNOR OF HAWAII



CARTY S. CHANG  
INTERIM CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

DANIEL S. QUINN  
INTERIM FIRST DEPUTY

W. ROY HARDY  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

Date: February 3, 2015  
DAR # 5065

MEMORANDUM

TO: Carty S. Chang, Interim Chairperson

*C. Chang 2/6/15*

DATE: \_\_\_\_\_

FROM: Paul Murakawa, Aquatic Biologist

*Paul J. Murakawa 2/5/15*

SUBJECT: Application for a Special Use Permit, Solar Energy Facility, Kawailoa, North Shore, Oahu: TMK 6-1-005:Portion of 001 and 6-1-006:Portion of 001

Comment	Date Request	Receipt	Referral	Due Date
	1/22/15	1/23/15	1/28/15	2/12/15

Requested by: Russell Y. Tsuji, Land Division Administrator

Summary of Proposed Project

Title: Application for a Special Use Permit, Solar Energy Facility, Kawailoa, North Shore, Oahu

Project by: Kawailoa Solar, LLC.

Location: In the vicinity of Ashley Road, Kawailoa, North Shore, Oahu: TMK 6-1-005: Portion of 001 and 6-1-006: Portion of 001

Brief Description:

The applicant is seeking a Special Use Permit to create a solar energy facility on 384 acres of land owned by the B.P. Bishop Trust Estate in Kawailoa, Oahu. This project has two components, solar panels and sheep grazing.

Comments:

The Division of Aquatic Resources (DAR) reviewed the application and has the following comments. In the application, it states:

*"Storm water runoff would be appropriately addressed through design features that incorporate best management practices (BMPs) to minimize the quantity and water quality*



*impacts of the runoff. Areas that are temporarily disturbed during construction would be vegetated using grass species suitable for soil stabilization and erosion control, as well as for grazing stock."*

The BMPs were not included with the application. DAR requests that the BMPs be included in the application so that DAR has the opportunity to review the BMPs prior to the start of the project.

This project also includes a sheep grazing component where sheep are able to graze between and under the solar panels. There is no mention of the BMPs that the applicant proposes to implement to mitigate for the negative impacts as a result of the sheep grazing. Additionally, there is no mention of BMPs proposed to mitigate for soil exposure, erosion and resulting soil runoff from reaching the river in the valley below. DAR recommends that BMPs be developed for the grazing portion of the project and requests the opportunity to review these BMPs.

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plans; DAR requests the opportunity to review and comment on those changes.

DAVID Y. IGE  
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M.D.  
DIRECTOR OF HEALTH

**STATE OF HAWAII**  
**DEPARTMENT OF HEALTH**  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:

EPO 15-011

February 10, 2015

Mr. George I. Atta, FAICP  
Director, Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawaii 96813  
Via email only to: [rcsyounq@honolulu.gov](mailto:rcsyounq@honolulu.gov)

Dear Mr. Atta:

**SUBJECT: Application for a Special Use Permit  
Solar Energy Facility, Kawaihoa, North Shore, Oahu  
TMK: 6-1-005: Portion of 001 and 6-1-006: Portion of 001**

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter to our office on January 16, 2015. Thank you for allowing us to review and comment on the proposed project. EPO recommends that you review the standard comments and available strategies to support sustainable and healthy design provided at: <http://health.hawaii.gov/epo/home/landuse-planning-review-program/>. Projects are required to adhere to all applicable standard comments.

We encourage you and project applicants to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: <https://eha-cloud.doh.hawaii.gov>

You may also wish to review the revised Water Quality Standards Maps that have been updated for all islands. The Water Quality Standards Maps can be found at: <http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/water-quality-standards/>.

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design.

Mahalo nui loa,

A handwritten signature in blue ink, appearing to read "Laura Phillips".

Laura Leialoha Phillips McIntyre, AICP  
Program Manager, Environmental Planning Office

1214798

HONOLULU FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**  
**RECEIVED**

636 South Street  
Honolulu, Hawaii 96813-5007  
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL  
MAYOR

15 FEB -5 P2:14



MANUEL P. NEVES  
FIRE CHIEF

LIONEL CAMARA JR.  
DEPUTY FIRE CHIEF

DEPT OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU

February 3, 2015

TO: GEORGE ATTA, FAICP, DIRECTOR  
DEPARTMENT OF PLANNING AND PERMITTING

FROM: SOCRATES D. BRATAKOS, ASSISTANT CHIEF

SUBJECT: SPECIAL USE PERMIT APPLICATION NO. 2014/SUP-6  
SOLAR ENERGY FACILITY  
KAWAIILOA, NORTH SHORE, OAHU  
TAX MAP KEYS: 6-1-005: PORTION OF 001  
6-1-006: PORTION OF 001

In response to your memorandum dated January 16, 2015, regarding the above-mentioned subject, the Honolulu Fire Department requires that the provisions of the Fire Code of the City and County of Honolulu be complied with in respect to photovoltaic systems and fire department access and water supply requirements.

Should you have questions, please contact Battalion Chief Terry Seelig of our Fire Prevention Bureau at 723-7151 or tseelig@honolulu.gov.

*Socrates D. Bratakos*  
SOCRATES D. BRATAKOS  
Assistant Chief

SDB/SY:bh

DEPARTMENT OF PLANNING AND PERMITTING  
SUMMARY DESCRIPTION

APPLICANT : Kawaiiloa Solar, LLC

LANDOWNER : B. P. Bishop Trust Estate

REQUEST : A Special Use Permit to establish a solar energy facility on lands classified by the Land Study Bureau as Class A, B, and C, pursuant to Sections 205-2 and 205-4.5, Hawaii Revised Statutes

LOCATION : In the vicinity of Ashley Road, approximately 6,000 feet south of Waimea Beach Park and 4 miles northeast of Haleiwa Town, at Kawaiiloa, North Shore, Oahu, Hawaii

TAX MAP KEY : 6-1-005: Portion of 1 and 6-1-006: Portion of 1

LAND AREA : Approximately 384.1 Acres

NORTH SHORE SUSTAINABLE COMMUNITIES PLAN LAND USE MAP : Agriculture

STATE LAND USE DISTRICT : Agricultural

EXISTING USE : Open space

SURROUNDING LAND USE : Wind turbine renewable energy generation system, open space, diversified agriculture, military training and preservation lands

DEPT OF PLANNING AND PERMITTING CITY & COUNTY OF HONOLULU

15 FEB -3 08:40

RECEIVED

DEPARTMENT:

Honolulu Police Department

COMMENTS:

Thank you for the opportunity to review and comment on the subject application.

This project should have no significant impact on the services or operations of the Honolulu Police Department.

If there are any questions, please call Major Kerry Inouye of District 2 (Wahiawa) at 723-8703.

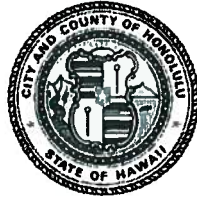
*Mark Tsuyemura* 2-2-15  
 By \_\_\_\_\_ Date  
 MARK TSUYEMURA, Management Analyst  
 Office of the Chief

scanned from  
1/30/2015

DEPARTMENT OF ENVIRONMENTAL SERVICES  
**CITY AND COUNTY OF HONOLULU**  
RECEIVED 1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707  
TELEPHONE: (808) 768-3486 • FAX: (808) 768-3487 • WEBSITE: <http://envhonolulu.org>

'15 JAN 30 P4 01  
KIRK CALDWELL  
MAYOR

DEPT OF PLANNING  
AND PERMITTING  
CITY & COUNTY OF HONOLULU



LORI M.K. KAHIKINA, P.E.  
DIRECTOR

TIMOTHY A. HOUGHTON  
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.  
DEPUTY DIRECTOR

IN REPLY REFER TO  
PRO 15-010

January 30, 2015

**MEMORANDUM**

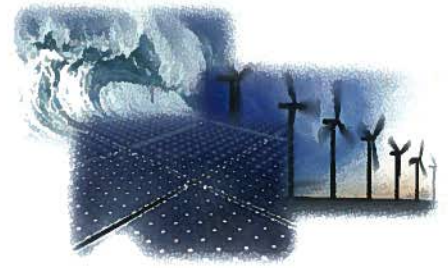
TO: George I. Atta, FAICP, LEED AP, CEI, Director  
Department of Planning and Permitting

FROM: *Ross Tanimoto*  
Lori M.K. Kahikina, P.E., Director

SUBJECT: Application for a Special Use Permit  
Solar Energy Facility, Kawaiiloa, North Shore, Oahu  
Tax Map Key: 6-1-005: Portion of 001 and 6-1-006: Portion of 001

We have reviewed the subject document as transmitted to us by your memo dated January 16, 2015, reference number 2014/SUP-6 (RY). Based on our review, we do not foresee any significant impacts to our facilities or services from this project.

Should you have any questions, please call Marisol Olaes, Civil Engineer at 768-3467.



March 11, 2015

Raymond Young  
Staff Planner, Community Plans Branch  
City and County of Honolulu, Department of Planning and Permitting  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawai'i 96813  
*rscopyoung@honolulu.gov*

Re: Kawailoa Solar Farm

Dear Mr. Young,

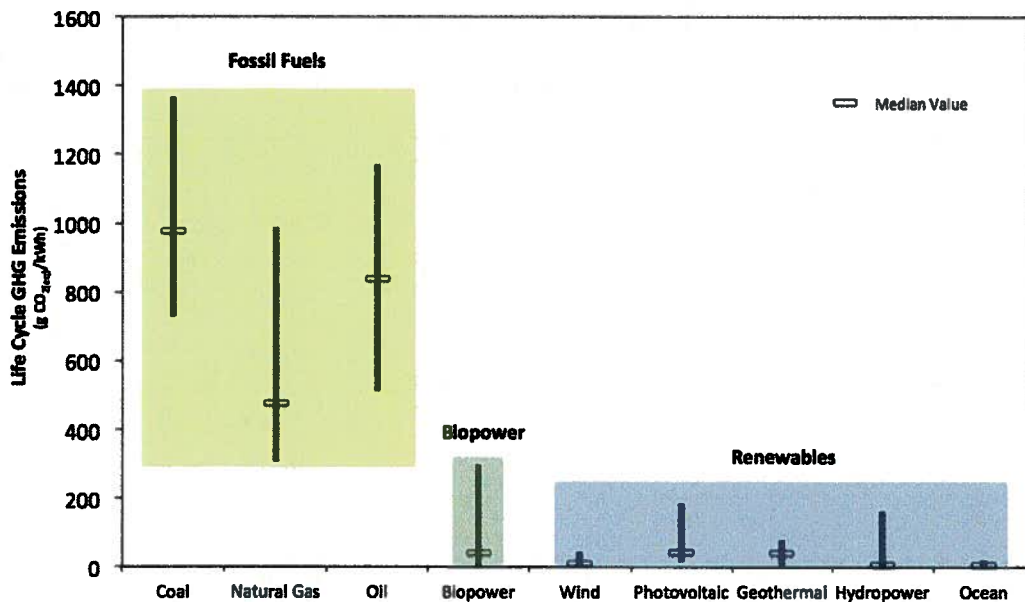
Blue Planet Foundation is Hawai'i-based nonprofit organization. We work to clear the path for local, clean, renewable power. We want to make our communities stronger, our energy more secure, our environment healthier, and our economy more robust.

In the past decade, Hawai'i has sent more than \$40 Billion out of the state to pay for imported fossil fuels like oil and coal. Thankfully, cost-effective renewable energy is slowing this drain. Solar projects like the proposed Kawailoa solar farm can supply power to Hawai'i's people for less than 13.5 cents per kWh – substantially better than the 22 cents per kWh we pay for oil in existing power plants. These savings benefit all residents and sectors.

New solar projects are also vital for achieving the state's clean energy goals and mandates. Our analysis indicates that O'ahu will require hundreds more megawatts of cost-effective solar power added to the grid, both as distributed rooftop generation and centralized utility-scale solar farms.

Timing is critical. Federal support for renewable energy projects is currently scheduled to terminate in 2016. If we fail to approve and install the pending renewable energy projects before that deadline, Hawai'i residents and businesses stand to lose hundreds of millions in federal dollars.

In addition to these broad economic benefits, using more solar power will mean cleaner power and a healthier environment. Life cycle greenhouse gas emissions analysis, accounting for emissions at each step of production, show that solar photovoltaic power is far cleaner than fossil fuel-fired power:<sup>1</sup>



Solar energy projects enjoy a low profile, silent operation, and lack of significant moving parts. This can render solar projects appropriate for a variety of environments. Solar projects are also, by their nature, an interim use of land; unlike large power plant buildings, solar panels can be more readily removed at the end of their useful or contractual life.

The potential for dual-use of land also makes solar power a smart choice, because this strategy can protect the long-term value and possible uses of farmland. In the nearer term, dual-use energy generation can also improve the viability of land for agriculture by providing infrastructure

<sup>1</sup> These data were compiled by the National Renewable Energy Laboratory's (NREL) Life Cycle Assessment (LCA) Harmonization project. NREL experts systematically reviewed thousands of estimates of LCA GHG emissions published between 1970 and 2011. LCA estimates presented consider emissions from all stages in the lifecycle of an energy source, from component manufacturing, to operation of the generation facility to its decommissioning, and including acquisition, processing and transport of any required fuels. Note that for natural gas, the methane leakage rate implied by these estimates is much lower than leakage measured by some scientists. Thus, the total climate impact of natural gas emissions may be even greater than reflected in this chart.

and subsidizing land costs for complementary agricultural uses. Together, these benefits can promote both food and energy sustainability.

We believe that these characteristics should render solar projects far less objectionable than large, polluting, fossil fuel generating stations. **Indeed, a recent poll of Hawai'i residents by the University of Hawaii Center on the Family found overwhelming support solar power. 92% of respondents favored solar power for Hawai'i, with only 4% opposing.**<sup>2</sup>

With aloha,



Richard Wallsgrove  
Program Director

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<sup>2</sup> See [http://uhfamily.hawaii.edu/publications/brochures/9314e\\_14101012\\_COF\\_Renewable\\_Energy\\_Report-FINAL.pdf](http://uhfamily.hawaii.edu/publications/brochures/9314e_14101012_COF_Renewable_Energy_Report-FINAL.pdf).