Authorization: Kathy K. Sokugawa.
Acting Director
Advertisement: December 4, 2020
Public Hearing: January 6, 2021

DEPARTMENT OF PLANNING AND PERMITTING
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2020/SUP-6(RY)

December 2, 2020

MEMORANDUM

TO: Arthur D. Challacombe, Chair
and Members of the Planning Commission

FROM: Kathy K. Sokugawa, Acting Director
Department of Planning and Permitting

SUBJECT: Special Use Permit (SUP) Application File No. 2020/SUP-6 by
AES West Oahu Solar, LLC for a 12.5-Megawatt Solar Photovoltaic and
50-Megawatt-Hour Battery Storage Facility
Honouliuli, Ewa District, Oahu
Tax Map Key 9-2-002: Portion of Parcel 007

Attached for your appropriate action is our report and recommendation for conditional approval of a 96.353-acre SUP application for the establishment of a new solar energy generation and battery storage facility. The Department of Planning and Permitting recommends conditions of approval relating to the provision of lands under the solar panels for compatible agriculture, consideration of alternative designs to address native Hawaiian values and visual impacts, submittal of a letter of credit for de-commissioning, measures to mitigate potential wildlife impacts, and standard conditions.

The entire SUP application, including the Final Environmental Assessment, can be downloaded from: https://bit.ly/32ed4Jp.

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

Should you have any questions, please contact Raymond Young, of our staff, at rcsyoung@honolulu.gov.

Enclosures

cc: Lisa Kettley
Tetra Tech

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

STATE OF HAWAII

IN THE MATTER OF THE APPLICATION OF AES WEST OAHU SOLAR, LLC FOR A SPECIAL USE PERMIT	FILE NO. 2020/SUP-6

FINDINGS OF FACT, CONCLUSIONS
OF LAW, AND RECOMMENDATION

I. APPLICATION

A. Basic Information

APPLICANT	:	AES West Oahu Solar, LLC
OWNER	:	University of Hawaii
LOCATION	:	Approximately 2,000 feet north of the intersection of Palehua Road and H-1 Freeway, Honouliuli, Ewa (Exhibit 1)
TAX MAP KEY	:	9-2-002: Portion of Parcel 007
AREA OF SPECIAL USE AND SITE PLAN	:	Approximately 96.353 acres (Exhibit 2)
RECORDATION	:	Land Court
STATE LAND USE DISTRICT	:	Agricultural (Exhibit 3)
EWA DEVELOPMENT PLAN	:	Agricultural and Preservation
EXISTING ZONING	:	AG-1 Restricted Agricultural District (Exhibit 4)
LAND STUDY BUREAU RATING	:	Overall Master Productivity Rating of Class "B", "D", and "E" (Exhibit 5)
EXISTING USE	:	Cattle pasture and open space

SURROUNDING LAND USES	:	Agriculture and open space to the north, east and south, Makakilo residential community and Makakilo quarry to the west and southwest, respectively.

B. Proposal. AES West Oahu Solar, LLC (Applicant) proposes to construct a 12.5-megawatt photovoltaic (PV) energy generation facility, a 50-megawatt-hour battery energy storage facility to address peak energy demand, and accessory support infrastructure and uses (together referred to as the Project) on a 96.353-acre portion (Petition Area) of an 861-acre State-owned parcel (Parcel 7). The Project will consist of south-facing, ground-mounted PV panels mounted on fixed-tilt frames supported by steel posts. The panels are mounted generally about three feet to eight and a half feet above existing grade, with each panel generating a maximum of 1,500 volts of direct current. The Project will also include other electrical equipment such as electrical collector lines, an electrical substation and interconnection equipment, communication equipment, service driveways, and perimeter fencing. The Project will connect to the Hawaiian Electric Company's (HECO) electricity grid via the new electrical substation and an existing 46-kilovolt sub-transmission line that traverses the Petition Area.

The Project will consist of four, separately fenced areas, each with PV panels and pads for power conversion stations, battery storage units, and telecommunications equipment. Area 1, 2, and 3 will have beekeeping stations along the makai side of their perimeter fencing. The proposed electrical substation and cattle trap area will be located in Area 3. No beekeeping stations are proposed for Area 4. In addition, the Applicant proposes to construct internal driveways, culvert crossings, and security gates for the Project. Landscaping will be planted along certain sections of the Petition Area to mitigate some of the Project's visual impacts.

The Applicant indicates that the Project is needed to partially address energy production losses from the September 2022 closing of Hawaii's only coal-fired power plant located in Campbell Industrial Park, Ewa, Oahu, which contributed 20.4 percent of green-house gas emissions from large stationary power sources in 2016.

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 intends to lease portions of the subject parcel for compatible agriculture activities. In support of its compatible agriculture program, the Applicant submitted as part of the Special Use Permit (SUP) application, a study indicating feasible agricultural activities under the PV panels, including cattle pasturing and beekeeping. Cattle grazing will be limited to stocker-size (smaller) steer and heifers, which are younger cattle, for beef production to minimize the potential for damage to the solar energy facility's (SEF) structural frame and PV panel components. Beef cattle grazing is more suitable than dairy cattle grazing since Oahu does not have a large-scale dairy cattle industry and related support infrastructure.

To address the area's lack of water sources, the Applicant is considering trucking in water to supply onsite water tanks or a connection to the Board of Water Supply (BWS) off-site domestic water system.

The Project will not be manned on a regular basis. On occasion, maintenance staff will be onsite to clean the panels, maintain accessory facilities, 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. However, a portable restroom unit(s) may be needed for use during operations and maintenance.

The Applicant anticipates that upon receiving all land use and building permit approvals, construction would begin in 2021 and require approximately 9 to 12 months to complete. Commercial operations are projected to begin in 2022 and continue for 25 years with decommissioning of the Project to occur between 6 to 12 months before the conclusion of operations, unless a time extension is sought and approved by government agencies having jurisdiction over the extension. The Applicant estimated in 2019, the gross decommissioning cost to be $2.5 million.

The Project was selected by HECO under a competitive bidding process to provide grid-scale renewable energy generation to the HECO system in order to assist the State of Hawaii attain its goal of generating 100 percent of the State's energy from renewable sources by 2045. The Project will also provide its landowner a portion of the revenues generated from the sale of power to HECO. A power purchase agreement between the Applicant and HECO was approved by the Public Utilities Commission (PUC) in August 2019.

C. Environmental Disclosure Requirements. The Project is subject to the environmental disclosure requirements of Chapter 343, HRS, pursuant to the Hawaii Environmental Policy Act (HEPA), due to the proposed use of State-owned land. The Applicant prepared environmental disclosure documents in accordance with HEPA. Subsequently, A Notice of a Finding of No Significant Impact was issued by the Department of Planning and Permitting (DPP) on June 30, 2020, which was published in the July 8, 2020 edition of the Office of Environmental Quality Control's *The Environmental Notice*.

II. FINDINGS OF FACT

A. Site Description and Surrounding Uses. The Petition Area is situated about 2,000 feet northwest of the intersection of Kualakai Parkway and the H-1 Freeway. The nearest residential community, Makakilo, is about 1,500 feet to the southwest. Mauka and west of the Petition Area is Puu Kapuai, a cinder cone with the highest elevation at about 1,047 feet above mean sea level. National and Geodetic Survey Station Benchmark No. TU1646 is located at its summit. On the northwest of the State-owned parcel is the Honouliuli Internment Camp National Historic Site with lands beyond in agricultural production by the Monsanto Company and the Hawaii Agricultural Research Center (HARC). The Makakilo Quarry is located to the southwest and the Hoopili residential/mixed use community is located to the south and southeast. Several sites of historic value are located in and around the Petition Area, including remnants of the Waiahole Ditch system, and an abandoned sugar mill and pump house located just outside the Petition Area.

This Petition Area and the remainder of the State-owned parcel is comprised of former agricultural fields that were previously cultivated with sugar cane and is currently used

for cattle grazing by Rocker G Livestock. Except for abandoned irrigation ditches and related irrigation water diversion features, there are no other structures within the Petition Area. A BWS reservoir, East Kapolei 440 Reservoir No. 1, is located adjacent to the northern corner of the Petition Area, within the State-owned parcel.

Access to the Petition Area is from existing cane haul roads off of the privately-owned Palehua Road, an approximate 24-foot wide asphalt-paved travelway. Palehua Road also provides access to Makakilo Quarry to the west and connects to the Kualakai Parkway/H-1 Freeway Interchange to the southeast. A guard house located on Palehua Road approximately 450 feet north of the freeway interchange, controls access to the Petition Area and the Makakilo Quarry.

B. Climate and Wind Patterns. Pursuant to the Climate of Hawaii, Geography Department, University of Hawaii webpage, the Petition Area and immediate surroundings have an annual solar radiation of about 191 watts per square meter. The area also has an annual average air temperature of 23 degrees Celsius (C) or 73.4 degrees Fahrenheit (F) with an average high of 25 degrees C (77 degrees F) and an average low of 21 degrees C (69.8 degrees F). The highest hourly air temperature of 28.2 degrees C (82.8 degrees F) occurs in August at about 3:00 p.m. Average annual rainfall is about 706 millimeters (mm) or 27.8 inches with the highest monthly rainfall of about 120 mm (4.7 inches) occurring in January. Wind direction is primarily from the northeast with an average annual wind speed of 2.6 meters per second or 5.9 miles per hour.

C. Soil Type and Quality of Agricultural Land.

1. United States Department of Agriculture (DOA). According to the U. S. DOA Soil Conservation Service, the following soil types are found in the Petition Area:

   Mahana silty clay loam, eroded, 6 to 12 percent slopes (McC2), 12 to 20 percent slopes (McD2), and 20 to 35 percent slopes (McE2), and small areas of Molokai silty clay loam, 7 to 15 percent slopes (MuC), 15 to 25 percent slopes (MuD), and Kawaihapai clay loam, 2 to 6 percent slopes (KIB).

   Soils in the Mahana series covers about 88 acres of the Petition Area. It is a well-drained soil series but has severe to very severe limitations on cultivated use due to its erosion potential. The depth of this soil series is greater than 60 inches and its irrigated and non-irrigated land capability class rating ranges from 3e to 6e with Class 1 soils having the least limitations that restrict their use to Class 8 soils which have limitations that restrict their use to recreation, wildlife, or water supply. The Subclass "e" is made up of soils for which the susceptibility to erosion or hazards affecting their use. With appropriate irrigation this soil type could support Panax species and Norfolk pine for windbreak or environmental screening. A majority of the Project would be located on the Mahana series soils.

   The remainder of the Petition Area contain soils in the Molokai and Kawaihapai series. The Molokai series consists of well-drained soils on upland elevations from near sea level to 1,500 feet elevation. The depth of this soil series is greater than 60 inches and its irrigated or non-irrigated land capability classification ranges from 3e to 4e.

The Kawaihapai series are well-drained soils and are found in stream valleys alluvial fans with depths greater than 60 inches and its irrigated or non-irrigated land capability classification is 2e. The Molokai and Kawaihapai series can also support Panax species and Norfolk pine for windbreak or environmental screening.

2. Agricultural Lands of Importance to the State of Hawaii (ALISH). The ALISH Map, prepared by the State DOA, classifies lands into three categories: 1) Prime Agricultural Land; 2) Unique Agricultural Land; and 3) Other Important Agricultural Land (IAL). About 88 acres of the Petition Area, generally corresponding to the Mahana series soils type, are comprised of Other IAL. The balance of the Petition Area corresponding to the Molokai and Kawaihapai series soils type, consists of Prime Agricultural Land which are best suited for the production of food, feed, forage, and fiber crops. This land type has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when properly managed (including water management). Other IAL is land other than Prime or Unique Agricultural Land that is of state-wide or local importance for the production of food, feed, fiber, and forage crops. The Petition Area has no lands classified Unique Agricultural Land.

3. Land Study Bureau (LSB) Classification. According to the LSB overall master productivity rating system, approximately 46 acres of the Petition Area comprise of Class B soils, approximately 37 acres comprise of Class D soils, and the remainder of little less than 14 acres, comprise of Class E soils (Exhibit 5). 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 overall master 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. Chapter 205, Part III (IAL Law), HRS, states that there is a compelling State interest in conserving the State's agricultural land resource base and assuring the long-term availability of agricultural lands for agricultural use to achieve the purposes of conserving and protecting agricultural lands; promoting diversified agriculture; increasing agricultural self-sufficiency; and, assuring the availability of agriculturally suitable lands. Subsection 205-44, HRS, mandates that each county identify and map potential IAL within its jurisdiction based on the standards and criteria in Subsection 205-44, HRS. The City and County of Honolulu (City) completed its mapping of IAL and submitted its recommended IAL maps to the City Council. On August 28, 2019, the City Council submitted its recommended IAL maps identified in Resolution No. 18-233, CD1, FD1, to the State Land Use (SLU) Commission.

   The Project site is not included in the City Council's IAL maps since it is State-owned lands which pursuant to Subsection 204-44.5, HRS, are not subject to the City's mapping process.

D. Existing and Proposed SEFs in the SLU Agricultural District.

The State of Hawaii Energy Office (HSEO) website indicates that excluding U.S. government lands, there are several large SEFs currently in operation today in the SLU Agricultural District as follows:

Table 1 – Existing SEFs in the SLU Agricultural District - 5 Megawatts and Larger

Project Name/SUP	Operational As Of	Capacity MW/MWH* Storage	Location	Approx. Acreage	LSB Rating**
Waihonu North & South (SUP Not Required)	Jul 2016	6.5/0	Mililani, Central Oahu	147	B
EE Waianae Solar, LLC (SUP Not Required)	Jan 2017	27.6/0	Mikilua, Waianae	198	E
Aloha Solar Energy Fund I (SUP Not Required)	Mar 2017	5/0	Maile, Waianae	29	E
Mililani Solar II (SUP Not Required)	Sep 2019	14.7/0	Mililani, Central Oahu	117	D
Waipio Solar (2014/SUP-3)	Sep 2019	45.9/0	Waiawa, Central Oahu	313	B
Kawailoa Solar (2014/SUP-6)	Nov 2019	49/0	Kawailoa, North Shore	300	B
	Totals	148.7/0		1,104	

* MW/MWH – Megawatts/Megawatt-hours

** Land Study Bureau Overall Master Productivity Rating Class

The HSEO website and information received by the DPP also indicates that there are four SEF projects over five megawatts with energy storage facilities under development involving lands in the SLU Agricultural District as follows:

Table 2 – Proposed SEFs in the SLU Agricultural District – 5 Megawatts and Larger

Project Name	Projected Operational Date	Capacity MW/MWH Storage	Location	Approx. Acreage	LSB Rating
Kupehau Solar	Mid-2022	60/240	Upper Honouliuli, Ewa and Central Oahu	200	C, D, and E
Mililani 1 Solar	2022	39/156	Mililani, Central Oahu	N/A	D and E
Mahi Solar	Dec 2023	120/480	Kunia, Central Oahu	617	B, C, D, E, and IAL
AES Mountain View Solar	2023	7/35	Mikilua, Waianae	142	E
Totals		226/911		959+	

E. Agency Comments. The following government agencies provided significant substantive comments on the SUP application which are found in Attachment A. A summary of their comments are as follows:

Table 3 – Summary of Agency Comments

Source	Comments Summary
U. S. Fish & Wildlife Service (USFWS)	The USFWS's email comments referred to their comments on the Draft Environmental Assessment, dated April 22, 2020, which are summarized as follows: There is no designated critical habitat within the Project area. However, the federally endangered Hawaiian hoary bat, Hawaiian stilt, Hawaiian gallinule, Hawaiian coot, Hawaiian duck, Hawaiian petrel, a distinct population of band-rumped storm petrel, and the federally threatened Newell's shearwater have the potential to be in or fly over the Project area and vicinity. The USFWS offered species-specific avoidance and minimization measures: Hawaiian hoary bat: Trees over 15 feet high should not be disturbed during bat birthing and pup rearing season (June 1 through September 15) and land clearing should be timed accordingly. Barbed wire should not be used for fencing. Hawaiian water birds: Conduct nest surveys where appropriate habitat occurs prior to construction and repeat nest survey three days after construction begins. If a nest is found, various measures are recommended for their protection. Hawaiian seabirds: Fully shield outdoor lights, use timers/motion sensors to control outdoor lighting, and avoid nighttime construction during seabird fledging period, September 15 to December 15.
SLU Commission Executive Officer	Concur with the State Office of Planning (OP) that concurrence by the Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD) of the archaeological inventory survey (AIS) report should be part of the record prior to any decision by the Planning Commission (PC); the applicant should continue to consult with the cultural impact analyst to ensure concerns are fully addressed in the landscape plan; PV panel ground clearance may be insufficient for productive cattle grazing; proposed Project is subject to Section 205-4.5(a)(21)(A), (B), and (C), HRS.
OP	The OP concurs that the proposed Project meets the criteria for an unusual and reasonable use within the SLU Agricultural District and recommends approval of the SUP with appropriate conditions to mitigate any adverse impacts. However, OP notes that SHPD should approve the AIS report prior to a decision by the PC.
State Department of Transportation (DOT)	No objections to the SUP application. No significant adverse impacts on State highways are anticipated and no traffic improvement are proposed or warranted. Potential for construction-related traffic impacts will be addressed in the traffic management plan that will be reviewed by the DOT and the City Department of Transportation

Source	Comments Summary
(DOT Continued)	Services (DTS). DOT refers to its May 5, 2020 comments in the Final Environmental Assessment which are as follows: Airports Division - Project site is within five miles of the Kalaeloa Airport and advised the developer of various potential hazards to aircraft pilots; in addition, developer was informed that thick smoke plumes in the protected airspace are hazardous to aircraft operations and that the battery storage facility have adequate fire suppression system and unobstructed access for emergency and fire fighting vehicles. Highways Division - a DOT permit is required to transport oversized equipment and overweight loads on DOT roadways.
HSEO	The Project offers many benefits to mitigate the impacts of fuel and energy disruptions, unpredictable cost fluctuations, unintended fuel releases into marine environments, the impacts of climate change, and the creation of jobs and commerce that contribute to near-term economic recovery from the COVID-19 pandemic. Estimated savings to HECO ratepayers would be approximately $0.22 per month in 2022 and up to $0.91 per month over the 25-year term of the Project, based on an average monthly bill of 500 kilowatt hours. Approximately 4,600 homes could be powered by the Project offsetting approximately 545,794 barrels of fuel oil and 64 tons of coal, and decreasing greenhouse gas emissions by approximately 233,394 tons over its lifetime.
Honolulu Fire Department (HFD)	Provide a Fire Department access road within 150 feet of any building and a water supply system capable of supplying the required fire flow protection to all premises upon which facilities or buildings are constructed; on-site hydrants and mains capable of supplying the required fire flow shall be provided where facilities are located beyond 150 feet of a water supply.
DTS	DTS did not have objections to the proposed Project. DTS provided the following comments: The Applicant should submit native files for the raw multi-modal counts and accompanying analysis to their Regional Planning Branch. A street usage permit may be required for the closure of any City street traffic lanes. Materials and equipment transportation should occur during off-peak traffic hours. Community representatives, residents, businesses, and emergency service should be informed on a continuous basis of the Project's impacts on local street area network.

Other government agencies contacted included the following, but did not object or provide comments on the SUP application as of the date of this Report:

City: Department of Environmental Services
Honolulu Police Department
Office of Climate Change, Sustainability, and Resiliency

State: Department of Business, Economic Development & Tourism
DOA
Department of Health (DOH)

DLNR
SHPD
PUC

Federal: Federal Aviation Administration (FAA)
Department of the Army
U. S. DOA, Natural Resources Conservation Service

F. Community Concerns. On August 26, 2020, the Applicant presented the Project to the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 (NB 34). NB 34 members raised concerns about locating the proposed Project on quality agricultural land and that existing rooftops could be used for solar energy development. Representatives of the Applicant explained that lands beneath the solar panels will be available for compatible agricultural uses. No action was taken by NB 34 at the presentation.

The DPP requested comments on the SUP application from the Ewa Neighborhood Board No. 23 (NB 23) and NB 34. A draft resolution in opposition to the Project was considered by the NB 34 but failed to pass. A copy of the draft resolution is found as part of an email in Attachment B, Comments from Community Organizations and Individuals. No comments on the SUP application have been received from NB 23 or NB 34, as of the date of this Report.

As of the date of this Report, the DPP also received one testimony from the Hawaii Thousand Friends community organization opposing the Project and 29 emails from various individuals opposing the Project. No emails supporting the Project were received. All such testimony and emails found in Attachment B opposing the Project were mainly concerned with the loss of quality agricultural land to support food security for local consumption.

III. ANALYSIS

A. Laws and Public Policies

1. Chapter 205, HRS, Land Use Law. The Petition Area is within the SLU 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 PC 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 SLU Commission.

The Director finds that the proposal to allow the Project meets the requirements of Chapter 205. The five guidelines of Section 2-45 of the PC Rules are as follows:

Guideline 1: Such use shall not be contrary to the objectives sought to be accomplished by the SLU Law and Regulations.

Pursuant to Section 205-4.5(a)(21), HRS, SEFs 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 the lesser, if granted a SUP, provided that the Project is made subject to three conditions:

a. The area occupied by the SEFs are 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 PC prior to date of commencement of commercial generation; and

c. SEFs shall be decommissioned at the owner's expense according to the following requirements:

    (i) Removal of all equipment related to the SEF within 12 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 solar energy facility.

The Project and its accessory uses and structures occupy approximately 96.353 acres of the 861-acre parcel, which exceeds the lesser of 10 percent of the area of the parcel (86.1 acres) or the maximum 20-acre limit. Thus, a SUP is required to allow establishment of the proposed SEF.

With respect to Subsection A.1.a. above, 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, and a plan for decommissioning. A condition of SUP approval is being recommended to address the requirement to make lands under the PV panels for compatible agriculture.

With respect to Subsection A.1.b. above, the Applicant estimated in 2019, that the preliminary cost for decommissioning to be approximately $2.5 million. However, the Applicant did not submit proof of financial security to decommission the Project. A condition of SUP approval is being recommended to address proof of financial security to fund decommissioning requirements of the above State law.

The OP and SLU Commission recommend conditions of SUP approval relating to 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.

Regarding Guideline 1 above, the DPP determines that the proposed Project is not contrary to the objectives sought to be accomplished by the SLU Law and regulations. DPP's determination is based on the following:

- The proposal may be considered an unusual but reasonable use of agricultural lands. Under current technology, utility-scale PV facilities that utilize solar panels to collect and distribute generated energy, require large amounts of relatively gentle terrain, in close proximity to an existing electrical grid. SEFs and crop production share similar siting demands such as flat or gentle slopes and large parcels. Flat agricultural land with large parcel size are more suited to agriculture production. These lands are also highly desirable for SEFs which minimizes construction and maintenance costs, especially near and around existing electrical transmission lines. Tables 1 and 2 indicate the largest existing and proposed SEFs are locating closer to or on higher quality agricultural lands where larger parcels of flat land are found.

- The site was formally used for sugar cane cultivation and is currently in intermittent pasture use. The Applicant proposes to allow the establishment of four beekeeping stations of 40 square feet each and one or more cattle traps of 5,184 square feet each reserved for future agricultural use. This amount of land reserved for compatible agricultural use represents less than one-quarter of one percent of the entire 96.353-acre Petition Area. Although animal grazing or crop production in the Petition Area would likely occupy much more land than the reserved area proposed, the Applicant indicates that the Petition Area and surrounding lands lack the necessary resources such as sufficient rainfall to foster natural grass growth, or a working irrigation system to support other forms of crop production or animal grazing. Except for the State's Land Use Law relating to the co-location of SEFs and the requirement to allow compatible agricultural under the panels at reduced lease rents, the State and City's land use regulations provides no specific guidance or assurances that lands under the panels will actually be used for productive agriculture operations. Nor are there policies on the upper limit of how much quality agriculture may be used for SEF development.

- The Applicant developed a preliminary compatible agricultural use plan for the Petition Area. This is beyond the statutory requirement of Act 55, which requires land under PV panels to be compatible for agriculture at lease rates of 50 percent below market. The Applicant's agricultural consultant, Scott Enright, identified and worked with potential partners, including the University of Hawaii at West Oahu (UHWO) agricultural program, Mao Farms, Malama Learning Center, Hui Ku Maoli Ola, and various cattle ranchers and beekeepers to study feasible agricultural uses in the Petition Area. The results of this effort indicated that beekeeping and/or small cattle grazing are feasible uses in the Petition Area.

According to the online encyclopedia Wikipedia, foraging area around a beehive extends for two miles, although bees have been observed foraging twice and three times this distance from their hive. In support of cattle pasturing at the Project site, the Applicant states that small cattle such as stocker-size steer and heifers would minimize potential for damaging the PV panels and supporting infrastructure.

Nevertheless, alternatives such as importing cattle feed in place of natural grass feed, reinstating portions of the existing irrigation infrastructure, or trucking in water and developing an on-site private water source to support other agricultural activities beside beekeeping could be further explored by the Applicant. It is also possible that the proposed small area reserved for compatible agriculture could be expanded in the future when other agricultural uses become feasible or beekeeping demand increases. However, at this time, it appears beekeeping and intermittent small cattle grazing to remove undesirable overgrowth are the most likely agricultural use scenarios. Various crop types, sheep, and other animal husbandry scenarios were considered, but due to the area's lack of water, would not be feasible without incurring significant costs to import water to the Project site.

Dr. Po-Yung Lai, the City's Agriculture Liaison, supports the SUP request. He clarified that the Petition Area is not designated as IAL nor is it primarily classified as Prime Agricultural Land under the ALISH designation system. In addition, Dr. Lai states that due to the limited availability of irrigation water, the Petition Area may not be suitable for those agricultural activities that require sufficient water, such as vegetable production. Dr. Lai also commented that the Applicant's proposal for beekeeping and small cattle grazing within the Petition Area reassured his position of support for the Project.

The DPP analyzed the Applicant's preliminary agricultural plan and based on the area's challenges, including lack of rainfall and irrigation infrastructure, concluded that beekeeping and small cattle grazing are viable options for compatible agriculture of the land and under the PV panels. The use of the remaining portion of the Petition Area for compatible agriculture, could continue since the Project's preliminary design does not require removal from current pasture use. However, the DPP recommends that the Applicant continue its exploration and study of feasible compatible agriculture for the remainder of the Petition Area, to address the intent of Act 55, which is to allow, to the maximum extent possible, agricultural production in parallel with a SEF. Therefore, the DPP recommends as a condition of SUP approval, the Applicant continue its effort to identify and put into place compatible agriculture production for the remainder of the Petition Area.

Based on the information submitted and materials to be submitted in compliance with the recommended conditions of approval, the Project is deemed consistent with the SLU Law which seeks to encourage the use of lands for uses best suited for the site.

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

The DPP determined that the proposed Project would not adversely affect surrounding property as follows:

- The immediate surroundings of the Petition Area and abutting parcels are vacant agricultural land used intermittently for cattle grazing. A BWS reservoir is located just outside the northern corner of the Petition Area. About a one-half mile beyond the reservoir is the Honouliuli Internment Camp National Historic Site. The Monsanto Company's seed corn fields and the HARC are located farther north and east. Makakilo's closest residential units to the Petition Area is the Wai Kaloi single-family residential subdivision located about one-half mile to the southwest. Other than private views of a portion of the panels, which is not protected under government regulations, adverse impacts are not anticipated on nearby homes. Some adjacent areas may experience some degree of glare, but this would only occur during a portion of the year and for very short durations (e.g., 15 to 45 minutes per day). The Applicant's glint and glare study concludes that while glare may be visible during these short periods, the effects would be mitigated by the distance of the Project from publicly accessible areas, intervening structures, and vegetation, including the proposed landscaping that would be installed as part of the Project. The environmental disclosure documents prepared pursuant to Chapter 343, HRS, did not anticipate the Project to have adverse impacts on the Applicant's proposed landscaping or the growth of vegetation in and around the Petition Area.

- An abandoned ditch extension of the Waiahole Ditch, travels through the Petition Area from the northern-most corner to the southwest boundary. Other than the potential historic value of the abandoned ditch system and possible preservation, there are no plans to reactivate this ditch to bring irrigation water to the parcel.

- According to the Applicant's Final Environmental Assessment, which was accepted by the DPP on June 30, 2020, noise, odors, and dust are not anticipated to adversely affect surrounding properties which are primarily in open space and intermittent pasture use. Construction, operational noise, or air quality impacts on residents of the Makakilo community are anticipated to be below the State DOH residential noise and air quality standards, providing best management practices (BMP) are followed and enforced by responsible government agencies.

- The area experiences very little rainfall except for occasional storm events. Construction of the Project would require some grading and grubbing which may be subject to the City's grading ordinance. The Project is required to comply with the City's *Rules Relating to Water Quality* and a condition of SUP approval regarding compliance with runoff water quality standards is not necessary.

- The Applicant's consultant prepared a draft AIS in February, 2020 which identified and analyzed significant archaeological resources in and around the Petition Area. The draft AIS indicates that the Petition Area contains remnants of an abandoned irrigation system and abuts the historic abandoned sugar mill and pump house structures.

  Simulations (see select simulations in Attachment C) show that public makai to mauka views of the historic abandoned sugar mill is in the line of sight of the Project. SHPD is required to determine the effects of the Project on significant historic properties and provide a determination of either "No Historic Properties Affected" or "Effect, with proposed/agreed upon mitigation commitments". The DPP has not received SHPD's comments on the draft AIS as of the date of this Report. Should SHPD's comments be received in the near future, the required Conditional Use Permit (CUP) Minor review would address SHPD's comments and any recommended mitigating measures on historic resources in and around the Petition Area. Thus, a condition of SUP approval relating to historic sites is not recommended at this time.

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

- **Roads and Streets** – As the Petition Area was formerly used for plantation agriculture, access to the Petition Area is from various unpaved or partially paved plantation driveways owned by the UHWO and by neighboring parcel owners. Three of these driveways which provide access to the Petition Area connect to the southern portion of Palehua Road which is owned by UHWO. From the driveway connections at Palehua Road, Palehua Road towards the south provides ingress/egress onto the H-1 Freeway and Kualakai Parkway. In the mauka direction, ownership of Palehua Road transitions to D.R. Horton from about 1,000 feet mauka of the H-1 Freeway, and ownership transitions from D.R. Horton to Grace Pacific Corporation about 2,000 feet mauka of the H-1 Freeway. Palehua Road continues mauka to Pueonani Street, a City-owned street after passing through vacant land owned by the Wai Kaloi at Makakilo Community Association, but is fenced off at the property line with Pueonani Street. A 24-hour guard house located on the UHWO-owned portion of Palehua Road, controls access to the UHWO-, D.R. Horton-, and Grace Pacific Corporation-owned lands.

  The Applicant proposes to construct 10-foot wide, gravel-paved, driveways in the Petition Area to provide access to construction vehicles and for maintenance of the Project. Periodic maintenance and inspection of the solar facilities (including supplemental mowing, landscaping, panel cleaning, and electrical and battery maintenance) would occur irregularly where employees would drive to various locations throughout the site on

a network of internal driveways. No centralized parking facilities are planned.

The Applicant did not propose any improvements to existing off-site driveways or roadways. These off-site private driveways and roadways are intermittently used by others, including the landowner, ranchers, and the City's BWS to service its water storage and transmission facilities. The DPP is not aware of any complaints or impacts from the use of these private roadways, and a condition of SUP approval to address their use by the Applicant for the Project is not recommended at this time. Should the Applicant's use of these off-site roads and driveways result in future complaints, the DPP can revisit the CUP or the SUP to address any impacts that may arise at that time.

The DTS and the DOT, Highways Division, did not object to the proposed Project. Comments submitted by the DTS can be addressed at the time of grading or building permit review. Therefore, a condition of SUP approval relating to roadway infrastructure is not recommended at this time.

- **Sewers** – Normal operation of the facility would not require on-site personnel. Therefore, the site would not be permanently manned and no permanent wastewater facilities would be required. Temporary portable sanitation units would be brought onsite for construction staff and removed when construction is completed.

- **Water** – The Petition Area is not served with potable water by the BWS. A 30-inch diameter, BWS potable water line, fed by the East Kapolei 440-foot elevation reservoir Number 1, is located along the Petition Area's northeastern boundary. It continues makai along a portion of the Petition Area's access driveway and onto Palehua Road providing service to UHWO and other Kapolei customers via water lines under Kualakai Parkway with other connections to the BWS water line grid. Two water hydrants, likely for brush fire mitigation, are located on the 30-inch water line within the State-owned parcel but outside the Petition Area.

  Water would be required for controlling construction generated dust, vehicle washdown, and temporary landscape irrigation, and the proposed agricultural activities. In addition, small amounts of water would be needed for occasional cleaning of the solar panels. The Applicant proposes that water would be available either from truck-filled tanks or connection to the BWS reservoir. No hook-up to the municipal water system for domestic use is planned.

- **Drainage Improvements** – The Project is being proposed on gently sloping, former sugar cane cultivation lands which are currently vacant and in some locations bare. The area appears to be well-drained and the development of the Project is not anticipated to change existing drainage patterns which generally sheet flow into the surrounding gullies. Construction of the Project would be subject to runoff water quality standards if stormwater from the Petition Area discharges into the

municipal drainage system. As previously indicated, portions of the Petition Area currently are void of vegetation and the Applicant would be required under existing water quality standards to implement BMPs to minimize impacts on water quality during storm conditions which would help reduce runoff water quality degradation.

- **School Improvements** – No residential use is being proposed and school improvements would not be required.

- **Fire and Police Protection** – The 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. Two water hydrants are located along the 30-inch water line which could support fire-fighting equipment. Any fire-fighting infrastructure required by the HFD may be imposed at that time of building permit review. Therefore, recommendations of the HFD need not be included as conditions of SUP approval.

  Wildfires are predominantly caused by human activity and have occurred adjacent to the H-1 Freeway in the immediate area. These wildfires are suspected of being caused by careless motorists. Other wildfires in the Makakilo area have been caused by lightning strikes. The Applicant indicated that the Project will adhere to the National Fire Protection Association and National Electrical Code requirements for fire prevention for grid-scale SEFs, including the installation of fire breaks throughout the Project and surrounding areas. Battery storage units will be designed to be fully contained within temperature controlled, leak-proof containers and equipped with smoke detectors with alarms. Clean fire suppression systems would be installed in the battery container units and monitored by staff. Animal 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 plans to establish firebreaks and/or setbacks between the PV panels and the Project's fence line, in consultation with the HFD, to minimize impacts from wildfires originating from beyond the Petition Area. A condition of SUP approval relating to wildfires is not necessary.

  The Project will be completely fenced on its perimeter and is only accessible via private, security-controlled driveways, and additional police protection services are not anticipated.

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

Grid-scale SEF development on Oahu has been on the rise as more renewable energy generation projects are developed. Led by the State's energy goals, federal tax subsidies, lower cost of materials, and the high costs of fossil fuel derived energy in the State contribute to increases in the development of power generation projects from renewable energy sources. The resultant conditions are contributing to greater revenues from SEF developments on agricultural land and

possibly exceeding farming revenues from the same land. Recently, more fallow agricultural lands have been proposed for SEFs as a way to generate income for unproductive agricultural land. This also helps to offset the cost of maintaining security for these vacant lands while contributing to the State's renewable energy goals.

Due to the reduction in panel costs and government subsidies, grid-scale and small-scale SEFs have become a viable economic supplements or alternatives to agriculture production. The grid-scale solar energy projects typically have long-term leases commensurate to the hardware's expected life. Thereafter, the PV panels may be removed and recycled or replaced by newer panels, subject to a modification of the SUP, should the Project owner exercise their options to extend energy production beyond the projected life of the Project. The trend towards using large areas of land for energy generation was not anticipated at the time the SLU Law was being established. Furthermore, the local cost for electricity continues to rise. As of 2019, it is more than double the U. S. average[1]. Therefore, the Project meets Guideline 4.

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. The subject land is presently used for a small-scale cattle ranch. 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 requires 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.

Due to the area's dry climate and the lack of irrigation water, the Applicant indicates that beekeeping operations and cattle pasture for stocker-size cattle and heifers, which also provide for vegetation control, are viable options for agricultural production under and around the PV panels. In addition, the Applicant states it will comply with decommissioning requirements of Section 205-4.5(a)(21)(C), HRS. Decommissioning requirements would return the Petition Area to substantially the same condition that existed prior to the establishment of the Project.

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 establish a compatible agricultural enterprise on the Petition Area for the duration of the SEF operation.

[1] Source: HSEO.

Due to statutory requirements of Section 205-4.5, HRS, a requirement that lands under the PV panel be made available for compatible agriculture is being recommended as a condition of SUP approval.

The DOA did not submit comments on the SUP application.

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 small cattle and foraging honeybees around and under the panels. The dual agricultural activities address agricultural diversification and contributes to the agriculture industry by retaining the Petition Area for agricultural use while producing energy from a renewable source. Should the future demand for honey production increase, there appears to be sufficient land in the Petition Area to accommodate additional beekeeping stations furthering the policy to encourage a viable agriculture industry.

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. Chapter 205A, HRS, 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 pursuant to Section 205A-2, HRS, as follows:

(2) Historical resources

(A) Identify and analyze significant archaeological resources;

(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support State goals for protection, restoration, interpretation, and display of historic resources

The draft AIS recorded historic resources which were primarily abandoned on-site irrigation structures and related infrastructure, and an abandoned off-site sugar mill structure and irrigation water pump house. The draft AIS recommended no further action on the historical resources. At the date of this Report, the DPP has not received concurrence on the recommendations of the draft AIS from the SHPD. Consistency with the above objectives and policies at this time is subject to SHPD's response on the draft AIS's recommendations. The DPP position on this matter is further expressed in the remaining sections of this Report.

(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 lower slopes of the Waianae Mountains, far away from the shoreline. A SUP condition of approval relating to screening or appropriate coloring of the Project to address public views makai of the freeway would address impacts on scenic resources.

(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 presentations about its proposal to the area's neighborhood boards. 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.

4. Oahu General Plan (GP). The GP 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 Oahu's GP 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.

5. Ewa Development Plan (EDP).

a. Community Growth Boundary (CGB). The CGB defines and contains the intended extent of developed or built-up areas of urban and urban fringe communities. Its purpose is to provide adequate land to support established and developing communities while protecting lands outside this boundary for agriculture or open space values. The Petition Area is located outside the EDP's CGB.

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 SLU 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 such as intermittent cattle pasturing and beekeeping. Thus, the Project is consistent with the intent of the CGB.

b. Agricultural and Preservation Designation. The Project site is located within areas designated by the EDP as Agricultural and Preservation. The EDP's Preservation Area includes lands with natural, cultural, or scenic resources. The Applicant's plans for beekeeping and intermittent cattle pasturing partly addresses the need to retain these lands in agricultural use by establishing a compatible agricultural use in the area of the PV panels, in accordance with Section 205-4.5(a)(21), HRS. However, due to the miniscule amount of land planned to be put into agricultural use, the DPP is recommending that the Applicant continue its efforts to put in place, compatible agricultural use for the remaining areas covered by the solar panels.

c. Scenic Resources and Scenic Views. The EDP provides policies and guidelines to protect important views identified in the EDP. The applicable policy indicates that the following visual landmarks and significant public views and vistas be retained:

- Views of the Waianae Range from the H-1 Freeway between Kunia Road and Kaloi Gulch and from Kunia Road;
- Views of Puu at Kapolei, Palailai, and Makakilo; and
- Mauka and makai views.

The Project will be easily visible to motorists, pedestrians, and riders of the rail transit line from certain areas of Kapolei. The very dark solar panels and battery storage units appear to contrast sharply against the area's dry landscape and minimal vegetation coverage, typical of the lower portions of the Waianae Mountains. The battery energy storage units can be

screened by landscaping or painted with a color(s) similar to existing surroundings to reduce their impacts on views, however, the Applicant has no plans to screen or use colored PV panels to reduce their visual impact. Painting panels is not practical as that will render the panels unusable. However, panel design has the option of being constructed with various colors to blend the panels with the environment or with rooftops. If the Petitioner utilized PV panels colored to blend with the existing landscape and supporting infrastructure such as the panel frames are painted to match, the appearance of the Project could blend with the existing landscape.

Directly above the Project is the summit of Puu Kapuai, a 1,047-foot high prominent cinder cone of the Waianae Mountains, which is the eroded remains of an ancient shield volcano that formed the western half of the Island of Oahu. Almost the entire Petition Area is visible from the Kualakai Parkway, the Keoneae (UHWO) and Honouliuli (Hoopili) rail transit stations, and sections of the rail transit guideway. The Project is also highly visible from the H-1 Freeway, at the Keoneae rail transit station pedestrian bridge over Kualakai Parkway. Except for clear public views of the Project from Honouliuli rail transit station and from the rail cars traversing the area on the guideway, most views of the Project are from distant open, undeveloped land, and along distant public roadways containing significant obstructions such as traffic signals, light poles, and the HECO 138 KV transmission lines and poles. Thus, much of the public views of the Project include views of utility infrastructure in front of the Project. Views from other public locations indicate that the Project is either not visible or barely visible to passing motorists, bicyclists, or pedestrians. Simulated views of the Project from public locations are attached as Attachment C.

The Applicant proposes minimal landscaping along the Project's perimeter due to the lack or irrigation water and the need for maintenance of landscape to avoid interference with the panels' access to solar radiation. The lack of irrigation water limits the extent of landscape screening of the Project which could be designed to blend with the surrounding environment through other alternatives such as colored panels and the painting of supporting infrastructure. A 2013 Federal Bureau of Land Management (BLM) publication entitled, *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands*, provides numerous best practices to address visual impacts of renewable energy projects located on BLM land. Some of the publication's recommendations, such as avoiding higher slopes, using color-treated surfaces of solar collectors, avoiding the complete removal of vegetation beneath collector arrays, painting above-ground lines and support structures, may be applicable to the Project. Relocation of the Project to the southeast corner of the State-owned parcel, and along the H-1 Freeway, which has approximately 150 acres of level land, would completely avoid current views of the Project from public view locations makai of the freeway. However, that portion of the parcel is primarily rated Class A by the LSB and Chapter 205, HRS, prohibits the establishment of large-scale SEFs on Class A lands. Thus, DPP recommends a condition

of SUP approval that requires the Applicant to address alternatives such as, but not limited to, using colored panels and painting supporting infrastructure, avoidance of vegetation removal, and other landscaping alternatives. These alternatives are to be submitted for review and approval before issuance of any grading or building permits.

6. Revised Ordinances of Honolulu (ROH), Chapter 21, Land Use Ordinance (LUO). Pursuant to the LUO, the Project is located within the AG-1 Restricted Agricultural District and is considered a "Utility Installation, Type 2". An approved CUP is required for the establishment of the Project.

7. ROH, Chapter 25, Special Management Area (SMA). The Project site is located outside of the SMA and a Special Management Permit is not required.

B. Archaeological Resources. According to the Applicant's DAIS, the Petition Area, including the State-owned parcel, were formerly used for plantation sugar cane cultivation prior to the 1950's. As such, much of the parcel contains remnants of plantation infrastructure. Previous cultural surveys and the current DAIS documents a number of cultural sites in, and immediately around, the Petition Area, including numerous abandoned remnants of the Waiahole Ditch extension irrigation infrastructure, an abandoned sugar mill, and irrigation water pump house. Two historic properties were identified within and immediately adjacent to the Petition Area. State Inventory of Historic Places (SIHP) No. 50-80-08-5593 consists of remnants of a historic irrigation system and plantation infrastructure, and SIHP No, 50-80-09-2268 designates a portion of the Waiahole Ditch System. The Petition Area was also site of a former plantation employee's camp referred to as Pump Camp 5. The small employee camp site is approximately located adjacent to the abandoned sugar mill. The DAIS did not document any significant remaining artifacts of the employee camp. The Waiahole Ditch extension traverses along the Petition Area's mauka boundaries and eventually passes through the Petition Area's western boundary. The archaeological consultant concluded that historic properties, cultural deposits, or cultural material were identified within the proposed Project area were documented in accordance with Chapter 6E, HRS, and recommends that no further work on the cultural sites are needed.

The SHPD did not provide comments as of the date of this Report. The SLU Commission and the OP recommended that an approved archaeological assessment and mitigation measures be provided prior to SUP approval so that appropriate conditions of SUP approval can be determined. A CUP and ministerial permits for the Project will be needed before the start of construction. The processing of the CUP can address comments of the SHPD. Therefore, a condition of SUP approval to require a SHPD approved archaeological assessment is not recommended.

An approved archaeological assessment could be required during review of the CUP, should SHPD provide comments that are contrary to the assessment's conclusions. Should cultural resources be uncovered during site work, the Applicant is required to comply with Section 106 of the National Historic Preservation Act and with Section 6E, HRS.

C. Protection of Endangered Species. 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. 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 be required to coordinate its Project with the USFWS as a condition of SUP approval.

D. 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 of a cattle pasturing operation would maintain groundcover and the proposed beekeeping operation, should it be successful, would contribute to the supply of honey for consumption.

The DPP received 30 public testimonies in opposition to the Project primarily due to the loss of agricultural land. However, the SLU Law allows grid-scale SEFs on agricultural land, providing they are not located on land with LSB Class A rating, on the condition that a SUP is obtained and that the land under the PV panels be made available for compatible agricultural use. The Project proposes to comply with the SLU Law with lands under the panels proposed for pasturing and beekeeping operations. Currently, the Petition Area is intermittently used for cattle pasturing. The Project should encourage full-time use of much of the Petition Area for beekeeping and small cattle pasturing, which diversifies the land's agricultural activities and provide additional employment opportunities for farming staff. That would be an improvement from the current single-use, intermittent pasturing operation.

E. 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[2].

The Applicant indicates that the Project is expected to have an operational life of approximately 25 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 SUP and CUP approvals to extend its deadline to decommission, and reclaim the site.

Decommissioning would involve removal of all of the Project's above ground structures, including, but not limited to, 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,

[2] 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.

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.

F. 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 some adjacent areas may experience some degree of glare, but this would only occur during a portion of the year and for very short durations (e.g., 15 to 45 minutes per day). The study concludes that while glare may be visible during these short periods, the effects would be mitigated by the distance of the Project from publically accessible areas, intervening structures, and vegetation (including the proposed landscaping that would be installed as part of the Project). According to the study, no adverse impacts on aircraft approaching Kalaeloa Airport relating to glint and glare, electromagnetic interference, physical penetration of navigable airspace, and thermal plumes from power towers are expected. In response to the environmental disclosure documents filed for this Project, DOT indicated that it did not anticipate adverse glint and glare impacts on aircraft operations at the Kalaeloa Airport.

The Applicant is required to comply with all FAA and DOT regulations in the development and operation of the Project. As enforcement of FAA and DOT glint and glare regulations is not the responsibility of the City, the requirement for immediate mitigation of hazards is not being recommended as a condition of SUP approval.

G. Other Issues and Concerns.

1. Ka Paakai O Ka Aina Versus Land Use Commission, Hawaii Supreme Court Case No. 21124.

   The Hawaii Supreme Court (HSC), in Case No. 21124, found that the State and its agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible. In its ruling on Case No. 21124, the HSC stated "As the state legislature's recent observations make clear, this protection has not been ensured, resulting in both the loss of vital cultural resources and the interference with the exercise of native Hawaiian rights." The HSC held that among other matters, the SLU Commission's Findings of Fact and Conclusions of Law were insufficient to determine whether it fulfilled its obligation to preserve and protect customary and traditional rights of native Hawaiians. In vacating the SLU Commission's decision and order dated June 17, 1996, the HSC remanded the case back to the SLU Commission for the limited purpose of entering specific findings and conclusions, with further hearings if necessary, regarding: (1) The identity and scope of "valued cultural, historical, or natural resources" in the

petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area; (2) The extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action; and (3) The feasible action, if any, to be taken by the SLU Commission to reasonably protect native Hawaiian rights if they are found to exist.

The Applicant included a Cultural Impact Assessment (CIA) in its SUP application which summarizes information resulting from approximately 12 respondents from an outreach effort to over 70 organizations, agencies, and community members. The document concludes that no cultural resources, practices, or beliefs were identified as currently existing and that no traditional or customary Native Hawaiian rights are currently being exercised within the proposed Project area. However, the CIA also notes information on the proposed Project area provided from Ms. Lynette Paglinawan, a cultural practitioner and educator on Native Hawaiian Healing at UHWO, that the Project area and its surrounding area, the area from Waimanalo Gulch over to Kapolei to the location of UHWO, was known by very early residents to be the place where *ao kuewa* (wandering spirits), congregated from makai to mauka, up Palehua and especially near the cluster of wiliwili trees in Kaupea.
Ms. Paglinawan recommended planting a wall of trees surrounding the Project as a restitution to the spirits who may be displaced by the Project. Such trees could have other benefits to the native Hawaiian birds in the area.

The Applicant proposed two clusters of native shrubs in select areas along the Project's makai boundary, specifically on the makai side of Area 1 and at Area 3 to screen the proposed substation. These clusters are proposed to contain ilima, aalii, and kului which have mature heights of six to eight feet, 20 feet, and six feet, respectively. The Applicant indicates that planting additional trees around the Project site as recommended by the cultural practitioner would interfere with the Project's access to sunlight, compromise security, and increase maintenance requirements. The two cluster of shrubs do not adequately address the recommended wall of trees.

It is unclear whether planting two cluster of trees rather than the recommended wall of trees around the Project site would not fulfill the full protection of Hawaiian-valued cultural, historical, or natural resources, and thus be inconsistent with the ruling of the HSC in Case No. 21124. Nevertheless, additional trees for screening the Project's visual impact on the protected views of the EDP would also serve to address, in part, the cultural practitioner's concerns and should be addressed in a condition of SUP approval.

2. Senate Concurrent Resolution No. 119, S.D. 1 (SCR 119).

SCR 119 (Attachment D) requests that the HSEO, in collaboration with the State DOA, create and implement a strategic plan to increase renewable energy and local food production in a symbiotic relationship. It also requests an economic impact report to the Hawaii legislature based on the implementation of the strategic plan. The HSEO continues to work on fulfilling the request of the SCR 119 and anticipates the strategic plan could be developed for the 2022 legislative session.

Meanwhile, HSEO has a number of ongoing projects that could inform the preparation of a strategic plan and report to the legislature, including:

- The development of a visualization model to assist with understanding the land use implications of SEFs;
- An online mapping tool known as the Hawaii Brightfields Initiative to assist in identifying appropriate sites for SEFs; and
- The upgrading of its Renewable EnerGIS tool to assist with siting of new renewable energy projects based on criteria selected by the users, including resource availability, land characteristics, zoning, as well as a variety of agricultural attributes of individual sites.

When available, the economic report and strategic plan would inform policy and decision-makers on future grid-scale renewable energy generation projects that are proposed on quality agricultural land. However, at this time, based on available information and best practices applicable to local conditions, the need for additional renewable energy projects to meet the State's energy goals, would likely continue to place development pressure on low and higher quality agricultural land for energy generation projects from renewable energy.

IV. CONCLUSION

The proposal addresses the energy goals of the State and City while providing land under the PV panels for agriculture production which addresses the integration of compatible agricultural use requirements of Section 205-4.5(a)(21)(A), HRS.

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 quality agricultural land is "unusual and reasonable" as set forth in Chapter 205-6, HRS, and the five guidelines established by the Planning Commission, pursuant to Section 2-45 of the "Rules of the Planning Commission."

V. RECOMMENDATION

The Director of the Department of Planning and Permitting (DPP) recommends that Special Use Permit (SUP) Application File No. 2020/SUP-6, for the establishment of the Project, on approximately 96.353 acres, Tax Map Key 9-2-002: portion of Parcel 7, and approximately shown on Exhibit A, be approved, subject to the following conditions:

1. Usable lands of the Petition Area, as required under Condition No. 5a below, 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 six months of the start of commercial power generation (referred to as the "initial six-month period"). Extensions to this deadline may be granted by the Director of the DPP for unforeseen extenuating circumstances.

2. If at any time during the term of the SUP, no compatible agricultural operations exist on the usable lands of the Petition Area for six months after the initial six-month period (referred to as the "subsequent six-month periods"), the Applicant shall notify the Planning Commission (PC) and the Director of the DPP in writing within 30 days of the end of any subsequent six-month periods. If requested by the PC, the Applicant shall attend a meeting of the PC and submit a report to the PC detailing the Applicant's actual and reasonable efforts to actively seek the establishment of compatible agricultural operations on the usable lands of the Petition Area. The PC shall determine whether probable cause exists to re-evaluate the SUP and to hold a hearing pursuant to Section 2-49 of the Rules of the PC. Extension to any subsequent six-month period's deadlines may be granted by the PC for unforeseen extenuating circumstances.

3. This SUP shall be valid for a period of 25 years from the date of the State Land Use (SLU) Commission's Decision and Order approving the SUP, subject to further extensions upon a timely request for extension filed with the PC at least 120 days prior to the SUP's expiration.

4. The Applicant, its assignees, or the landowner, shall cause the decommissioning of the Project at the Applicant's, assignee's, or owner's expense by removing all of the equipment related to the solar energy facility (SEF) within 12 months of the conclusion of Project operation, or it's useful life, and the restoration of the disturbed earth to substantially the same physical condition as existed prior to the development of the SEF.

5. The Applicant shall submit for review and obtain the approval of the following from the Director of the DPP, prior to any subdivision action or the issuance of a grading or building permit:

    a. A site plan showing the minimum land area to be made available for compatible agricultural use.

    b. An alternative design plan(s) that reduces the visual appearance of the Project on native Hawaiian cultural resources and public viewpoints. Alternatives to be considered include, but not limited to, colored SEF infrastructure such as colored photovoltaic (PV) panels and their supporting posts and frames, any energy storage units painted to blend with the existing environment, avoidance of the complete removal of groundcover vegetation, additional screening and landscaping, including tall trees, in select areas, and/or a combination of various recommendations set forth by the cultural practitioner Ms. Lynette Palignawan, or her representative, and by the United States Bureau of Land Management (BLM) publication or most recent updates to the publication entitled, *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands.*

6. Prior to the close of the building permit for the SEF, the Applicant shall submit to the DPP proof of financial security to decommission the Project and restore the Petition Area to substantially the same physical condition as existed prior to the development of the Project. Such proof may include, but not be limited to, a posted letter of credit or similar mechanism from a creditworthy financial institution. This shall be in favor of the owner of the land subject to the SUP, in the amount estimated by the Applicant to decommission the Project at the time of building permit closure. Said security shall remain in place for

the duration of the operation of the Project. Evidence of same shall be provided to the Director of the DPP on an annual basis,

7. The Applicant shall comply with the recommendations of the United States Fish and Wildlife Service and the State Department of Land and Natural Resources, Division of Forestry and Wildlife regarding the protection of endangered Hawaiian hoary bat and endangered and threatened Hawaiian water bird and shorebird species at the Petition Area.

8. The Applicant shall establish the Project within two years of the date of the SLU Commission's 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 PC may grant an extension to the deadline to establish the Project due to unforeseen circumstances that were beyond the control of the Applicant.

9. 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.

10. 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 SLU Commission. 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.

11. 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.

12. Enforcement of the conditions of the SUP shall be pursuant to the Rules of the PC, 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 2nd day of December 2020.

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

By _____
Kathy K. Sokugawa
Acting Director

Attachments