

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII



In the Matter of the Petition of) DOCKET NO. SP21-411
)
AES WEST O`AHU SOLAR, LLC) PETITIONER'S PROPOSED FINDINGS OF
) FACT, CONCLUSIONS OF LAW AND
For a Special Use Permit to Establish) DECISION AND ORDER; EXHIBIT "A"
a Solar Energy Facility on) AND CERTIFICATE OF SERVICE
approximately 96.353 acres of land)
within the State Land Use)
Agricultural District at 'Ewa District)
of O`ahu, Hawai'i)
_____)

PETITIONER'S PROPOSED FINDINGS OF FACT,
CONCLUSIONS OF LAW AND DECISION AND ORDER;
EXHIBIT "A"
AND CERTIFICATE OF SERVICE

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**PETITIONER'S PROPOSED FINDINGS OF FACT,
CONCLUSIONS OF LAW AND DECISION AND ORDER**

Comes now, Petitioner AES WEST O`AHU SOLAR, LLC, by and through its attorneys, MATSUBARA, KOTAKE & TABATA, and respectfully submits its Proposed Findings of Fact, Conclusions of Law, and Decision and Order Approving the Application for State Special Use Permit, as follows:

**FINDINGS OF FACT, CONCLUSIONS OF
LAW AND DECISION AND ORDER**

The Land Use Commission ("Commission"), having examined the complete record of the proceedings on State Special Use Permit ("SUP") SP21-411, filed by Applicant AES West O`ahu Solar, LLC ("Applicant"), to construct a solar energy facility and accessory uses and structures ("Project"), on approximately 96.353 acres of land in the State Agricultural District identified by Tax Map Key No. (1) 9-2-002:007 in the 'Ewa District of O`ahu, Hawai'i ("Petition Area"), and upon consideration of the

matters discussed therein, hereby makes the following findings of fact, conclusions of law, and decision and order:

FINDINGS OF FACT

PROCEDURAL MATTERS

1. On August 31, 2020, the Applicant filed the Application with the City and County of Honolulu Department of Planning and Permitting (“DPP”) (SUP No. 2020/SUP-6), pursuant to § 205-6, Hawai‘i Revised Statutes (“HRS”), and § 15-15-95 *et seq.*, Hawai‘i Administrative Rules (“HAR”).

2. On January 6, 2021, the Planning Commission considered the Petition. Public testimony was received at the hearing. After due deliberation, the Planning Commission recommended approval of the Application to the Land Use Commission (“LUC”), subject to conditions.

3. On June 9, 2021, the LUC considered the recommendation of the Planning Commission’s recommended approval of the Application to the LUC, subject to conditions.

DESCRIPTION OF THE PROPERTY

4. The property which is the subject matter of this Application (“Petition Area”) is described as an approximately 96.353 acre portion of Lot 12009 located in the ‘Ewa District of O‘ahu, Hawai‘i, identified by Tax Map Key No. (1) 9-2-002:007 (“Master Lot”). The Petition Area contains approximately 96.353 acres and the Master Lot contains approximately 860.560 acres. [Ex. 17-A, SUP App.]

5. The Master Lot is owned by the University of Hawai'i ("UH"). The Master Lot is part of a larger area commonly referred to as the UH West O'ahu Mauka Lands property. In total, the UH West O'ahu Mauka Lands property encompasses approximately 991 acres. In addition to the Master Lot, it also includes parcels identified by Tax Map Key Nos. (1) 9-2-002:001, (1) 9-2-002:005, and (1) 9-2-002:003. The Petition Area sits within the southwestern portion of the UH West O'ahu Mauka Lands property. [Ex. 17-A, SUP App.]

6. The UH West O'ahu Mauka Lands property was previously cultivated as part of a sugar cane and pineapple plantation that historically extended across O'ahu's 'Ewa Plain. Since closure of the plantation in the 1990s, the land has been fallow and intermittently used for cattle grazing. The only structures within the Petition Area are remnants of the irrigation system and infrastructure related to the former plantation. Other structures within the UH Mauka Lands property, adjacent to the Petition Area, include an abandoned mill building and pump station associated with the former plantation, and a Board of Water Supply water tank (East Kapolei 440' Reservoir) which supplies water for the UH West O'ahu campus. [Ex. 17-A, SUP App.]

7. The UH West O'ahu Mauka Lands property is bordered on its southeastern edge by the H-1 Freeway, beyond which is the UH West O'ahu campus and the city of Kapolei. The southern and western portions of the property are bordered by vacant land, with Makakilo Quarry and the residential community of Makakilo located just beyond. The area to the north generally comprises open space

associated with the Wai‘anae Mountains. The former Honouliuli Internment Camp site, which the National Park Service is currently working to incorporate as a National Monument, is located to the northeast. The eastern portion of the property is bordered by Honouliuli Gulch and a variety of agricultural operations; further east is Kunia Road and the Village Park community. [Ex. 17-A, SUP App.]

8. The nearest residences are located in the Makakilo neighborhood, approximately 0.3 miles southwest of the Petition Area. These properties are in the State Land Use Urban District. [Ex. 17-A, SUP App.]

9. Access to the Petition Area is via an existing gated entry and network of former plantation roads with ingress/egress from Pālehua Road, which runs north then west from the intersection of Kualaka‘i Parkway and H-1 Freeway. Pālehua Road is also used for access to the Makakilo Quarry, which is owned and operated by Grace Pacific; 24-hour security controls entry to the UH West O‘ahu Mauka Lands property and Makakilo Quarry. The existing roads within the UH West O‘ahu Mauka Lands property, which were originally constructed and used for sugar cane haul trucks, have been maintained and provide access for users of the UH West O‘ahu Mauka Lands property. [Ex. 17-A, SUP App.]

10. According to the Online Rainfall Atlas of Hawai‘i, the mean annual rainfall in the vicinity of the Petition Area is approximately 27.7 inches. [Ex. 17-A, SUP App.]

11. The Petition Area is composed of relatively flat to moderately sloping lands. The elevation along the southeastern boundary of the Petition Area is

approximately 280 feet above mean sea level (“amsl”) and rises to approximately 675 feet amsl in the northwestern portion. [Ex. 17-A, SUP App.]

12. Ephemeral drainages, which are tributaries to Kalo’i Gulch, run along the southern boundary and through the central portion of the Petition Area; these join with a main branch of Kalo’i Gulch downgradient from the Petition Area before passing below the H-1 Freeway. [Ex. 17-A, SUP App.]

13. According to the Hawai’i National Flood Insurance Program, the Petition Area is located entirely within an area that has been designated as Flood Zone D, where analysis of flood hazards has not been conducted and flood hazards are undetermined. No portion of the Petition Area is within a special flood hazard zone. [Ex. 17-A, SUP App.]

14. The Petition Area is located in the State Land Use Agricultural District, and has been within this district since the inception of the State Land Use Districts. The Petition Area has not been designated as Important Agricultural Lands under Part III of HRS Chapter § 205 (“IAL”). [Ex. 17-A, SUP App.]

15. The Petition Area is located within the City and County of Honolulu’s AG-1 (Restricted Agriculture) zoning district, regulated under § 21 of the Revised Ordinances of Honolulu (“Land Use Ordinance”). [Ex. 17-A, SUP App.]

16. The Petition Area is located within the ‘Ewa Development Plan Area. As defined in the plan’s Open Space Map, the Petition Area is in an area that is generally identified as a combination of Preservation and Agricultural Areas, interspersed with

natural drainageways/gulches. It is located outside the community growth boundary.

[Ex. 17-A, SUP App.]

17. No portion of the Petition Area is located within the Special Management Area (“SMA”). [Ex. 17-A, SUP App.]

18. There are no existing violations of any land use laws or regulations associated with the Petition Area. [Ex. 17-A, SUP App.]

DESCRIPTION OF PROPOSED USE

19. The Project consists of construction and operation of an approximately 12.5 megawatt (“MW”) ground-mounted solar photovoltaic system, coupled with a 50 MW-hour (“MWh”) battery energy storage system and related interconnection and ancillary facilities. The major components include (1) solar photovoltaic system, (2) battery energy storage system, (3) a network of electrical collector lines, (4) Project substation and equipment to interconnect with the Hawaiian Electric Company, Inc. (“Hawaiian Electric”) grid, (5) communication equipment, and (6) service roads and fencing. In addition to these facilities, the Project area would be made available for compatible agricultural activities. [Ex. 17-A, SUP App.]

20. The solar photovoltaic system would consist of a series of 405-watt (minimum) modules mounted on a fixed-tilt racking system and related electrical equipment. The Project would include four solar array areas, within which the modules would be organized in rows; the row-to-row spacing would be approximately 22 feet (with approximately 8 feet of open space between adjacent rows). The racking system would hold the modules at a fixed angle of 15 degrees

facing toward the south. The racking system would include steel posts installed to a depth of approximately 6 feet (depending on soil conditions). Once on the racking system, the highest point of the modules is expected to extend approximately 8.5 feet above the ground, with an average of 3 feet of clearance below the modules. [Ex. 17-A, SUP App.]

21. The modules would produce direct current (“DC”) electricity at a maximum voltage of 1500 volts. Within each solar array area, the DC electricity from the modules would be transmitted via DC electrical wiring to a 2.8 MW central inverter, where it would be converted to alternating current (“AC”) electricity. The inverter would connect to a step-up transformer, which would increase the electrical voltage to 12.5 kilovolts (“kV”). Safety features incorporated into the solar photovoltaic system include mechanisms to allow for disconnection and rapid shutdown of the system, if needed; these would be installed throughout the solar arrays, and would include DC disconnects (which would allow the DC current between the modules to be interrupted before reaching the inverters) and AC disconnects (which would separate the inverters from the electrical grid). [Ex. 17-A, SUP App.]

22. The DC electrical wiring extending from the modules would be integrated into the above-ground portion of the racking system. At the terminus of each array disconnect, the wiring would connect to the inverter and transformer via underground trenching. The trenches would be up to approximately 10 feet wide and 4 feet deep to accommodate multiple circuits of DC electrical wiring, low-voltage AC

electrical wiring and communications wiring. The inverter and transformer for each of the solar array areas would be installed on a concrete equipment pad (also referred to as a power conversion station). A total of five equipment pads would be installed; each would be up to approximately 3,480 square feet and would also support the battery units and communication equipment. [Ex. 17-A, SUP App.]

23. The battery energy storage system would include a total of ten 1,300-kilowatt (approximate) lithium-ion battery units, collectively providing approximately 50 MWh of total storage. The batteries would be charged with energy generated by the solar photovoltaic system and would allow the energy to be dispatched to offset night-time customer demand and assist in grid stabilization. Each battery unit, which would include up to 44 racks of batteries (approximate), would be housed in a container up to approximately 10 feet (height) by 8 feet (width) by 53 feet (length); a total of 2 battery units would be installed at each of the five power conversion stations. [Ex. 17-A, SUP App.]

24. Each battery unit would incorporate multiple layers of protection to avoid failures and to contain potential hazardous substances. Specific features would include integrated monitoring and circuit protection, a self-contained heating ventilation air cooling system, and a fire detection and suppression system specifically designed for lithium-ion battery energy storage systems. The fire detection and suppression system would incorporate specific controls with automatic safety responses in response to conditions including high battery temperature, high air temperature and the presence of smoke. The system would also have emergency stop

buttons, which would isolate the battery units from the solar arrays and electrical grid.

[Ex. 17-A, SUP App.]

25. The electricity generated and stored within each of the solar array areas would be transmitted from the power conversion stations to the Project substation and interconnection equipment via a network of medium-voltage electrical collector lines. Similar to the DC electrical wiring from the solar modules, the medium-voltage electrical collector lines would be installed in underground trenching. Trenches for the electrical collector lines would be approximately 5 feet wide and 4 feet deep. In total, it is anticipated that the Project would include approximately 3,000 linear feet of trenching for the medium-voltage electrical collector lines. [Ex. 17-A, SUP App.]

26. The Project substation would further increase the voltage of electricity to allow for integration into the Hawaiian Electric electrical grid. The Project substation and associated interconnection facilities would include equipment such as free-standing steel switch structures, a transformer, breakers, utility poles, associated electrical lines, and centralized controls structure(s) for communication equipment. These facilities would be constructed immediately adjacent to the existing Hawaiian Electric 'Ewa Nui #42 46-kV sub-transmission line which traverses the Petition Area. They would occupy up to approximately 9,464 square feet and would include concrete foundations, pole structures, containerized structure(s) and security fencing. A short overhead electrical line, which is expected to be approximately 300 feet in length and include approximately three 60-foot-tall wood poles, would also be required for interconnection with the 'Ewa Nui #42 46-kV sub-transmission line. The

interconnection facilities would be owned and operated by Hawaiian Electric. [Ex. 17-A, SUP App.]

27. Communication equipment would be installed to interface with Hawaiian Electric's supervisory control and data acquisition ("SCADA") system so that the electricity generated and stored by the Project can be remotely controlled and dispatched. The Project would also include an emergency management system that would allow all operations to be supervised and all system functions to be protected in response to real-time dispatch signals from Hawaiian Electric, as well as report production data, energy forecasts, and other system health data. This equipment would be housed within the various inverters located in each solar array area and in the Project substation, as well as within centralized control structure(s) also within the substation footprint. [Ex. 17-A, SUP App.]

28. Within the Project area, a series of new service roads would be installed to accommodate construction vehicles and to allow ongoing access for operations and maintenance. These roads would have a compacted gravel bed with a width of approximately 10 feet (plus compacted 5-foot shoulders), as well as the required clearance and turning radius needed for emergency response vehicles in accordance with fire code. The service roads would provide primary access to each of the solar array areas, including the power conversion stations, as well as the Project substation and interconnection equipment. The ample spacing between the rows of modules would allow for localized access within each of the solar array areas. [Ex. 17-A, SUP App.]

29. Fencing would be installed around the perimeter of the Project for general security purposes. The fence is expected to be approximately 7-foot-tall chain link (or similar); no barbed wire would be installed. Gates would be installed for pedestrian and vehicular access. The total fenced portion of the Project area is expected to be approximately 52 acres. [Ex. 17-A, SUP App.]

30. Along with the solar and storage facilities, the Project area would be made available for compatible agricultural activities at a lease rate at least 50 percent below fair market rent. Based on an assessment of agricultural activities that could be conducted in parallel with the solar energy facilities in the Project area, the most promising options include honey production and/or cattle grazing and production. These activities are compatible with solar energy production, well-suited to the site-specific conditions, and require minimal water resources. [Ex. 17-A, SUP App.]

31. The beekeeping operation is expected to involve installation of approximately four beekeeping stations. The stations would be located within the fenced perimeter of the solar array areas and would be accessible via the proposed service roads; in total, it is anticipated that the beekeeping stations could support a total of 20-60 hives, with honeybee activity throughout the Project and surrounding areas. [Ex. 17-A, SUP App.]

32. Cattle grazing facilities have been incorporated into the site plan for the Project to allow continued use of the area as part of a rotational pasture system for a livestock ranching operation managed by Henry Edward "Bud" Gibson and his firm Rocker G Livestock. To maximize compatibility with the solar facilities, the Project

area would be used specifically to graze and wean stocker-size (smaller) steer and heifers. The animals would be rotated through fenced portions of the Project area with rotation management based on rainfall levels and forage growth and volume. In addition to supporting ongoing agricultural operations, grazing cattle within the Project area would also provide a sustainable form of vegetation management. The Applicant would work with Rocker G Livestock to install support facilities and equipment within the Project area. [Ex. 17-A, SUP App.]

33. In the event that the proposed agricultural activities are determined to not be viable or an agriculture partner ceases operations or an interest in partnering, the Applicant would seek other potential partners for similar agricultural activities and would continue to make the Project area available at a lease rate that is at least fifty percent below fair market rent for comparable properties. [Ex. 17-A, SUP App.]

34. Project-related construction activities are expected to include transport and delivery of Project equipment and materials, site preparation, equipment installation, and revegetation and landscaping. [Ex. 17-A, SUP App.]

35. The Project equipment would be transported to one of O‘ahu’s commercial harbors via a freight shipping company and offloaded to standard transportation trucks. The trucks would deliver the equipment to the Project area via existing state and county roadways. No roadway improvements or other construction is expected to be required to accommodate the equipment transport. [Ex. 17-A, SUP App.]

36. Initial site preparation would involve grubbing and vegetation clearing, along with installation of best management practices (“BMPs”). Clearing and grubbing would be phased, and soil would be temporarily stabilized as appropriate. Service roads and staging areas would also be established; it is anticipated that the staging areas would rotate throughout the Project area as the Project is built out, with these areas installed incrementally as needed. Clearing, grubbing, and grading would be conducted using equipment such as bulldozers, excavators, compactors, graders, and front-end loaders. Water trucks would be used to provide moisture for compaction as well as dust control as needed. BMPs to be implemented would be determined in accordance with applicable regulatory requirements, including those associated with the National Pollution Discharge Elimination System (“NPDES”) program and the City and County of Honolulu’s Rules Relating to Water Quality (Administrative Rules § 20-3), which require approval of a Stormwater Pollution Prevention Plan (“SWPPP”) and Erosion and Sediment Control Plan (“ESCP”) prior to construction. [Ex. 17-A, SUP App.]

37. Following site preparation activities, the general sequence for construction would involve installation of the following: (1) racking system, (2) concrete equipment pads and substation foundation, (3) solar photovoltaic modules and associated wiring, (4) electrical collector lines, (5) electrical equipment, and (6) battery units. Grading for installation of the Project equipment is expected to be limited to the areas comprising the equipment pads and substation foundation, as well as in localized areas within the solar arrays. The posts for the racking system would

be installed using a hydraulic pile driver and/or augur for pre-drilling, with approximate depths of 6 feet (depending on soil conditions). In the event it is determined that the desired depth cannot be achieved, foundations would be pre-drilled and supported with concrete. The frames and other components of the racking system would be bolted to the posts, with the solar photovoltaic modules affixed to the frames. Trenches would be excavated for the electrical and communications wiring using wheel- or track-mounted excavators (or similar). Following placement of the electrical lines, the excavated soil would be backfilled into the trench and tamped back to the appropriate level of compaction per the design specifications. Although not anticipated, if the desired trench depth cannot be achieved (due to basalt rock or other prohibitive subsurface conditions), the electrical wiring or collector lines would be covered with concrete slurry in accordance with the applicable electrical code requirements. The equipment pads and substation foundation would involve excavation up to approximately 3 feet in depth and installation of concrete. Certain interconnection facilities would be supported by steel pier foundations, which would be installed to an approximate depth of 10 – 15 feet. Excavated soil would either be used elsewhere within the Project area or hauled to an approved offsite facility. Once the equipment pads and substation foundation have been installed, the battery units and various electrical equipment would be installed. All electrical equipment and wiring would be installed and inspected in accordance with applicable code requirements and best industry practices. [Ex. 17-A, SUP App.]

38. Following construction, areas that have been temporarily disturbed would be revegetated for soil stabilization and erosion control purposes. It is anticipated that revegetation would involve application of hydroseeding, with a suitable mix of native and/or non-invasive grass species. Any species used for revegetation would also be considered in terms of compatibility with onsite agricultural activities (e.g., forage for grazing stock and/or pollinator plants for honeybees). [Ex. 17-A, SUP App.]

39. In addition to revegetation of temporarily disturbed areas, permanent BMPs would be implemented to address long-term stormwater requirements. To the extent practicable, the BMPs would incorporate low impact development (“LID”) design strategies and source control measures, in accordance with the requirements of the City and County of Honolulu’s Rules Relating to Water Quality. The specific strategies and measures would be identified as part of a Stormwater Quality Strategic Plan, which would be submitted for approval prior to construction. Specific BMPs would address retention and biofiltration of stormwater. [Ex. 17-A, SUP App.]

40. Landscaping would be installed to provide visual buffering of Project equipment from surrounding areas to the extent practicable. Species to be planted would include ‘a‘ali‘i (*Dodonaea viscosa*), kulu‘i (*Nototrichium sandwicense*) and ‘ilima (*Sida fallax*). A temporary irrigation system (consisting of an approximately 1000-gallon water storage tank, mainline and lateral piping, and in-line drip tubing) would be installed, with a water truck used to fill/refill the water storage tank. [Ex. 17-A, SUP App.]

41. Following construction and commissioning, the Project would generally involve passive operations for both solar power generation and agricultural activities. Normal operation of the Project would not require onsite personnel and, therefore, the facility would not be manned on a daily basis. Metering equipment would send solar photovoltaic system performance and production data to continuously-monitored servers; electronic notification would be sent to the operations and maintenance team if these data indicate the system is underperforming. If necessary, a technician would be dispatched to the Project to address any issues. [Ex. 17-A, SUP App.]

42. Vegetation within the Project area would be managed throughout the life of the Project. In addition to possible livestock grazing as part of the onsite agricultural activities, vegetation management could also include mowing, weed whacking, and localized application of herbicide, if needed. Vegetation would be actively monitored to ensure the cover is sufficient for erosion control as well as for agricultural purposes. [Ex. 17-A, SUP App.]

43. Based on the approved power purchase agreement (“PPA”), the Project is expected to have an operational life of approximately 25 years. At that point in time, the facility may be re-powered under a re-negotiated PPA (with subsequent permits/approvals) or decommissioned. Decommissioning would involve removal of all equipment associated with the Project and returning the Project area to substantially the same physical condition as existed prior to Project development. Decommissioning would occur within 6-12 months of the conclusion of Project operations. [Ex. 17-A, SUP App.]

NEED FOR THE PROJECT

44. Hawai‘i is widely recognized as the most fossil fuel dependent state in the nation and is exceedingly vulnerable to fluctuations in resource availability. The need to reduce Hawai‘i’s dependence on imported fossil fuels and increase the amount of locally produced renewable energy is articulated by the Hawai‘i Clean Energy Initiative and the State of Hawai‘i’s Renewable Portfolio Standard, codified in HRS § 269-92 (“RPS”). The RPS specifies that the electric utility companies that sell electricity for consumption in Hawai‘i are required to use renewable energy for the equivalent of 30 percent of net electricity sales by 2020, 40 percent by 2030, seventy percent by 2040, and 100 percent by 2045. [Ex. 17-A, SUP App.]

45. The Project would generate and store electricity derived from solar resources, thereby providing clean, renewable energy for the island of O‘ahu. It would help to meet the state’s need for renewable energy by providing up to 12.5 MW of solar energy and 50 MWh of battery storage, which is enough to provide electricity for approximately 4,600 homes (based on average energy use). In doing so, it would directly contribute to the state’s renewable energy goals, fulfilling approximately 0.5 percent of Hawaiian Electric’s RPS on average over the contract term. The solar energy from the Project would replace a portion of electricity that is currently generated by burning fossil fuels, thus reducing greenhouse gas emissions and other forms of pollution that are detrimental to the environment and human health. In total, the Project is expected to offset the use of approximately 545,794 barrels of fuel and 64

tons of coal, and would decrease greenhouse gas emissions by approximately 244,394 tons over its lifetime. [Ex. 17-A, SUP App.]

46. Based on the 25-year fixed-price PPA, the energy produced by the Project would be sold at a price that is less than the current cost of fossil fuel power and would help to hedge against long-term price volatility. Hawaiian Electric estimates the ratepayer savings (assuming a typical residential bill for 500 kilowatt-hours) would be approximately \$0.22 per month in 2022 and range up to \$0.91 per month over the 25-year term of the Project. The Project would also help to improve electric grid stability by enabling Hawaiian Electric to utilize stored solar energy to meet peak demand. [Ex. 17-A, SUP App.]

47. Project implementation would positively contribute to Hawai‘i’s economy by providing jobs and other forms of economic activity. It is estimated that construction of the Project would support a total of 118 jobs in the state of Hawai‘i and approximately \$11.3 million in labor income, with total economic output of approximately \$20.2 million. Once operational, the Project would continue to contribute to the state economy over its 25-year lifespan, supporting approximately 7.6 jobs in Hawai‘i and approximately \$0.7 million in labor income, with total economic output of approximately \$1.2 million. Economic impacts related to decommissioning are expected to be broadly similar to those anticipated during construction.[Ex. 17-A, SUP App.]

48. In addition to the SUP, the Project will require a Conditional Use Permit (minor), pursuant to the LUO, as well as construction permits. [Ex. 17-A, SUP App.]

IMPACTS UPON RESOURCES OF THE AREA

Agricultural Resources

49. According to data published by the Natural Resources Conservation Service, the majority of the soils within the Petition Area are identified as Mahana silty clay loam (McC2, McD2, and McE2). The land capability classification for McC2 is 3e if irrigated and 4e if non-irrigated (severe to very severe limitations on cultivated use due to erosion). For types McD2 and McE2, the land capability classification is 4e if irrigated and 6e if non-irrigated (very severe limitations on cultivated use to unsuitable for cultivation due to erosion). Small areas of Molokai silty clay loam (MuC, MuD) and Kawaihapai clay loam (KIB) are also present. The land capability classification for MuC is 3e if irrigated and 4e if non-irrigated (severe to very severe limitations on cultivated use due to erosion); MuD has a classification of 4e for both irrigated and non-irrigated conditions (very severe limitations on cultivated use due to erosion). Soil type KIB has a land capability classification of 2e for both irrigated and non-irrigated conditions (moderate limitations on cultivated use due to erosion). All of these soil types are generally described as well-drained, with a medium to high potential for runoff. Overall, the soils within the Petition Area have been highly modified over time as a result of extensive cultivation for the previous sugarcane plantation. [Ex. 17-A, SUP App.]

50. Based on the Agricultural Lands of Importance to the State of Hawai'i Classification System ("ALISH"), a portion of the Petition Area is classified as prime agricultural land, which is considered to have the soil quality, growing season, and

moisture supply needed to produce sustained high yields of crops when properly managed. Most of the land within the Petition Area is classified as other important lands, which is land other than prime or unique agricultural land that is also considered to be of statewide or local importance to agricultural use. [Ex. 17-A, SUP App.]

51. Based on the Land Study Bureau soil classification system (“LSB”), the Petition Area includes approximately 46 acres of Class B soils, 37 acres of Class D soils, and 14 acres of Class E soils. The Project would not involve construction of any facilities on LSB Class A soils. [Ex. 17-A, SUP App.]

52. The area within and surrounding the Petition Area was previously cultivated as part of an extensive sugar cane and pineapple plantation that extended across O‘ahu’s ‘Ewa Plain. Since closure of the plantation in the 1990s, the Petition Area has not been cultivated and has been used intermittently for cattle grazing. [Ex. 17-A, SUP App.]

53. The permanent footprint of the Project facilities would occupy a small fraction of the Petition Area, with the remaining area available for compatible agricultural uses. The Project area would be made available for compatible agricultural uses, including beekeeping and cattle production and grazing, at a lease rate at least 50 percent below fair market rent. Use of the Project area for other agricultural uses, such as crop cultivation, is not feasible due to the arid conditions, lack of infrastructure, and insufficient water for irrigation. [Ex. 17-A, SUP App.]

54. The Project area comprises less than 10 percent of the overall 991-acre UH West O‘ahu Mauka Lands property and would not preclude future agricultural activities from occurring on the remainder of this land. [Ex. 17-A, SUP App.]

55. At the end of the Project’s operational life, the facilities would be decommissioned, and the Project area would be returned to its existing condition (or comparable), thereby maintaining the potential for a full range of future agricultural activities. [Ex. 17-A, SUP App.]

Archaeological and Cultural Resources

56. An Archaeological Inventory Survey (“AIS”) was conducted for the Petition Area by Cultural Surveys Hawai‘i. The AIS included background research to construct a history of land use and to determine if historic properties have been previously recorded in or near the Project area, as well as to formulate a predictive model of the types and locations of historic properties that would be expected to occur. The field component included a 100 percent pedestrian inspection to identify any potential historic properties within the Petition Area. The results of the background research and field investigation were documented in an AIS Report. [Ex. 17-A, SUP App.; Ex. 20, Revised AIS]

57. Two post-contact historic properties were documented within the Petition Area, including components of the plantation infrastructure and irrigation system (State Inventory of Historic Places [“SIHP”] # 50-80-08-5593) and a remnant section of the Waiahole Ditch System (SIHP # 50-80-09-2268). All of the historic

properties within the Petition Area are related to former sugarcane cultivation activities. [Ex. 17-A, SUP App.; Ex. 20, Revised AIS]

58. Mitigation will be implemented for the identified historic properties as described in the AIS Report, including Historic American Engineering Record (“HAER”) documentation and avoidance of adverse impact to SIHP # 50-80-09-5593 Feature 2, incorporation of the portion of SIHP # 50-80-09-2268 within and immediately adjacent to the Petition Area into an addendum to an existing ditch historic context study, and data recovery in the form of archaeological monitoring within a designated portion of the Petition Area. [Ex. 17-A, SUP App.; Ex. 20, Revised AIS]

59. The Planning Commission received the letter dated January 4, 2021 from the State Historic Preservation Division accepting the AIS for the Project. [Ex. 22, SHPD Acceptance Letter]

60. A Cultural Impact Assessment (“CIA”) was conducted by Cultural Surveys Hawai‘i to evaluate the potential effect of the Project on cultural beliefs, practices, and resources, including traditional cultural properties. The assessment included archival research, regarding Hawaiian activities including ka’ao (legends), wahi pana (storied places),’ōlelo no’eau (proverbs), oli (chants), mele (songs), traditional mo’olelo (stories), traditional subsistence and gathering methods, ritual and ceremonial practices; background research focused on land transformation, development, and population changes beginning with the early post-Contact era to the present day. Cultural documents, primary and secondary cultural and historical

sources, historic maps, and photographs were reviewed for information pertaining to the Petition Area. Community consultation was also conducted to obtain input from knowledgeable individuals regarding present and past uses, cultural sites, traditional gathering practices, cultural association and any associated cultural concerns. [Ex. 17-A, Attachment G, CIA]

61. Based on information gathered from the archival research and community consultation, no culturally significant resources were identified within the Petition Area. At present, there is no documentation or community input indicating traditional or customary Native Hawaiian rights are currently being exercised within the Petition Area. While no cultural resources, practices, or beliefs were identified as currently existing within the Petition Area, there is a rich cultural history of traditional or customary Native Hawaiian rights exercised within the Honouliuli Ahupua‘a. [Ex. 17-A, Attachment G, CIA]

62. No historic trails are known to be extant within the Petition Area. As such, development of the Petition Area would not be expected to impact traditional Hawaiian trails or access to upland resources. [Ex. 17-A, Attachment G, CIA]

63. In *Ka Pa‘akai v. Land Use Commission*, 94 Hawai‘i 31, 74, 7 P.3d 1068, 1084 (2000), the Court held the following analysis be conducted:

- a. 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 project area;

b. The extent to which those resources—including traditional and customary native Hawaiian rights—will be affected or impaired by the proposed action; and

c. The feasible action, if any, to be taken by the Land Use Commission to reasonably protect native Hawaiian rights if they are found to exist. [Ex. 17-A, Attachment G, CIA]

No cultural resources, practices, or beliefs have been identified as existing within the Petition Area, nor is there any indication that traditional or customary Native Hawaiian rights are currently being exercised within any portion of the Petition Area. Although traditional Hawaiian trails were used to travel across the ahupua‘a and for access to the nearby uplands, none of these trails are believed to have been located within the Petition Area. [Ex. 17-A, Attachment G, CIA]

Based on information gathered from the cultural and historical background, and the community consultation, culturally significant resources have been identified elsewhere within Honouliuli Ahupua‘a. Although not within the Petition Area, documentation and testimony indicates traditional or customary Native Hawaiian rights are possessed and are currently being exercised within Honouliuli Ahupua‘a by ahupua‘a tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778 (Hawai‘i State Constitution, Article XII, Section 7). While no cultural resources, practices, or beliefs were identified as currently existing within the Petition Area, Honouliuli Ahupua‘a maintains a rich cultural history in the exercising of traditional or customary Native Hawaiian rights. The Project is not

expected to affect or impair traditional and customary Native Hawaiian rights exercised elsewhere in Honouliuli Ahupua'a; therefore, no action needs to be taken to reasonably protect native Hawaiian rights as a result of the Project. [Ex. 17-A, Attachment G, CIA]

Flora and Fauna

64. A biological resources survey was conducted within the Petition Area by Tetra Tech, Inc. In general, the survey indicates that the area has been extensively modified by previous agricultural use and the introduction of invasive species, which has resulted in a reduction of the number and abundance of native species and habitats suitable for native species. [Ex. 17-A, Attachment E, Biological Survey]

65. No federally or state listed species were observed during the biological surveys, nor has any portion of the Petition Area been designated as critical habitat. Although not observed during the biological survey, several federally or state listed species have the potential to occur within or traverse over the Petition Area. These species include 'ōpe'ape'a or Hawaiian hoary bat (*Lasiurus cinereus semotus*), pueo or Hawaiian short-eared owl (*Asio flammeus sandwichensis*), 'ua'u or Hawaiian petrel (*Pterodroma sandwichensis*), 'ake'ake or band-rumped storm petrel (*Oceanodroma castro*), and 'a'o or Newell's shearwater (*Puffinis auricularis newelli*). Consistent with recommendations provided by the U.S. Fish and Wildlife Service and the State of Hawaii State of Hawai'i Department of Land and Natural Resources ("DLNR") Division of Forestry and Wildlife ("DOFAW"), the Project would incorporate

measures to avoid and minimize potential impacts to these species, should they occur.

[Ex. 17-A, Attachment E, Biological Survey]

Groundwater Resources

66. The Project does not include a well facility and would have no impact on groundwater resources. [Ex. 17-A, SUP App.]

67. Water would be required during construction and operation for dust control, vehicle washdown, temporary irrigation of the landscaping, and the proposed agricultural activities (e.g., filling of the cattle water troughs). Total water consumption would be minimal, likely using temporary water tanks (filled using water trucks) or through a connection to the existing East Kapolei 440' Reservoir, subject to further coordination with the Board of Water Supply and UH. [Ex. 17-A, SUP App.]

Visual Resources

68. The Project would be visible to varying degrees from surrounding locations; the most prominent views are expected to be from segments of nearby roadways approaching the Project area and from some residences along the perimeter of nearby neighborhoods. Views from the Makakilo neighborhood, located to the southwest, are generally limited to residences located along the northeastern perimeter of the neighborhood who have elevated unobstructed views to the northeast; these views would be partially blocked by intervening topography. From residential areas located to the south and east, views toward the Project area are dominated by the broader Wai'anae mountain range; the Project would be located on

the lower slopes of the mountains and in many cases would be screened by intervening development and/or vegetation. Where visible, the Project would be seen in the context of other man-made modifications, including residential and commercial structures, high-voltage transmission lines and structures, roadways, Makakilo Quarry and the in-progress rail transit system. [Ex. 17-A, SUP App.]

69. Following the 25-year operational period, the Project would be decommissioned or re-powered under a re-negotiated PPA (with subsequent permits/approvals). Decommissioning would include removal of all equipment associated with the Project and returning the Project area to substantially the same condition as existed prior to Project development. [Ex. 17-A, SUP App.]

70. Important public views and vistas in the Project vicinity are identified in Table 3-2 of the 'Ewa Development Plan; these include views of the Wai'anae Mountains from H-1 Freeway between Kunia Road and Kalo'i Gulch and from Kunia Road, and general mauka and makai views. General mauka and makai views include those from locations such as public spaces and facilities, including public parks, public institutions, and public transportation facilities such as public roadways, highways, and public transit facilities (e.g., the in-progress Honolulu Rail Transit system). Given the setting of the Project, public spaces, parks and institutions are generally located such that views would be relatively distant and at least partially blocked by intervening topography and structures. The most prominent views of the Project from public facilities would be along roadways and transportation systems proximate to the Project area, including Kualaka'i Parkway, Farrington Highway and pockets of

the H-1 Freeway, as well as the nearby segment of the rail transit system. In all cases, views of the Project would be set amongst a range of man-made modifications (including residential and commercial structures, high-voltage transmission lines and structures, roadways, and Makakilo Quarry), with the Project components located on the lower mountain slopes such that they would not block or otherwise substantially degrade mauka views of the Wai'anae Mountains. [Ex. 17-A, SUP App.]

71. From the segment of H-1 Freeway between Kunia Road and Kalo'i Gulch (as identified in the 'Ewa Development Plan), the majority of views toward the Project area are screened by topography and/or vegetation along the edge of the highway. The exception is a short stretch near Kalo'i Gulch, where there is a break in the vegetation and travelers (eastbound and westbound) would have unobstructed views toward the Project as they pass the Project area. However, these views are expected to be very brief as travelers would only be adjacent to the Project area for a short distance, and their attention would likely be directed toward the road ahead. Furthermore, the viewplanes in this area are dominated by broader landscape views of the Wai'anae Mountains and Pacific Ocean; the Project would be located on the lower slopes of the Wai'anae Mountains and would not obstruct broader landscape views due to the low profile of the solar photovoltaic modules. [Ex. 17-A, SUP App.]

72. The segment of Kunia Road identified in the 'Ewa Development Plan has relatively open views toward the Wai'anae Mountains as the road parallels existing agricultural fields. Northbound travelers would be parallel to the Project at the far southern end of Kunia Road (near the H-1 Freeway interchange), and views

would most likely be focused toward the northwest along the full extent of the Wai'anae mountain range. If northbound travelers were to look directly west, views toward the Project area would be partially screened by intermittent vegetation along the edge of Kunia Road. Furthermore, any visible portions of the Project would be seen at a distance of approximately 2 miles; at this distance, the solar arrays may be distinguishable, but would be muted and less detailed. For southbound travelers, views would similarly be focused toward the Wai'anae Mountains or south toward the ocean. Although the Project area is within the viewplane, it is partially screened by existing topography and is at a distance of approximately 2 to 3 miles. Furthermore, visible portions of the Project would be seen in the context of other development, including a high-voltage transmission and distribution lines and surrounding commercial development. [Ex. 17-A, SUP App.]

73. In general, solar modules are designed to absorb rather than reflect sunlight and incorporate a surface material that allows sunlight to pass with minimal reflection. The modules also have an anti-reflective coating that further reduces reflectivity. Regardless, solar facilities still have the potential to result in some degree of glare. To evaluate the potential for glare associated with the Project, a glare analysis was conducted using the Solar Glare Hazard Analysis Tool (SGHAT) software through an online tool (GlareGauge). The results of the analysis predicted that a limited amount of glare would occur along segments of Farrington Highway and H-1 Freeway southeast of the Project area. Any glare experienced would occur intermittently in the evening hours and would not occur for a period longer than 15

minutes. The GlareGauge model is conservative in that it does not account for varying ambient conditions (i.e., cloudy days, precipitation), atmospheric attenuation, intervening topography not located within the defined array layouts, or screening by existing or proposed vegetation and structures (including fences or walls). Therefore, the model results may predict glare at locations where glare will not actually be experienced, such that actual glare conditions are likely to be less than predicted. [Ex. 17-A, SUP App.]

ENVIRONMENTAL IMPACTS Chapter 343, HRS

74. A Final Environmental Assessment and Finding of No Significant Impact for the Project was accepted and issued by DPP on June 30, 2020, and was published in The Environmental Notice on July 8, 2020. [Ex. 17-A, SUP App.]

Air Quality

75. In general, the existing air quality in the vicinity of the Project area is considered to be relatively good because of the low levels of development and exposure to trade winds which help to disperse emissions. The main sources of pollutant air emissions in this region are associated with emissions from vehicles on H-1 Freeway and other nearby roadways, as well as dust and other air pollutants associated with ongoing quarry and agricultural activities on nearby properties. [Ex. 17-A, SUP App.]

76. Construction of the Project would result in short-term impacts to air quality, primarily as a result of vehicle exhaust emissions and fugitive dust particles from disturbed soils. Vehicle exhaust emissions would be generated by heavy

construction equipment operating within the Project area, trucks delivering construction materials and Project components to the site, and vehicles used by construction workers commuting to and from the Project area. These activities would result in emissions of air pollutants including CO₂, nitrogen oxides, sulfur oxides, PM₁₀, and PM_{2.5}. Emissions would occur over the approximately 9-month construction period, with potential impacts generally limited to areas within and immediately surrounding the Project area. Given the nature of the construction activities, the emissions would be temporary, intermittent, and localized in nature. In comparison to overall emissions in the region, these contributions are relatively small and would not be expected to affect attainment of the federal or state ambient air quality standards. [Ex. 17-A, SUP App.]

Noise

77. The Petition Area, as well as the adjoining parcels, are within the Restricted Agriculture (AG-1) zoning district. Other nearby land uses include open space, industrial and residential areas. Land to the northwest of the Petition Area consists of forested or other natural landscapes associated with Pālehua and the slopes of the Wai‘anae Mountains. The former Honouliuli Internment Camp site, which NPS is working to incorporate as a National Monument, is located approximately 1 mile to the northeast. Makakilo Quarry, an active quarry which is a significant source of industrial noise resulting from blasting, heavy machinery, and trucking, is located approximately 0.6 mile southwest of the Petition Area. Residential areas in Makakilo are located just north of the quarry, with the closest residential structure

approximately 0.3 mile from the Petition Area. The UH West O‘ahu campus is located approximately one mile south of the Project, on the other side of the H-1 Freeway. In the vicinity of the Project area, the H-1 Freeway is a two-way, six-lane divided highway. Overall, construction would generate noise that exceeds the ambient levels and has the potential to cause a temporary and short-term disturbance. Reasonable efforts would be made to minimize the noise levels associated with Project construction to the extent practicable, including but not limited to: 1) construction activities would not occur between 7:00 pm and 7:00 am on weekdays or Saturday, or at any time on Sunday within 500 feet of an occupied residence; 2) construction site and access road speed limits would be established and enforced during the construction period; 3) electrically-powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible; 4) material stockpiles and mobile equipment staging, parking, and maintenance areas would be located as far as practicable from noise-sensitive receptors; 5) the use of noise-producing signals, including horns, whistles, alarms, and bells would be for safety warning purposes only; 6) no Project-related public address or music system would be audible at any adjacent receptor; 7) all noise-producing construction equipment and vehicles using internal combustion engines would be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise control features that are

readily available for that type of equipment. As construction noise would be temporary in nature, and with implementation of the measures listed above, no long-term or otherwise significant noise impacts are anticipated as a result of Project construction. If necessary, a noise permit would be obtained during construction to allow for exceedances of the maximum permissible sound levels. Operational noise associated with the Project is not expected to significantly impact any noise sensitive receptors, especially in the context of the industrial and agricultural activities in the Project vicinity. Any operational noise impacts associated with the Project are expected to be below the maximum permissible sound levels for the Class A Receiving Class District, which applies to all areas zoned for uses including residential, conservation, preservation, public space, or other similar uses. As such, it is anticipated that noise impacts associated with the Project would be less than significant. [Ex. 17-A, SUP App.]

Water Quality

78. No direct interaction with groundwater is anticipated. Other potential impacts to groundwater include decreased recharge, availability, or quality. As further discussed below, implementation of the Project would result in the addition of impervious surfaces; however, there would still be sufficient open space for natural infiltration within and surrounding the Project area. Furthermore, the Project would incorporate stormwater retention features, such that decreased rates of groundwater recharge are not anticipated. Total water consumption for both construction and operation of the Project would be minimal. As such, the Project would not be expected

to affect groundwater availability. The Project has been designed to avoid surface water features within the Project area to the maximum extent practicable. The only direct impacts to surface water features would be associated with construction of a single crossing over the tributary to Kalo'i Gulch that runs through the central portion of the Project area to allow for access between the solar arrays; it is anticipated that the crossing would involve installation of a box culvert. As this feature has been determined to be non-jurisdictional, construction of the road crossing would not require authorization under the Clean Water Act. Regardless, the crossing would be designed to have as small of a footprint as possible and to sufficiently convey flows during and following rain events. As such, the Project would not significantly affect the form or function of the tributary to Kalo'i Gulch. [Ex. 17-A, SUP App.]

SOCIO-ECONOMIC IMPACTS

79. It is estimated that construction of the Project would directly employ an average of 55 onsite workers, including technicians, laborers, foremen, equipment operators, and construction managers for the solar photovoltaic modules, battery energy storage system and other renewable energy equipment. AES is deeply committed to promoting local job opportunities in Hawai'i. It is anticipated that approximately 75 percent of these positions (or a total of approximately 41 jobs) would be filled by Hawai'i residents and would result in an estimated \$6.6 million in related payroll (labor income). The remaining jobs are expected to require specialty trade and/or professional staff that would be brought to Hawai'i for the Project; in many cases, these staff would serve to train the local workforce and commission certain

components per manufacturer requirements. Construction of the Project would also support employment, labor income, and economic output in other sectors of the state economy, with indirect impacts estimated to support approximately 38 jobs and induced impacts estimated to support a further 38 jobs. [Ex. 17-A, SUP App.]

80. Once operational, the Project would continue to contribute to the state economy over its 25-year lifespan. AES expects to employ an in-state workforce of 5 employees to oversee operations and maintenance of their Hawai'i portfolio, including the Project. Operation and maintenance of the Project would also support employment, labor income, and economic output in other sectors of the state economy. Estimated indirect and induced impact estimates include the impacts of Project-related payments to UH, which would potentially support employment at the university, as well as elsewhere in the statewide economy. In addition, the Project will support additional economic benefits associated with the compatible agricultural activities.

Total direct, indirect and induced economic impacts during the construction phase of the Project include 117.5 full time job equivalents, \$11,303,000 in labor income, and \$20,236,000 in economic output. Total direct, indirect and induced economic impacts during the operational phase of the Project include 7.6 full time job equivalents, \$687,000 in labor income, and \$1,247,000 in economic output. [Ex. 17-A, SUP App.]

ADEQUACY OF PUBLIC SERVICES AND FACILITIES

Roadways

81. The key roadways used to access the Project area include H-1 Freeway, Kualaka‘i Parkway, and Pālehua Road. [Ex. 17-A, SUP App.]

82. Project construction is not expected to measurably affect overall the level of service at the signalized intersections adjacent to the Petition Area. However, recognizing that construction could result in minor, localized impacts to traffic and the roadway network, a Traffic Management Plan (TMP) would be prepared prior to construction. The TMP would describe the potential impacts to the surrounding roadway network and would detail the measures that would be implemented to avoid, minimize and mitigate potential impacts based on Complete Streets principles. [Ex. 17-A, SUP App.]

83. Once operational, it is anticipated that the Project would have 1-2 employees regularly visiting the site for operations activities. As such, Project operations would not be expected to measurably impact traffic on roads surrounding the Petition Area. [Ex. 17-A, SUP App.]

Water

84. Water would be required during construction and operation for dust control, temporary irrigation of the landscaping and filling of the cattle water troughs. Total water consumption for both construction and operation of the Project would be minimal, likely using temporary water tanks (filled using water trucks) or through a connection to the existing East Kapolei 440’ Reservoir, subject to further coordination with the Board of Water Supply and UH. No connection to the domestic water system is expected to be required. [Ex. 17-A, SUP App.]

Drainage

85. No stormwater drainage facilities are located within or surrounding the Project area. In general, stormwater flows across the site toward the natural drainage features. The Project would not significantly alter the existing drainage patterns within the Project area and would incorporate a range of stormwater BMPs both during construction and throughout operation. As the Project would not direct additional stormwater flows to the stormwater drainage system and would minimize the potential for increased discharge of sediment or other pollutants, significant impacts to the stormwater drainage system are not anticipated. Accordingly, it is expected that the Project would be in compliance with the City and County of Honolulu's Rules Relating to Water Quality and Storm Drain Standards. [Ex. 17-A, SUP App.]

Wastewater

86. The Project facilities would not generate any sanitary wastewater. As operation of the facilities would not require full-time, on-site staff, no sanitary wastewater system would be needed. Portable sanitation units would be brought onsite during construction, as needed. As such, the Project is not expected to have any effect on either the domestic water system or the municipal wastewater system. [Ex. 17-A, SUP App.]

Solid Waste

87. Solid waste on O'ahu is handled at one of two landfills – Waimanalo Gulch Sanitary Landfill, which is managed by the City and County of Honolulu

Department of Environmental Services, and the PVT Landfill, which is privately owned. The Waimanalo Gulch Sanitary Landfill is the island's only municipal solid waste landfill. The PVT Landfill is designated for construction and demolition waste only. [Ex. 17-A, SUP App.]

88. Construction of the Project is not anticipated to generate a significant amount of solid waste. During construction, all waste would be temporarily stored onsite and periodically transported and properly disposed of in a permitted landfill. Little to no waste would be generated during operation. At the end of the operational period, the Project would be decommissioned, which would involve removal of all Project equipment from the Project area. Decommissioning would be conducted in accordance with industry standards, with all equipment and materials treated according to the highest and best use. Equipment and materials would be salvaged or recycled to the extent feasible; the remaining materials would be disposed of at authorized sites on O'ahu, in accordance with applicable laws. As only a small portion of the Project equipment would be disposed of as solid waste, impacts related to solid waste disposal are expected to be minor. [Ex. 17-A, SUP App.]

Police and Fire Protection

89. Fire protection services for O'ahu are provided by the Honolulu Fire Department. Although the majority of their activity is associated with fire operations, the Honolulu Fire Department is also involved in other emergency response including emergency medical situations, hazardous material incidents, and natural disasters. The departments resources are divided into five battalions containing 44 fire stations.

There are three fire stations in close proximity to the Project area – the Makakilo Fire Station (Station 35), East Kapolei Fire Station (Station 43), and the Waipahu Fire Station (Station 12). [Ex. 17-A, SUP App.]

90. Consistent with requirements articulated by the Honolulu Fire Department, the existing access roads as well as service roads within the Project area would be able to accommodate fire apparatus and would meet the relevant specifications identified in the fire code; it is anticipated that the Project does not need to provide water supply for fire flow as no occupied buildings would be constructed within the Project area. Furthermore, the Project would incorporate multiple layers of fire prevention and suppression measures. The Honolulu Fire Department has been and will continued to be consulted throughout the Project development process, with on-site training and orientation prior to commercial operation. The design drawings for the Project will also be submitted to DPP for review and approval prior to construction. As such, the Project is not expected to increase the need for fire response or otherwise impact fire protection services. [Ex. 17-A, SUP App.]

91. Police services are provided by the Honolulu Police Department, with eight patrol districts serving the island of O‘ahu. The Project area is within District 8, which spans from ‘Ewa to Ka‘ena. The district station is located on Kamokila Boulevard in Kapolei, approximately 3 miles southwest of the Project area. [Ex. 17-A, SUP App.]

92. The Project is not expected to interrupt, increase the demand for, or otherwise affect police or emergency medical services. During construction, the

Project area would be staffed with security personnel on an as-needed basis to protect equipment and machinery used to construct the Project. This would be in addition to the 24-hour security that controls entry to the UH West O'ahu Mauka Lands property. During operations, the facilities would be adequately secured and are not expected to require additional security on a regular basis. A surveillance system at key areas (such as the substation and PCS pads) would be incorporated and additional security measures (such as fence-top deterrents) would be added if the need arises. As such, the Project is not expected to impact police services. [Ex. 17-A, SUP App.]

Schools

93. The nearest school to the Project area is Mauka Lani Elementary School, which is approximately 1.25 miles to the southwest. Several other schools occur within a larger radius, primarily to the south and east of the Project area; these include Makakilo Elementary School, Seagull Schools, Kapolei Elementary School, 'Ewa Elementary School, Hale O Ulu, Waipahu Intermediate, and Honowai Elementary School. As previously described, the Project would be located on the UH West O'ahu Mauka Lands property; the UH West O'ahu campus is located approximately one mile to the south. [Ex. 17-A, SUP App.]

94. The Project would not impact existing educational facilities, nor would it increase the need for educational facilities. Although located on the UH West O'ahu Mauka Lands property, the Project would not impact the campus; furthermore, the Project would be consistent with their long-range land use plan for UH West O'ahu. [Ex. 17-A, SUP App.]

Air Operation Areas

95. A glare analysis was conducted for 14 final approaches and two Air Traffic Control Towers associated with Kalaeloa Airport, Daniel K Inouye Airport, and Wheeler Army Airfield. A limited amount of glare was predicted for three of the final approach paths and the Air Traffic Control Tower at Daniel K. Inouye International Airport. As the Daniel K. Inouye International Airport is located approximately 8 miles from the Project area and the potential occurrence of glare is extremely limited (less than 10 minutes per day during certain months of the year), the Project is not expected to significantly impact airport facilities as a result of glare. The Project was formally filed with the Federal Aviation Administration (“FAA”) Obstruction Evaluation Group (“OEG”) to confirm these conclusions; on June 9, 2020, FAA OEG issued a determination of No Hazard to Air Navigation for the Project. [Ex. 17-A, SUP App.]

CONFORMANCE WITH THE COASTAL ZONE MANAGEMENT PROGRAM

96. The Project area is not within either the SMA or the shoreline setback area, nor would it involve a federal activity or permit requiring federal consistency review. [Ex. 17-A, SUP App.]

CONFORMANCE WITH THE SUP GUIDELINES

97. The guidelines for determining “unusual and reasonable” uses for granting of an SUP are provided in HAR § 15-15-95(b). The Project is consistent with these guidelines as stated as follows:

(1) *The use shall not be contrary to the objectives sought to be accomplished by HRS Chapters 205 and 205A and the rules of the commission.* The Project would comply with the provisions of HRS § 205-4.5. Along with the solar and storage facilities, the Project area would be made available for compatible agricultural activities, such as honey production and cattle grazing and production. Facilities and equipment to support the agricultural activities, such as beekeeping stations, cattle trap areas and water troughs, would be installed as part of the Project. Based on the approved PPA, the Project is expected to have an operational life of approximately 25 years. At that point in time, the facility may be re-powered under a re-negotiated PPA (with subsequent permits/approvals) or decommissioned. Decommissioning would involve removal of all equipment associated with the Project and returning the Project area to substantially the same condition as existed prior to Project development. In accordance with the requirements of HRS § 205-4.5(a)(21), financial assurance for decommissioning would be provided to the City & County of Honolulu Planning Commission prior to the commencement of commercial generation. The Project would also be in compliance with the objectives and policies of HRS Chapter 205A.

(2) *The desired use would not adversely affect surrounding property.* The Project area is located in the 'Ewa District, approximately 3 miles northeast of Kapolei. Based on its designation in the City and County of Honolulu's General Plan and 'Ewa Development Plan as the island's secondary urban center, much

of the growth on O‘ahu has been focused in this region. Large scale development of the City of Kapolei started in the 1990s, and has included a wide range of commercial, residential, industrial and government facilities. The Project would be located within the southwestern portion of the 991-acre UH West O‘ahu Mauka Lands property, which was historically part of an extensive agricultural plantation, but has been fallow and intermittently used for cattle grazing since the 1990s. The lands immediately surrounding the Project area, which are also part of the UH West O‘ahu Mauka Lands property, would continue to be used for cattle grazing and would not be affected by construction or operation of the solar and storage facilities. Other surrounding uses beyond the adjacent lands include the former Honouliuli Internment Camp site (approximately 1 mile to the northeast) and Makakilo Quarry (approximately 0.6 mile to the southwest); the residential community of Makakilo is located just north of the quarry, with the closest residential structure approximately 0.3 mile from the Petition Area. The Project would be visible to varying degrees from surrounding areas; however, it would not obstruct or impede views of the Wai‘anae Mountains, Pacific Ocean or other scenic resources. The Project facilities would introduce new visual elements within the landscape, but these would be seen in the context of other development including high-voltage transmission lines, commercial and residential structures, the rail transit system, Makakilo Quarry and other man-made features. Construction of the solar and storage facilities would involve a

variety of ground disturbing activities, such as site preparation and grading, equipment installation (e.g., driving support posts), and trenching for the underground collection lines. Use of heavy equipment and earthmoving operations conducted as part of these activities would generate noise, as well as temporary fugitive dust and internal combustion engine emissions, resulting in temporary and localized impacts to air quality. BMPs would be implemented to minimize the noise and emission levels, and in general, the impacts are expected to be temporary, intermittent, and localized in nature. Similarly, construction and operation of the Project would require a variety of truck deliveries and other vehicle trips; however, these are not expected to measurably affect traffic levels; in addition, BMPs would be implemented to avoid, minimize and mitigate potential impacts based on Complete Streets principles. Overall, none of these impacts would be expected to alter the character of the surrounding areas in a manner that would result in significant adverse effects.

(3) *The use would not unreasonably burden public agencies to provide roads and streets, sewers, water drainage and school improvements, and police and fire protection.* The Project would not require improvements or otherwise burden public infrastructure, nor would it be expected to require police or fire protection services.

(4) *Unusual conditions, trends, and needs have arisen since the district boundaries and rules were established.* The State of Hawai‘i has established an

RPS, as codified in HRS § 269-92, which specifies that electric utility companies in Hawai‘i must use renewable energy for the equivalent of 30 percent of net electricity sales by 2020, 40 percent by 2030, seventy percent by 2040, and 100 percent by 2045. As of the third quarter of 2019, approximately 25 percent of Hawaiian Electric’s electrical energy sales on O‘ahu were generated by renewable energy sources. The Project area is well suited for solar energy generation as it includes undeveloped land with relatively flat to moderate slopes that can accommodate the solar modules and battery storage facilities, an existing access road that can be traversed by construction equipment, and the ability to interconnect with the existing Hawaiian Electric grid onsite. It is recognized that these site attributes are also valuable for agricultural purposes, and it is understood that there is a need to balance agricultural and renewable energy production. By making the Project area available for compatible agricultural activities, the Project seeks to balance these uses.

(5) *The land upon which the proposed use is sought is unsuited for the uses permitted within the district.* Agricultural activities in the Project area are highly constrained by site-specific factors, particularly the lack of infrastructure and insufficient water for irrigation. However, the Project area would be used in a manner that balances both agriculture and renewable energy needs. The Project is consistent with the underlying objectives of HRS Chapter 205, in that it would support and subsidize compatible agricultural activities (such as honey production and cattle grazing) and would implement specific

decommissioning provisions in which the land would be returned to substantially the same condition as existed prior to Project development, thus allowing for the full range of future agricultural uses. [Ex. 17-A, SUP App.]

RULINGS ON PROPOSED FINDINGS OF FACT

Any of the proposed findings of fact submitted by any party not already ruled upon by the LUC by adoption, or rejected by clearly contrary findings of fact, are hereby denied and rejected.

Any conclusions of law herein improperly designated as a finding of fact should be deemed or construed as a conclusion of law; and finding of fact herein improperly designated as a conclusion of law should be deemed or construed as a finding of fact.

CONCLUSIONS OF LAW

1. The LUC has jurisdiction over this matter pursuant to Section 205-6, HRS, and Section 15-15-95 *et seq.* HAR.

2. Based upon the record and pursuant to Section 205-6, HRS and Section 15-15-95 *et seq.*, HAR, the LUC finds that the Project meets the guidelines for determining an "unusual and reasonable use" and "would promote the effectiveness and objectives" of Chapter 205 within the State Land Use Agricultural District.

3. The Project constitutes an unusual and reasonable use within the agricultural district other than those for which the district is classified, and complies with § 205-6(a), HRS.

4. The Project constitutes an exceptional situation where the use desired would not change the essential character of the district nor be inconsistent therewith. Save Sunset Beach Coalition v. City and County of Honolulu, 102 Haw. 465, 78 P.3d 1 (2003).

5. The Project constitutes a use that would promote the effectiveness and objectives of Chapter 205, HRS, and complies with § 205-6(c), HRS.

6. The Project is consistent with the "overarching purpose" of HRS Chapter 205 which is to "protect and conserve natural resources and foster intelligent, effective, and orderly land allocation and development." Kaua'i Springs v. Planning Commission, 130 Haw. 407, 312 P.3d 283 (2013).

7. The Petition Area is not designated as IAL under Part III of HRS chapter 205, and therefore the Project does not conflict with any part of HRS Chapter 205, and complies with § 205-6(c), HRS.

8. Article XI, section 1, of the Hawai'i State Constitution requires the State to conserve and protect Hawai'i's natural beauty and all natural resources, including land, water, air, minerals, and energy sources, and to promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

9. The LUC has considered Article XI, section 1, of the Hawai'i State Constitution and finds that the Project is in compliance and non-violative therewith.

10. Article XI, Section 3, of the Hawai'i State Constitution requires the State to conserve and protect agricultural lands, promote diversified agriculture, increase

agricultural self-sufficiency, and assure the availability of agriculturally suitable lands.

11. The LUC has considered Article XI, Section 3, of the Hawai'i State Constitution and finds that the Project is in compliance and non-violative therewith.

12. Article XII, Section 7, of the Hawai'i State Constitution requires the State to protect Native Hawaiian traditional and customary rights. The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural, and religious purposes and possessed by ahupua'a tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

13. The LUC has considered Article XII, Section 7, of the Hawai'i State Constitution and finds that the Project is in compliance and non-violative therewith.

14. The State, Counties and their agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised Native Hawaiian rights to the extent feasible. Public Access Shoreline Hawai'i v. Hawai'i County Planning Commission, 79 Hawai'i 425, 903, P.2d 1246, certiorari denied, 517 U.S. 1163, 116 S.Ct. 1559, 134 L.Ed.2d 660 (1996). The LUC has considered such responsibilities and obligations and finds the Project to be consistent and non-violative therewith.

15. The LUC is empowered to preserve and protect customary and traditional rights of Native Hawaiians. Pa'akai, 94 Hawai'i 31. The LUC has considered such responsibilities and obligations and finds the Project to be consistent and non-violative therewith.

16. Section 205-4.5(a)(21), HRS, permits Solar Energy Facilities ("SEF") on lands with soil classified by the LSB's detailed land classification as overall (master) productivity rating B or C for which an SUP is granted pursuant to § 205-6, HRS; provided that:

(A) The area occupied by the SEF 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 prior to date of commencement of commercial generation; and

(C) SEF 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 SEF.

17. The LUC finds the Project has satisfied the requirements of Section 205-4.5(a)(21), HRS.

18. The LUC finds DPP and the Applicant have satisfied the Notice requirements contained in Section 205-6, HRS; Section 15-15-95(d), HAR; Sections 8-8.4(4), 8-9.4(b), 8-3.1(f) and Planning Commission Rules Subchapter 4.

DECISION AND ORDER

Having duly considered the complete record in this matter and the oral arguments presented by the Applicant in this proceeding, and a motion having been duly made and seconded at a meeting conducted on June 9, 2021, in Honolulu, Hawaii, and the motion having received the affirmative votes required by section 15-15-13, HAR, and there being good cause for the motion, the LUC hereby APPROVES the Application for a State Special Permit for the Project, consisting of approximately 96.353 acres of land in the State Land Use Agricultural District identified by Tax Map Key No. (1) 9-2-002:007 in 'Ewa District of O'ahu, Hawai'i, and shown approximately on Exhibit "A", attached hereto and incorporated by reference herein, 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 and the Director of the DPP in writing within

30 days of the end of any subsequent six-month periods. If requested by the Planning Commission, the Applicant shall attend a meeting of the Planning Commission and submit a report to the Planning Commission 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 Planning Commission 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 Planning Commission. Extension to any subsequent six-month period's deadlines may be granted by the Planning Commission for unforeseen extenuating circumstances.

3. This SUP shall be valid for a period of 29 years from the date of the LUC's Decision and Order approving the SUP, subject to further extensions upon a timely request for extension filed with the Planning Commission 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 within 12 months of the conclusion of Project operation, or its 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 Paglinawan, 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 LUC'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 Planning Commission 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 Planning Commission 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.

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

DATED: Honolulu, Hawai'i, May 12, 2021.



Of Counsel:
MATSUBARA, KOTAKE & TABATA
A Law Corporation

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CURTIS T. TABATA
Attorneys for Petitioner
AES West O`ahu Solar, LLC

2020/SUP-6 AES West Oahu Solar, LLC

Approved SUP Area Boundary

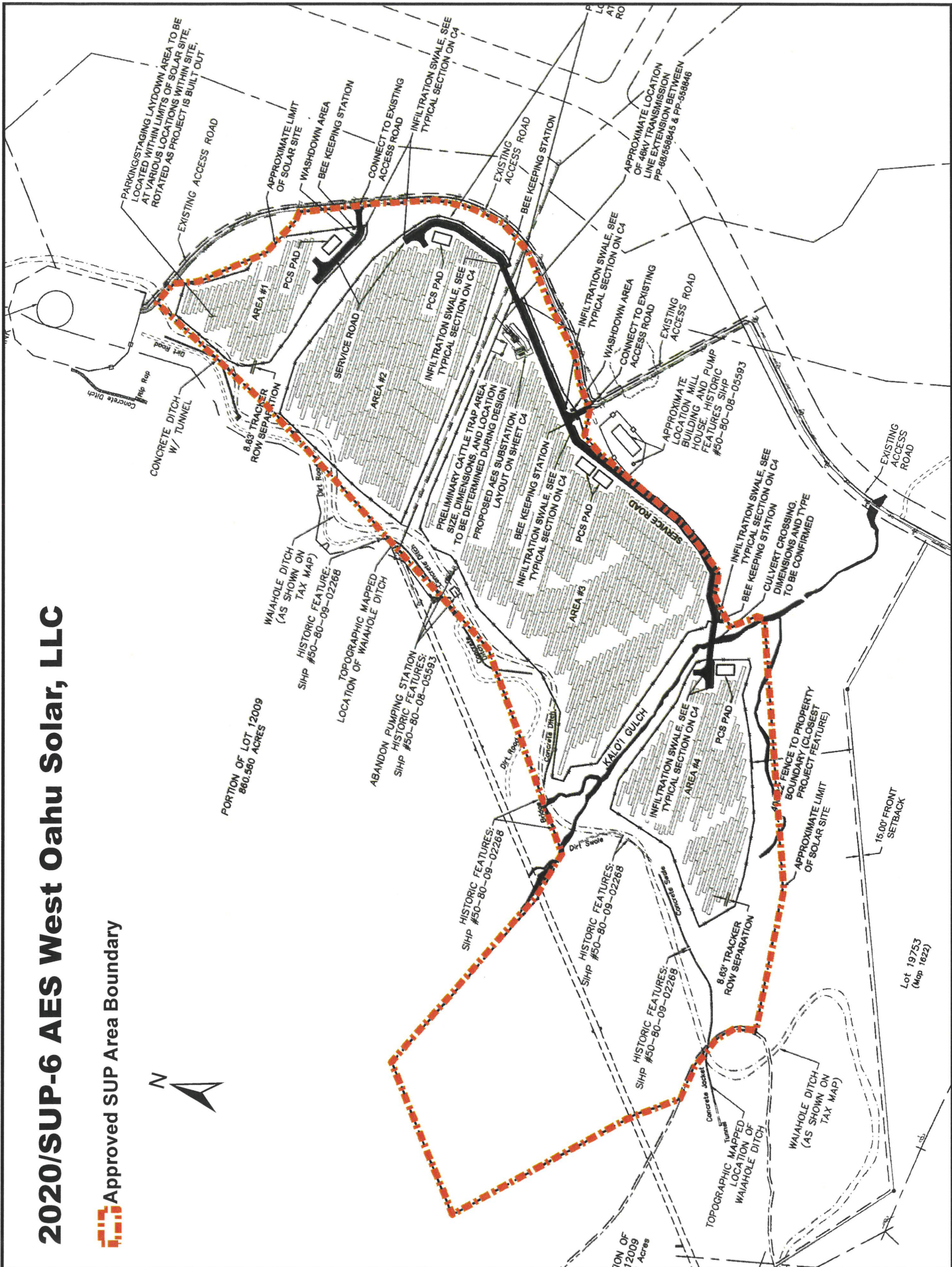


EXHIBIT A

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI'I

In the Matter of the Petition of)	DOCKET NO. SP21-411
)	
AES WEST O`AHU SOLAR, LLC)	CERTIFICATE OF SERVICE
)	
For a Special Use Permit to Establish)	
a Solar Energy Facility on)	
approximately 96.353 acres of land)	
within the State Land Use)	
Agricultural District at 'Ewa District)	
of O`ahu, Hawai'i)	
_____)	

CERTIFICATE OF SERVICE

I hereby certify that a file-marked of the foregoing document was duly served upon the following **AS INDICATED BELOW** on May 12, 2021.

MARY ALICE EVANS, DIRECTOR
State of Hawai'i
Office of Planning
235 South Beretania Street
Room 600, Leiopapa A Kamehameha Bldg.
Honolulu, HI 96813

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

ALISON S. KATO, ESQ.
Deputy Attorney General
State of Hawai'i
Department of the Attorney General
425 Queen Street
Honolulu, HI 96813

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

DEAN UCHIDA, DIRECTOR
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

DUANE W.H. PANG, ESQ.
Deputy Corporation Counsel
City and County of Honolulu
Department of Corporation Counsel
530 S King Street, Room 110
Honolulu, HI 96813

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

DATED: Honolulu, Hawai'i, May 12, 2021.



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