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September 21, 2022

RE:  Paeahu Solar Project Update  
Updated Site Plan and Studies & Next Steps

Aloha Community Members,

As part of our ongoing commitment to keep the community up-to-date on Paeahu Solar's latest developments, we hope you find this project update informative and helpful. Innergex, and the Paeahu Solar team, are grateful to the community, the Public Utilities Commission (PUC), Hawaiian Electric, Maui County, and other agencies for their ongoing support for this important project.

## Permitting

**Evidentiary Hearing.** Following our mediation effort in May of 2022 with Pono Power Coalition and the Maui Meadows Neighborhood Association, the parties moved to a contested case proceeding where each will present evidence on the technical merits of the Project's County Use Permit application and Updated Site Plan. The hearing officer has been selected and the process and schedule has been set. We look forward to presenting the array of studies our technical consultants have conducted in the proceeding and showing again that the project will provide a clean and reliable energy source that will benefit all Maui residents.

After the evidence has been presented, the hearing officer will provide his findings and recommendations to the Maui County Planning Commission. The Commission will vote on whether to accept the recommendations.

The County Use Permit application and presentation<sup>1</sup> can be found on the project's website: <https://www.innergex.com/hawaii/paeahu/downloads/>

**Updated Site Plan and Studies.** As our technical consultants continue to work on the project to prepare for initial grading and building permit applications, our preliminary site plan has been refined (see Figure 1), as is typical of other projects. All Project components will remain located within the approximately 212-acre Project Study Area described in the County Use Permit application submittal and the design updates result in no change to the analysis for potential impacts. Updated studies and analysis are provided to confirm the impacts have not changed.

Paeahu Solar has updated the layout of equipment to facilitate refinements in the drainage design (based on coordination with Maui County Department of Public Works) and changes to the equipment design. The major components of the Project have not changed. Some of the Project equipment has been updated in response to the design refinements and, in the case of the Battery Energy Storage

<https://www.innergex.com/hawaii/wp-content/uploads/2021/05/Presentation-Paeahu-Solar-Project-Planning-Commission-Hearing-May-25-2021.pdf>

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System (BESS), in response to market availability. The design updates do not affect the evaluation of the Project's compliance with applicable plans, policies, and rules.

## Comparison of Changes to Original Site Plan

- ***Solar Arrays:*** The updated design includes a reduced footprint and reduced solar panel area. The solar PV panes will still be mounted on fixed-tilt racking system. The tilt, orientation, dimension of panels, and layout of the panel tables has changed. Note that on level ground, the highest expected point of the panel above the ground will be slightly reduced to 7.5 feet (versus 8 feet). In areas where the slope falls away from the panel slope, the expected distance to the ground will be closer to 11.5 feet. Project infrastructure continues to be sited to avoid sensitive environmental and cultural resources to the extent practicable.
- ***BESS:*** The previous layout included a distributed BESS where the batteries would be located throughout the solar array areas at the seven power conversion systems. Due to changes in the available BESS technology, the BESS will be in a centralized location (the Battery Yard) near the Project's collector substation and further away from the community.
- ***Project Collector Substation and Overhead Gen-tie Line:*** The Project's collector substation has moved slightly north of its original location but is still within the 212-acre Project Study Area. Due to the updated location, the Project's overhead generation-tie line has slightly increased in length by approximately 400 feet for a total of 0.53 miles.
- ***Access Roads and Fencing:*** The design of the main access road from Pi'ilani Highway has not changed as the driveway has been approval by Hawaii Department of Transportation. The network of access roads within the solar array fence line and the access road to the gen-tie line and Auwahi Switchyard have been updated to accommodate the revised design. The perimeter fence that will be installed around the solar array area for general security purposes and public safety will continue to be setback a minimum of 250 feet from the closest property boundary. The location of the fence along the northeast, east, and south portions of the solar array area has been updated to accommodate the revised design. Existing vegetation between the Project fence line (except for the 5-foot fire break/vegetation management zone along the fence line) and the Maui Meadows property boundaries will be left in place, to the extent practicable, to help screen the Project and to reduce visual impacts from the adjacent homes. Landscaping will be installed, if required, to provide and/or supplement the visual screening provided by the existing vegetation in the setback area.
- ***Retention Basin and Other Stormwater Facilities:*** The location and design of these facilities have been updated to accommodate the revised design. The design assumptions did not change and the revised drainage plan ensures that the post-development runoff rate and runoff volume at each point of discharge into downstream properties will remain at or less than predevelopment conditions.

## PUC Proceeding

The PUC will address the second phase of the docket, which is the approval of Hawaiian Electric's overhead transmission line that will be needed to connect the project to the Auwahi switchyard in South Kihei on Ulupalakua Ranch land. A new procedural schedule for this decision is pending from the PUC. Paeahu Solar is PUC Docket Number 2018-0433.

### ***Paeahu Solar Project Overview***

*The Paeahu Solar Project is a 15MW fixed-tilt solar PV coupled with a 60 MWh battery energy storage system (BESS). The BESS would be charged from the solar panels during the day. The Project:*

- *provides Maui Electric with flexible, semi-dispatchable renewable energy at **a fixed price for 25 years***
- *provides enough electricity to power **the equivalent of 6,900 homes***
- *will provide **South Maui** with stored renewable generation and improve grid stability*
- *will occupy approximately 150 acres of which solar panels will cover about 50 acres*
- *will **displace about 1,342,000 barrels of fossil fuel** over the 25-year life of the project*
- *will offset an **estimated 527,810 net metric tons** of greenhouse gas emissions over the life of the project*
- *will help **replace the power of the 38 MW oil-fired Kahului Power Plant** due to close in 2024*

## Replacing Power Lost by Planned Closure of Fossil Fuel Plants

As part of the 100 percent renewable energy goal, Hawaiian Electric is tasked with closing the 74-year-old, fossil-fuel-burning Kahului Power Plant by 2024 as well as preparing for the retirement of diesel engines at the Maalaea Power Plant. Recently, two planned renewable projects have rescinded their PPA's with the PUC, effectively cancelling the projects. The projects can no longer continue under their original PPA due to escalating costs and supply shortages for solar panels and batteries as well as increased shipping prices. Given these shifts with proposed RFP 1 and RFP 2 renewable projects, Hawaiian Electric has indicated that the 2024 closure date is in jeopardy, noting that ~40MW of solar plus storage must be online to maintain a reliable grid after the Kahului power plant closure and additional capacity is required for the Maalaea retirement. The Paeahu Solar Project is a key piece to eliminating the GHGs and pollution created by the fossil fuel plants while ensuring energy stability in Maui.

**State Mandate – Local Need.** The Paeahu Solar Project, to be sited on Ulupalakua Ranch on approximately 150 acres of fallow grazing land (Class E soils), is a critical part of maintaining a reliable supply of power, achieving Maui's renewable energy goals, and reducing Hawai'i's dependence on imported fossil fuels. Paeahu Solar was one of 17 projects statewide to be selected by Hawaiian Electric through an RFP process initiated in 2018 to move Hawai'i toward its 100 percent renewable energy portfolio standard by 2045. The Ulupalakua Ranch site benefits from the proximity to the existing Auwahi substation, addresses the ever-growing power demands from South Maui, and responds to the expressed community preference for no extended transmission lines from the Maalaea power plant to South Maui.



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## Contact Us

Please visit our website at <https://www.innergex.com/hawaii/paeahu/> for more details. A copy of the Updated Site Plan and Studies can be found at <https://www.innergex.com/hawaii/paeahu/downloads/>.

In response to recent inquiries about the Project, we have included a Frequently Asked Questions to this project update. Please do not hesitate to contact my colleague, Julia Mancinelli, our Maui team, Jeanne Skog and Teena Rasmussen, or me or email [hawaiisolar@innergex.com](mailto:hawaiisolar@innergex.com) if you have questions or comments.

Mahalo

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Encl. Figure 1 – Project Study Area - Updated Site Plan  
Frequently Asked Questions

# Paeahu Solar Project

## Paeahu Solar, LLC

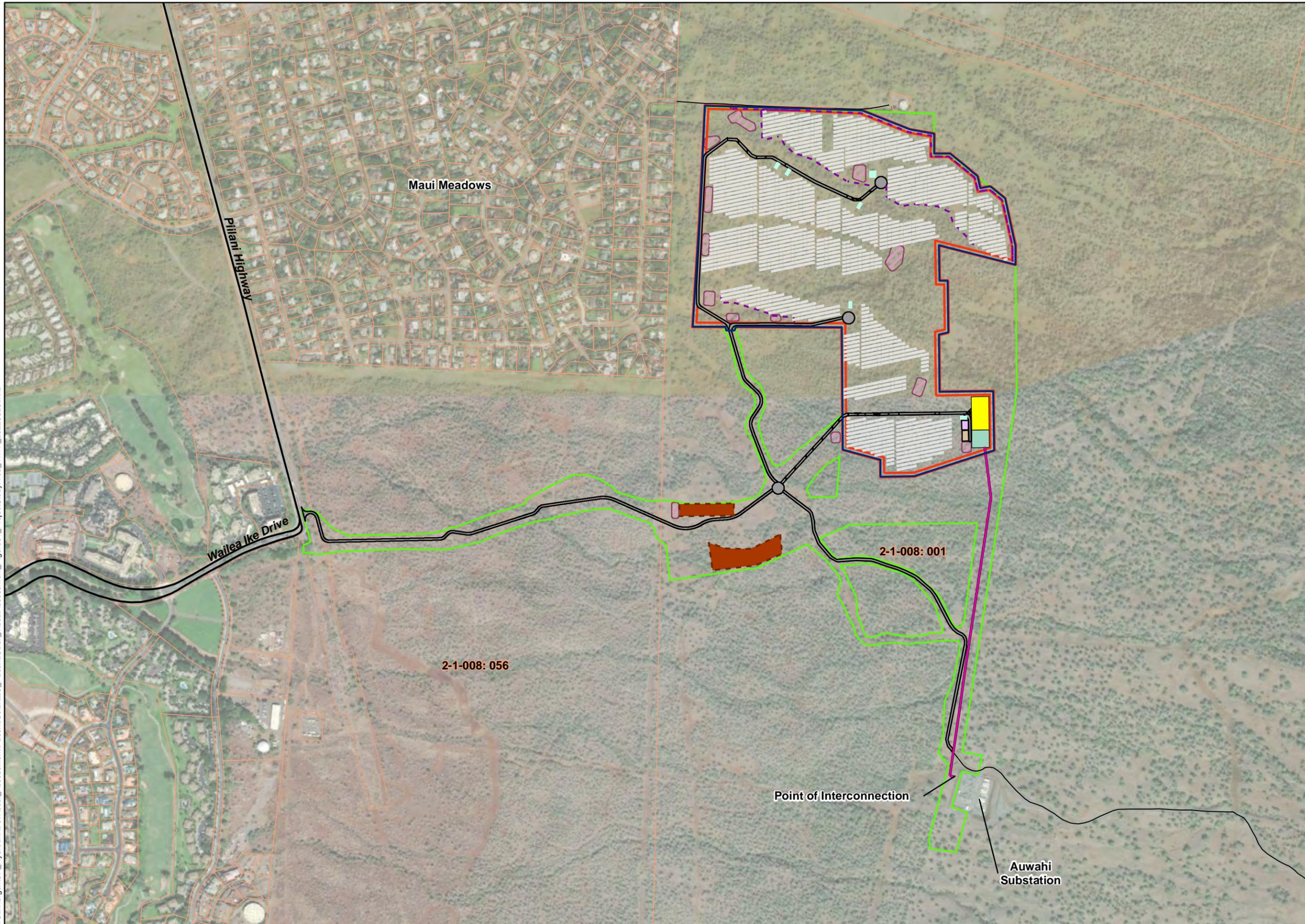
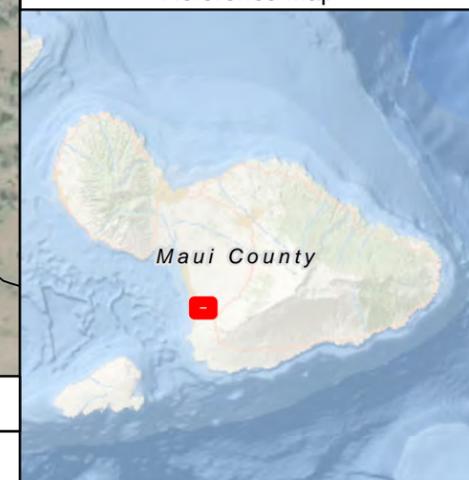
### Figure 1 Project Study Area

MAUI COUNTY, HI

- Project Study Area
- Major Public Road
- Existing Improved Ranch Road
- TMK Boundary
- Project Infrastructure**
- Fence Line
- Fire Break (30ft inside fence, 5 ft outside fence)
- Solar Array
- Inverter Skids
- Proposed Retention Areas
- Construction Path (10ft wide)
- Access Road (20ft wide)
- Generation-Tie Line
- Project Collector Substation
- Battery Yard
- Operations Area
- Parking Area
- Temporary Laydown Area



#### Reference Map



Data Sources: State of Hawaii (TMK Boundaries, Roads); Paeahu Solar, LLC (Project Infrastructure)

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## FREQUENTLY ASKED QUESTIONS

### **Safety: Does the Project pose a fire risk to the community?**

The Paeahu Solar Project is designed safely according to applicable national building and fire codes and best management practices and will serve as an additional firebreak to the nearby community, reducing its current fire risk.

The Project will employ multiple layers of fire prevention and electrical protection measures to reduce risk of ignition or fire damage to the solar Project and surrounding area. Project infrastructure will be designed in accordance with applicable national building and fire codes and will incorporate multiple layers of controls and electrical protection to constantly monitor and avoid failures and electrical faults. In addition, the BESS unit enclosures are design to limit fire propagation, will be placed on noncombustible based and will have a 10-foot perimeter fire break made of gravel or as similar noncombustible base. The project's Vegetation Management Plan includes measures and risk-reduction strategies such as implementation of fuel breaks and fuel management (e.g., mowing, grazing, etc.). The Vegetation Management Plan was submitted to Maui County Department of Fire and Public Safety for review and input. The Maui Fire Department acknowledged that the project would serve as a firebreak to offer additional protection to the Maui Meadows neighborhood. Therefore, through its design and risk-reduction measures, the project will reduce risk of wildfire danger to the adjacent community.

### **Flooding: Does the Project increase flooding risk?**

Water discharge into downstream properties will remain at or less than predevelopment conditions.

The Paeahu Project design seeks to minimize the amount of impervious surface by retaining the existing vegetation and topsoil where practical. Paeahu Solar is aware of the existing flooding issues in the Maui Meadows neighborhood. As a result, the project team conducted extensive studies on the existing drainage patterns in the Project Area to understand the potential for flooding within and downslope of the Project Area, and design stormwater facilities sufficient to manage project related stormwater.

As a conservative estimate, the design team estimated the footprint of the solar panel arrays would have zero percent permeability when calculating the stormwater runoff for the site under proposed conditions. Onsite stormwater calculations were based on the requirements of the County of Maui's Rules for the Design of Storm Drainage Facilities (Maui County Administrative Rules Title MC-15, Chapter 4). Using the calculated onsite stormwater amounts, Paeahu Solar's design team developed a drainage plan to manage stormwater flow rates and ensure water quality. Rock berms/swales are incorporated in the plan to capture stormwater runoff in several retention areas distributed through the site. The retention areas will be designed to retain and allow for infiltration or evapotranspiration of stormwater, as needed to reduce peak flows similar to pre-development levels. The Project's drainage plan will ensure there will be no adverse effects on the adjacent or downstream properties due to the Project. Paeahu Solar remains committed to ongoing maintenance of the stormwater drainage system throughout operations.

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**Environment: Can you mitigate impacts to flora/fauna?**

The majority of the Paeahu Project Area is composed of disturbed agricultural land (Class E soils) that is dominated by plant and wildlife species that are not native to the Hawaiian Islands. Kiawe (*Prosopis pallida*) and Buffelgrass (*Cenchrus ciliaris*) are the dominant species in the Project Area and therefore the Project Area is not a native dryland forest. Most of the native species observed in the Project Study Area are present in the vicinity and relatively common across Maui and the other Hawaiian Islands.

The Paeahu Solar Project has conducted detailed biological studies to assess the existing species and habitats found within the Project Area. Only one individual listed plant (ma'o hau hele or *Hibiscus brackenridgei* ssp. *brackenridgei*) was identified in the Project Area and the Project layout has been designed to avoid impacts to this plant. The endangered Blackburn's sphinx moth is also known to be present in the Project Area; however, its habitat within the Project Area is limited to the invasive, non-native tree tobacco plant. The Project's construction and operation will avoid impacts to the listed species through the implementation of regulated avoidance and minimization measures provided by the local and federal agencies who work to protect these species.

**Archaeological and Cultural: Are historic properties being appropriately assessed?**

An Archaeological Inventory Survey (AIS) and Cultural Impact Assessment (CIA) were completed for the project. The AIS report, which was approved by SHPD in February 2021, made recommendations to mitigate impacts to archaeological sites that were identified and documented through the AIS. These recommendations were developed in close consultation with cultural descendants from the Honua'ula District. Mitigation plans, including a Preservation Plan, Data Recovery Plan, and Archaeological Monitoring Plan, were approved by SHPD in October 2021.

The AIS resulted in the identification and recordation of 18 historic properties containing 52 component features within the survey area. The AIS did not identify any burial sites. Of the 18 identified historic properties, 14 sites will not be impacted during construction and operations. Four sites containing single features will potentially be impacted by the Project. Two of these sites (an agricultural mound and a C-shaped enclosure) were recommended for data recovery, which has been completed in accordance with the SHPD approved Data Recovery Plan. The other two sites that may be impacted (a clearing mound that was tested during the AIS and yielded no subsurface archaeological deposits, and a small mound interpreted as a marker) have been recommended for archaeological monitoring during construction, as each of these has low potential to contain subsurface archaeological deposits. These commitments are contained in the SHPD approved Archaeological Monitoring Plan for the entire Project Study Area.

## Project Siting: Why did you choose this location?

The following information describes why the Project location was selected rather than an alternate location on Maui. Determining the location for a solar project is a multifaceted process that goes beyond simply looking at the solar radiation. Other key considerations include access to existing transmission infrastructure and grid resilience, available buildable land, and avoidance of sensitive cultural and/or environmental resources.

- ***Access to Transmission and Grid Resilience:*** As noted above, the Hawaiian Electric's PSIP identified a transmission constraint in South Maui and identified the addition of generation capacity in South Maui as a non-transmission alternative to upgrading the transmission line or building a new transmission line to serve South Maui. The PSIP further notes that previous attempts to upgrade the transmission line serving South Maui had received significant community opposition because of the aesthetic impact of upgrading the line. Therefore, the Applicant focused its search for potential solar energy sites to the South Maui area to respond to the current grid needs.
- ***Access to Available Buildable Land:*** The decision to build the Project on 'Ulupalakua Ranch lands was based on two primary factors. First, the existing Auwahi switchyard is located on 'Ulupalakua Ranch and has capacity to accommodate the interconnection of 15 MWs of solar energy. The Auwahi switchyard in South Maui where a non-transmission alternative discussed above will provide benefit to the Maui Electric grid. Therefore, the Applicant focused its search for potential solar energy sites near the Auwahi switchyard to minimize the length of the overhead generation-tie line (which further minimizes visual and environmental concerns related to the overhead transmission line). Second, the potential solar energy site must meet certain topographic conditions to be considered buildable. Most of the topography at 'Ulupalakua Ranch is sloping with steep undulations that would be unbuildable or require excessive grading inconsistent with ongoing use of the land for agricultural uses. The terrain in the northwestern section of 'Ulupalakua Ranch (i.e., in the location of the Project Study Area) is the most viable area since the terrain is flatter with gentler slopes and is unproductive, fallow grazing land (Class E soils).
- ***Avoidance of Sensitive Cultural and Environmental Resources:*** In response to community feedback regarding the proximity of the Project to the Maui Meadows subdivision, Paeahu Solar underwent an expedited but comprehensive assessment of an alternative site located 0.25 miles to the south of the proposed Project Study Area (on the same TMK owned by 'Ulupalakua Ranch) between April and July 2019. This alternative site was selected because it met the other site selection criteria (e.g., located in South Maui, near the Auwahi switchyard, on available buildable lands). The assessment included archaeological, environmental, and technical surveys and assessments as well as consultation with the community (June 3, 4, and 5, 2019 Information Sessions), meetings with stakeholders (April through July 2019), and a site visit and post-site visit meeting with the Aha Moku and the Sierra Club (June 29, 2019 and August 24, 2019). The alternative site assessment showed potential for significant archaeological and environmental impacts. The alternative site contains several significant archaeological sites that must be avoided. Also, the topography in the alternative site would require substantially more disturbance to the land and surrounding environment (e.g., cut and fill, drainage, erosion and sediment) compared to the Project Study Area due to the extent of grading that would be required for the solar arrays. Relocating the Project south to the alternative site was determined not to be feasible based primarily on the potential archaeological impacts and steep terrain.