Preliminary Environmental Assessment

FOR
MAUI ELECTRIC COMPANY
REQUEST FOR PROPOSALS
FOR
VARIABLE RENEWABLE DISPATCHABLE GENERATION

KAHANA SOLAR PROJECT
MAUI, HAWAII

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Table of Contents

List of Tables

List of Figures

Acronyms and Abbreviations

ALISH	Agricultural Lands of Importance to the State of Hawaii
Applicant	Innergex Renewables USA, LLC
BMP	best management practices
dB	decibels
dBA	A-weighted decibels
DOFAW	Division of Forestry and Wildlife
DWS	Department of Water Supply
EA	Environmental Assessment
° F	degrees Fahrenheit
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
HAR	Hawaii Administrative Rule
HDOH	Hawaii Department of Health
HMWMP	Hazardous Materials and Waste Management Plan
Innergex	Innergex Renewables USA, LLC
kV	kilovolt
LSB	Land Study Bureau's
LWRF	Lahaina Wastewater Reclamation Facility
MCZO	Maui County Comprehensive Zoning Ordinance
MECO	Maui Electric Company
MSL	mean sea level
NHD	National Historic Database
NRCS	National Resource Conservation Service
NWI	National Wetland Inventory
PM	particulate matter
Project	Kahana Solar Project
SLUC	Land Use Commission
SPCC	Spill, Prevention, Containment, and Countermeasure
SUP	special use permit
SWPPP	Storm Water Pollution and Prevention Plan
SWTP	Surface Water Treatment Plant
TESC	Temporary Erosion and Sediment Control
TMK	Tax Map Key
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 Introduction

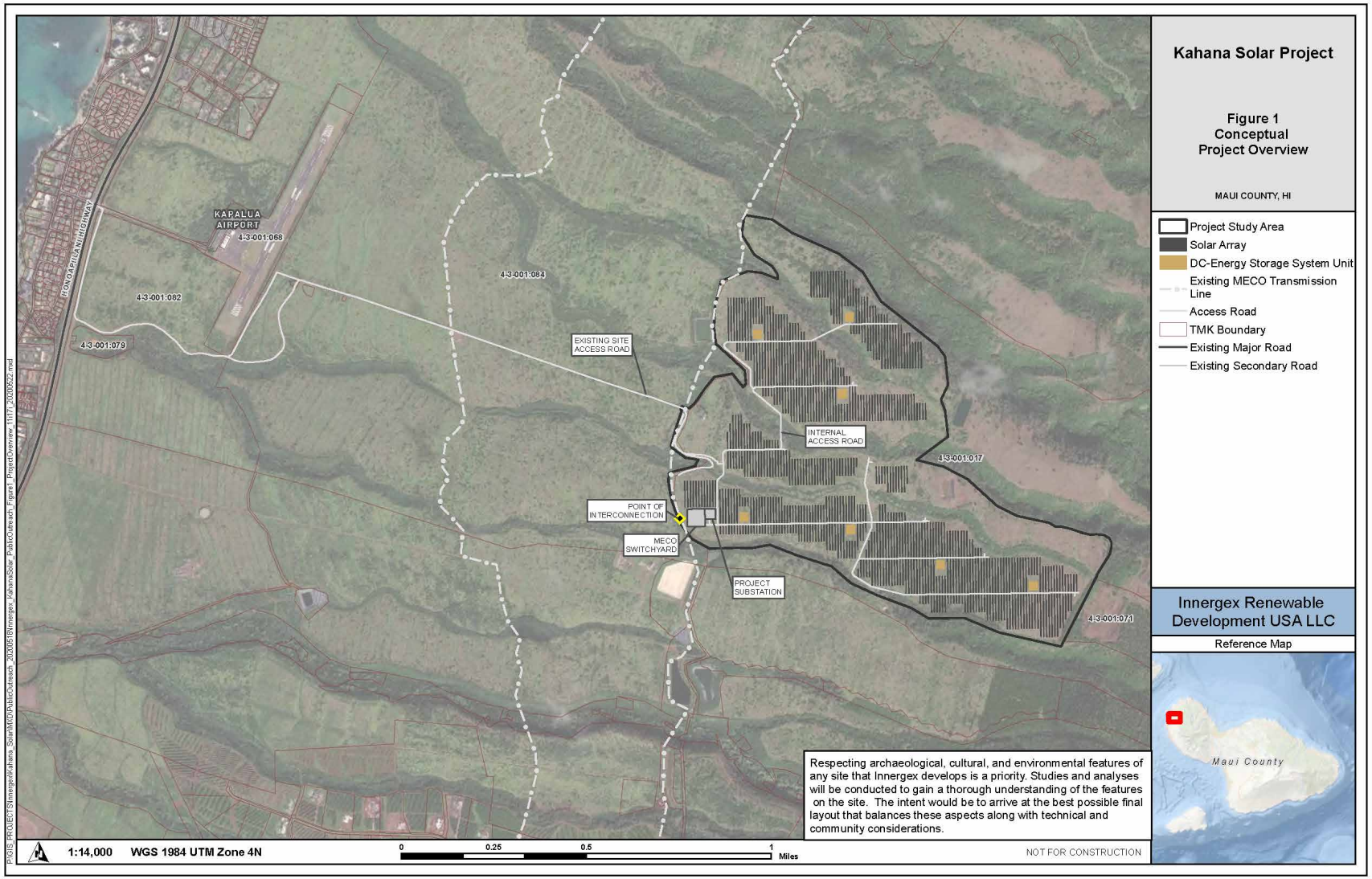
In response to the Maui Electric Company's (MECO) Request for Proposals to provide renewable energy projects on Maui, Innergex Renewables USA, LLC (Applicant or Innergex) has prepared this Preliminary Environmental Assessment (EA). This Preliminary EA provides a summary of the anticipated impacts to resources for the proposed Kahana Solar Power Project (Project) located mauka of the Kapalua Airport in West Maui, Maui County, Hawaii (Figure 1).

This Preliminary EA provides a high-level review of pre-existing environmental conditions, and potential short- and long-term impacts associated with, or resulting from the proposed Project, including direct, indirect, and cumulative impacts associated with development, construction, operation and maintenance of the proposed Project in each of the environmental areas identified below. There is no proposed alternative site or project currently being considered, and therefore, no alternative is evaluated in this Preliminary EA. The assessment also describes proposed avoidance and minimization measures for each of the major environmental areas as presented below. Construction and operations of the proposed Project are expected to be less than significant short- and long-term, and cumulative impacts for each of the resource areas described below. In conclusion, impacts from the proposed Project are expected to be minor relative to the benefits that the proposed addition of renewable energy to MECO would provide.

1.1 Project Description

The Project Area includes an approximately 400-acre area located on land owned by Maui Land and Pineapple on Tax Map Key (TMK) 4-3-001-017. The Project Area would include solar fields with arrays of photovoltaic panels that would be arranged in rows on fixed tilt or single-axis tracking foundations. Other equipment on-site would include inverters, combiners, battery energy storage system, transformer(s), overhead and buried conduits, and on-site collection lines. The maximum height of the panels (at full tilt) would be about 16 feet. The Project's would interconnect with the Maui Electric Company (MECO)'s existing transmission line located on TMK 4-3-001-017 (see point of interconnection on Figure 1). Access to the Project Area would be via existing agricultural roads that have existing driveway access off Akahele Street and Honoapi'ilani Highway. No new driveways on state or county roads would be required. The Project would have an estimated 35-year life based on the projected useful life of the solar panels. After that time, Innergex would evaluate whether to continue operations of the Project or decommission the facility.

Figure 1. Conceptual Project Overview



2.0 Natural Environment

2.1 Air Quality

2.1.1 Existing conditions

The air quality in the State of Hawaii, including Maui, is ranked as one of the best in the United States (American Lung Association 2019), primarily because of the consistent trade winds that pass over the islands, and the limited emission sources present. The main sources of pollutant air emissions within or directly adjacent to the Project Area are associated with fuel combustion emissions from vehicles associated with Honoapiilani Highway and adjoining roadways and aircrafts arriving and departing from the Kapalua Airport, dust from adjacent agriculture lands, and distant volcanic emissions. The sources are intermittent; however, the prevailing winds disperse particulates generated by these temporary sources.

Both federal and state standards have been established to monitor ambient air quality. Seven parameters are regulated: particulate matter, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone, and lead. State of Hawaii air quality standards are more stringent than the comparable national standards, except for those pertaining to sulfur dioxide and particulate matter, which are equivalent. The closest air quality monitoring station to the Project Area is the Kahalui Station, located on TMK 3-8-007-153, which is approximately 10.6 miles southeast of the Project Area. Air quality monitoring records from the Kahalui Station show that the Project Area is in attainment of all National Ambient Air Quality Standards and Hawaii ambient air quality standards (HDOH 2016, 2019).

2.1.2 Short- and Long-Term Impacts

Short-term direct and indirect impacts on air quality are likely to occur as a result of Project construction, operation, and decommissioning. Greenhouse gas (GHG) emission associated with the Project would result from:

- Production and transportation of Project components;
- Project construction and construction-related vehicle traffic;
- Project operation and operation-related vehicle traffic; and,
- Decommissioning of the Project, including transport, and disposal of Project components.

In addition, construction activities could result in the generation of fugitive dust (which is measured as Particulate Matter $[PM]_{10}$ and $PM_{2.5}$). Air pollutants and fugitive dust levels would be highest at the construction areas; however, lower levels may also be present along travel routes to and from the construction areas.

The amount of air pollutants generated by construction equipment and construction-related vehicle traffic would be too low and their distance from sensitive receptors too great, for combustion

emissions to have an adverse effect on Maui's air quality. Fugitive dust could have a more substantial effect on air quality than emissions from the combustion engines but will be minimized and mitigated as described in Section 2.1.3, and would only be generated in the short term until vegetation has become re-established or material is placed over the exposed ground. The Project would establish a vegetation management plan to ensure that ground cover is maintained to minimize airborne fugitive dust during operations. Short-term impacts to air quality will be low in intensity, localized in extent, and/or temporary in duration. Therefore, short-term impacts to air quality will be minor.

No long-term impacts to air quality are expected from construction, operation, or decommissioning of the Project because none of the equipment associated with the solar field or collection lines emit air pollutants. Some emissions will result from operations and maintenance vehicles, but these will be limited in number and frequency and would not result in long-term impacts to air quality in the area.

2.1.3 Best Management Practices and Mitigation

BMPs that may be implemented to minimize and avoid impacts to air quality include the following:

- All Project vehicles and equipment used during construction and operation will be maintained in proper working order and in compliance with state and federal emission standards.
- Fugitive dust will be mitigated throughout the construction period by implementation of best management practices (BMP) techniques to minimize dust, such as water spray, wind screens, covering soil piles, or establishing temporary ground cover.
- A vegetation management plan will be prepared and implemented to ensure that ground cover is maintained to minimize airborne fugitive dust during operations.

The Project would offset the GHG emissions generated during construction, operations, and decommissioning by displacing GHG emissions produced by fossil fuel power sources. Overall, the operations of the Project would result in beneficial impact to air quality by reducing the annual emissions from fossil fuel consumption.

2.2 Biology

The assessment of biological resources within the Project Area is based on publicly available information, including several recent biological surveys in the area (Hobdy 2012, 2013, and 2018), and general knowledge of biological resources in this region. A comprehensive biological survey has not been conducted in the Project Area.

2.2.1 Wildlife

2.2.1.1 Existing Conditions

Although a comprehensive wildlife survey (including birds, invertebrates, mammals, and their habitats) has yet to be conducted within the Project Area, the Project is likely dominated by non-native wildlife species that are common throughout Maui and the Hawaiian Islands given the area's history of agricultural use. No critical habitat for threatened or endangered animal species has been designated or proposed within the Project Area. However, the Puu Kukui Watershed Preserve is located approximately 0.78-mile northeast of the Project Area and the West Maui Forest Reserve is located approximately 0.1-mile southeast of the Project Area. Based on available desktop information, ten listed wildlife species have the potential to occur or traverse the Project Area or its vicinity. These species include:

- Hawaiian hoary bat or opeapea (*Lasiurus cinereus semotus*);
- Blackburn's sphinx moth (*Manduca blackburni*);
- Assimulans yellow-faced bee (*Hylaeus assimulans*);
- Anthricinan yellow-faced bee (*Hylaeus anthracinus*);
- Hawaiian goose or nene (*Branta sandvicensis*);
- Newell's shearwater or ao (*Puffinus newelli*);
- Hawaiian petrel or uau (*Pterodroma sandwichensis*);
- Band-rumped storm-petrel (*Oceanodroma castro*);
- Hawaiian coot or alae kea (*Fulica alai*); and,
- Hawaiian stilt or aeo (*Himantopus mexicanus knudseni*);

Hawaiian hoary bat

The endangered Hawaiian hoary bat is the only extant terrestrial mammal native to Hawaii. Research is currently ongoing to understand its distribution throughout the state, but it roosts in both native and non-native trees over 15 feet tall and forages over a wide variety of habitats and elevational ranges (USFWS 2011a, Bonaccorso et al. 2015). Hoary bats are known to occur on Maui; however, hoary bats were not observed in the Project Area during previous surveys conducted on-site (Hobdy 2012, 2013, and 2018). It is likely; however, that trees exist in the area that could be used for roosting. Suitable foraging habitat is also likely to occur in the Project Area. Hawaiian hoary bat's pupping season is between June 1 and September 15. Trimming or removal of trees taller than 15 feet (4.6 meters) should be avoided between June 1 and September 15, when juvenile Hawaiian hoary bat that are not yet capable of flying may be roosting in the trees.

Blackburn's Sphinx Moth

The endangered Blackburn's sphinx moth occurs in dry to mesic areas on the islands of Maui, Hawaii, and Kahoolawe. Larvae of the Blackburn's sphinx moth feed on plants in the nightshade family (Solanaceae), including two rare listed *Nothocestrum* species and the non-native tree tobacco (*Nicotiana glauca*). The majority of larvae sightings have been documented between the months of October and May (USFWS 2003, 2005). Larvae take 65 days to develop to adulthood, but pupae may remain in torpor in the soil for up to a year. Adult moths can be found year-round but are most active from January through April and from September through November. Adult moths are believed to feed on several native plant species, including hala pepe (*Pleomele auwahiensis*), maiapilo (*Capparis sandwichiana*), iliee (*Plumbago zeylanica*), and koali awa (*Ipomea indica*) (USFWS 2003, USFWS 2005).

The Project Area could provide habitat for the species, most likely through the presence of tree tobacco, particularly in the drier areas. Direct impacts to Blackburn's sphinx moth can be avoided by timing removal efforts. The Project could result in some potential impacts to Blackburn's sphinx moth habitat. Botanical surveys will confirm whether larval host plants or adult food plants are present within the area and, if required, invertebrate surveys will document any moth adults, larvae, or eggs observed.

Yellow-faced bees

Two endangered yellow-faced bee species—assimulans yellow-faced bee and anthricinan yellow-faced bee—have the potential to occur in the Project Area. These two species occur on Maui up to 2,000 feet in elevation, and require relatively dry conditions (81 FR 67786). The adult bees feed on flower nectar, and their preferred floral host plant is ilima (*Sida fallax*) (USFWS 2013a, 2013b), but can occur on other native species (Xerces Society for Invertebrate Conservation 2009). In West Maui, the assimulans yellow-faced bee has been found at Lipoa Point, Lahainaluna, and Waikapū, and at Makena (USFWS 2013a). It may also occur in other inaccessible portions of West Maui (USFWS 2013a). The anthricinan yellow-faced bee has recently been recorded at Wailuku Sand Hills, and in 1999 along Piilani Highway at the Kanaio Natural Area Reserve, and along the coast at Manawainui Gulch (USFWS 2013b). No critical habitat rules have been published for the Hawaiian yellow-faced bees. The Project Area could provide habitat for the species, particularly in the lower elevation drier. The Project could result in some potential impacts to their habitat. Botanical surveys will confirm whether floral host plants are present within the Project Area.

Hawaiian Goose

The endangered Hawaiian goose uses various habitat types including beach strand, shrubland, grasslands to lava rock (Banko 1988; Banko et al. 1999). They are also known to use landscaped/maintained areas such as golf courses, grazed agricultural areas, playing fields, and housing developments. For nesting, Hawaiian geese require adequate shrub cover. Most nesting occurs during the rainy season between October and March (Banko et al. 1999). Hawaiian geese have been relocated from Kauai to Maui over the last several years thus increasing their local

population. Hawaiian Geese are not likely to nest in the Project Area. Hawaiian geese have been recorded foraging/loafing in the Project Area within the irrigated lawns, with up to 20 birds observed feeding on the grass at one time (Hobdy 2012). It is possible that the species may fly through the Project Area to nearby water sources or be attracted to any areas that may be mowed or maintained as a result of Project construction and operations.

Seabirds

The endangered Hawaiian petrel, threatened Newell's shearwater, and endangered band-rumped storm petrel (collectively referred to as seabirds), have not been documented in the Project Area, including during an evening survey for the seabirds (Hobdy 2012 and 2018). Suitable nesting habitat does not exist in the Project Area. However, suitable nesting habitat may exist in nearby forested areas at upper elevations, suggesting the potential for these birds to fly over the area at night while transiting between nest sites and the ocean. Suitable habitat for nesting seabirds is known to occur in high elevation areas in the West Maui Mountains.

Disorientation and fallout resulting from light attraction could occur to seabird individuals due to nighttime construction lighting and unshielded nighttime facility lighting. Juvenile birds are particularly vulnerable to light attraction, and grounded birds are vulnerable to mammalian predators or vehicle strikes. The seabird peak fallout period (September 15–December 15) is also an important period as this is when the fledglings are heading to sea.

Waterbirds

The Hawaiian coot and Hawaiian stilt constitute the waterbird group. Both species are listed as endangered under the Endangered Species Act. Because these species share similar habitat needs and biological characteristics, they are discussed as a single group. In general, the waterbirds require open water habitats or water features with emergent vegetation. This includes wetlands, natural ponds, marshes, streams, springs or seeps, lagoons, grazed wet meadows, taro and lotus fields, shrimp aquaculture ponds, reservoirs, sedimentation basins, sewage ponds, and drainage ditches (Shallenberger 1977, Nagata 1983, Banko 1987, Bannor and Kiviat 2002, Pratt and Brisbin 2002; USFWS 2011b).

According to National Wetland Inventory (NWI) and National Hydrography Dataset (NHD) data, there appears to be permanent suitable habitat for Hawaiian waterbirds near the Project Area, with the closest being an open reservoir within 410 feet south of the Project Area. Additional permanent manmade water features not mapped by the NWI and NHD are also present in the vicinity of the Project Area. In addition, extreme rain events could result in flooding of low-lying areas, which would offer temporary waterbird habitat. Hawaiian stilt have been observed at the margins of the reservoirs nearby the Project Area (Hobdy 2012 and 2018).

2.2.1.2 Short- and Long-Term Impacts

Short-term direct and indirect impacts on Blackburn sphinx moth, yellow-faced bee, and Hawaiian hoary bat could occur during Project construction and operation due to the vegetation removal that

would be required during construction of the solar array and associated facilities. Direct impacts can be avoided by timing removal efforts of potential host plants/roosting trees; however, the Project could result in some potential impacts to the species' habitats.

Short-term direct and indirect impacts on Hawaiian goose could occur during construction and operation due to disturbance of foraging/loafing Hawaiian geese or disturbance of nests, although Hawaiian geese are not expected to nest on-site. However, direct impacts can be avoided through the avoidance and minimization measures outlined in the BMPs Section 2.2.1.3. No long-term impacts are expected from operation of the Project because the operation of the proposed solar array does not entail any activities that have the potential to affect the species or their habitats.

Short-term and long-term direct impacts to listed seabirds are not anticipated as the Project would avoid nighttime construction lighting and would shield nighttime facility lighting No long-term impacts to seabirds are expected from operation of the Project because the operation of the proposed solar array does not entail any activities that have the potential to affect the species or their habitats.

Short-term and long-term direct impacts to listed waterbirds are not anticipated as the Project would avoid impacting nesting or foraging habitat through the implementation of avoidance and minimization measures outlined in the BMPs Section 2.2.1.3.

It has been hypothesized that water-dependent birds can perceive arrays of photovoltaic panels to be bodies of water and collide with the panels while attempting a water landing (Kagan et al. 2014, WEST 2014, Walston et al. 2016). This hypothesis is termed the "lake effect." However, there is not enough scientific evidence to conclude whether water-dependent birds are actually attracted to solar arrays or how proximity to water sources may be related to avian mortality at solar facilities. According to Kagan et al. (2014), the "lake effect" may be more likely to occur if water is otherwise limited in the surrounding environment, such as in a desert or dense forest (Kagan et al. 2014). Furthermore, this effect has mostly been observed at projects in arid desert regions of the western continental United States. It is unknown how solar facilities could impact Hawaiian waterbirds in a region with ample water features; however, this impact is expected to be negligible to minor within the Project Area.

In conclusion, short and long-term direct and indirect impacts to wildlife species are expected to be minor to negligible with the implementation of the Project BMPs during construction as outlined in Section 2.2.1.3. In addition, operation of the Project does not involve any activities that have the potential to affect the survival of any wildlife species and would not impact any designated critical habitats.

2.2.1.3 Best Management Practices and Mitigation

Consultation and coordination with the U.S. Fish and Wildlife Service (USFWS) and the Division of Forestry and Wildlife regarding potential impacts to federal and state-protected species occurring within the Project Area will be undertaken prior to Project construction. Consultation will include discussion of recommended surveys (and associated survey protocols) for assessing potential

impacts to listed and sensitive species. Surveys that may be required could include general biological surveys, botanical surveys, and invertebrate surveys.

BMPs that may be implemented to minimize and avoid impacts to listed species include the following:

1. General
    - Prior to the start of construction and ongoing during operations, all employees, contractors and subcontractors will undergo an employee orientation program that will enhance wildlife awareness and minimize impacts to natural resources. Any known occurrence or habitat of federal listed species or other species of concern identified within construction areas will be included in the training.
2. Seabird avoidance measures:
    - Restrict construction activities to daylight hours during the seabird peak fallout period (September 15–December 15).
    - Avoid the use of nighttime lighting that could attract seabirds and operational on-site lighting at Project facilities known to minimize attraction. Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
    - Install automatic motion sensor switches and timer controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
3. Hawaiian hoary bat avoidance measures:
    - Avoid trimming or removal of trees taller than 15 feet between June 1 and September 15, when juvenile Hawaiian hoary bat that are not yet capable of flying may be roosting in the trees.
    - Fit Project fences with barbless top-strand wire to prevent entanglements of the Hawaiian hoary bat on barbed wire.
2. Blackburn sphinx moth avoidance measures:
    - Conduct a survey for Blackburn's sphinx moth and its larval host plants (tree tobacco) 4-6 weeks prior to construction.
    - If no evidence of Blackburn's sphinx moth are found on tree tobacco, remove any tree tobacco less than 3 feet tall, and monitor the site every 4-6 weeks for new tree tobacco growth. For tree tobacco more than 3 feet tall (with no signs of tree tobacco), remove the above ground portion of the plant according to agency protocols and maintain a 33 foot buffer around the plant for at least 3 months assuming a heavy rain event occurs.
4. Waterbird avoidance measures:

- Avoid the creation, purposefully or inadvertently, of any permanent standing water. If standing water related to temporary sediment/water retention ponds is required during construction to manage stormwater and sediment erosion control, then bird diverters will be installed to divert waterbirds from using the temporary standing water areas as habitat.
- Although not expected, if a nest or active brood is observed, establish a 100-foot buffer around the nest or brood and maintain the buffer around all active nests until chicks/ducklings have fledged. The USFWS will also be contacted for further guidance.
- Post and implement speed limits within the Project Area to reduce the likelihood of collision, and inform Project personnel and contractors about the potential occurrence of endangered species on-site or nearby.

5. Hawaiian goose avoidance measures:
    - Do not approach, feed, or disturb any Hawaiian goose.
    - If Hawaiian geese are observed loafing or foraging within the Project Area during the breeding season (September through April), halt work and have a biologist familiar with the nesting behavior of Hawaiian goose survey for nests in and around the Project Area prior to the resumption of any work. Repeat surveys after any subsequent delay of work for three or more days (during which the birds may attempt to nest).
    - In areas where Hawaiian geese are present, post and implement reduced speed limits, and inform project personnel and contractors about the potential occurrence of endangered species on-site.
    - If a Hawaiian goose appears within 150 feet of ongoing construction work during the non-breeding season, all activity will halt until the bird moves to a safe distance of its own volition.

2.2.2 Vegetation

2.2.2.1 Existing Conditions

A botanical survey has not been conducted for the Project Area. The Project Area lies primarily on former agricultural lands that were associated with both pineapple and sugar cane production from the former Maui Land and Pineapple, Inc. The agricultural fields in the Project Area have been abandoned for over 10 years and the area is overgrown with trees, shrubs, and grasses (Hobdy 2012, 2013, 2018). Because the Project Area has been heavily disturbed by previous agricultural uses, it is expected to be dominated by non-native weedy plants that have colonized the abandoned agricultural lands; however, native plants may persist in small numbers, especially along the less disturbed boundaries of the agricultural fields (Hobdy 2012 and 2018). Four streams occur within

the vicinity of the Project Area adjacent to the solar array areas and are densely forested with trees and shrubs (Hobdy 2012, 2013, 2018).

According to the State of Hawaii Geographic Information System (GIS; Hawaii Office of Planning 2017) the Project Area has a little or no potential for listed plants species; however, nearby areas of high potential for listed plants are present within the vicinity of the Project Area within TMK 4-3-001-017. In addition, rare, native plants are known to occur within the Puu Kukui Watershed Preserve. which is located approximately 0.78-mile northeast of the Project Area.

No critical plant habitat has been designated by the USFWS within the Project Area; however, critical habitat (Lowland Mesic—Unit 2, Lowland Wet Unit 2, and Wet Cliff—Unit 7) for listed plants is present within in the vicinity of the Project Area approximately 0.8-mile southeast of the southern-most solar array. Critical habitat within these areas is designated for the following listed plants: Maui remya (*Remya mauiensis*), kauila (*Colubrina oppositifolia*), pauoa (*Ctenitis squamigera*), asplenium-leaved delia (*Asplenium dielerectum* var. *lanaiense*), Lanai sandalwood (*Santalum haleakalae* var. *lanaiense*), ae (*Zanthoxylum hawaiiense*), kookoolau (*Bidens camplotheca* ssp. *pentamera*), *Bidens conjuncta, Bidens micrantha* ssp. *kalealaha*, mahoe (*Alectryon macrococcus*), naenae (*Dubautia plantaginea* ssp. *humilis*), pamakani (*Tetramolopium capillare*), pilo (*Kadua laxiflora*), kuahiwi laukahi (*Plantago princeps*), kula wahine noho (*Isodendrion pyrifolium*), wawaeiole (*Huperzia mannii*), *Bonamia menziesii, Hesperomannia arborescens, Hesperomannia arbuscula, Cyrtandra filipes,* haha (*Cyrtandra munroi, Cyanea asplenifolia, Cyanea kunthiana, Cyanea glabra, Cyanea lobata, Cyanea magnicalyx*), oha wai (*Clermontia oblongifoilia* ssp. *mauiensis*), makou (*Peucedanum sandwicense*), *Diplazium molokaiense, phyllostegia mollis, Phyllostegia bracteata, Pteris lidgatei, Gouania vitifolia, Platanthera holochila,* and *Lysimachia lydgatei*. At the time of listing, pauoa, Maui remya, Lanai sandalwood, and ae were known to occupy the Lowland Mesic—Unit 2 critical habitat, Lanai sandalwood was known to occupy the Lowland Wet—Unit 2, and haiwale (*Cyrtandra filipes*, *Cyrtandra munroi*) were known to occupy the Wet Cliff—Unit 7 critical habitat.

Given the Project Area's past history of agricultural use, there appears to be a low likelihood that listed plants would occur in the Project Area. Although there is a low potential for the presence of listed species in the Project Area, the proximity of plant critical habitat, the high potential for listed plants in the vicinity of the Project, and the potential presence of some less disturbed areas scattered throughout the Project Area suggests that listed plant species could occur in small numbers.

2.2.2.2 Short- and Long-Term Impacts

Short-term and long-term direct and indirect impacts on vegetation are likely to occur during Project construction and operation; however, impacts are expected to be minor.

The vegetation removal that would be required during construction of the solar array and associated facilities would remove the majority of the existing vegetation below the solar arrays on the site. However, the land was formerly in agricultural production, and the majority of existing vegetation is non-native. The likely absence of any listed plant species and the minimal presence of

any native plant species means that vegetation removal activities associated with the Project do not constitute an adverse effect on vegetation and any impacts would be minor.

Heavy equipment, vehicles, and personnel associated with construction and operation of the Project could introduce invasive and/or non-native species to the Project Area (e.g., through tires, boots). The introduction and spread of invasive and/or non-native species associated with Project construction and operation would be minimized through the implementation of standard BMPs. Disturbance associated with Project construction and operation would be localized and temporary, and with BMPs in place, is expected to have a minor impact, if any, on increasing invasive and/or non-native species in the area.

2.2.2.3 Best Management Practices and Mitigation

Vegetation minimization and mitigation measures will be implemented as appropriate including the following:

- If documented during botanical surveys, avoid removal of any listed plants in the Project Area, as practicable, and maintain a buffer from the individuals as recommended by USFWS (2018).
- Minimize the introduction and spread of invasive and/or non-native species associated with Project construction and operation through the implementation of standard BMPs such as washing equipment prior to entering construction sites from other areas and controlling the quality of seed mixtures used to revegetate disturbed areas.
- Reseed temporary construction areas and encourage them to return to pre-construction conditions.

2.3 Climate

2.3.1 Existing Conditions

The Hawaiian Islands have a semi-tropical climate, characterized by relatively mild temperatures and moderate humidity throughout the year (except at high elevations), persistent northeasterly trade winds, and infrequent, severe storms. Two primary seasons are recognized including a 5-month summer season (May through September) when trade winds are prevalent 80 to 90 percent of the time (Western Regional Climate Center 2016). Summer is typically warmer and drier than winter, with few storm events.

Local climate conditions in Hawaii are influenced by its rugged, mountainous topography and the persistent flow of the trade winds. Temperatures in West Maui are mild and generally range from a daily mean minimum of 67° Fahrenheit (F) to a mean maximum of 79° F, with the highest temperatures reaching 98 ° F (Maui County 2018). The warmest temperatures occur in August and September (Maui County 2018). Wind patterns in the Project Area are also seasonal. The northeasterly tradewind occurs 90 percent of the time during the summer, and just 50 percent of

the time in the winter. Wind patterns also vary on a daily basis, with tradewinds generally being stronger in the afternoon. During the day, winds blow onshore toward the warmer land mass. In the evening, the reverse occurs, as breezes blow toward the relatively warm ocean. The Project Area is located within three ecological zones, including Very Dry, Moderately Dry, and Seasonal Mesic (Price et al. 2012). According to the Rainfall Atlas of Hawaii (Giambelluca et al. 2013), the mean annual rainfall in the Project Area ranges from approximately 34 to 45 inches.

2.3.2 Short- and Long-Term Impacts

Short-term direct and indirect impacts on local climate conditions including temperature, rainfall, humidity, or wind patterns would not result from construction or operation of the Project. Although construction, operation, and decommissioning of the Project would contribute a minor amount of GHG to the environment in the form of exhaust from construction equipment and vessels, emissions would be temporary and localized and would not measurably contribute to regional or global GHG levels. With the implementation of BMPs described in Section 2.3.3, short-term impacts on climate would be negligible.

No long-term negative impacts to climate conditions are expected from construction or operation of the Project because none of the equipment associated with the solar field or collection lines emit GHG. Some emissions would result from operations and maintenance vehicles, but these would be limited to in number and frequency and would not result in long-term impacts to air quality in the area. In the long term, Project operations would have a beneficial impact on the climate by replacing energy generated by the combustion of fossil fuels, thereby reducing emissions of GHG.

2.3.3 Best Management Practices and Mitigation

All Project vehicles and equipment, including the generators used during operation, will be maintained in proper working order and in compliance with state and federal emission standards. This will ensure that the amount of GHG emitted by the Project would be negligible.

2.4 Soils

2.4.1 Existing Conditions

The Natural Resources Conservation Services (NRCS) GIS soil data set (NRCS 2018) indicates that the Project Area is primarily composed of the following soil or land types:

- Olelo: The Project Area contains Olelo silty clay, 15 to 50 percent slopes. Olelo soils consist of friable silty clay with a substratum of soft, weathered basic igneous rock in uplands. This association is used for pineapple, pasture, woodland, wildlife habitat, and water supply.
- Alaeloa Series: The Project Area includes Alaeloa silty clay, 7 to 15 percent and Alaeloa silty clay, 15 to 35 percent. Alaeloa soils consist of deep and very deep, well drained soils on

uplands that formed in residuum weathered from basic igneous rock. The soils are used for pineapple, pasture, wildlife habitat, homesites, and water supply.

- Kahana Series: The Project Area includes Kahana silty clay, 3 to 7 percent slopes and Kahana silty clay, 7 to 15 percent slopes. Kahana soils consist of very deep, well drained soils on uplands that formed in material weathered from basic igneous rock. The soil is used for sugarcane and pastures.
- Rough Broken and Stony Land: This soil series consists of very steep, stony gulches. Runoff is rapid and geologic erosion is active. The soil material is generally less than 20 inches deep over saprolite or bedrock (Foote et al. 1972). This soil series is associated with the gulches in the Project Area.

The Land Study Bureau's (LSB) Detailed Land Classification rates the agricultural suitability of soils using a five-class productivity rating. The rating is expressed using the letters "A", "B", "C", "D" and "E", with "A" representing lands of the highest productivity, and "E" the lowest or very poorly suited for agricultural production. The majority of the solar array locations are classified by the Land Study Bureau's Detailed Classification System as having Class C soil with some small areas of Class E soils.

The State of Hawaii Department of Agriculture's Agricultural Lands of Importance to the State of Hawaii (ALISH) indicates that majority of the Project Area is located on "Prime" designated agricultural land with two small areas of the Project being classified as "Other Important" agricultural lands. When utilized with modern farming methods, "Prime" agricultural lands have a soil quality, growing season, and moisture supply needed to produce sustained crop yields economically. "Other Important" agricultural lands include those that have not been rated as "Prime" or "Unique".

2.4.2 Short- and Long-Term Impacts

Short-term direct impacts on soils would occur during construction of the proposed Project through ground disturbing activities, including grading, grubbing, and vegetation removal, which could increase the potential for soil erosion. Features designed to control storm water and minimize erosion would be included in the site design and engineering, and disturbed areas would be revegetated wherever possible upon completion of construction. In addition, grading and earthmoving would be minimized to the extent practicable. As such, potential erosion impacts, including mass soil movement, would be minor.

Long-term impacts to soils would occur from alteration of soil function under Project structures including any solar panels, generator-tie line poles, and any other associated facilities and infrastructure. Impacts would include a loss of productivity or vegetative growth from compaction, mixing, and/or shading. However, the vast majority of the Project Area would be occupied by the solar array, which would be emplaced with racking systems mounted on piles. As such, the loss of soil function under panels would be minor. Long-term impacts to soils could also occur from routine servicing of Project components such as panels and access roads through vehicle access.

However, typical servicing would not require heavy equipment, and disturbance to soil and increases in erosion would be minor.

Finally, the Project would have an impact on the agricultural use of the property for the length of the project life. However, the Project would be decommissioned at the end of its useful life (estimated 35 years), and the land would be made available to be placed back into its previous use. As such, long-term impacts to soil resources in the Project Area would be minor.

2.4.3 Best Management Practices and Mitigation

Erosion-reducing engineering and design features and industry-standard BMPs will be implemented to avoid and minimize impacts to soil resources including, but not limited to, the following:

- Features designed to control storm water and minimize erosion will be included in the site design and engineering.
- Disturbed areas will be revegetated wherever possible upon completion of construction.
- Grading and earthmoving will be minimized to the extent practicable.

2.5 Topography and Geology

2.5.1 Existing Conditions

The Project lies at the base of the dormant West Maui Mountain volcano, the oldest of the island's two volcanoes (To-Hawaii 2019). Its last eruptions in the West Maui Mountains were approximately 320,000 years ago (Sinton 1987). The summit peak associated with the West Maui Mountains is called Puu Kukui and lies at approximately 5,788 feet. The topography of the Project Area slopes gently westward. Elevations range from about 460 feet above mean sea level (MSL) at the main Project access road up to about 1,400 feet above MSL in the southeast portion of the solar array. Most of the Project Area has a 0-15 percent slope with some areas over 15 percent within the solar array areas.

2.5.2 Short- and Long-Term Impacts

Short-term direct impacts to topography and landscape function at the Project Area would occur from Project construction through ground disturbance. However, excavation and earthmoving would be minimized to the extent practicable, thus, the Project would have little effect on the overall topography. As a result, impacts to topography and geology would be negligible.

Long-term impact to the landscape during construction and operations would occur from installation of Project structures including solar panels and associated infrastructure. Wherever possible, ground surfaces would be restored after Project construction, and BMPs would be used to minimize potential effects of ground disturbance on landscape function during construction and

operations. As such, potential long-term impacts on the overall topography and geology from Project construction and operations would be negligible.

2.5.3 Best Management Practices and Mitigation

The Project would result in negligible impacts related to geology and topography; therefore, no additional avoidance, minimization, or mitigation measures are required.

3.0 Land Regulation

3.1 Land Uses

3.1.1 Existing Conditions

Diversified agriculture and pineapple fields occupy much of the agricultural land in the West Maui region. Maui Land & Pineapple Company's fields span along the slopes of the West Maui Mountains north of Lahaina in the Napili-Honokowai area. The Project Area is located on agricultural land owned by Maui Land & Pineapple and historically utilized for pineapple cultivation, although it has not been actively farmed since 2009. The Project Area is situated within the Honokowai area of west Maui and the solar array area lies approximately 1.2 miles eastward of the Kapalua Airport. Fields that were formerly in pineapple cultivation, but now lie fallow, primarily surround the Project Area. The closest residential and commercial areas are situated adjacent to the Honoapiilani Highway to the west approximately 1.3 miles from the solar array area. The communities of Kahana, Napili, Kapalua and Kaanapali, which contain a mixture of resort, residential, and business uses, lie west of the Project Area across the Honoapiilani Highway. Nāpili, the closest town located approximately 1.7 miles west of the Project Area encompasses a diverse mix of land uses, including residential, business, light and heavy industrial, recreational, and agricultural uses.

The entire Project Area is located within the State Agricultural Land Use District. The State Agricultural District has some restrictions on siting solar based on the LSB's detailed soil classification system. Per HRS §205-2(d)(6), solar energy facilities are permitted in the State Agricultural District provided that the facility is sited on land with soil classification of B, C, D, or E and if the facility is on land with B or C soil classification, it shall not occupy more than 10 percent of the acreage of the parcel, or 20 acres of land, whichever is less. If the solar facility is proposed on land with soil classification A or is larger than the size restrictions described above on B or C classified land, a special use permit (SUP) from the State Land Use Commission (SLUC) would be required. More than 20 acres of Project facilities are located on soils class "C" soils. Therefore, a state SUP would be required.

Per the Maui County Comprehensive Zoning Ordinance (MCZO) §19.30A.050, solar energy facilities are allowed if they are less than 15 acres, occupy no more than 35 percent of the lot, and for facilities on the LSB rated A, B, or C classified soils, they must be compatible with existing agricultural uses. As the proposed Project would cover an area greater than 15 acres in size, Maui

County will require a County SUP (per MCZO §19.30A.060). Note that a County SUP is different from a state SUP.

The Project Area is located within the West Maui Community Plan. The Community Plan is a strategic planning document and are not regulatory; however, the Project would still be evaluated to determine whether it is consistent with the vision, policies, principles, and guidelines of the plan. Additionally, the County SUP approval criteria includes a requirement to be consistent with the applicable community plan of the County. The West Maui Community Plan is currently being updated and approval of the Community Plan update is anticipated by winter 2021. For purposes of this assessment, the current West Maui Community Plan, approved in 1996, was reviewed. The West Maui Community Plan identifies solar energy production as an economic opportunity and contains an objective and includes policies that encourage environmentally sensitive use of renewable energy resources such as solar (Maui County 1996). It is expected the Project would be consistent with the West Maui Community Plan and is not expected to require any amendments to the West Maui Community Plan.

3.1.2 Short- and Long-Term Impacts

Short-term impacts to land use within the Project Area would occur because the land occupied by the solar array would be converted from agricultural use to a solar energy facility use. Maui County has approximately 242,720 acres of agricultural land (Maui County 2018). The Project would only temporarily remove 291 acres of agricultural land, which is only 0.1 percent of the total agricultural land on Maui. In addition, the Project Area has not sustained active agricultural activities since 2009; therefore, the installation of a solar energy facility would not displace existing agricultural production. With the decommissioning and removal of Project facilities at the end of the Project's useful life (estimated 35 years) the land would be restored and available for its existing use and would therefore have no long-term impacts. As a result, short-term impacts to land use would be minor and long-term impacts would be negligible.

The Project is not anticipated to impact (in short or long term) the current land uses in the areas adjacent to the Project Area, because the neighboring land uses would not change or be limited in their current activities.

3.1.3 Best Management Practices and Mitigation

While impacts to land use are expected to be minor, the Project will implement BMPs, as described in sections 2.1.3 and 2.4.3, to further reduce any potential impacts to adjacent land uses from the construction and operations activities.

3.2 Natural Hazards

3.2.1 Existing Conditions

Although uncommon, a variety of natural hazards can affect Hawaii, including hurricanes and tropical storms, tsunamis, floods, earthquakes, volcanic eruptions, and wildfires.

The Hawaiian Islands are seasonally affected by Pacific hurricanes from the late summer to early winter months. True hurricanes are rare in Hawaii—only five have made landfall in the islands over the last 50 years (Bussinger 1998).

No portion of the proposed Project is in the Civil Defense Tsunami Evacuation Zone (National Oceanic and Atmospheric Administration 2015).

Federal Emergency Management Agency (FEMA) data was reviewed to determine whether floodplains are present in the Project Area. The flood zone designation for the proposed Project is Zone X, which are areas determined to be outside the 0.2 percent annual chance floodplain and have a minimal risk of flooding (FEMA 2019). No flood insurance is required within Zone X. Localized flooding may be a potential issue from a design and regulatory perspective due to the presence of four gulches within the Project Area.

In Hawaii, most earthquakes are linked to volcanic activity. Each year, thousands of earthquakes occur in Hawaii, the vast majority of them so small they are detectable only with highly sensitive instruments. All of Maui County is in an earthquake seismic hazard zone C, which means strong shaking in which damage would be negligible in buildings of good design and construction, slight to moderate in well-built ordinary structures, and considerable in poorly built structures (U.S. Geological Survey [USGS] 2018).

East Maui's volcano, known as Haleakala, has a long eruptive history including recent activity indicating that the volcano may erupt in the future (USGS 2017). However, the last eruptions of the West Maui mountains are estimated to have occurred about 320,000 years ago (Sinton 1987) with future eruptions unlikely.

Fire can affect south and west Maui because the heat of summer in Maui creates a lot of dry bush. Combined with fast, hot winds, this creates an environment promoting out-of-control fires.

3.2.2 Short- and Long-Term Impacts

Short- and long-term impacts to Project construction or operations are not expected from tsunamis, volcanic eruption or flooding, because the Project is outside the Civil Defense Tsunami Evacuation Zone, outside an active volcanic eruption zone, and in a Flood Zone X which is assigned to those areas that are determined to be outside the 0.2 percent annual chance floodplain.

Although the occurrence rate is very low, construction and operations of the proposed Project could be impacted in the short- or long-term by a hurricane or earthquake. In the unlikely event that wind speeds are high enough and an earthquake severe enough to damage solar panels and

cause them to break and scatter, the damage would likely be confined to the site and potentially the areas immediately adjacent. Depending on the severity of the earthquake or hurricane, electrical supply to the MECO grid could be disrupted. However, the impacts related to earthquakes and hurricanes are anticipated to be minor with avoidance and minimization measures in place.

The proposed Project could increase the risk of potential wildfires during construction and operations due to the use of vehicles and electrical equipment and increased human presence near the proposed Project. The risk would be highest during the construction phase and hot summer months. However, the impacts related to wildfires are anticipated to be minor with avoidance and minimization measures in place.

3.2.3 Best Management Practices and Mitigation

The potential for impacts from natural hazards, such as hurricanes, fires, and earthquakes, is low. However, the following BMPs will be implemented to ensure minor impacts from natural hazards:

- Structural aspects of the solar farm will be designed and constructed in accordance with governing local codes to reduce the risk of earthquake and hurricane damage.
- In the event that a storm watch or warning is issued, the site construction manager will be responsible for implementing the appropriate procedures in accordance with a developed Site Safety Handbook to ensure the safety of staff.
- An Emergency Response Plan, which would include a fire safety section, will be developed for construction and operation activities. Implementation of the plan will include training of onsite personnel and coordination with local emergency response personnel. Innergex will work with the local fire department to identify and mitigate safety risks to prevent incidents and protect employees, first responders, the public and the environment. A site visit with the fire department will be held to review procedures for different types of potential incidents.
- Maintenance (e.g., servicing, inspection and repair) of mechanical and electrical systems will be conducted on a routine basis to decrease the risk of fire.

3.3 Noise

The State of Hawaii regulates noise through Hawaii Administrative Rule (HAR), Title 11, Chapter 46, "Community Noise Control," and provides for the prevention, control, and abatement of noise pollution in the State. "Noise" is defined as *"any sound that may produce adverse physiological or psychological effects or interfere with individual or group activities, including but not limited to communication, work, rest, recreation and sleep*." Under certain conditions, noise can interfere with human activities at home or work and affect human health and well-being (HAR §11-46.2).

Sound pressure level is a measure of the sound pressure of a given noise source relative to a standard reference value (typically the quietest sound that a young person with good hearing can detect). Sound pressure levels are measured in decibels (abbreviated dB). The decibel scale is

logarithmic, which means that a source that is 10 dB louder than another source sounds about twice as loud. Most people find it difficult to perceive a change of less than 3 dBA.

Broadband sound includes sound energy summed across the entire audible frequency spectrum. In addition to broadband sound pressure levels, analysis of the various frequency components of the sound spectrum can be completed to determine tonal characteristics. Typically, the frequency analysis examines 11 octave bands ranging from 16 hertz (low frequency) to 16,000 hertz (high frequency). The human ear is not equally sensitive to sound in all octave bands; thus, an A-weighted filter is applied to compensate for the frequency response of the human auditory system. The sound level, in decibels, using the A-weighted network is represented in dBA.

The HDOH regulates noise levels by imposing maximum allowable sound levels at property boundaries for various zoning districts (Table 3.3-1). These noise limits are absolute (i.e., not relative to ambient conditions), are prescribed by receiving zoning class and time period, and are enforceable at the facility property boundaries. Zoning districts are determined by ordinances adopted by the applicable local, county or state government agencies. For mixed zoning districts, the primary land use designation is used to determine the applicable zoning district class and maximum permissible sound level. For instance, if a residential structure is surrounded by agricultural land, it may be considered Class A use on Class C land.

Table 3.3-1. Hawaii Maximum Permissible Sound Levels by Zoning District

Receiving Zoning Class District	Maximum Permissible Sound Level (dBA)	
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Class A Zoning districts include all areas equivalent to land zoned residential, conservation, preservation, public space, or similar type.	55	45
Class B Zoning districts include all areas equivalent to lands zoned for multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type.	60	50
Class C Zoning districts include all areas equivalent to lands zoned agriculture, county, industrial, or similar type.	70	70

Source: HAR §11-46, "Community Noise Control"

Noise levels may exceed the prescribed limits up to 10 percent of the time within any 20-minute period. The maximum permissible sound level for impulsive noise is 10 dBA above the maximum permissible sound levels for the given receiving zoning class district. HAR § 11-46-5 provides further exemptions to these limits. Additionally, with issuance of a construction permit, noise produced by portable or movable equipment, such as construction equipment, are not subject to the 70 dBA limit under HDOH noise regulations. Instead, construction noise levels above these limits are regulated using a curfew system whereby noisy construction activities are not normally permitted during nighttime periods, on Sundays, and on holidays. Thus, with issuance of a construction permit, construction activities, which could typically exceed the sound level limit, are normally allowed during the normal daytime work hours on weekdays and on Saturdays. If construction activities exceeding the maximum permissible levels will take place outside of these allowed construction hours, a community noise variance must be obtained from HDOH.

Pursuant to HAR § 11-46-7 and HAR § 11-48-8 a permit or variance may be obtained for operation of an excessive noise source beyond the maximum permissible sound levels. Factors that are considered in granting of such permits and variances include whether the activity is in the public interest and whether the best available noise control technology is being employed.

3.3.1 Existing Conditions

HAR defines "ambient or background noise" as the totality of sounds in a given place and time, independent of sound contribution of the specific source being measured. The Project Area and vicinity are undeveloped rural. In general, noise within the Project Area is limited and attributed to traffic on Honoapi'ilani Highway and local roadways, noise from County of Maui Department of Water Supply (DWS) well pump motors within the vicinity of the Project Area, flight activities at the Kapalua Airport, and natural sources.

Zoning in the vicinity of the Project Area is agricultural. Therefore, the daytime and nighttime limits of 70 dBA apply.

3.3.2 Short- and Long-Term Impacts

Short-term noise impacts from Project construction may occur at nearby areas, although no residentially zoned areas are located within 1 mile of the Project Area. Noise levels of construction equipment typically ranges from approximately 80 to 90 dBA at 50 feet. The actual noise levels produced would be dependent on the construction methods and equipment employed during each phase of construction. Louder construction equipment (e.g., pile driver, earth moving equipment, back-up alarms) are likely to be audible throughout the entire Project Area and neighboring areas. Noise levels would be typical of standard construction activities, would cease with the completion of proposed construction activities, and would only occur during normal working hours unless a variance permit were obtained from HDOH. Construction workers would be subject to federal and local safety regulations requiring hearing protection. Adverse impacts from construction noise are not expected to pose a hazard to public health and welfare because of the temporary nature of the work and use of avoidance and minimization measures that would be employed to minimize noise impacts. Construction-related noise would terminate when construction is complete. As a result, short-term impacts from noise would be minor.

There would be negligible long-term noise impacts from Project operations as the Project would not generate noise that exceeds the acceptable noise levels beyond the Project Area.

Noise impacts would be reevaluated once Project design and construction plans are finalized. Further modeling would be required to make a full assessment of noise impacts. However, it is anticipated that there would be no significant short-term or long-term impacts on ambient noise associated with the proposed Project.

3.3.3 Best Management Practices and Mitigation

Prior to construction, the Applicant will coordinate with the HDOH to ensure noise concerns are addressed. If there is the potential for Project construction to result in excessive noise levels, a noise permit for construction will be obtained from the HDOH.

BMPs that could potentially be implemented to minimize noise impacts during construction include:

- Restricting loud procedures to weekdays during daylight hours to minimize noise impacts;
- Establishing and enforcing construction site and access road speed limits during the construction period;
- Using electrically-powered equipment instead of pneumatic or internal combustion powered equipment, where feasible;
- Locating material stockpiles and mobile equipment staging, parking, and maintenance areas as far as practicable from noise-sensitive receptors;
- Only using noise-producing signals, including horns, whistles, alarms, and bells, for safety warning purposes;

- Ensuring that no Project-related public address or music system would be audible at any adjacent receptor; and
- Equipping noise-producing construction equipment and vehicles using internal combustion engines with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features, ensuring these items are in good operating condition that meet or exceed original factory specification.

Acoustic modeling may be used to determine whether additional noise measures would be necessary to comply with the applicable regulations.

3.4 Roadways and Traffic

3.4.1 Existing Conditions

Honoapiilani Highway, a State Highway, is the primary arterial serving the West Maui Region. It is generally oriented parallel to the coast and connects to other regional highway systems serving other parts of the island. For most of its length, the Honoapiilani Highway is a two-lane, two-way, roadway with median left-turn lanes provided at major intersections. From Lahaina town (at Lahainaluna Road) to the Honokowai Stream bridge (at the Lahaina Wastewater Treatment Facility), Honoapiilani Highway functions as a four-lane roadway. The Project Area is located off a portion of Honoapiilani Highway that is a two-way, two-lane, undivided roadway with a posted speed limit of 45 miles per hour. Access to the Project Area would be via existing agricultural roads that have existing driveway access off of Akahele Street and Honoapiilani Highway. No new driveways on state or county roads would be required.

3.4.2 Short- and Long-Term Impacts

Short-term impacts to traffic along Honoapiilani Highway and other roads in the area may occur during construction of the Project due to the increase in construction vehicles traveling to and from the Project Area on a daily basis. However, these impacts are anticipated to be minimal as construction traffic will be limited during peak traffic hours and the Project is located over 1 mile away from any public roadways. In addition, with the implementation of BMPs in Section 3.4.3, impacts on traffic during construction would be minor.

Long-term impacts to traffic along Honoapiilani Highway and other roads from operations and maintenance would be negligible.

3.4.3 Best Management Practices and Mitigation

To ensure any potential impact on roadways and traffic on the Honoapiilani Highway are minimized, BMPs would be implemented during construction. These BMPS would likely include the following:

- Explore having deliveries for non-peak hours of traffic and minimizing the number of vehicles permitted on the roadways at a given time.
- Complete a traffic impact analysis as part of the Maui County SUP application.

3.5 Utilities

3.5.1 Existing Conditions

3.5.1.1 Electric

MECO provides electrical service to the Island of Maui. There is currently no electrical power service directly to the Project Area. The point of interconnection would involve a wire-tap on the MECO 69-kilovolt (kV) transmission line, which lies directly west of the solar array.

3.5.1.2 Telecommunications

Hawaiian Telcom is the largest local-access landline service provider on Maui. Spectrum (formerly Oceanic Time Warner) and Wavecom Solutions provide cable-based telecommunications services on the island and several cellular telephone service providers provide cell coverage on Maui.

3.5.1.3 Water

The County of Maui Department of Water Supply (DWS) provides water to the Island of Maui including the Project Area. The DWS West Maui water system services the coastal areas from Launiupoko to Kaanapali and from Honokowai to Napili. The County's system includes both surface and groundwater sources to provide both fire protection and potable water to its customers. The Honokohau Ditch, which traverses the Project Area, is a concrete-lined irrigation ditch that brings surface water to the Mahinahina Surface Water Treatment Plant (SWTP) from a diversion of Honokohau Stream. The Mahinahina SWTP is located approximately 0.15-mile from the southern portion of the solar array. Finished treated water from the Mahinahina SWTP is stored in a tank at the plant and feeds water to the Honokowai tank approximately 1-mile west. The Honokowai tank provides water to the DWS water system that serves northern and southern West Maui. Additionally, the DWS is constructing additional wells within and adjacent to the Project Area to provide increased source and reliability to meet water needs, including in times of drought or when Honokohau Ditch undergoes repairs (Munekiyo Hiraga 2019).

The County of Maui, Department of Environmental Management's Wastewater Reclamation Division provides wastewater service for the West Maui region. The County's wastewater collection and transmission system and the Lahaina Wastewater Reclamation Facility (LWRF) accommodate the region's wastewater needs. The LWRF, located along Honoapiilani Highway just north of Kaanapali Resort and approximately 3 miles south of the Project Area, has a design capacity of 9.0 million gallons per day.

3.5.2 Short- and Long-Term Impacts

The Project is not expected to negatively impact the existing water and telecommunication utilities. During construction, the Project may require a permit from the County of Maui DWS for construction water. However, construction and operation activities are not anticipated to impact the public water supply. As a result, impacts to water and telecommunication utilities would be negligible.

Construction of the Project is not anticipated to have an impact on the existing electricity supply to the area. The proposed Project would provide electricity to the existing power grid; providing a renewable source of energy. Therefore, the proposed Project would beneficially impact electric supply.

3.5.3 Best Management Practices and Mitigation

The Project is not anticipated to have a significant effect on existing utilities, including electric, telecommunications, water, or gas. Therefore, no mitigation measures are required. Relevant and applicable BMPs, as described in section 3.2.3, would still be implemented to further reduce the risk of accidental impacts resulting from construction and operation activities.

4.0 Socio-Economic Characteristics

4.1 Existing Conditions

The economy of Maui is heavily dependent upon the visitor industry. The dependency on the visitor industry is especially evident in West Maui, one of the State's major resort destination areas. West Maui's attraction can be attributed to its year-round dry and warm climate, complemented by its many white-sand beaches and scenic landscapes. Visitor accommodations are located in Lahaina and the largely resort-based communities of Kaanapali, Kahana, Napili, and Kapalua. The State of Hawaii's Kapalua-West Maui Airport at Mahinahina links the region to Oahu and other neighbor islands. A community of tourism service sector workers has developed in the area.

The Project Area is located approximately 1.8 miles from the Napili-Honokowai coastline, which includes the largely resort based communities of Napili and Kahana. The closest town to the Project Area is Lahaina, the commercial center of West Maui, located approximately 7 miles southwest of the Project Area. The town contains several shopping centers and retail business areas, and serves as a hub for the region's residential housing including multitude of single-family homes and schools for island residents.

The Project Area is located in the West Maui Community Plan region. Although the West Maui Community Plan region is somewhat isolated from the rest of the island due to steep topography and limited highway access, the region had nearly 25,000 residents in 2017 (County of Maui 2018). This was a population increase from just over 22,000 in 2010. This is approximately 6.2 percent of the total population of the Maui County, which was estimated at 154,834 in 2016 (U.S. Census

Bureau 2016).The West Maui region had the island's largest number of average daily visitors in 2016, totaling around 33,000 people (County of Maui 2018). The population of West Maui is expected to grow to 33,754 by 2040 (County of Maui 2018).

Historically, agriculture was a vital component of the West Maui economy with Maui Land and Pineapple Company's pineapple fields being an important component of the region's agricultural base. However, in 2009, Maui Land and Pineapple shut down all pineapple operations on Maui. Some agricultural activity currently occurs in West Maui, but it is a much smaller portion of the region's economy.

4.2 Short- and Long-Term Impacts

The proposed Project is not expected to have an adverse impact on the existing population of the resort communities, Lahaina or the general population in the vicinity of the Project Area. No persons would be displaced by the Project. Additionally, the Project is not anticipated to place unexpected demands or additional burdens on infrastructure, housing, or public services in the Project's vicinity. Project construction would result in minor, short-term impacts to traffic in the vicinity of the Project; however, construction traffic is not expected to result in a substantial increase in traffic during peak hours (see section 3.4 for additional details regarding traffic).

During construction, temporary employment opportunities would be created. Much of the employment associated with the Project would be short-term, lasting through completion of Project construction; however, long-term employment opportunities would also be created during Project operation. The Project would result in indirect economic benefits to the local communities and the Island of Maui through new revenue associated with the purchase of fuel, insurance, food, services and supplies made by local supply chain manufacturers, and construction contractors. As a result, short-term and long-term impacts to socio-economics characteristics would be beneficial.

4.3 Best Management Practices and Mitigation

Construction and operations of the Project would not affect the demographics or socio-economic status of the surrounding communities and is not a direct population generator; as such, it would have negligible effects on socio-economic characteristics of the region. Therefore, no mitigation would be required.

5.0 Aesthetic/Visual Resources

5.1 Existing Conditions

The visual setting surrounding the Project Area consists primarily of fallow agricultural land, with the Kapalua-West Maui Airport located to the west of the Project Area, the Kaanapali Coffee Farms to the southwest of the Project, and forested areas in the higher elevations mauka of the Project Area to the east, northeast, and southeast. The coastline is approximately 1.8 miles west of the Project Area and is heavily developed with urban uses such as houses, condos, and hotels.

Elevations within the Project Area range between approximately 460 feet and 1,400 feet above MSL. The general visual character of the Project Area has been modified from what existed prior to human habitation and use. The majority of the Project Area consists of land formerly in agricultural production and it is likely that the portions of the Project Area not under cultivation are dominated by non-native plant species. Unpaved agricultural access roads and agricultural roads traverse portions of the Project Area.

5.2 Short- and Long-Term Impacts

Short-term visual impacts are expected during construction. These impacts would be temporary and may impact views from the Kapalua-West Maui Airport and potentially from some upper floors of buildings west of Honoapiilani Highway. Visual impacts include the visibility of construction crews, construction materials, dust, and construction activities within the Project Area. Once construction is complete, all equipment no longer necessary for operation and maintenance of the Project would be removed. As a result, short-term visual impacts would be minor.

Long-term visual impacts would be associated with the operation and maintenance phase of the Project. The Project would consist of an array of photovoltaic panels arranged in rows, inverters, combiners, transformer(s), overhead and buried conduits, and onsite collection lines. The maximum height of the photovoltaic panels (at full tilt) would be about 16 feet. The Project facilities may be visible from the Kapalua-West Maui Airport, areas along the Honoapi‘ilani Highway, and potentially from some upper floors of buildings west of Honoapi‘ilani Highway. The solar array would also be visible from planes using the nearby Kapalua-West Maui Airport. A visual impact assessment would be required to make a full assessment of visual impacts. However, it is anticipated that there would only be minor long-term impacts on aesthetic/visual resources associated with the proposed Project as the Project is located away from urban areas and the mountain and coastal scenic vistas and the open space areas would be maintained.

A glare analysis would be conducted to assess the potential for glare from each landing approach at Kapalua-West Maui Airport and from sensitive receptors in the vicinity of the Project. As part of the glare analysis, consultation with the Federal Aviation Administration would be conducted to address any glare concerns from an aviation perspective. The Project is anticipated to have only minor impacts associated with glare.

5.3 Best Management Practices and Mitigation

Impacts to aesthetic and visual resources from the proposed Project are anticipated to be minor; therefore, no mitigation is required. BMPs that could be implemented include implementation of a fugitive dust control plan during construction and operations and keeping the Project Area free of debris, trash, and waste during construction. The visual impact assessment would make a full assessment of visual impacts and produce visual simulations from key observation points.

6.0 Hazardous Materials and Wastes

6.1 Existing Conditions

Impacts associated with hazardous materials are often associated with storage tanks, and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances. A Phase I Environmental Site Assessment to assess the potential presence of hazardous materials on the site has not been undertaken for the proposed Project Area; however, there is currently no evidence of the presence of underground storage tanks; storage of hazardous materials; improper disposal of hazardous wastes, dumping, or landfilling; or wastewater such as pits, ponds, or lagoons at the on the property Project Area. The Project Area has been historically used for pineapple cultivation, and has thus been subject to pesticide and fertilizer use. It is possible for residual amounts of these substances to accumulate in the soils.

Single-family residential refuse collection is provided by the County of Maui on a twice-a-week basis. Residential solid waste collected by County crews is disposed at the County's 55-acre Central Maui Landfill, located 4 miles southeast of the Kahului Airport. In addition to County-collected residential refuse, the Central Maui Landfill also accepts residential and commercial waste from private collection companies.

A recycling and refuse convenience center located about 6 miles south of the Project Area at Olowalu serves West Maui residents and accommodates household refuse and green waste, as well as used oil and recyclable materials. No commercial waste is accepted at this facility. A private waste disposal service has been contracted by the County to transport waste from this facility to the Central Maui Landfill.

6.2 Short- and Long-Term Impacts

Because heavy construction equipment would be needed for installation of the solar array, there would be a short-term risk of impacts during construction from routine transport, use, storage, and disposal of hazardous materials such as antifreeze, diesel fuel, gasoline, hydraulic oil, lube oil, and grease, and accidental spills and release of hazardous materials. If any hazardous materials are found during a potential Phase I assessment, measures would be implemented to minimize exposure of workers and the environment to these. Any ongoing permits or authorizations related to hazardous materials would be obtained as needed and adhered to. With implementation of a Hazardous Materials and Waste Management Plan (HMWMP) and a Spill, Prevention, Containment, and Countermeasure (SPCC) Plan and appropriate BMPs, the impacts from hazardous materials during Project construction would be minor.

There would also be short-term impacts during construction from an increase in solid waste as a result of debris being generated during construction. The construction contractor would be responsible for the provision of waste collection facilities including maintenance, sorting, off-site transportation, and disposal. Although the capacity of waste disposal facilities on Maui is finite, it would be sufficient to accommodate construction of the proposed Project. Therefore, waste from

constructing the proposed Project would result in minor impacts to the existing facilities and would not exceed the capacity of the facilities.

In addition to short-term impacts there would be long-term risk of impacts during Project operations from routine transport, use, storage, and disposal of hazardous materials, and accidental spills and release of hazardous materials. The risk during operations would be far less than during construction given there would be minimal use of heavy construction equipment once construction is completed. Most equipment to be installed as part of the photovoltaic array and associated electronics are dry-type, solid state equipment and would not pose a threat of hazardous waste except from coolant within inverters and the mineral-oil filled transformers. The potential for chemical releases from the constructed panels appears to be small since chemicals are present in sealed photovoltaic modules; releases from these are likely to occur only due to fires or other unusual accidents, which are extremely rare. The contents of the utility-scale batteries at battery storage facility would be sealed in the battery case and would not be classified as a hazardous material. Many batteries are doubly encapsulated so that a leak would be contained in the battery case. As a result, long-term impacts from waste associated with operation of the Project would be minor.

6.3 Best Management Practices and Mitigation

Design features, industry-standard BMPs, and Project-specific plans (e.g., Site Safety Handbook, SPCC Plan, and HMWMP) will minimize impacts from hazardous and regulated materials and wastes resulting in minor impacts to the existing conditions.

7.0 Water Quality

7.1 Existing Conditions

The Project Area is located approximately 1.7 miles mauka of the Pacific Ocean. No wetlands have been identified in the Project Area. According to data from the NWI and NHD, four streams occur within the vicinity of the Project Area (adjacent to the solar array areas). All of the streams originate in the West Maui Mountains and flow west to the Pacific Ocean. The Mahinahina Gulch, which is a non-perennial stream, flows along the southern boundary of the Project Area directly adjacent to the southern solar array. The Kahanaiki Gulch and Pulepule Gulch, which are perennial tributaries to the Kahana Stream, border the middle solar array. The perennial Kahana Stream flows immediately north of the Project Area. In addition, the Honokohau Ditch traverses the Project Area north to south.

The Project Area is located within the Honolua and Honokowai Watersheds (Hawaii Office of Planning 2017), two of six aquifers in the Lahaina Maui System. As stated above, the Honokohau Ditch, which is a water diversion system/canal that historically transported water to the plantations in West Maui, traverses the Project Area.

7.2 Short- and Long-Term Impacts

The Project is currently designed to avoid direct impacts to jurisdictional waters, such as the intermittent streams described above. However, if the final design does include placement of fill into these features, the Project could impact the intermittent streams by placing fill in small sections of the stream. This has the potential to degrade water quality including in downstream marine waters through potential sedimentation. If any impacts to jurisdictional waters, are anticipated to occur once the final design has been determined then the appropriate federal and state permits would be obtained. As a result, short-term direct impacts to jurisdictional waters would be negligible to minor.

The Project has the potential to cause short-term impacts to water quality during construction from ground disturbing activities, and use of hazardous materials such as fuels, lubricants, cleaning solvents, and paints, through the conveyance of soils or hazardous materials during periods of heavy rainfall. The Project also has the potential to pose a hazard to groundwater quality during construction due to the use of hazardous materials such as fuels, lubricants, cleaning solvents, and paints during construction potentially leaching into the soil. However, a site-specific Storm Water Pollution and Prevention Plan (SWPPP) and Temporary Erosion and Sediment Control (TESC) Plan would be prepared for the Project and would identify BMPs and erosion control measures that would be implemented to minimize the potential for sediments and pollutants from reaching surface waters through stormwater runoff. In addition, a Project SPCC Plan would be implemented, which would reduce potential impacts to groundwater. Therefore, short-term impacts to water quality from the Project are expected to be minor.

Permanent Project structures and platforms including the array of solar panels would result in an increase in the amount of new impervious and semi-impervious surfaces contributing to an increase in stormwater runoff and potentially a minor decrease in groundwater recharge beneath those areas. However, the long-term impact to water quality associated with this would be negligible.

7.3 Best Management Practices and Mitigation

A water of the U.S. determination and delineation will be conducted prior to finalizing the Project design. If potential impacts to waters of the U.S. are expected, the Project will acquire the appropriate federal and state permits (and associated agency BMPs).

Prior to construction of facilities, site-specific measures to minimize impacts to water quality would be developed and outlined in the Project's TESC Plan and SWPPP. BMPs to protect water quality may include, but are not limited to, installing and maintaining silt fences, avoiding earthwork during adverse weather conditions, and revegetating or stabilizing disturbed areas as soon as possible. Additionally, a SPCC Plan would be prepared prior to construction, which would include measures for the safe transport, handling, and storage of hazardous materials.

8.0 Public Safety Services

8.1 Existing Conditions

Police and fire services on Maui are provided by the County of Maui. The Project Area obtains police protection from the Police Department, District IV Lahaina Station, located at the Lahaina Civic and Recreation Center at 1850 Honoapiilani Highway, about 4 miles southwest of the Project Area.

Two fire stations cover the West Maui region: the Lahaina Fire Station and the Napili Fire Station. The Lahaina Fire Station is responsible for the Lahaina, Olowalu, and Kaanapali areas. The Nāpili Fire Station is responsible for the Honokowai, Napili, and Kapalua, areas. The Napili Fire Station is located near the Napili Shopping Center at 4950 Hanawai Street and is located approximately 1.7 miles from the Project Area.

The primary hospital on Maui is the Maui Memorial Hospital, located in Wailuku located approximately 25 miles from the Lahaina. There are several medical health centers and clinics in Lahaina, which is approximately 7 miles from the Project Area. These health centers include the Urgent Care West Maui, Kaiser Permanente, and Doctors on Call Maui Urgent Care Center. Ambulances are directed to Maui Memorial Hospital in Wailuku. Air ambulance service is available.

8.1 Short- and Long-Term Impacts

The Project could result in short-term impacts to public safety services during construction, as the transport of equipment and materials to and from the site, the increased activity at the site and on surrounding roads, and the increased presence and activity of site personnel would increase the potential for traffic accidents, injuries, and fires, which would require a response by police and fire protection services. However, these short-term impacts are expected to be minor with the implementation of BMPs described in section 8.2.

The long-term operation of the solar Project would not be expected to significantly impact the current service levels. However, there is a risk of fire hazard during operation. Impacts related to wildfires are anticipated to be minor with BMPs in place.

8.2 Best Management Practices and Mitigation

A Site Safety Handbook will be prepared for construction of the Project, and all persons entering the construction areas will be required to review and adhere to the Site Safety Handbook. The implementation of a Site Safety Plan and observance of safe working practices during construction are expected to substantially reduce the potential for serious accidents. In the event of an incident, fire, police, and emergency services will all be available, and expected to be adequate to accommodate the demand. As such, construction of the proposed Project would not be expected to significantly impact the current service levels.

The BMPs discussed in Section 3.2.3 regarding fire prevention and suppression will reduce fire hazards. Additionally, maintenance (e.g., servicing, inspection and repair) of mechanical and electrical systems will be conducted on a routine basis to decrease the risk of an emergency,

including fire. With the implementation of these measures and observance of safe working practices during operations, impacts to public safety services from operation of the Project would be negligible.

9.0 Recreation

9.1 Existing Conditions

West Maui including the Napili-Honokowai coastline is served by numerous County parks, shoreline areas, clear ocean waters and well developed reef systems that provide diverse recreational opportunities for residents and visitors in the area. Popular ocean and shoreline recreational activities include diving, fishing, surfing, swimming, canoeing, kayaking, picnicking, snorkeling, sunbathing, windsurfing, and bodysurfing. The clear ocean waters and well-developed reef systems along the Lahaina and Kaanapali coastlines offer many recreational opportunities for residents and visitors. Fishing, by shorecasting and netting, is practiced in the waters near the outlet of Kauaula Stream and Makila Point. Edible seaweed collecting, octopus diving, and spearfishing occur on the adjacent reef flat fronting Kaanapali. During periods of wave activity, the West Maui coastline is a good location for surfing.

The Project is located a distance away from urbanized and developed areas, as well as the coastline and there are no known public recreational uses within the boundaries of the Project Area.

9.2 Short- and Long-Term Impacts

No short-term or long-term direct or indirect impacts to recreational resources are anticipated from construction or operations of the proposed Project because Project infrastructure would not be constructed or placed within or nearby any existing recreation resource area. As a result, impacts to recreation would be negligible.

9.3 Best Management Practices and Mitigation

Impacts to recreational resources from construction and operation of the proposed Project would be negligible; therefore, no additional mitigation measures are proposed to address these impacts.

10.0 Potential Cumulative and Secondary Impacts

Pursuant to HAR, Chapter 200, Section 11-200-2, entitled Environmental Impact Statement Rules, a cumulative impact means:

> "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

A key element in understanding the requirement for assessing cumulative impacts; therefore, is the need to recognize what constitutes "reasonably foreseeable actions". The ongoing and reasonably

foreseeable actions considered in the cumulative impacts analysis for this Project are those that would overlap in time and space with the effects of construction and/or operation of the Project. The County of Maui indicates that future regional growth opportunities in West Maui are probable (County of Maui 2018). With the population of West Maui projected to grow to 33,754 by 2040 (County of Maui 2018), demand for housing, water, and other infrastructure would continue to grow. By 2040 it is estimated that Maui would need a total of 13,358 housing units to accommodate resident demand, which would require building an additional 5,288 new homes (County of Maui 2018). Specific past, present and foreseeable future actions in the vicinity of the Project Area include: the 299-acre, 940-unit Puukolii Village mixed-use community; 33-unit Kai A Ulu affordable homes, Kaanapali Westin Nanea Ocean Villas; Napili well construction; Maui-Preparatory-Academy construction; 312-acre, DWS West Maui Source Development Project; and the master planned Honokawai, Leialii, Pulelenhua, and Kapalua Communities (County of Maui 2016).

The resources and issues that have been evaluated for potential cumulative impacts in this section include: air quality; biology; climate; noise; roadways and traffic; socioeconomic characteristics; aesthetic/visual resources; hazardous materials and solid waste; water quality; and public safety. The resource and issues that are considered to not create impacts outside the Project footprint are not discussed further in this section, and include: land uses; topography and geology; soils; recreation; and natural hazards. In all resource areas evaluated, less than significant cumulative impact and no significant secondary impacts are anticipated to result from construction and operations of the proposed Project.

Air pollution and GHG emissions may increase somewhat in the West Maui area due to higher vehicle traffic, construction equipment and addition of homes and tourist developments. The increases in emissions may however be ameliorated by improved operational efficiencies, equipment, and technology; use of cleaner-burning fuels; and adherence to pollution control rules and regulations. The proposed Project would have a beneficial effect on climate change and air quality by reducing the use of fossil fuels and GHG emissions, as such would not contribute negatively to cumulative impacts on climate and air quality.

Noise on land due to non-Project traffic in the West Maui area may increase in the future. There would also be unavoidable, potentially significant noise impacts related to development of the Project, however these will be temporary and avoidance and minimization measures would ensure these impacts are minor. The proposed Project would not contribute significantly to cumulative noise impacts.

Traffic volumes in the West Maui area may increase over time due to population, tourism, and business growth in the West Maui Region. However, the Project would not increase traffic beyond a temporary, minor increase during construction, and would not contribute significantly to cumulative impacts to roadways and traffic.

Solid waste from development and construction sites in the region would place additional demands on construction debris disposal facilities on Maui. Construction waste from the Project would temporarily contribute to this demand on solid waste management, but is not expected to contribute significantly to cumulative impacts on solid waste management.

The visual and aesthetic character of the West Maui region has been changing over time from sugarcane and pineapple fields on the slopes and open areas along the coastline, to urban areas along the coastline. The proposed Project would change the visual character of the Project Area on which it is located from agricultural/rural land to fields supporting solar arrays, but the visual impact would be minor in context to the surrounding agricultural landscape. The Project is not expected to significantly contribute to cumulative impact on visual resources.

The rural areas of West Maui have historically been utilized for sugarcane and pineapple cultivation, and have thus been subject to pesticide and fertilizer use, with possible residual amounts of these substances accumulated in the soils. Cumulatively, with continued growth in the region, future specific uses could also increase the possibility of hazardous material impacts. Given strict adherence to petroleum operation rules and regulations, hazardous materials handling rules, and BMPs, the Project is not expected to significantly contribute to cumulative impacts related to hazardous materials.

Water quality may be affected by the development of the West Maui region as there would be an increase impervious surfaces and reduced infiltration through the moderately porous soils potentially increasing storm water runoff, introducing sediment and other pollutants to the nearshore environment. The Project would implement BMPs to control, treat, or reduce runoff before entering nearby surface waters as such the Project's contribution to cumulative impacts would not be significant.

The cumulative demands on public safety services of developments in the West Maui region over time would generate the need for additional police, fire and medical services. However, increases in public services and related facilities are being planned in accordance with these developments, and regional growth should not result in significant cumulative impacts on public services. As the Project is not expected to have any impacts on public services, it would not contribute to the cumulative impact created by other projects in the region.

Socio-economics in the West Maui area have and would continue to change due to past, present and future actions, specifically planned residential, tourism, commercial development and population growth. The Project would not adversely impact components, instead would create benefits through temporary employment opportunities during construction.

Terrestrial and marine biological resources, including vegetation, birds, invertebrates, mammals, and their habitats are continuously being negatively impacted by anthropogenic and natural activities throughout the Hawaiian Islands. The growth and development in West Maui contributes to impacts to sensitive biological resources through such factors as decreases in quality of habitat, increases in noise, and direct injury. However, impacts from any given project are not easily measurable, and many impacts are likely minor, especially with avoidance and minimization measures in place. Similarly, the Project may contribute to the cumulative impacts to biological resources in the area, however, the Project would implement avoidance and minimization measures and the contribution from the Project is not anticipated to be significant.

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