

**Final Environmental Assessment for the
Proposed Waikupanaha Agricultural Lots
Project in Waimānalo Ahupua‘a,
Ko‘olaupoko District, O‘ahu Island, Hawai‘i**



Prepared For:
State of Hawai‘i
Department of Hawaiian Home Lands

Prepared By:



March 2020

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Final Environmental Assessment

for the

**PROPOSED WAIKUPANAHA AGRICULTURAL LOTS
PROJECT IN WAIMĀNALO AHUPUA‘A,
KO‘OLAUPOKO DISTRICT, O‘AHU ISLAND**

**Tax Map Key (1) 4-1-008: 002 (por.), 093, 094, 095
and 096**

This environmental document has been prepared pursuant to
Chapter 343, Hawai‘i Revised Statutes

Prepared For:

State of Hawai‘i
Department of Hawaiian Home Lands

Prepared By:

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March 2020

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Definition</u>
AFNSI	Anticipated Finding of No Significant Impact
ASYA	Aquifer System Area
BMPs	Best Management Practices
BWS	City and County of Honolulu Board of Water Supply
CIA	cultural impact assessment
CSH	Cultural Surveys Hawaii
CTAHR	University of Hawai'i College of Tropical Agriculture and Human Resources
CZM	Coastal Zone Management
DAGS	State of Hawai'i Department of Accounting and General Services
DHHL	State of Hawai'i Department of Hawaiian Home Lands
DLNR	State of Hawai'i, Department of Land and Natural Resources
DLNR DFW	Department of Land and Natural Resources, Division of Forestry and Wildlife
DOH	State of Hawai'i, Department of Health
DPP	City and County of Honolulu, Department of Planning and Permitting
DTS	City and County of Honolulu, Department of Transportation Services
EA	Environmental Assessment
ETC	EnviroServices and Training Center, LLC
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAR	Hawai'i Administrative Rules
HECO	Hawaiian Electric Company, Inc.
HRS	Hawai'i Revised Statutes
LBSP	land-based sources of pollution
LRFI	Literature Review and Field Inspection
LSB	Land Study Bureau (of the University of Hawai'i)
LUO	City and County of Honolulu Land Use Ordinance
NFPA	National Fire Protection Association
NPDES	National Pollutant Discharge Elimination System

LIST OF ABBREVIATIONS (Continued)

<u>Abbreviation</u>	<u>Definition</u>
OEQC	Office of Environmental Quality Control
OP	State of Hawai'i, Office of Planning
OTS	O'ahu Transit Services, Inc.
PVC	polyvinyl chloride
RECs	recognized environmental conditions
ROE	right-of-entry
SHPD	Department of Land and Natural Resources, Historic Preservation Division
SMA	Special Management Area
TIAR	Traffic Impact Assessment Report
TLCG	The Limtiaco Consulting Group
TMK	Tax Map Key
UIC	Underground Injection Control
WWTP	Wastewater Treatment Plant

PROJECT SUMMARY

Proposing/Determination Agency:	Hawai'i Department of Hawaiian Home Lands (DHHL)
Contact:	Mr. Andrew Choy
Location:	Waimānalo Ahupua'a, O'ahu Island
Tax Map Key:	(1) 4-1-008: 002 (por.), 093, 094, 095 and 096
Land Area:	Approximately 30 acres (for identified DHHL parcels) and approximately 2.7 acres (for rights-of-way along portions of Waikupanaha and Hihimanu Streets)
Recorded Fee Owner:	State of Hawai'i
Existing Use:	Open (undeveloped), agriculture, equestrian activities
Proposed Use:	Subsistence Agricultural Homesteads for native Hawaiian beneficiaries
Community Plan Region:	Ko'olaupoko District
Land Use Designations:	
State Land Use	Agriculture
Development Plan	Agriculture
County Zoning	AG-2 General Agriculture
Action Requested:	The Project will consolidate and re-subdivide several contiguous parcels located in Waimānalo in the Ko'olaupoko District. The proposed development of Hawaiian Home Lands will allow the agency to award approximately 30 agricultural lots. Each homestead lot will be approximately 0.5 to 0.75 acres in size. The layout and configuration of the agricultural lots will be influenced by existing conditions such as topography and drainage features. The inconsistent width and alignment of Waikupanaha Street will be addressed as part of the Project because portions of the existing roadway encroach into DHHL's parcels. DHHL will work with State and County agencies to identify needed infrastructure, grading and drainage improvements.
Agency Determination:	Finding of No Significant Impact (FONSI)

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1. SETTING AND PROJECT DESCRIPTION

1.1. Introduction and Background

Certain public lands that have been set aside and placed under the jurisdiction of the Hawaiian Homes Commission as part of the Hawaiian Homes Commission Act of 1920 are “to enable native Hawaiians to return to their lands in order to fully support self-sufficiency for native Hawaiians and the self-determination of native Hawaiians in the administration of this Act, and the preservation of the values, traditions, and culture of native Hawaiians.” The Department of Hawaiian Home Lands (DHHL) is committed to serving its beneficiaries and manages the Hawaiian Homes Lands Trust consisting of over 200,000 acres of land on the islands of Hawai‘i, Maui, Moloka‘i, Lāna‘i, O‘ahu, and Kaua‘i. The mission of DHHL is primarily achieved through the award of 99-year residential, agricultural or pastoral homestead leases to waitlisted beneficiaries for an annual fee of one dollar. Beneficiaries must secure their own financing for residential construction, home improvements and agricultural activities on awarded land. DHHL also utilizes land in its inventory to generate revenue that supports the homesteading priority and improves the general welfare and conditions of native Hawaiians through educational, economic, political, social, cultural, and other programs.

In 2017, DHHL updated its Administrative Rules (Chapters 10-3-24 and 10-3-26, Hawai‘i Administrative Rules) to allow for Subsistence Agricultural Homestead (SAH) lots of at least 0.5 acres but not more than three acres in size. The rules specify that lessees are required to, within three years: (1) reside and/or (2) actively cultivate food crops or raise small livestock on their homestead lot.

DHHL is proposing to consolidate and re-subdivide approximately 30 acres of its land in Waimānalo Ahupua‘a, Ko‘olaupoko District, O‘ahu Island (see Figure 1). It is hereby noted that the use of “Ko‘olaupoko” and “Ko‘olau Poko” in this document generally reflect the conventions from referenced reports or studies. The proposed Waikupanaha Agricultural Lots Project (hereafter “the Project”) will consolidate and re-subdivide several contiguous parcels identified as Tax Map Keys (1) 4-1-008: 002 (por.), 093, 094, 095 and 096. A cell phone tower and buildings and structures associated with observed agricultural and equestrian activities are within DHHL’s parcels. Field observations and available land use information suggests that the project site has been altered by land-disturbing activities associated with agriculture, animal husbandry, and a quarrying operation. The Project will include the installation of on-site infrastructure and connection to existing nearby municipal infrastructure, which is primarily along Hihimanu Street. The inconsistent width and alignment of Waikupanaha Street will be addressed as part of the Project because portions of the existing roadway encroach into DHHL’s parcels. Anticipated project actions including improvements within the rights-of-way along portions of Waikupanaha and Hihimanu Streets may affect approximately 32.5 acres. Completion of the Project will allow DHHL to award approximately 30 agricultural lots.

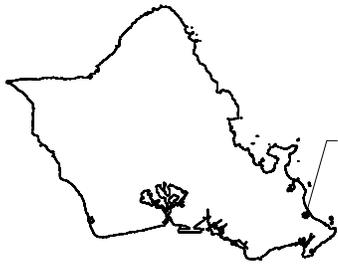
State of Hawai'i lands and funds will be utilized for the Project; therefore, the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai'i Revised Statutes (HRS) and associated Title 11, Chapter 200.1, Hawai'i Administrative Rules (HAR) is required. This EA was prepared to examine potential project impacts and to provide for public participation as required and defined in the statutes. The project site is not located within the Special Management Area (SMA). Added or modified text in this EA is denoted by double underlines, as in this paragraph.

1.2. Project Need and Objectives

The planning and resource management efforts of DHHL are guided by its General Plan, Strategic Program Plans, Island Plans and Regional Plans. According to DHHL's O'ahu Island Plan, 12,956 applicants were awaiting awards on O'ahu as of February 2013: 9,639 beneficiaries had applied for residential leases and there were 3,317 applicants for agricultural leases. "Assuming the General Plan goal of 170 homestead awards per year can be achieved, then approximately 25% (3,029 applicants) of O'ahu's 12,956 applicants can be served within the next 20 years" (PBR Hawaii and Associates, Inc., 2014). The waiting lists continue to grow, and DHHL's latest report shows 10,773 and 3,771 submitted applications for residential and agricultural leases on O'ahu, respectively.

Lands on ridgelines or near cliffs, areas with no access, and Federally constrained areas such as critical habitats or wetlands are not available for homesteading. Approximately 8,154 acres or roughly 4 percent of DHHL's statewide landholdings are on O'ahu and approximately 1,914 acres, which is roughly 23 percent of these lands, are within the Waimānalo Ahupua'a (Ibid.). Vast acreage in Waimānalo, however, includes land on steep slopes and natural drainage channels that are subject to environmental hazards such as rock falls and flooding. On O'ahu, the developable homestead areas are constrained to approximately 720 acres due to environmental and infrastructure considerations (Ibid.). Land in DHHL's inventory that is considered suitable for new SAHs is further reduced to approximately 115 acres scattered within Wai'anae, Waiāhole, and Waimānalo whereas the parcels within Nānākuli, Wai'anae, Kapolei and Papakōlea totaling approximately 605 acres are designated for residential homesteading. In general, there is a high demand for homestead awards on O'ahu whereas DHHL's landholdings are insufficient at this time to accomplish the goal of placing waitlisted beneficiaries on homesteads. Available land and the timing of funding resources affect the homesteading objectives that DHHL is striving to achieve.

The above-referenced plans were prepared before DHHL's administrative rules pertaining to subsistence agricultural homesteads were updated in 2017. DHHL has observed that the utilization of large agricultural lots awarded to beneficiaries is poor because many lessees are unable to conduct agricultural operations at a commercial scale. The Project represents one of DHHL's new endeavors to award smaller lots for subsistence agriculture.



PROJECT LOCATION



VICINITY MAP
NOT TO SCALE



WAIMANALO BAY STATE RECREATIONAL PARK

PACIFIC OCEAN

SMA BOUNDARY

WAIMANALO WASTEWATER TREATMENT PLANT

A&K NURSERY

HIHIMANU STREET

WAIKUPANAHA STREET

EHUKAI STREET

HIHIMANU STREET

HINALEA STREET

LADMILO STREET

KALANIANA'OLE HIGHWAY

KAULU STREET

HILU STREET

OLUOJU STREET

MAWANA STREET

ALAIHI STREET

4-1-008:002

4-1-008:095

4-1-008:093

4-1-008:094

4-1-008:096

4-1-008:002

PROJECT LOCATION
(TMK : 4-1-008:002
(POR.), 093, 094, 095,
AND 096)

LEGEND

- PROPERTY LINE
- PROJECT LIMITS
- SMA BOUNDARY



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CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Engineering Services for
Waikupanaha Agricultural Lots
Project Location and Vicinity Map

SCALE: 1"=600'

DATE: November 2019

FIGURE

1

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Since 1938, DHHL has awarded 799 residential homesteads, 45 undivided interest leases for residential homesteads in development, and 2 subsistence agricultural homesteads in Waimānalo (PBR Hawaii and Associates, Inc., 2014). The Project will allow DHHL to award approximately 30 agricultural lots to beneficiaries on the Agricultural Waitlist, which is consistent with the agency's mission. The project site in Waimānalo is within a rural area that continues to support agricultural endeavors.

1.3. Site Location and Description

The project site is located inland and approximately 0.5 miles from Waimānalo Bay (refer to Figure 1). Waikupanaha Street is a two-lane County roadway along the western boundary of DHHL's parcels. Homeless encampments were observed along the western side of the Waikupanaha Street right-of-way. Existing uses to the north, east and south of DHHL's parcels include a plant nursery, former rock quarry, and uncultivated land, respectively. Site photographs are included in Appendix A. There is no sewer service to DHHL's parcels according to the letter dated December 20, 2018 from the City and County of Honolulu, Department of Planning and Permitting (DPP). The existing Waimānalo Wastewater Treatment Plant (WWTP) located along Hihimanu Street is north of the project site. Adequate fire protection to DHHL's parcels is currently unavailable according to the letters dated December 20, 2018 and July 29, 2019 from the Board of Water Supply (BWS), which also state that the "nearest BWS fire hydrant is located approximately 1,400 linear feet away from the parcel along Hihimanu Street." The surrounding area has residential, agricultural and community uses including Waimānalo Bay State Recreation Area, Waimānalo homestead neighborhoods, Waimānalo Beach Park, Pope Elementary School, Hilltop Ranch, Waimānalo Research Station, Waimānalo District Park, and the Honolulu Polo Club.

The larger geographic area that contains the project site has experienced a long history of intensive land-disturbing activities including nineteenth and twentieth century sugarcane production, quarrying operations in the 1970s and 1980s, and more recent diversified agricultural use and animal husbandry for about 40 years. Hihimanu Street is identified as a "plantation railroad" on the 1916 Wall Map of Waimānalo. Both Hihimanu and Waikupanaha Streets are clearly visible roadways in the 1927 Waimānalo Coast Aerial Photograph. Quarrying operations occurred on the southeastern portion of the project site, which is characterized as an "ancient lithified sand dune" that was "extensively mined" (Guinther, et al., 2019).

Two building permits were issued by the County for DHHL's parcels: Permit No. 505321 was issued in February 2000 for electrical work and Permit No. 617292 was issued in September 2007 for restrooms (EnviroServices and Training Center, LLC., 2019). Development associated with observed agricultural uses and equestrian activities was observed within DHHL's parcels in 2018 and 2019 when site investigations were conducted.

The eastern portion of DHHL's parcels is developed for an existing cell phone tower. DHHL has issued month-to-month right-of-entry (ROE) permits for non-homesteading uses to Sports Turf Hawaii, Roy and June Pires, John and Leiala Cook (father and daughter), and Alan Silva. The ROE permits specify the types of uses that are allowed on the premises (e.g., stabling of horses and storage of trailers and equipment). No unspecified uses or sub-tenancy is allowed without written approval from DHHL.

The State land use designation for the project site is Agriculture (refer to Figure 2). As shown in Figure 3, the County's zoning designation for the parcels under DHHL's jurisdiction is AG-2 General Agriculture District (minimum land area of three acres for major livestock production, and two acres for all other uses). The County's Land Use Ordinance (LUO) specifies a minimum width and depth of 150 feet for AG-2 lots. DHHL will consult with the County with regards to appropriate subdivision design standards that apply to the Project.

1.4. Historical Setting

Information for this section is summarized from the *Revised Archaeological Literature Review and Field Inspection for the Waikupanaha Agricultural Lots Project, Waimānalo Ahupua'a, Ko'olaupoko District, O'ahu, TMKs: [1] 4-1-008:002 (por.) and 093-096* (July 2019) prepared by Cultural Surveys Hawai'i, Inc. (CSH). Appendix B contains the management summary from the draft report submitted to the Department of Land and Natural Resources, Historic Preservation Division (SHPD) for review on August 19, 2019. The report is expected to be available to the public in accordance with SHPD's protocols. SHPD maintains a library of electronic documents in addition to a physical library of correspondence, reports, plans, and relevant information.

The earliest Hawaiians who settled on the windward coast of O'ahu maintained a sizable native population by utilizing the numerous streams and springs in the Ko'olaupoko area to sustain farming and by managing productive marine resources. The Waimānalo Ahupua'a is a relatively large land division area that extends from the peaks of the Ko'olau Mountains to the coast of Waimānalo Bay. Available records suggest that the traditional Hawaiian population of Waimānalo engaged in wetland taro and sweet potato cultivation was clustered along Waimānalo Stream and its upper tributaries, and the population distributed within the central and southeastern coastal areas was utilizing marine resources. Waikupanaha is the name of a *mauka* or upland stream that reportedly supported taro, banana trees, and white ginger.

After the unification of the Hawaiian Kingdom, the Waimānalo Ahupua'a was retained by Kamehameha the Great as his own personal property and was later held by his sons Liholiho and Kauikeaouli (Kamehameha II and Kamehameha III). Thomas Cummins married the High Chiefess Kaumakaokane, a relative of Kamehameha I, and received a Royal Patent to an estate of Crown Lands in Waimānalo in 1842.



LEGEND

-  PROPERTY LINE
-  PROJECT LIMITS
-  LUD URBAN
-  LUD AGRICULTURAL

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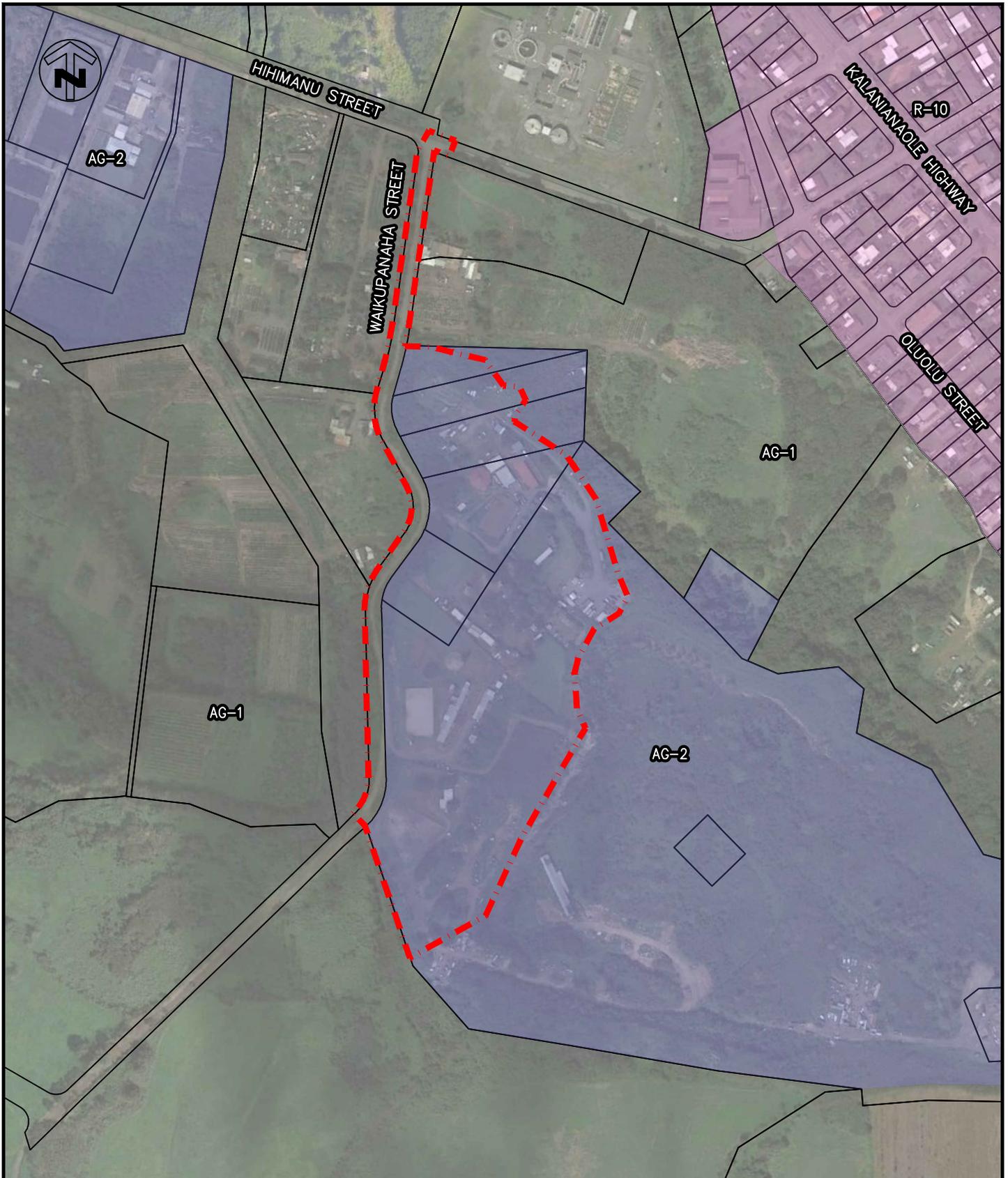
Engineering Services for
 Waikupanaha Agricultural Lots
Land Use Districts

FIGURE

2

SCALE: 1"=400'

DATE: November 2019



LEGEND

- PROPERTY LINE
- PROJECT LIMITS
- ZONE AG-1
- ZONE AG-2
- ZONE R-10

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Engineering Services for
 Waikupanaha Agricultural Lots
Zoning

SCALE: 1"=400'

DATE: November 2019

FIGURE
3

The concepts of private land ownership were introduced to Hawaiian society beginning with the Organic Acts of 1845 and 1846. Land titles were awarded to the monarchy and *ali'i* in 1848; commoners or native tenants received *kuleana* awards for individual parcels in 1850. Kamehameha III and Kamehameha IV sold and mortgaged Crown Lands during their reigns to settle debts. In 1850, the entire Waimānalo Ahupua'a except for *kuleana* awards was leased to Cummins by Kamehameha III for a period of 50 years. Awarded *kuleana* land claims in Waimānalo were primarily along Waimānalo Stream and its upper tributaries whereas no *kuleana* awards were in the vicinity of the project site.

Thomas Cummins and his son, John A. Cummins, brought cattle and horse ranching to Waimānalo and bought approximately 200 acres of *kuleana* land. In 1880, John A. Cummins founded the Waimānalo Sugar Company and began construction of a sugar mill. As the plantation expanded, former ranch land was converted to cane fields, irrigation ditches and railroad lines were constructed, and other infrastructure was improved. By the 1920s, the area utilized for sugarcane cultivation extended from the floor of Waimānalo Valley to the base of the Ko'olau Range. Waimānalo Sugar Company operated until the early twentieth century and sold its land to the Waimānalo Agricultural Development Company in 1947. The former sugarcane lands have since been utilized for diversified agriculture including chicken farms, a dairy, a piggery, papaya and flower farms, and agricultural research.

The U.S. military, which had established Waimānalo Military Reservation in 1917, changed its name to Bellows Field in 1933. The installation became a permanent military post in 1941 and was later renamed Bellows Air Force Base, then Bellows Air Force Station. At this time, Bellows Air Force Station is utilized for military training and recreation.

In the early 1900s, the Waimānalo Village residential area was established near the Waimānalo Sugar Company's sugar mill since the intent was to provide housing for plantation workers and their families. Transportation to Waimānalo improved once Kalaniana'ole Highway opened in 1924. The Waimānalo Beach Lots subdivision, which consisted of 266 lots on 90 acres of land, was established in 1925. Additional residential development has occurred in the Waimānalo Village, Waimānalo Beach Lots and Waimānalo Hawaiian Homestead subdivisions.

Historical usage pertaining to DHHL's parcels including endeavors at the Cook Ranch to perpetuate Hawaiian traditions and utilize cultivated resources for cultural practices is documented in the cultural impact assessment (CIA) prepared by CSH. The CIA report is included in its entirety as Appendix C and summarized in Section 2.8 Cultural Practices and Resources. As noted previously, DHHL's current permittees have ROE permits that specify the uses allowed on the premises; therefore, permittees must have written approval from DHHL for unspecified uses to be in compliance. Other site

usage concerns pertaining to past usage of DHHL's parcels is summarized in Section 2.4 Solid Waste and Hazardous Materials from the Phase I Environmental Site Assessment (ESA), which is included as Appendix D. Several activities within DHHL's parcels have ceased such as suspected illegal dumping, heavy equipment maintenance, and auto repair and disassembly. The descriptions of previous site usage as documented in the Phase I ESA report are based on approximately 7 to 28 years of shared knowledge and familiarity with the project site from permittees and other interviewees.

1.5. Technical Considerations

DHHL is proposing to consolidate and re-subdivide several contiguous parcels that encompass approximately 30 acres in total. Any areas determined to be unsuitable for development will not be awarded. The Project will require on-site infrastructure and connections to existing nearby municipal infrastructure, which is primarily along Hihimanu Street. Permanent site infrastructure installed during the earliest phase of the Project will be designed to comply with applicable regulatory standards that consider the health and safety of residents but are appropriate for a rural area. The Project is in a rural area with sparse development and there are no sidewalks, curb ramps, or crosswalks in the vicinity of the project site. Design elements and features of the Project are described below.

- Lot size. The Project is expected to create approximately 30 lots suitable for award to beneficiaries as a result of excluded areas, internal roadways and areas developed for storm water improvements. Each lot will be approximately 0.5 to 0.75 acres in size, which is reportedly sufficient to accommodate subsistence agriculture uses. The subsistence agriculture program permits but does not require lessees to construct a residence on the lot; therefore, basic utility infrastructure and site access from internal roadways will be provided to each lot. DHHL's lessees will be responsible for their own residential construction, home improvements and agricultural activities.
- Water systems. New underground lines that connect the project site to existing potable water infrastructure along Hihimanu Street will be installed along Waikupanaha Street and internal roadways. The proposed SAH lots will be served by separate water and fire protection infrastructure systems or a combined water and fire protection system. New water system infrastructure will comply with current County regulations. Agricultural irrigation uses at the project site have the potential to be served via separate systems such as the State's Waimānalo Irrigation System or the County's Waimānalo WWTP (once disinfection upgrades facilitate the production of R-1 quality reclaimed water, which represents the highest quality classification for recycled water in Hawai'i). DHHL will coordinate its Project with the State of Hawai'i Department of Agriculture and the City and County of Honolulu, Department of Environmental

- Services (ENV) with regards to availability and possible connections. Projects that propose the use of dual water systems or the use of a non-potable water system in proximity to an existing drinking water system to meet irrigation or other needs must be carefully designed and operated to prevent the cross-connection of these systems and to prevent the possibility of backflow of water from the non-potable system to the drinking water system.
- Wastewater disposal. A new gravity sewer system that will convey wastewater from the project site to existing municipal sewer system infrastructure along Hihimanu Street will be installed along Waikupanaha Street and internal roadways. The proposed new gravity system will allow for wastewater treatment and disposal at the County's Waimānalo WWTP, which is north of the project site. The letter from ENV dated August 5, 2019 indicates that a new sewer line to the Waimānalo WWTP may be needed.
 - Drainage infrastructure. New site drainage infrastructure including but not limited to drain inlets, manholes, culverts and infiltration basins will be installed along internal roadways and some areas within the project site. No injection wells are planned as part of the Project at this time. Any injection wells used for the subsurface disposal of storm water runoff is subject to State of Hawai'i, Department of Health (DOH) regulations and permitting under HAR Chapter 11-23 "Underground Injection Control." An Underground Injection Control (UIC) permit must be issued before any injection well operation occurs.
 - Waikupanaha Street improvements. The Project provides the opportunity to address the inconsistent width and alignment of Waikupanaha Street. The design standards for rural roadways are expected to apply to the Project. New asphaltic concrete pavement and overhead utility lines may be included as part of the Project. The affected section of Waikupanaha Street is proposed to be paved to its intersection with Hihimanu Street. An internal roadway that provides access to homestead lots may also be paved. The Project will be designed to address the hydrology and drainage impacts to the County's roadways as required. Two new intersections along Waikupanaha Street are proposed. Improvements such as a wide shoulder or sidewalk along Waikupanaha Street would provide safer accommodations for pedestrians compared to existing conditions.

The Department of Accounting and General Services (DAGS) indicated in its letters to DHHL dated December 31, 2018 and July 16, 2019 that the Project does not impact any of its existing facilities in the area. Existing uses and activities by DHHL's current permittees who have month-to-month ROE permits will cease in order to prepare DHHL's parcels for long-term homesteading purposes. The permits were issued with the knowledge that the lands would eventually be used for homesteading instead of non-homesteading uses.

1.6. Environmental Considerations

The Project will utilize and improve land in DHHL's inventory that is considered suitable for agricultural homestead use. DHHL's commitment is to award SAH lots to beneficiaries on its Agricultural Waitlist and to promote self-sufficiency through agricultural opportunities that include but are not limited to non-traditional farming methods. Lessees can choose to farm first and develop a residence built to county standards as finances permit. The project site identified in this EA is within a designated agricultural district. The Project appears to be compatible with nearby agricultural, residential homestead and community uses.

No adverse impacts to water resources and biological resources are anticipated. Select areas within the project site appear to have recognized environmental conditions (RECs) due to past usage and activities within DHHL's parcels that have ceased. A basalt and mortar water conveyance feature at the intersection of Hihimanu and Waikupanaha Streets is potentially older than 50 years old, has been modified by more recent polyvinyl chloride (PVC) pipe, and is expected to remain in use. Existing cultivated resources are utilized by DHHL's permittees for Hawaiian traditions. There are no known historic properties within DHHL's parcels.

The installation of new utility infrastructure that allows for connections to existing municipal water and wastewater treatment facilities is proposed as part of the Project. Existing non-potable water systems for irrigation purposes may be utilized if connections to existing systems are available and feasible for implementation during the timeframe of the Project. The inconsistent width and alignment of Waikupanaha Street will be addressed as a result of the Project. Temporary lane closures are anticipated for the utility installations and connections. Construction activities associated with the Project would generate short-term effects such as fugitive dust, noise, intermittent traffic, solid waste, and potential disruptions to utility services that would cease upon project completion. Anticipated short-term impacts will be mitigated to the extent practical with the use of appropriate construction techniques and Best Management Practices (BMPs).

1.7. Project Schedule and Cost

The environmental review process, which includes publication and public review of the EA, may be concluded in 2020 and coincide with the final design phase and acquisition of necessary permits and approvals for the Project. Construction may be authorized to begin by the end of calendar year 2020. Funding opportunities and constraints may result in project completion in phases for design and construction.

The timing and phasing of design and construction is expected to influence total project costs, which are estimated to be \$18.2 million. Design fees and the costs associated with permits and approvals will be included in the estimate of project costs.

2. DESCRIPTION OF EXISTING ENVIRONMENT, PROJECT IMPACTS, AND MITIGATION

2.1. Climate and Air Quality Considerations

The climate throughout the State of Hawai'i is generally characterized by mild temperatures with low daily and monthly variability, moderate humidity, persistent trade winds, and abundant sunshine. The project site is on the windward side of the island of O'ahu, which is characterized by mild temperatures and more abundant rainfall as compared to the leeward side of O'ahu. Between 1969 and 2013, the recorded monthly average temperatures in Waimānalo ranged from 64 degrees to 85 degrees Fahrenheit and the wetter months of the year were November through March (Western Regional Climate Center, n.d.). The project site is within a region characterized by 33.1 to 48.0 inches of annual rainfall (Giambelluca, et. al, 2013). Trade winds in the project vicinity are generally from the northeast. Strong winds are known to occur in connection with storm systems that disrupt climatic patterns. Temperatures may be higher due to the combined effects of solar heating and high humidity.

The ambient air quality at the project site may be affected by nearby activities, such as automobile traffic along Waikupanaha Street. The project site is located in a rural area that is positively influenced by northeast trade winds that disperse emissions and other air quality pollutants. Prevailing northeast trade winds can circulate particulates between upland and downslope areas, carry emissions away from the project area and help to disperse airborne pollutants that would otherwise accumulate during calm conditions.

Impacts and Mitigation Measures

No measurable adverse effect on climatic conditions is anticipated from the Project; therefore, no mitigation is warranted or proposed.

Ambient air quality at the project site will be temporarily affected by construction-related vehicles, equipment and activities that would generate fugitive dust and emissions. The construction contractor will be responsible for complying with HAR, Chapter 11-60.1, "Air Pollution Control." The contractor will be responsible for the implementation of erosion and dust control measures as necessary for compliance with the above-mentioned rules. Air pollution control measures may include and are not limited to the use of water wagons, sprinkler systems, and dust fences. After development and the award of leases, there will be periodic impacts from agricultural activities (e.g., soil preparation).

Construction equipment and vehicles shall be properly maintained in order to control vehicular emissions during the short-term construction period. In the long-term, nonpoint air quality impacts will occur from motor vehicles that travel

to and from the project site at intermittent intervals. No significant short-term or long-term impacts are anticipated from the Project because exhaust emissions of carbon monoxide and nitrogen oxide emissions would be intermittent and readily dissipated. Anticipated Waikupanaha Street improvements such as the paving of this roadway with asphaltic concrete may help to ameliorate fugitive dust emissions from vehicular travel.

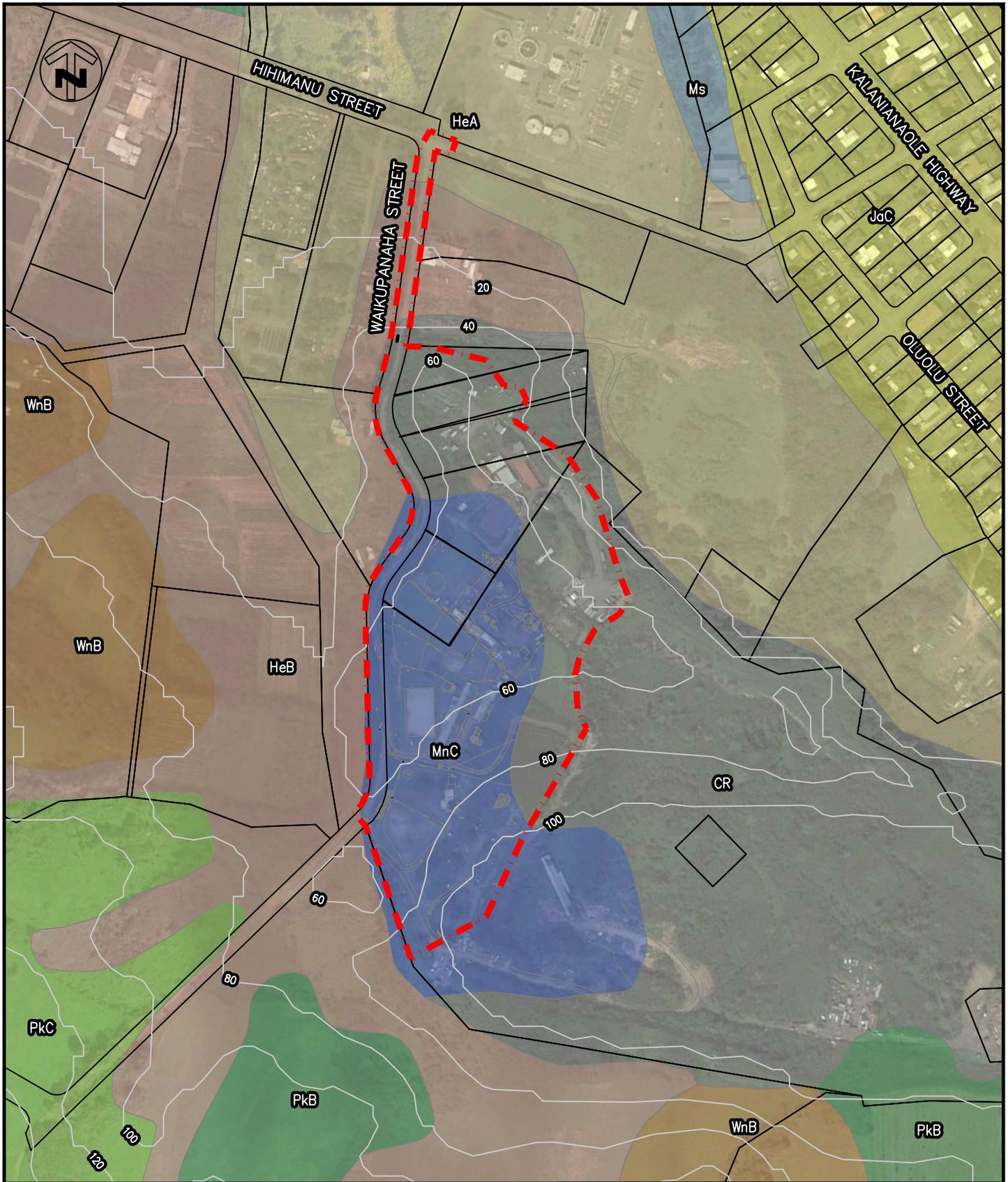
2.2. Topography, Geology and Soils

The topography for the project site ranges between roughly 15 to 100 feet above mean sea level and is depicted in Figure 2. DHHL's parcels consist of partially improved land, with a mix of unpaved roads, horse stables, limited areas of concrete pavement (e.g. platforms, walkways, etc.), and overgrown vegetation. There is a hardened dune of limestone material on the southeast part of the project site that was extensively mined. This natural feature extends along the east side of DHHL's parcels, wraps around the north end, and continues along the seaward or *makai* side of Waikupanaha Street (Guinther, et al., 2019).

According to the *Soil Survey of the Islands of Kaua'i, O'ahu, Mau'i, Moloka'i, and Lana'i, State of Hawai'i* (U.S. Department of Agriculture, Soil Conservation Service, 1972) and the available Web Soil Survey (U.S. Department of Agriculture, Natural Resources Conservation Service, 2017), the predominant soil type classifications found within DHHL's parcels are Coral outcrop (CR) and Mamala cobbly silty clay loam (MnC), 0 to 12 percent slopes. The mapped classifications that apply to Waikupanaha Street to its intersection with Hihimanu Street are MnC, CR, Haleiwa silty clay, 2 to 6 percent slopes (HeB), and Haleiwa silty clay, 0 to 2 percent slopes (HeA). The soil classifications that pertain to the project site are shown in Figure 2.

The CR classification consists of coral or cemented calcareous sand that is excessively drained with moderately high to high permeability and low runoff. The Mamala series classification consists of shallow, well-drained soils formed in alluvium and deposited over coral limestone and consolidated calcareous sand. For the MnC soil type, permeability is moderately low to high and runoff quality is medium. The erosion hazard for MnC soils is slight to moderate. Haleiwa soils are well-drained and occur on alluvial fans or in drainageways. For the HeB soil type, permeability is moderately high to high and runoff quality is low. The erosion hazard for HeB soils is slight. The HeA soil type has moderately high to high permeability and very low runoff quality. The erosion hazard for HeA soils is no more than slight.

From 1965 to 1972, the Land Study Bureau (LSB) of the University of Hawai'i developed a detailed classification system for the major Hawaiian Islands that was intended as a rating of agricultural productivity based on soil properties and productive capabilities. Lands in the highest productivity agricultural categories were classified with the "A" or "B" rating; there are no "A" or "B" lands within the project site.



LEGEND

PROPERTY LINE	SOIL HeA	SOIL JaC
PROJECT LIMITS	SOIL HeB	SOIL PkB
CONTOURS	SOIL MnC	SOIL PkC
SOIL CR	SOIL Ms	SOIL WnB

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Engineering Services for
 Waikupanaha Agricultural Lots
Existing Topography and Soils

SCALE: 1"=400'

DATE: November 2019

FIGURE
4

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The Project will affect lands with the LSB “E” rating, which reflects the lowest productivity classification. Soils formed from coral have neutral to alkaline reactions and are high in calcium. Most of the soils have developed from volcanic material and under tropical conditions of high temperature and rainfall. These soils tend to be acidic and fertility levels are relatively low. Subsistence agriculture such as raising small animals or insects (e.g., beekeeping) is not necessarily dependent on soil quality. Farming could also involve innovative or non-traditional methods (e.g., hydroponics, aquaponics, urban greenhouses, etc.).

Impacts and Mitigation Measures

The Project would generally retain the overall topographic profile for most of the site and there are no obvious topographical features that would obstruct site preparation activities. Consequently, no mitigation is warranted or proposed with respect to topography.

The project site will be properly designed with respect to subsurface conditions and geotechnical concerns within the footprint of construction. Anticipated actions are expected to have no adverse impacts on the underlying geology and soils at the project site such that no mitigation is warranted or proposed.

Earth disturbing activities may create exposed areas and surface-generated sediment that may enter the groundwater if significant rainfall occurs during grading, which has the potential to impact surface water and marine resources. DHHL’s contractor must follow State and County regulations regarding storm water runoff. Development-generated runoff is expected to be disposed of on site and not directed toward any adjacent properties. Graded areas affected by project actions will be stabilized and the Project will create more paved roadways within the site, which reduces the long-term potential for erosion and sediment transport. Mitigation that addresses sediment-laden runoff is discussed in Section 2.3, Water Resources.

The LSB “E” rating can be misunderstood with regards to productive land capability. Areas of uncultivated vegetation were observed within the project site during site investigations. Interviews with current permittees document the successful cultivation of several plant species within DHHL’s parcels following intentional land alteration (see the discussions in Section 2.6. Floral and Faunal Resources and Section 2.8. Cultural Practices and Resources). Lessees who do require a specific soil characteristic for their agricultural endeavors may amend the soil to achieve desired outcomes.

2.3. Water Resources

The project site is within the Waimānalo Aquifer System Area (ASYA) and part of the Windward Aquifer Sector Area. The following descriptions that pertain to potable and non-potable (mostly for irrigation) water are excerpts from the *Ko'olau Poko Sustainable Communities Plan* that was adopted in August 2017.

Potable Water

In 2015, the region consumed 13.4 million gallons per day (mgd) of potable water, approximately 4.0 mgd of which was imported from sources within the Ko'olau Loa region. The BWS projects future water demand based on population growth rather than number of dwellings. Therefore, while additional housing is expected to be built in Ko'olau Poko, notably by the Department of Hawaiian Home Lands (DHHL) in Waimānalo and Waiāhole, with the slight decline in projected population over the next couple of decades (as noted in Chapters 1 and 2) potable water demand in the region is expected to remain stable, especially when water conservation measures are implemented. No new source, storage, or transmission mains are planned in the region, but existing source, storage, and water mains must be repaired and replaced as needed.

Irrigation Water

In Waimānalo, the State provides water to farmers from the Maunawili Ditch, which was built by Waimānalo Sugar Company. Its source is high-level water tunnels, springs, and streams in Maunawili and Waimānalo Valley. The system delivers an average of about 0.75 mgd of water.

The UIC line demarcates the boundary between non-drinking water aquifers and underground sources of drinking water. The project site is *mauka* or above the UIC line, which indicates that the underlying groundwater is considered a potential source of drinking water. Limited types of injection wells are allowed if DOH approval is obtained before any injection well construction commences and a UIC permit is issued before any injection well operation occurs. The letter dated December 18, 2018 from the Department of Health, Safe Drinking Water Branch states that injection wells used for the subsurface disposal of wastewater, sewage effluent, or surface runoff are subject to environmental regulation and permitting under HAR Chapter 11-23, titled "Underground Injection Control." As previously stated in Section 1.5 Technical Considerations, no injection wells are planned as part of the Project.

The project site contains no aquatic features including streams and wetlands (or marshes, swamps, bogs, etc.) that would be considered jurisdictional under the Clean Water Act (Guinther, et al., 2019). Waimānalo Bay is roughly 0.5 miles northeast from the project site. The nearest potentially jurisdictional water is Puha Stream, which is approximately 1.2 miles west of the project site and beyond Waikupanaha Street. The

remnants of a ditch that may have been used for irrigation are present in the vicinity of the northeast portion of the project site. Two man-made agricultural ditches supply the Waimānalo Irrigation System, which provides irrigation water to approximately 160 Waimānalo farms (Group 70 International, 2011). The Kailua Ditch is seaward or *makai* of Waikupanaha Street and the Maunawili Ditch is inland or *mauka* of Waikupanaha Street. The letter dated December 19, 2018 from the Department of Agriculture (DOA) indicates that the Waimānalo Irrigation System, which ends near the southwest corner of the project site, does not service DHHL's land. Storm run-off from the project site flows in the direction of the existing grade and naturally percolates into ground water since there is no municipal drainage service for DHHL's parcels.

Nonpoint source pollution from agricultural and urban activities including runoff containing nitrogen, phosphorus, and/or sediments is considered to be a threat to coastal ecosystems. DHHL's parcels are not known to be contributing any discharges of sediments or pollutants that are associated with sewage injection wells or defunct septic tanks.

Impacts and Mitigation Measures

Project actions are not expected to impact water resources, especially since no streams will be diverted and no new potable water sources will be developed. No significant impacts to surface water quality would occur because the project site is devoid of such resources including wetlands, perennial streams, or other sensitive riparian habitats. The long-term use of the homestead lots for subsistence agricultural endeavors is not anticipated to result in contamination of the underlying aquifer and groundwater sources in the Waimānalo ASYA.

The State of Hawai'i, Department of Land and Natural Resources, Division of Aquatic Resources (DAR) stated in its letter dated December 12, 2018 that it generally supports the Project with regards to providing subsistence property to beneficiaries. The letter also recommends the following measures with regards to concerns about sediment run-off and erosion, which may harm aquatic habitats:

DAR recommends that the project operators utilize erosion control and land-based sources of pollution (LBSP) barrier measures at all development sites where there is the opportunity for sediment discharge into nearby waters (e.g., any site where there will be excavation, grading, or sediment/pollutant producing activities). These measures could include many types of barriers (e.g., sediment barriers/bags, silt screens, environmental socks, petroleum absorption diapers, etc.) that limits the amount of sediment or LBSP (e.g., petroleum products, chemicals, debris, etc.) to the maximum extent practicable.

Another good practice would be to keep all unearthed or loose soil covered by native vegetation (grass, shrubs and trees) to minimize rain and wind erosion.

DAR recommends that the applicant take steps to plant native vegetation that actively retain surface storm-water run-off and sediment during precipitation events. Planting an effective vegetated buffer, down slope and between agricultural plots site will help capture soil and pollutants and absorb excess surface runoff from precipitation before they reach the shoreline.

The plant species listed by DAR as effective native soil stabilizers with water and soil retention capabilities include beach vitex (*Vitex rotundifolia* or *pōhinahina*), beach dropseed (*Sporobolus virginicus* or 'aki'aki), oval-leaf clustervine (*Jaquemontia sandwicense* or *pā'ūohi'iaka*) and beach morning glory (*Ipomoea pes-caprae* or *pōhuehue*). There are also many non-native species, especially spreading grasses (such as Bermuda) that may be maintained as vegetative berms and swales more effectively than the suggested native ground cover species (Guinther, et al., 2019). The University of Hawai'i, College of Tropical Agriculture and Human Resources may also have other plant species suggestions. The utilization of other types of barriers (e.g., wattles, silt screens, geotextile socks, petroleum absorptions pads, etc.) for erosion control and sediment capture may be necessary if the vegetative buffers cannot be established or maintained to achieve effectiveness.

A short-term and temporary impact of the Project may occur from the generation of sediment-laden surface runoff during earth-disturbing activities, especially if heavy rains coincide with the activity. A National Pollutant Discharge Elimination System (NPDES) Permit for discharges of pollutants, including stormwater runoff is required for the disturbance of one acre or more of total land area pursuant to HAR Title 11, Chapter 55, "Water Pollution Control" effective December 6, 2013. The construction contractor will be responsible for implementing a storm water management plan to minimize erosion and sediment loss at the project site in accordance with State and County regulations. Erosion control Best Management Practices will be used to mitigate stormwater runoff from entering the State waters.

The long-term impact of the Project is the creation of more impermeable surface area, which increases storm water runoff from the project site. The Project proposes to implement several measures to address the quantity and quality of stormwater generated at the project site. Measures include, but are not limited to, infiltration/sediment basins, grassed swales, injection wells, and the planting of native vegetation. Proposed stormwater mitigation will be in compliance with State and County regulations. Site infrastructure for the

homestead lots such as the installation of proper drainage features and swales may ultimately improve surface runoff and reduce nonpoint source pollution concerns as compared to existing conditions.

2.4. Solid Waste and Hazardous Materials

The Waimānalo Refuse Convenience Center is approximately 0.5 miles west of the project site. The disposal of commercial or farm refuse is not allowed at this facility, which accepts household generated self-haul waste material. The County continues to explore waste reduction strategies including composting and waste-to-energy facilities to avoid further landfill development. Waste recyclers divert recoverable material from the waste stream.

A contracted records review of public regulatory environmental databases was utilized in the determination by EnviroServices and Training Center, LLC (ETC) that there are no sites or facilities that have recognized environmental conditions (RECs) within a specific search radius from the project site (e.g., 0.3, 0.5 or 1.0 miles, depending on recommendations for each record). There are no notable concerns pertaining to adjoining properties located to the west and north of the project site that appear to be utilized for either farming, aggregate hauling, or plant nursery operations. Rock quarrying occurred in the past on adjoining property to the east whereas undeveloped land containing unmanaged vegetation is south of the project site. Homeless encampments that can become community concerns due to solid waste accumulation have been observed along Waikupanaha Street.

Visual inspections of the project site were completed by ETC on October 4, 2018 and May 22, 2019 as part of the Phase I Environmental Site Assessment (ESA) for DHHL. The following general observations are noted in the Phase I ESA report: the affected area contains “bare soil, gravel, and vegetation with limited areas of asphalt pavement (i.e. Waikupanaha Street) and concrete pavement (e.g. platforms, walkways, etc.) within select tenant spaces” (EnviroServices and Training Center, LLC., 2019). Select areas within DHHL’s parcels are developed with “horse corrals, stables, equestrian practice arenas, bird coops, storage sheds/trailers/containers, a large metal-frame gazebo, restrooms, etc.” and remaining areas “primarily consist of pasture, outdoor equipment storage, and unoccupied vegetated land” (Ibid.). During site reconnaissance, ETC observed the presence of solid waste (e.g., rusted automotive parts, scrap metal, storage trailers, etc.) commonly associated with automotive activities and three unlabeled 55-gallon drums containing unknown substances. There were no observable indications that any of the drums were releasing their contents onto ground surfaces, and “ETC was unable to determine whether a past release of hazardous substance or petroleum product from the three discovered drums had occurred” (Ibid.).

Sports Turf Hawaii, Na Lio'ō Waimānalo (the entity owned by June Pires), the Cook's Ranch, and Alan Silva had established operations within DHHL's parcels at the time of the inspections. DHHL's permittees and other interviewees described past usage from their knowledge and familiarity of the project site, which ranged from 7 to 28 years. ETC learned through interviews that illegal dumping of construction and/or demolition debris (e.g., aggregate, roofing materials, concrete with rebar, etc.) had occurred for many years on DHHL's land and solid waste is buried throughout DHHL's parcels. Other unlawful activities that have ceased include heavy equipment maintenance, parking and storage associated with a trucking business (i.e., Hiroshima Trucking), and vehicle disassembly, oil changes, tune-ups, etc. associated with suspected auto mechanics and "chop-shops." Interview findings also revealed that a large pit was excavated to purportedly dispose of the solid waste associated with a "chop-shop" and petroleum products and/or hazardous materials. The following information is noted from ETC's research effort that appear to support many interview findings:

A 2008 aerial photograph appears to depict a sizeable area partially backfilled with dirt on the northwest corner of DHHL's land in the general vicinity of the reported pit.

The lease agreement with Char Ranch, which operated the Manawale'a Riding Center, "was reportedly terminated by DHHL in or around 2013 due to violations associated with suspected illegal activities" (Ibid.).

An incident of dumping was reported to the Hawai'i Department of Health (DOH) Hazard Evaluation and Emergency Response (HEER) Office in May 2014 (Case No. 20140502-1250). Verification of the removal and disposal of three unknown containers was not found with the documentation for the incident; however, ETC found no evidence of the three containers during its visual inspection of DHHL's parcels.

ETC observed a remnant concrete platform but no other evidence of a previously observed release on the ground or "oil-staining, typically associated with vehicle maintenance and leaking equipment" in the area reportedly associated with the trucking business (Ibid.). No evidence was found during ETC's inspection of reported stockpiles or dumping of construction and/or demolition debris (e.g., aggregate, roofing materials, concrete with rebar, etc.) and petroleum products and/or hazardous materials (e.g., drums of used oil). No visual remnants of vent or fill pipes, dispensers, etc. that are typically associated with underground or above-ground storage tanks were observed during ETC's inspections.

As stated in the Phase I ESA, no evidence of any past releases associated with site usage for automotive activities, trucking businesses and/or suspect solid waste dumping was observed during the visual inspections; however, "ETC cannot dismiss

the possibility that residual contamination associated with these activities may exist” within the project site. The following excerpt from ETC’s Phase I ESA identifies the following RECs that pertain to DHHL’s land:

Contaminant impacts associated with a potential release from the three unlabeled 55-gallon drums containing unknown substances, located within the Cook’s Ranch and former Char Ranch tenant spaces.

The potential presence of residual contamination associated with past and prior usage of the Subject Property (e.g. auto mechanic, trucking activities, suspect solid waste dumping, etc.).

Impacts and Mitigation Measures

As a result of the Project, the RECs from past usage are expected to be ameliorated by appropriate actions including but not limited to the proper removal and disposal of solid waste. Construction activities at the project site would temporarily increase the volume of solid waste such as excavated material that must be transported off-site for proper disposal. Waste material from construction will be collected and transported off-site by a commercial service provider for proper disposal. DHHL shall ensure that appropriate waste management and disposal practices are implemented by the construction contractor. In the long-term, each lessee will be responsible for solid waste disposal. DHHL will encourage green waste recycling to the extent possible. No adverse impacts are anticipated.

2.5. Natural Hazards

Natural hazards that pose potential island wide effects are tropical cyclones, earthquakes, floods and tsunami inundation. Sea level rise has the potential to threaten life and property in coastal and low elevation areas. Steep cliffs and areas containing a build-up of dry vegetation may be more susceptible to rockfalls and wildfires, respectively. In general, the exposure to natural hazards from unpredictable events is no greater at the project site than at other locations on O’ahu. Rockfalls and wildfires on O’ahu that have caused loss of life or damage to property were localized hazards. Many wildfires are caused by human actions of an intentional nature or as a result of negligence.

Many tropical cyclones have passed close enough to affect the State of Hawai’i since the recording of such events began in the 1950s. Hurricane Iwa in 1982 and Hurricane Iniki in 1992 both brought destructive winds and torrential rains that resulted in significant property damage. Hurricane Iniki was connected to six deaths.

The most recent earthquakes to have statewide impacts occurred on October 15, 2006. The earthquakes, which occurred off the Kona coast of Hawai’i, had magnitudes

of 6.7 and 6.0. The event caused property damage and triggered an island-wide electrical blackout on O‘ahu.

The project site covers multiple flood designations on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency including Zones AE, XS, and X. Portions of Waikupanaha Street and Hihimanu Street are in Zone AE, which is a designation for inundation areas of high-risk. Zones XS and X refer to inundation areas of low-to-moderate risk that are outside the 0.2 percent annual chance (or 500-year) floods. Most of the project site is within Zone X (see Figure 3).

Tsunami Evacuation Zone maps for the State of Hawai‘i identify low lying areas where excavation is recommended since extensive damage to life and property may occur from seismic sea waves. The County’s Department of Emergency Management updated the tsunami evacuation zone maps in 2010 to incorporate a public safety buffer that provides better zone recognition. The project site is completely outside the Tsunami Evacuation Zone; however, the northern portion of the project site is within the Extreme Tsunami Evacuation Zone, which is a second zone that recognizes very large (magnitude 9+) earthquakes and resulting tsunami events.

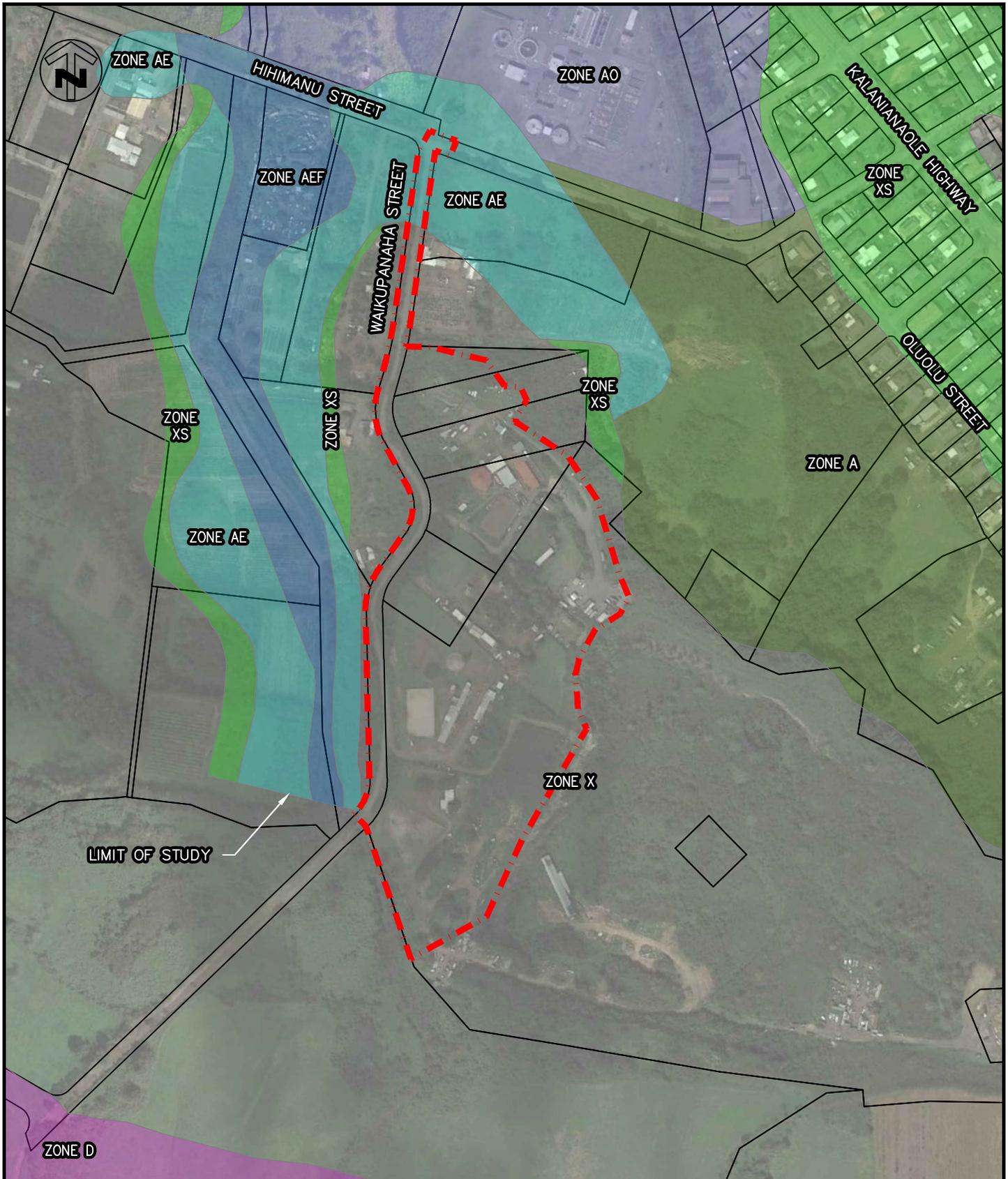
Climate change and sea level rise have the potential to increase the dangers from flooding and storms. The timeframe for experiencing the effects of various sea level rise scenarios is unknown and there are no sea level rise exposure areas within the project site in the 3.2 feet scenario as depicted in the Hawai‘i Sea Level Rise Viewer (Pacific Islands Ocean Observing System, 2018).

There are no apparent rockfall hazards in the vicinity of the project site and the Project excludes the development of areas containing cliffs or steep slopes. Threats from wildfires are unlikely but possible since there is abundant vegetation within DHHL’s parcels. Drought conditions and high winds could exacerbate the fire hazard.

Impacts and Mitigation Measures

The threats to humans and property from unpredictable natural events will always be present. Proposed activities at the project site would not affect the probable occurrence of naturally occurring hazards. Clearing and grubbing for the development of the subdivision, and subsequent use by DHHL’s lessees is expected to reduce the threat from wildfires. New utility infrastructure systems will be designed for regulatory compliance and are expected to be less vulnerable to the effects of sea level rise such as infiltration caused by tidal fluctuations that influence the groundwater table.

The Project is not expected to significantly increase risks to human health or property. No adverse impacts are anticipated to Pope Elementary School and



LEGEND

- PROPERTY LINE
- PROJECT LIMITS
- FLOOD ZONE X
- FLOOD ZONE XS
- FLOOD ZONE A
- FLOOD ZONE AE
- FLOOD ZONE AEF
- FLOOD ZONE AO
- FLOOD ZONE D

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Engineering Services for
 Waikupanaha Agricultural Lots
Flood Zones

SCALE: 1"=400' DATE: November 2019

FIGURE
5

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Waimānalo Elementary and Intermediate School, which are designated hurricane evacuation shelters. Similarly, no adverse impacts are anticipated to the County's ambulance service, which is provided from the Waimānalo Fire Station.

2.6. Floral and Faunal Resources

The project site is within a larger geographic area that has experienced a long history of significant land-disturbing activities including large-scale agriculture, livestock and ranching activities that altered the natural environment. The U.S. Fish and Wildlife Service in its letter dated December 14, 2018 noted the federally protected species that are most likely to occur within the vicinity of the project area and stated that "this list is not comprehensive and should only be used for general guidance." The agency's letter identified one mammal, three bird species, no insects and no plants:

Hawaiian hoary bat (*Lasurus cinereus semotus*) or 'ōpe'ape'a
Band-rumped storm-petrel (*Oceanodroma castro*) or 'akē'akē
Hawaiian petrel (*Pterodroma sandwichensis*) or 'ua'u
Newell's shearwater (*Puffinus auricularis newelli*) or 'a'o

No species of plants or animals currently proposed for listing or listed under either the federal or State of Hawai'i endangered species statutes were recorded by biologists from AECOS, Inc. during the survey of DHHL's parcels on October 4, 2018 and the survey of Waikupanaha Street on May 2, 2019. The Hawaiian short-eared owl (*Asio flammeus sandwichensis* or *pueo*) may forage in the area, the Hawaiian hoary bat (*Lasurus cinereus semotus* or *ōpe'ape'a*) may roost in tall tree species, and seabirds including the Hawaiian petrel (*Pterodroma sandwichensis* or 'ua'u) and Newell's shearwater (*Puffinus auricularis newelli* or 'a'o) may fly over the area. The O'ahu population of the Hawaiian short-eared owl is state-listed as endangered. The indigenous White Tern (*Gygis alba* or *manu o Kū*) occurs on O'ahu and is state-listed as a threatened seabird but is not expected to occur in the project area. The biologists from AECOS, Inc. observed no seabird breeding colonies or nesting sites in the project area.

Aquatic features (e.g., streams and wetlands) and federally delineated critical habitat are not present in the survey area according to the biological survey report prepared by AECOS, Inc. (see Appendix E). The biologists from AECOS, Inc. characterize existing vegetation at the project site as highly variable due to current and past usage. There are ornamental species and weeds within and adjacent to existing equestrian facilities. The previously disturbed areas of the project site with no current human activity appear to contain no remnant native plant assemblages: the open areas are dominated by Guinea grass (*Megathyrsus maximus*) that excludes most other plants and other areas are covered by *koa haole* (*Leucaena leucocephala*) shrubland.

Guinea grass, *koa haole*, and ruderal verge vegetation are present along Waikupanaha Street to Hihimanu Street. Various agricultural parcels contain plantings of ornamental trees. Ruderal weeds, *koa haole* scrub and dense Guinea grass are present in the former limestone quarry area. There is *koa haole* scrub along Waikupanaha Street and shrubs of mock orange (*Murraya paniculata*) at the base of hardened limestone dunes that were mined when the quarry was operational. The suitable roosting areas for Hawaiian hoary bats are stands of ironwood (*Casuarina equisetifolia*) and gunpowder tree (*Trema orientalis*) that grow along the limestone cliff, tall and dense *koa haole* found at the base of the quarry, and other woody vegetation taller than 15 feet.

Impacts and Mitigation Measures

The Project is not expected to displace any federal or State of Hawai'i listed species of plants or insects since the project site is devoid of these protected resources. Site preparation work such as clearing and grubbing is expected to involve the necessary removal of on-site vegetation including plants and trees that were planted and are cultivated by current permittees (see the discussion in Section 2.8 Cultural Practices and Resources). DHHL will consider implementing the following measures that would avoid or minimize adverse impacts to Hawaiian hoary bats, Hawaiian short-eared owls, and protected seabirds that were not detected during the biological survey but may frequent the project area:

Woody vegetation taller than 15 feet that may serve as potential bat roosts should not be removed during the bat pupping season between June 1 and September 15 since bat pups or female bats carrying pups may be less able to rapidly vacate a disturbed roost tree. The use of barbed wire to top fence lines should be avoided since this may entangle flying bats. The removal of tall trees found to be utilized by bats may be addressed by replanting similar-sized trees; however, this practice may be more easily implemented for agricultural endeavors such as a cultivated orchard. Existing tall trees may remain within the project site, to the extent possible.

A survey for Hawaiian short-eared owl ground-nesting activity should be undertaken immediately prior to the start of grading in locations that are undeveloped and without regular human activity. If a nest is discovered, no activity that could disturb nesting may proceed and DLNR must be notified.

Seabirds, especially fledglings, that may fly at night can become disoriented by night-time lighting sources including construction lights, residential lighting and street lights. No night time construction work is

anticipated. Outdoor lighting should be dark sky compliant, properly shielded and directed towards the ground. Other recommendations include the use of automatic motion sensor switches and timer controls that keep outdoor lights turned off when human activity is not occurring.

The letter dated December 21, 2018 from the Department of Land and Natural Resources, Division of Forestry and Wildlife (DFW) provides recommendations to encourage DHHL to consider agroforestry in its land use decisions and to share options for potential agroforestry uses with lessees. Growing agroforestry trees together with more traditional agricultural crops may increase tree canopy and carbon sequestration, improve soil health, and reduce harmful agricultural practices that can degrade the watershed. DFW's letter mentions its Forest Stewardship Program, which may require neighboring lessees to work together through an organization such as a homestead association since there is a minimum lot size requirement of five acres for participation in the program. Federal agroforestry programs may also be available for smaller lot sizes.

2.7. Archaeological Resources

The management summary from the LRFI report is included in Appendix C. The project site does not contain previously identified historic properties. Background research conducted by CSH suggests that the project area has experienced a long history of intensive land use and is unlikely to contain pre-Contact or early historic archaeological historic properties. Historic resources that may have been present in the project area prior to nineteenth and twentieth century land uses are likely to have been heavily disturbed or completely removed since "commercial sugarcane agriculture covered the entire project area by at least 1884" as suggested by some historic maps; however, other historic maps and aerial photographs suggest that the area "may have been less suited for commercial agriculture and may have been used only intermittently or not at all" (Shideler and McDermott, 2019). The project area has also been heavily disturbed "by animal husbandry activity and diversified agricultural in the last 40 years" (Ibid.). "Additionally, a substantial southeastern portion of the project area was part of 1970s and 1980s quarrying operations" (Ibid.).

The Hihimanu and Waikupanaha Street roadway alignments were established by the early twentieth century according to available reference documents. For example, the current alignment of Hihimanu Street is identified as a railroad on the 1916 Wall Map of Waimānalo and an accompanying notation appears to indicate that the route continues to the Makapu'u lighthouse (Ibid.). In the 1927 Waimānalo Coast Aerial Photograph, Hihimanu Street appears to be a more traveled dirt road whereas Waikupanaha Street seems to be a plantation field road.

Field inspections of the project site were conducted by archaeologists from CSH on October 4, 2018 and June 3, 2019. The archaeologists observed current land uses, assessed the potential for remnants of past land use, and documented the general characteristics of the project area. Within DHHL's 30-acre area, CSH observed "one dry-stone stacked basalt wall feature that appears to be related to a modern driveway" and several limestone boulder features and bulldozer push piles that "appear to be associated with quarrying operations and roadway installation" (Ibid.). The features observed within DHHL's parcels appear to be less than 50 years old (Ibid.).

A basalt and mortar feature at the intersection of Hihimanu and Waikupanaha Streets is potentially older than 50 years old. The historic property is in-use for the purpose of conveying water under Hihimanu Street through a prefabricated concrete culvert with metal pipe grating, and is also modified by more recent PVC pipe that passes through the feature. "This historic property is potentially related to Hihimanu and Waikupanaha roadway construction in the first part of the twentieth century, or could be related to historic plantation irrigation" (Ibid.). Along the southern portion of Waikupanaha Street and near homeless encampments, the archaeologists observed many "stacked stone, dry masonry limestone and boulder alignments and terraces" and bulldozer push piles that appear to be less than 50 years old (Ibid.). The stacked features and push piles may be the result of squatter activities or may be associated with "older quarrying activity from the 1970s and 1980s" (Ibid.).

Impacts and Mitigation Measures

There are no sites listed on the Federal or Hawai'i Register of Historic Places near or within the project site. This area of Waimānalo was intensively altered by past usage including long periods of commercial agriculture and a quarrying operation. Buildings and structures within DHHL's parcels that would be affected by the Project appear to be less than 50 years old. DHHL has requested concurrence from SHPD that a limited archaeological inventory survey (AIS) to document one likely archaeological historic property (i.e., the basalt and mortar water conveyance feature) is the appropriate action with regards to historic preservation review under HRS §6E-8 and HAR §13-275. The scope of the AIS would be determined through consultation with SHPD and may include documentation of numerous dry-stone masonry features that appear to be less than 50 years old. The water conveyance feature is in use and project actions are not expected to alter the function that it provides.

Unanticipated discoveries of historic resources may occur during the various phases of construction such as site preparation, roadway improvements and utility installations. DHHL shall require its contractor to immediately halt construction activities and notify SHPD in Kapolei in the event any unanticipated sites or remains such as bone or charcoal deposits, human burials, rock or coral alignments, and pavings or walls are encountered.

2.8. Cultural Practices and Resources

CSH conducted a cultural impact assessment (CIA) to help identify the potential impacts of the Project based on information about the cultural and historical background of Waimānalo (refer to Appendix C). In November 2018, CSH initiated its effort to consult knowledgeable parties including Native Hawaiian Organizations, agencies, and community members including descendants of the area. The CIA report documents the results of the research activities by CSH that involved outreach via letters, email, telephone calls and in-person contact. The community consultations including a group interview with Alu Like, Inc. were completed; however, CSH did not receive the approval of the interview summary by October 2019 from Alu Like, Inc. Of the 11 people that responded to outreach initiated by CSH, three (3) *kama'āina* (native born) and/or *kūpuna* (elders) who participated in formal interviews approved their interview summaries that are included in the CIA.

The descriptions of Waimānalo provided by Mr. and Mrs. Spencer include their fondness for areas once utilized for gathering that are no longer used by the family. The interview summary from the Cook 'Ohana provides the only accounts pertaining to DHHL's parcels and describes the endeavors of family members who maintain the ranch and contribute to the perpetuation of Hawaiian traditions such as *pā'ū*, *hula*, *mele*, *oli*, and *lei* making.

As noted in the CIA report, the effort to establish the Cook Ranch on 12 acres of DHHL land reportedly involved towing city buses that were abandoned on DHHL's parcels by a previous tenant and altering the condition of the land (e.g., clearing bushes, *koa* trees, and rocks). DHHL's land has been utilized by the Cook 'Ohana since 1991, and their activities include raising horses and cultivating numerous species of plants (Spencer and Hammatt, 2019). The Cook Ranch is currently situated on three (3) acres since DHHL divided the larger 12-acre area and issued separate ROE permits for smaller areas. Since 2003, Leiala Cook has been the president of The Hawai'i Pa'u Riders Equestrian Unit, which is the organization that was founded in 1981 by her parents, John and Lita Cook (Kato, 2014). The Hawai'i Pa'u Riders Equestrian Unit participates in numerous parades locally and nationally. Monthly meetings are held at the Cook Ranch to prepare for parades and there are workshops for riders who want to learn horsemanship. "The Cook Ranch also hosts numerous activities for the community including the awards ceremony for the Aloha Festival Parade which may attract up to 300 people" (Spencer and Hammatt, 2019).

Activities such as *lei* making and *pa'u* draping utilize numerous species of trees and plants including *kukui*, *ti* leaf, bougainvillea, *kauna'oa*, and sea grapes that were planted by Lita Cook, who was a professional *hula* dancer and *kumu hula* (*hula* teacher) with a *hālau* (school for *hula* instruction) in Waimānalo (Ibid.). The Cook 'Ohana also mentioned their cultivation of *noni* and dryland *taro*. A summary of the natural resource considerations pertaining to the mentioned species is below.

 SUMMARY OF CULTIVATED NATURAL RESOURCE CONSIDERATIONS

<u>Species</u>	<u>Status</u>	<u>Abundance During Surveys</u>
<i>kukui</i> (<i>Aleurites moluccana</i>)	Pol	O
<i>ti</i> (<i>Cordyline fruticosa</i>)	Pol	O
bougainvillea (<i>Bougainvillea glabra</i>)	Orn	U ✓
<i>kauna'oa</i> (<i>Cuscuta sandwichiana</i>)	End	NONE
sea grapes (<i>Coccoloba uvifera</i>)	Orn	NONE
<i>noni</i> (<i>Morinda citrifolia</i>)	Pol	O
<i>taro</i> (<i>Colocasia esculenta</i>)	Pol	NONE

Legend

End	Endemic; native only to a particular locality or region.
Pol	Early Polynesian introduction; canoe plant.
Orn	Ornamental; crop or landscape plant not established outside of cultivation.
U	Uncommon - several to a dozen plants observed.
O	Occasional - found regularly, but not abundant anywhere.
NONE	Specimens were not observed during the botanical surveys
✓	Species also recorded along Waikupanaha Street in May 2019

The biologist from AECOS, Inc. notes that the natural resources identified in the above summary are not rare or endangered. The *kauna'oa* is a hard to find endemic species whereas the naturalized varieties of this plant are commonly found in Waimānalo; the endemic and naturalized varieties of this plant have very similar flowers and grow upon a host plant. The six other species identified in the summary (i.e., *kukui*, *ti*, bougainvillea, sea grapes, *noni*, and *taro*) are reportedly easy to find within other areas of Waimānalo.

In December 2018 and September 2019, respectively, DHHL received written comments requesting the reconsideration of the Project for the purpose of allowing the Cook Ranch and Pires Ranch to continue for the foreseeable future. The written comments from Leiala Cook, Lawrence Delos Santos and the Ramos-Kia Tupua 'Ohana mention how these ranches contribute to the perpetuation of Hawaiian traditions including but not limited to *pā'ū* riding. The scarcity of available land for horsemanship practice with the *lei*, workshops and *lei* making (i.e., pastoral lots consisting of an acre or more) was a stated concern. DHHL received no additional cultural information during the public review and comment period for the Draft EA.

Impacts and Mitigation Measures

The Cook 'Ohana is opposed to the Project and do not want to be relocated from the area they have utilized for 28 years. Ms. Iwalani Lowea Kahalewai-Cook characterizes the Cook Ranch as a culturally significant place and believes the Project will disrupt the Cook 'Ohana's gathering practices and their perpetuation of Hawaiian traditions.

The efforts by current permittees to preserve and promulgate cultural practices is appreciated by DHHL. All of the ROE permits are subject to cancellation by DHHL at any time upon 30 days advance notice in writing to permittees. Surveyed applicants on the O‘ahu agriculture waitlist have indicated during the O‘ahu Island Plan process that their strong preference is to receive an agriculture award in Ko‘olaupoko and Waimānalo in particular. The cessation of current activities on the premises including cultural practices is expected to be offset by the establishment of long-term homesteading by beneficiaries, which is a core mission for DHHL.

Natural resources utilized for cultural practices are reportedly common species that may be gathered from other locations since gathering activities for culturally important events can also involve going “all over the island to pick [flowers]” (Keola, 2018). The current permittees may relocate or replant the cultivated natural resources that they value prior to the commencement of site preparation activities associated with the Project, which would help to minimize or avoid the loss of these resources to them. Any remaining cultivated natural resources on the premises are expected to be cleared due to site preparation activities, and the loss of these resources may be offset as a result of the cultivation practices of beneficiaries who are awarded SAH lots.

DHHL shall require its contractor to inform construction workers and project personnel about the potential for encountering cultural finds including human remains or *iwi kūpuna* during construction activities. As previously mentioned in Section 2.7 Archaeological Resources, construction activities must be immediately halted in the event that any potential historic properties are identified. SHPD in Kapolei will be notified in the event of an inadvertent discovery of potential historic properties. SHPD and the Honolulu Police Department will be notified in the event of an inadvertent discovery of *iwi kupuna*, the area will be cordoned off, and a burial treatment plan will be completed. DHHL will consult with cultural and lineal descendants of the area to develop a reinterment plan and cultural preservation plan for proper cultural protocol, curation, and long-term maintenance of discovered *iwi kūpuna* and/or cultural finds.

2.9. Visual Resources

Waimānalo is a rural community that is characterized by low-density residential communities, small businesses and agricultural lots interspersed with green space. Dense vegetation and mature canopy trees provide the visual element of green space and help to obscure existing building elements and human activity. The area surrounding the project site has agricultural uses and low-density residential homesteads.

Impacts and Mitigation Measures

Completion of the Project, which will allow the award of SAH lots to beneficiaries, will not significantly alter the visual character of the Waimānalo area since subsistence agriculture is expected to be consistent with surrounding residential and agricultural land uses. Vegetated areas within the project site will be necessarily cleared for site preparation and the creation of roadways and utility infrastructure. The incorporation of agroforestry practices by beneficiaries in their subsistence agricultural endeavors has the potential to reintroduce trees and other plants that are appropriate for the Waimānalo area.

2.10. Noise

The project site is located in a rural community where the primary noise source is related to vehicular traffic along Kalanianaʻole Highway and secondary roadways. In general, there is low background noise in the vicinity of the project site since there is low vehicular activity along Waikupanaha Street. Dense vegetation helps to reduce or buffer audible background noise emanating from the main arterial through Waimānalo during periods of increased human activity and travel such as in the morning and late afternoon. Intermittent noise from other sources such as the sirens at Waimānalo Fire Station also contribute to the background noise environment.

Impacts and Mitigation Measures

Audible noise from construction vehicles, heavy equipment and impact tools is expected to fluctuate during the various phases of construction. The mitigation of noisy activities to inaudible levels will not be practical in all cases due to the intensity and exterior nature of the work. The necessary removal of dense vegetation may allow more construction noise from site preparation and utility installation to emanate beyond the immediate vicinity of the work area. Construction noise is temporary in nature and will cease upon completion of the Project.

Project activities shall comply with the provisions of HAR Title 11, Chapter 46, “Community Noise Control.” The noise regulations require a noise permit if the noise level from construction activity is expected to exceed allowable levels stated in the Chapter 11-46 rules. It shall be the contractor’s responsibility to minimize noise by properly maintaining noise mufflers and other noise-attenuating equipment and to maintain noise levels within regulatory limits. If construction activities occur outside of the allowable timeframes designated for the noise permit (i.e., nighttime, Sunday, holiday) and exceed allowable noise levels, a noise variance must be obtained prior to commencement of construction activities, as required. The construction contractor will obtain the appropriate permit or approvals (e.g., Notice of Intent to Construct, Community Noise Permit, or Noise Variance). DHHL will ensure that the contractor

complies with all permit conditions. No night time construction work is anticipated.

Noise from human activity at the project site is expected to be similar to the sounds emanating from nearby areas. Landscaping within the homestead lots may help to reduce or buffer the sounds of human activities.

2.11. Site Access, Circulation and Traffic

Kalanianaʻole Highway (State Route 72) is mostly an undivided, two-lane, urbanized principal arterial connecting Waimānalo to Kailua and to Makapuʻu with a posted speed limit of 25 to 35 miles per hour (mph). Residential structures, commercial buildings, public facilities (e.g., Waimānalo Fire Station, Waimānalo Public Library, Waimānalo Elementary and Intermediate School) and various community facilities (e.g., Waimānalo Health Center and St. George Church) are located along Kalanianaʻole Highway. The lower speed segment of the highway begins before the Tinker Road entrance to Bellows Air Force Station and continues past a horse boarding facility to the perimeter of the Olomana Golf Club property.

Waikupanaha Street is a two-lane, two-way county-owned roadway that connects to Hihimanu Street, which is a two-lane county-owned roadway with a posted speed limit of 15 to 25 mph. These collector roadways fit the description of Rural Roads that often serve as farm roads, are owned and maintained by the County, and generally carry much less traffic as compared to highways. Waikupanaha and Hihimanu Streets provide vehicular access from inland areas to Kalanianaʻole Highway. There are raised sidewalks along the north side of Hihimanu Street between Kakaina Street and Waimanalo District Park. There are no sidewalks along Waikupanaha Street.

The established Waikupanaha Street right-of-way is 40 feet. In some sections, the existing rural roadway is very narrow and encroaches into DHHL's parcels. Road network improvements described in the Waimānalo Regional Plan were meant to extend and connect Ilauhole Street with Waikupanaha Street to provide an emergency evacuation route from existing homestead subdivisions in the tsunami inundation zone to inland areas. The Ilauhole Street extension and Waikupanaha Street improvements were proposed in 2006 and considered a priority; however, the funding that was appropriated in 2009 lapsed and subsequent attempts to fund all of the road network improvements were unsuccessful (Group 70 International, 2011). The Waikupanaha Street improvements that were proposed as phase 2 of the project included creating two lanes with an approximate right of way of 55 feet, paving, installation of sidewalks, drainage, sewer pipes, telecommunication lines and lighting (Ibid.).

The County provides bus services to the Waimānalo area via Kalanianaʻole Highway. Bus stops are located along the east and west bound lanes of the highway. The closest bus stops to the project site are approximately 0.5 miles away at the

intersection of Hihimanu Street with Kalaniana'ole Highway. Three bus routes provide service for the area from Kailua to Waimānalo:

Route 57 connects Sea Life Park with Ala Moana via Waimānalo and Kailua from 4:50 a.m. to 11:40 p.m.;

Route 69 (formerly Route 77) connects Waimānalo with downtown Honolulu via Kailua during the weekdays from 5:45 a.m. to 6:10 p.m.; and

Route 89 connects Waimānalo with Kaneohe via Kailua during the weekdays from 5:45 to 6:45 a.m. and from 4:45 to 5:50 p.m.

Bicycle and pedestrian facilities near the project site are limited. There is an existing Bike Route along Kalaniana'ole Highway but no special designation for bike traffic on Waikupanaha and Hihimanu Streets. The County's 2012 O'ahu Bike Plan and a Draft O'ahu Bike Plan Update (2019) do not show planned improvements for non-motorized travel in the vicinity of the project site. Shared Roadway considerations whereby bicyclists use the same travel lanes as other traffic appear to be appropriate for Waikupanaha and Hihimanu Streets due to low speed limits and low volumes. The County's Complete Streets Manual (2016) states that Rural Roads do not have to comply with the four-zone sidewalk system but there should be reasonably safe places for pedestrian travel.

Impacts and Mitigation Measures

A multi-modal transportation impact assessment (see Appendix G) was completed as recommended by the DTS in its letter dated December 20, 2018 and the State of Hawaii Department of Transportation (HDOT) in its letter dated January 3, 2019. The traffic impact analysis report (TIAR) prepared by SSFM International (2019) evaluates existing 2019 traffic conditions, assesses future (2022) changes for the study area and discusses impacts of the Project on the surrounding area. Traffic congestion and delay for the signalized intersection of Kalaniana'ole Highway and Poalima Street is expected to remain the same without the Project during the AM and PM peak hours. Three stop-controlled intersections at Hihimanu Street and Poalima Street, Hihimanu Street and Waikupanaha Street, and Hihimanu Street and Kalaniana'ole Highway are expected to continue functioning without significant delay and well under capacity. Traffic congestion and delay for the eastbound and westbound approaches to Kalaniana'ole Highway from Hihimanu Street are expected to worsen without the Project during the PM peak hour.

The Project, which may be constructed in phases, is expected to attract more residents and visitors to the area. Two intersections along Waikupanaha Street will be constructed and are expected to have low volumes of traffic. DHHL's

proposed subdivision “is expected to generate approximately 30 new trips in the AM peak hour (7 entering and 23 exiting) and 38 new trips in the PM peak hour (24 entering and 14 exiting)” (SSFM International, 2019). As indicated in the TIAR, the Project is expected to have a negligible effect on traffic during the weekday AM and PM peak hours. The Project is expected to increase average delay for the westbound approach to Kalanianaʻole Highway from Hihimanu Street during the PM peak hour.

Disruptions to vehicular, bicycle and pedestrian traffic during the various phases of construction will be intermittent and temporary in nature and any affected crossing should be maintained with the highest safety measures during construction. The bus routes, bus stops, and paratransit operations are not expected to be impacted by construction activities within the project site. Appropriate traffic control devices and warning signs will be installed and the traffic flow will be directed by construction personnel or by law enforcement personnel, when necessary. Temporary traffic lane closures are anticipated for utility installations and connections. No additional crosswalks in the study area are warranted as a result of the Project since “pedestrian traffic is not expected to meet the minimum pedestrian volume threshold of 20 pedestrians per hour in any one hour, or 60 pedestrians in any consecutive 4 hour period” (Ibid.).

The Project provides the opportunity to properly realign Waikupanaha Street within the County’s right of way and to provide shoulders along Waikupanaha Street for safer pedestrian travel. The letters dated December 19 and 20, 2018 from the County’s Department of Transportation Services (DTS) and the Department of Facility Maintenance, respectively, state that any damage or deficiencies caused by the construction of proposed improvements must be corrected to County standards, be accepted by the County and meet Americans with Disabilities Act (ADA) requirements. Access driveways to homestead lots will be designed and constructed to County standards. Proposed improvements will maintain the road network in this rural area, which has no sidewalks, curb ramps, or crosswalks. Improvements to Waikupanaha Street may include new asphaltic concrete pavement and the relocation of utility poles with overhead lines. The Project will be designed to address the hydrology and drainage impacts to the County’s roadways as required.

A traffic management plan that addresses short-term impacts during construction will be submitted to DTS and DPP for review. DHHL’s contractor will be required to implement Best Management Practice controls at the project site to prevent dirt and debris on County roadways. The contractor will obtain a street usage permit from DTS for construction-related work (e.g., project parking, transporting equipment, etc.) that may require the temporary closure of any traffic lane on a County street as recommended by the Honolulu Police

Department in its letter dated July 31, 2019. A recommendation from DTS in its letter dated December 20, 2018 is to transport construction materials and equipment during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize potential disruptions on local streets. DTS also recommended sharing the details and status of the Project with area representatives, the neighborhood board, area residents, businesses, emergency personnel (e.g., fire, ambulance and police) and O'ahu Transit Services, Inc. (OTS) especially if there are anticipated impacts to the local street network.

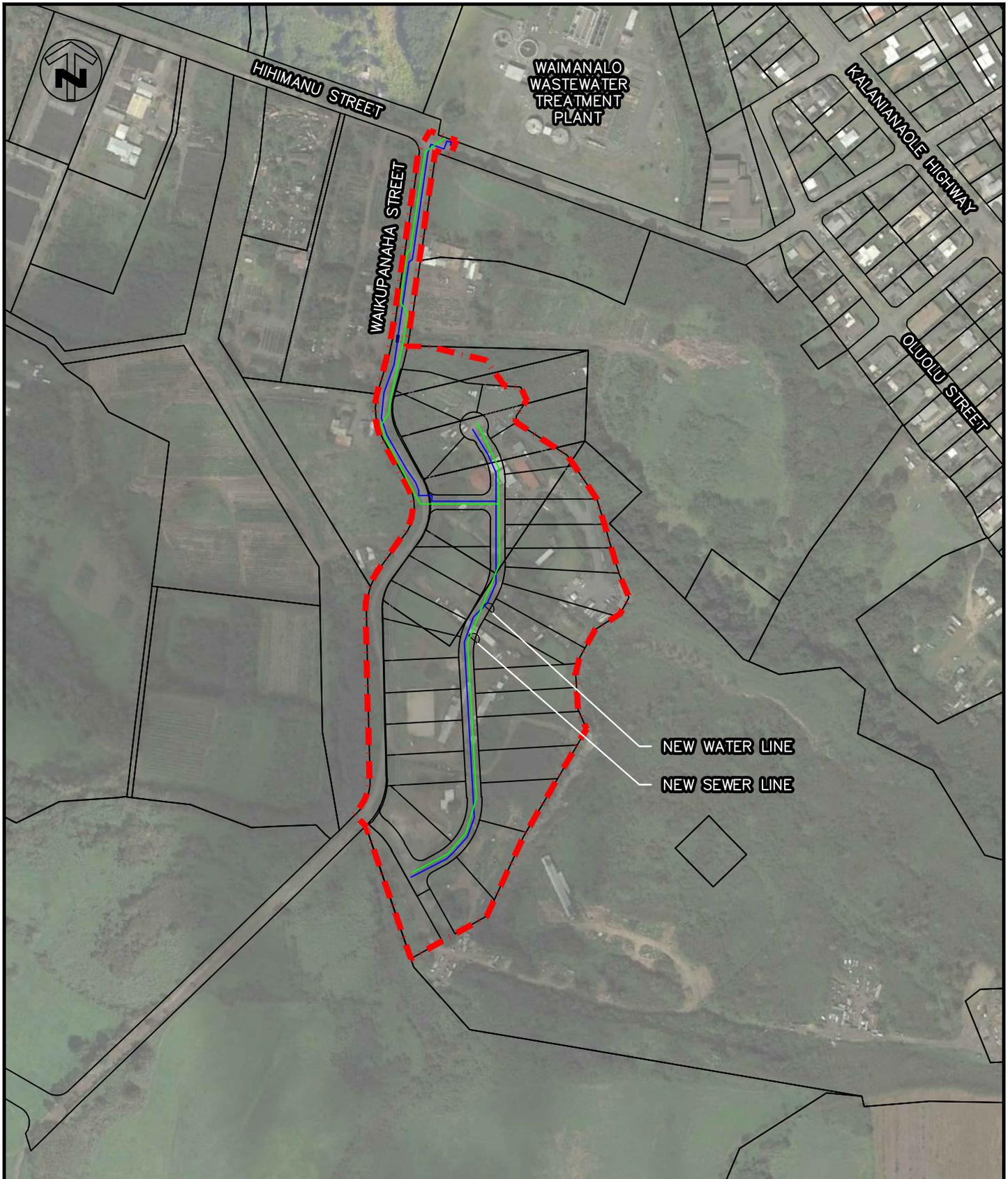
2.12. Utilities (Water, Wastewater, Drainage)

Existing utility infrastructure is primarily located along Hihimanu Street, which is north of the project site. Letters from County agencies indicate that there is no adequate fire protection and no sewer service at the project site at this time. The nearest BWS fire hydrant is located along Hihimanu Street and approximately 1,400 linear feet from the project site according to the letter dated December 20, 2018 from the Board of Water Supply (BWS). Underground lines along Hihimanu Street convey wastewater to the Waimānalo WWTP, which serves the windward coast of O'ahu from Makapu'u to Waimānalo. The Waimānalo WWTP is north of the project site along Hihimanu Street. There are no drainage facilities along Waikupanaha Street that retain or direct stormwater runoff.

Impacts and Mitigation Measures

A short-term and temporary impact of the project would occur from the generation of additional sediment-laden surface runoff during construction and demolition work. Appropriate erosion control BMPs will be used to minimize the amount of soil transported in stormwater runoff during construction activities. All construction activities will comply with applicable Federal, State and County regulations and rules for erosion control as previously discussed in Section 2.3 Water Resources.

Proposed utility improvements are shown in Figure 6. Connections and new underground lines installed along Waikupanaha Street and internal roadways may be necessary to extend potable water and fire protection service from the County's system to the project site. The civil drawings will be submitted to the BWS and Honolulu Fire Department for review and approval to ensure that County standards and on-site fire protection requirements are met. DHHL will consider a separate, non-potable water system for irrigation and coordinate with the State of Hawai'i Department of Agriculture with regards to extending necessary infrastructure to the project site from the State's Waimānalo Irrigation System.



LEGEND

- PROPERTY LINE
- NEW WATER LINE
- - - PROJECT LIMITS
- NEW SEWER LINE

THE LIMTIACO CONSULTING GROUP
 CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Engineering Services for
 Waikupanaha Agricultural Lots
Proposed Utility Improvements

SCALE: 1"=400'

DATE: November 2019

FIGURE
6

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DHHL may consider extending necessary infrastructure to the SAH lots that would allow for the use of a separate recycled water system for non-potable purposes, such as landscape and agriculture irrigation. The County owns and operates the Waimānalo WWTP, and treatment upgrades (filtration and disinfection) are required to produce R-1 recycled water. At this time, it is not known if and when the treatment upgrades at the Waimānalo WWTP facility will occur. Future underground lines and connections for DHHL's parcels are expected to be discussed and coordinated in preparation of R-1 recycled water availability. Additionally, an agreement between the County and DHHL would be required to commit both agencies to long-term R-1 usage.

Connections and new underground lines installed along Waikupanaha Street and internal roadways are similarly needed to convey domestic wastewater to the County's Waimānalo WWTP. A new sewer connection is subject to review and approval by DPP. Wastewater from the Project will be conveyed via a gravity fed system to existing municipal treatment and disposal infrastructure.

A new internal roadway for the Project will increase impervious areas, thereby increasing stormwater runoff. The anticipated impact will be offset by the development of an on-site stormwater mitigation/drainage systems to address the quality and quantity of stormwater leaving the site. The site drainage plan must comply with applicable County drainage standards and requirements. Some of the measures being considered include, but are not limited to, infiltration/sediment basins, grassed swales, and vegetated berms utilizing native or non-native species. The Project does not intend to utilize new injection wells for storm water runoff that require DOH approval prior to the commencement of construction.

2.13. Power and Communications

The Hawaiian Electric Company, Inc. (HECO) provides electrical power in the project area. HECO requires continued access to any easements established for the maintenance of its facilities and has no objections to the Project according to correspondence on November 26, 2018. Hawaii Gas has no utility gas facilities in the project area according to its letter dated July 24, 2019.

Communication services are available from service providers such as Hawaiian Telcom, Sandwich Isles Communication, and Charter Communications (or Spectrum). Overhead communications lines are usually co-located on utility poles along Kalaniana'ole Highway and established roadways. There is overhead Cable Television (CATV) infrastructure on utility poles that generally follow the alignments of Waikupanaha and Hihimanu Streets according to the information provided by Charter Communications on July 17, 2019. There is an existing cell tower on the eastern portion of DHHL's parcels.

Impacts and Mitigation Measures

Proposed construction activities have the potential to disrupt power, CATV and other communication systems but these effects are expected to be short-term and temporary. There are no anticipated long-term impacts associated with establishing new service connections. The Waikupanaha Street improvements described in Section 2.11 Site Access, Circulation and Traffic may include the relocation of utility poles with overhead lines. Service to DHHL's parcels will be coordinated with HECO, Charter Communications and other communication service providers since some services may be upgraded to accommodate the Project. No changes to the developed area that contains the existing cell tower are anticipated as a result of the Project.

2.14. Socio-Economic Characteristics

The estimate of the resident population on O'ahu from the 2010 U.S. Census was 953,207 people, which represents 70 percent of the statewide population (PBR Hawaii and Associates, Inc., 2014). A comparison of the 2000 and 2010 resident population of the Ko'olaupoko area shows a decline of 2,835 people from 115,164 to 117,999 people (PlanPacific and Department of Planning and Permitting, 2017). The population decline in Ko'olaupoko is projected to continue through 2035 (Ibid.). The resident population of the rural community of Waimānalo as roughly covered by the boundaries of the Waimānalo Neighborhood Board No. 32 was estimated to be 11,141 people in 2010 (State of Hawai'i Department of Business, Economic Development and Tourism, 2019). The estimate of the resident population for Hawaiian Home Lands in Waimānalo was 3,073 people for the 2013 to 2017 period (Ibid.).

A small cluster of commercial and small business establishments are located near Waimānalo Village in the Rural Commercial Center of Waimānalo and along Kalaniana'ole Highway. Approximately 2,000 acres in Waimānalo are part of DHHL's land inventory (PBR Hawaii and Associates, Inc., 2014). There are residential Hawaiian Homestead subdivisions in the surrounding vicinity of the project site. DHHL's O'ahu Applicants Beneficiary Study indicates that the average household size for O'ahu (at 2.95) and for Ko'olaupoko (at 3.13) are smaller than the average household of 4.56 people for the Waimānalo Homestead community (Ibid.). The median household income for O'ahu (at \$70,093) and for Ko'olaupoko (at \$85,088) are higher than the median household income of \$68,594 for the Waimānalo Homestead community (Ibid.).

Impacts and Mitigation Measures

The Project is expected to insignificantly increase the resident population in Waimānalo. DHHL is striving to fulfill its mission by providing SAH lots to beneficiaries pursuant to its Administrative Rules. The various phases of construction will create short-term jobs for people in design and construction.

In the long-term, the Project is expected to insignificantly affect the socio-economic characteristics of Waimānalo.

2.15. Public Services and Facilities

Law enforcement is provided by the City and County of Honolulu, Honolulu Police Department. The nearest police station relative to the project area is the Kāneʻohe District Station in Kāneʻohe.

The County's fire protection services are provided by the Honolulu Fire Department. The Waimānalo Fire Station is located along Kalanianaʻole Highway and across from the Waimānalo Elementary and Intermediate School, which is a designated hurricane evacuation shelter. This shelter can accommodate persons with special health needs and caged household pets. Pope Elementary School is also an evacuation shelter.

The County's Emergency Medical Services Division provides ambulance service from the Waimānalo Fire Station. The nearest emergency care facility relative to the project area is Castle Medical Center in Kailua. The Waimānalo Health Center located along Kalanianaʻole Highway and across from the Waimānalo Elementary and Intermediate School is a non-profit Community Health Center that serves a federally-recognized area where residents have barriers to receiving health care.

Waimānalo is within the Kailua-Kalāheo Complex-Area, which is served by ten (10) elementary schools, three (3) intermediate schools and four (4) high schools. There are also several private schools in the region.

Impacts and Mitigation Measures

No significant adverse impacts to police, fire, medical, emergency shelter services or schools will occur from the Project.

2.16. Recreational Resources

The recreational resources in the project area are Waimānalo District Park, Bellows Field Beach Park, Waimānalo Bay Beach Park and Waimānalo Polo Field. Other opportunities for shared-use facilities (e.g., a high school with a football field, track or swimming pool) and non-profit recreation centers (e.g., a YMCA or YWCA) are not present within the rural community of Waimānalo.

Impacts and Mitigation Measures

The Project is expected to have no adverse impact on recreational facilities.

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3. RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

3.1. State Land Use District

The State Land Use Law (Chapter 205, HRS) is intended to preserve, protect, and encourage the development of lands in the State for uses which are best suited to the public health and welfare for Hawaii's people. All lands in the State are classified into four land use districts by the State of Hawai'i, Land Use Commission: Urban, Agricultural, Conservation, and Rural. Lands in the Agricultural District are intended for the cultivation of crops, aquaculture, raising livestock, wind energy facility, timber cultivation, agriculture-support activities (i.e., mills, employee quarters, etc.) and land with significant potential for agriculture uses. The project site is entirely located within the Agricultural District and the Project is consistent with the intent of this land classification (refer to Figure 2).

3.2. Hawai'i Coastal Zone Management Program

Hawaii's Coastal Zone Management (CZM) Program, established pursuant to the Hawai'i Coastal Zone Management Act (Chapter 205A, HRS, as amended), is administered by the State of Hawai'i, Office of Planning and provides for the beneficial use, protection, and development of the State's coastal zone. The CZM area consists of the entire State of Hawai'i since there is no point of land more than 30 miles from the ocean. The CZM Act involves a system of permits, including the Special Management Area (SMA) permit, to manage development within the coastal areas and encourage public participation. Any significant development within the SMA requires permit approval from the appropriate County. On the Island of O'ahu, the SMA permit process is administered by DPP. The project site is outside the SMA and approximately 0.5 miles from the shoreline. No SMA permit is required for the Project, which supports several policies and objectives of the CZM from HRS Section 205A-2.

1. *Recreational Resources*

Objectives. *Provide coastal recreational opportunities accessible to the public.*

Policies. *Improve coordination and funding of coastal recreational planning and management; and*

Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

- (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
- (ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;*

- (iii) *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
- (iv) *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
- (v) *Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
- (vi) *Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
- (vii) *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
- (viii) *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.*

The Project is located away from the coast and is not within the SMA. Coastal water quality will be protected since appropriate erosion control BMPs will be used to minimize the amount of soil transported in stormwater runoff during construction activities.

2. *Historic Resources*

Objectives. *Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

Policies. *Identify and analyze significant archaeological resources;*

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

Support state goals for protection, restoration, interpretation, and display of historic resources.

According to the archaeological literature review and field inspection, there are no known historic resources on DHHL's parcels that would be endangered by the Project. Concurrence from SHPD to conduct a limited AIS of one likely archaeological historic property (i.e., the basalt and mortar water conveyance feature that has been modified by more recent PVC pipe) near the Waikupanaha/Hihimanu Street intersection was requested by DHHL and project actions are expected to maintain the function that the water conveyance feature provides. DHHL shall require its contractor to comply with all State and County rules and laws pertaining to historic preservation. Construction

activities will be halted and SHPD will be notified in the event any unanticipated archaeological or historic sites are encountered.

3. Scenic and Open Space Resources

Objectives. Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies. Identify valued scenic resources in the coastal zone management area; Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

Encourage those developments that are not coastal dependent to locate in inland areas.

The Project is located inland and is not expected to diminish coastal scenic views areas or open space resources.

4. Coastal Ecosystems

Objectives. Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies. Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

Improve the technical basis for natural resource management;

Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

The Project is sited away from the shoreline and is not expected to disrupt or degrade coastal water ecosystems. No stream diversions or channelization would occur from the Project. DHHL's construction contractor will be responsible for implementing a storm water management plan and controlling runoff that can transport loose soil, excess nutrients and other pollutants. A NPDES permit will be required to ensure compliance with BMPs during construction.

5. Economic Uses

Objectives. Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies. Concentrate coastal dependent development in appropriate areas;

Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

- (i) Use of presently designated locations is not feasible;
- (ii) Adverse environmental effects are minimized; and
- (iii) The development is important to the State's economy.

The Project does not involve coastal development; therefore, the policies pertaining to coastal economic development do not apply.

6. Coastal Hazards

Objectives. Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Policies. Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

Prevent coastal flooding from inland projects.

Coastal hazards are not expected to be exacerbated by the Project, which is located inland and away from the coastline. The Project includes the installation of new on-site drainage systems that address the quality and quantity of stormwater leaving the site, which would help to reduce nonpoint source pollution into streams.

7. Managing Development

Objectives. Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies. Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

The Project does not impact or influence the development review process. The environmental review process includes opportunities for public participation and comments pertaining to a variety of issues and topics including coastal resources and hazards.

8. Public Participation

Objectives. Stimulate public awareness, education, and participation in coastal management.

Policies. Promote public involvement in coastal zone management processes; Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

The environmental review process provides opportunities for public participation. DHHL has also sought feedback from its beneficiaries and will continue to address comments as part of the environmental review process.

9. Beach Protection

Objectives. Protect beaches for public use and recreation.

Policies. Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

Minimize the construction of public erosion-protection structures seaward of the shoreline.

Public access to beach areas will not be affected by the Project, which is located inland and away from beaches and the shoreline. The Project does not involve the construction of erosion-protection structures seaward of the shoreline.

10. Marine Resources

Objectives. Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies. Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

The Project is located inland and does not involve the use or development of marine and coastal resources.

3.3. Hawai'i State Plan

The Hawai'i State Plan (Chapter 226, HRS) outlines broad goals, policies and objectives to serve as guidelines for the future growth and development of the State. The excerpts below are pertinent Hawai'i State Plan objectives, policies, and priority guidelines that pertain to DHHL's project. The project site includes DHHL land in Waimānalo, which is a region on O'ahu that has an established Hawaiian community and supports agricultural endeavors.

§226-3 Overall theme. Hawaii's people, as both individuals and groups, generally accept and live by a number of principles or values which are an integral part of society. This concept is the unifying theme of the state plan. The following principles or values are established as the overall theme of the Hawaii state plan:

- (1) Individual and family self-sufficiency refers to the rights of people to maintain as much self-reliance as possible. It is an expression of the value of independence, in other words, being able to freely pursue personal interests and goals. Self-sufficiency means that individuals*

and families can express and maintain their own self-interest so long as that self-interest does not adversely affect the general welfare. Individual freedom and individual achievement are possible only by reason of other people in society, the institutions, arrangements and customs that they maintain, and the rights and responsibilities that they sanction.

- (2) Social and economic mobility refers to the right of individuals to choose and to have the opportunities for choice available to them. It is a corollary to self-sufficiency. Social and economic mobility means that opportunities and incentives are available for people to seek out their own levels of social and economic fulfillment.*
- (3) Community or social well-being is a value that encompasses many things. In essence, it refers to healthy social, economic, and physical environments that benefit the community as a whole. A sense of social responsibility, of caring for others and for the well-being of our community and of participating in social and political life, are important aspects of this concept. It further implies the aloha spirit--attitudes of tolerance, respect, cooperation and unselfish giving, within which Hawaii's society can progress.*

The overall theme of the Hawai'i State Plan is supported by the Project, which will provide native Hawaiian beneficiaries with more opportunities for self-sufficiency and self-reliance through subsistence agriculture.

3.4. Complete Streets Program

State and county transportation departments are required to adopt complete streets policies pursuant to Hawai'i State Act 54, Session Laws of Hawai'i 2009. All users of highways including pedestrians, bicyclists, transit users, motorists, and persons of all ages and abilities should be afforded convenient access and mobility. The Project is not expected to affect the Rural Road characteristics of Waikupanaha and Hihimanu Streets, which have low speed limits and low volumes of traffic. Shoulders installed along Waikupanaha Street as a result of the Project would contribute to safer pedestrian travel. Shared Roadway considerations for Waikupanaha and Hihimanu Streets would continue to be appropriate, whereby bicyclists use the same travel lanes as other traffic.

3.5. County of Honolulu General Plan

The County's *General Plan: Objectives and Policies* (1992 edition, amended in 2002) sets forth broad statements of social, economic, environmental, and design objectives and policies which are desired over the long-term. The 2017 revision of the General Plan was transmitted from DPP to the Planning Commission in February 2018, and transmitted from the Planning Commission to the Honolulu City Council for further

action on April 20, 2018. Thus, the following General Plan policies and objectives that pertain to the Project are from the amended 2002 version of the General Plan.

I. Population

Objective C: To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.

Policy 3: Manage physical growth and development in the urban-fringe and rural areas so that:

(b) Their population densities are consistent with the character of development and environmental qualities desired for such areas.

II. Economic Activity

Objective C: To maintain the viability of agriculture on Oahu.

Policy 5: Maintain agricultural land along the Windward, North Shore, and Waianae coasts for truck farming, flower growing, aquaculture, livestock production, and other types of diversified agriculture.

III. Natural Environment

Objective A: To protect and preserve the natural environment.

Policy 1: Protect Oahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.

Policy 4: Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation.

IV. Housing

Objective C: To provide the people of Oahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities.

Policy 1: Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.

VII. Physical Development and Urban Design

Objective D: To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.

Policy 4: Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.

Objective E: To create and maintain attractive, meaningful, and stimulating environments throughout O'ahu.

Policy 5: Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.

X. Culture and Recreation

Objective A: To foster the multiethnic culture of Hawaii.

Policy 4: Encourage the protection of the ethnic identities of the older communities of Oahu.

The Project is aligned with the County's General Plan and would create a Hawaiian homestead community that contributes to maintaining agricultural land in a rural area of O'ahu for subsistence agriculture uses. The lands affected by the Project are designated to be used for the fulfillment of the Hawaiian Homes Commission Act, whereby these lands will be available for the native Hawaiian ethnic population as defined by the Act.

3.6. Ko'olau Poko Sustainable Communities Plan

Eight community-oriented plans for the County are intended to help guide government action and decision-making. The plans for six regions of O'ahu have been designated as "Sustainable Communities Plans" to highlight the intent that these areas are not to be heavily developed, and that the existing communities and special qualities of each region should be sustained and improved. Each Development Plan and Sustainable Communities Plan implements the objectives and policies of the General Plan and serves as a guide for public policy, investment, and decision making within each respective region. Together with the General Plan, these documents guide population and land use growth over a 20- to 25-year time span.

The *Ko'olau Poko Sustainable Communities Plan* that was adopted in August 2017 emphasizes the protection of the region's agricultural lands, physical and biological resources, open space and view plans. The Plan states that the region "is expected to experience essentially no growth over the 25-year projection horizon" (PlanPacific and Department of Planning and Permitting, 2017). The Project is consistent with the stated policy for future land use and development in the region: maintain and promote small-scale agricultural uses in the mauka areas of Waimānalo and from Kahalu'u north to Kualoa. The project site falls within a designated Agricultural Area according to the maps included in the Plan. The following excerpts pertain to the Project.

2. The Vision for Ko'olau Poko's Future - Key Elements

2.1.2 Preserve and promote open space and agricultural uses

The preservation, continuation, and potential expansion of agricultural land use provides jobs and economic activity; promotes food security; offers the choice of a rural lifestyle proximate to a major metropolitan area; and

maintains open space and a rural ambience in a section of the island that is famed for its natural beauty. In Ko'olau Poko, agricultural use is sustained by both commercially successful operations and subsistence or culturally-based farming.

2.1.7 Maintain the Community Growth Boundary to protect agricultural, open space, and natural resources.

The "rural" areas within the Community Growth Boundary consist of smaller, more dispersed, less intensively developed residential communities and towns than those of Ko'olau Poko's "urban fringe" areas; namely, the sections of Waimānalo, Kahalu'u, Wai'āhole and Waikāne in the State Urban District where there are clusters of parcels that are less than two acres in size occupied by dwellings or buildings used for community or commercial purposes other than agriculture. Development character is generally low-density, low-rise, small scale, and reflective of a "country" setting.

3. Land Use Policies, Principles, and Guidelines

3.4 AGRICULTURAL USE

3.4.1 Policies

Encourage agricultural use of small lots.

Adopt development and public works standards that are appropriate and cost effective for rural, agricultural areas.

Provide support infrastructure, services and facilities to foster and sustain agricultural operations.

Modify standards for public infrastructure in rural and agricultural areas in accord with the character and needs of such areas.

3.4.2 Guidelines

Adopt standards for roadway and other infrastructure design that are appropriate and intended for continued agricultural use rather than residential use.

Require the acknowledgement of agricultural standards in the subdivision process and in all deeds to lots.

3.5 RESIDENTIAL USE

The Community Growth Boundary is established to preserve open space and agricultural areas and contain the spread of development. Therefore, housing capacity in Ko'olau Poko will be increased only by:

- *Subdivision of larger residential lots into smaller parcels at various locations throughout the region*
- *Residential development on Marine Corps Base Hawai'i and lands under the jurisdiction of the Department of Hawaiian Homelands or the Office of Hawaiian Affairs.*

3.5.1 Policies

Protect the character of existing residential areas and enhance desirable residential amenities.

3.5.2 Guidelines

3.5.2.1 Rural Communities

Adopt development standards and design guidelines for residential-designated areas within the Community Growth Boundary in order to:

- *Allow relatively narrow roadway widths*
- *Allow the use of detention basins and grassed swales for stormwater drainage instead of concrete curbs and gutters*

3.6 COMMERCIAL AND INDUSTRIAL USES

3.6.1 Policies

3.6.5.1 Light Industrial and Extractive Industries

Policies pertaining to light industrial and extractive industries are as follows:

- *Promote a re-use plan for the quarry site in Waimanālo that supports the development of Hawaiian Home Lands residential lots and a neighborhood mini-park.*

4. Public Facilities and Infrastructure Policies and Guidelines

4.2 WATER SYSTEMS

4.2.3 Policies

Encourage all new development to install and use dual water systems.

4.2.4 Guidelines

Require installation of low-flush toilets, flow constrictors, and other water conserving devices in commercial and residential developments.

Use recycled (R-1 or R-2) water for the irrigation of golf courses, as well as for landscaping, and agricultural areas where this would not adversely affect potable groundwater supply or other aspects relating to public health.

Investigate the feasibility of small-scale rain catchment systems in agricultural areas to use for irrigation, groundwater recharge and filtering of stormwater runoff sediments.

Confirm that adequate potable and non-potable water is available prior to approval of new residential and commercial development.

4.3 WASTEWATER MANAGEMENT

4.3.3 Policies

Direct all wastewater produced within the Community Growth Boundary to municipal or military sewer service systems.

Use reclaimed water for irrigation and other uses, where feasible, in accordance with the Guidelines for the Treatment and Use of Recycled Water (May 15, 2002) by the State Department of Health and the No Pass Line established by the Board of Water Supply.

4.4 ELECTRICAL AND COMMUNICATIONS SYSTEMS

4.4.1 Policies

Place new utility distribution lines underground and implement a long-range program for systematically relocating existing overhead lines underground.

4.4.2 Guidelines

Co-locate communications and power equipment and devices with similar facilities in order to minimize the number of supporting structures and dispersal sites.

4.6 DRAINAGE SYSTEMS

4.6.1 Policies

Promote drainage system design that emphasizes control and minimization of non-point source pollution and the retention of storm water on-site and in wetlands.

View storm water as a potential irregular source of water that should be retained for recharge of the aquifer rather than quickly moved to coastal waters.

Select natural and man-made vegetated drainageways and retention basins as the preferred solution to drainage problems wherever they can promote

water recharge, help control non-source pollutants, and provide passive recreation benefits.

4.6.2 Guidelines

Emphasize retaining or detaining storm water for gradual release into the ground as the preferred strategy for management of storm water.

The Project is consistent with the stated elements of the vision for the Ko'olaupoko region: maintaining the rural ambience and sustaining agricultural use for subsistence or culturally-based farming. DHHL will coordinate with the County to incorporate the goals and guidelines into its Project (e.g., the adoption of standards that are appropriate and cost effective for rural, agricultural areas) to the extent practicable.

3.7. City and County of Honolulu Land Use Ordinance

The County's LUO (Chapter 21 of the ROH) regulates land use in accordance with adopted land use policies, including the General Plan and the Development/Sustainable Community Plans. The zoning for the project site is AG-2 General Agriculture District (minimum land area of three acres for major livestock production, and two acres for all other uses) and the minimum lot width and depth must be 150 feet. The letter dated December 20, 2018 from DPP to DHHL indicates that "DHHL has the authority to exempt its lands from regulation by the LUO."

3.8. City and County of Honolulu Building Permits

Chapter 18 of the ROH consolidates the building, electrical and plumbing permits (including permits for the construction of sidewalks, curbs and driveways) into a single permit. Fees associated with building permit applications are assessed based on the value of the work to be performed. DHHL intends to submit permit applications to the County for approval, and to have County inspectors monitor the work. As indicated in Section 1.4 Site Description, State of Hawai'i agencies may construct improvements without building permits.

§18-3.1 Required.

(a) Exceptions. A permit shall not be required for the types of work listed below. Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in violation of the provisions of the technical codes or any other laws or ordinances of this jurisdiction.

(13) Work performed for any state government agency, except where permits are specifically requested by the agency.

3.9. City and County of Honolulu Special Management Area Permit

As mentioned previously in Section 3.2 Hawai'i Coastal Zone Management Program, the SMA permit process for the Island of O'ahu is administered by the DPP and acted upon by the Honolulu City Council pursuant to Chapter 25 of the ROH. The project site is approximately 0.5 miles from the shoreline and outside the SMA. No SMA permit is required for the Project.

4. POSSIBLE ALTERNATIVES

4.1. No-Action

The “No Action” alternative implies that DHHL’s current practice of allowing its permittees (e.g., Sports Turf Hawaii, Roy and June Pires, John and Leiala Cook, and Alan Silva) to utilize DHHL’s parcels for non-homesteading uses would continue based on the terms and conditions of issued ROE permits. The Cook ‘Ohana, for example, endeavors to perpetuate the Hawaiian traditions of *pā‘ū*, *hula*, *mele*, *oli*, and *lei* making through activities hosted at the Cook Ranch. There are cultivated natural resources within DHHL’s parcels that are utilized for Hawaiian traditions such as *lei* making and *pa‘u* draping. Several activities and current uses identified in Section 2.8 Cultural Practices and Resources appear to be inconsistent with the conditions of the ROE permit issued to permittees. As a result of no action at this time, the project site in Waimānalo may continue to be utilized for endeavors that do not directly meet DHHL’s core function of enabling native Hawaiians to return to their lands.

No action would also imply that the concerns pertaining to past usage (e.g. suspected solid waste dumping, spills, and unlabeled 55-gallon drums containing unknown substances) within areas utilized by current and former tenants would not be ameliorated by appropriate actions at this time. The potential presence of residual contamination associated with past and prior usage would therefore remain for the foreseeable future. There would be no commitment of funding or capital improvement costs to prepare DHHL’s parcels for long-term agricultural homesteads purposes for native Hawaiians. Furthermore, there would be no improvements to Waikupanaha Street and portions of this roadway would continue to encroach into DHHL’s parcels. The no-action alternative would deny DHHL beneficiaries the opportunity for an agricultural lease award, and thus be contrary to the department’s mission.

4.2. Delayed Action

A delayed action implies that a project of similar scope and size to the proposed action would occur at an unspecified future date. The environmental impacts resulting from a delayed action are generally expected to be the same as the proposed action so long as environmental conditions remain similar to the evaluated conditions described in this EA.

The development of agricultural homesteads for native Hawaiians at a later date may result in increased construction costs due to inflation, changes in economic conditions or the labor supply. In addition, building materials and labor costs tend to increase with time. A delayed action may therefore necessitate a greater funding commitment for improvements or a reduction in the scope and size of the project. The delayed action alternative would prolong the wait of DHHL beneficiaries desiring an agricultural lease award, and thus be contrary to the department’s mission.

4.3. Agricultural Homesteads on Alternate Site

An alternative site on any land that is not already under the purview of DHHL would require negotiations to acquire in fee or through a land swap. As identified in the *O‘ahu Island Plan* (PBR Hawaii and Associates, Inc., 2014), approximately 2,600 acres of DHHL land on O‘ahu including about 1,430 acres in Waimānalo are unsuitable or unavailable for homesteading due to existing environmental conditions (e.g., steep slopes, rockfall hazards, flooding concerns, etc.) or conflicts with conservation and preservation objectives for wetlands, critical habitat and listed species habitat. These vast areas do not directly support homesteading, which is DHHL’s mission, and do not provide revenue generation in support of the mission; however, beneficiaries have expressed the desire to keep conservation lands in DHHL’s inventory. The absence of an acquisition process for DHHL with established review criterion suggests that there is low potential at this time for new land to be acquired in fee or through a land swap as an alternative homesteading site.

The project site represents a small portion of approximately 115 acres of DHHL land scattered within Wai‘anae, Waiāhole, and Waimānalo that are considered suitable for SAHs. The use of other DHHL land on O‘ahu for the development of agricultural homesteads for native Hawaiian beneficiaries would presumably require a similar environmental review process and the identification of appropriate mitigation. The investigation of DHHL land in Wai‘anae and Waiāhole implies that the agricultural homesteads would be developed at a later date and may result in increased construction costs due to delay as mentioned in Section 4.2 Delayed Action.

Other parcels of DHHL land in Waimānalo with suitable terrain characteristics that comprise at least 30 acres in size are undeveloped or further away from existing residential communities and established community facilities. A site with no existing utility infrastructure would involve additional cost and delay to install site infrastructure and more land disturbance for necessary access connections, which increases the impacts on the environment as compared to the proposed action. The options to site the proposed facility at another location is therefore possible but less desirable than the proposed action. Consequently, DHHL does not favor the development of agricultural homesteads at another site at this time.

4.4. Residential Homesteads on Existing Site

The development of residential homesteads on the project site implies that the number of available homesteads for applicants could be increased by providing smaller lots of 7,500 to 15,000 square feet (or 0.17 to 0.23 acres, respectively). There is a compelling reason to consider this alternative since there are nearly three times more applicants on the residential waitlist for O‘ahu as compared to the agricultural waitlist; however, there are environmental and social impacts to consider. For example, there would be a demand for higher-rated infrastructure systems (e.g., roads with curb and gutter,

storm drainage systems sized for more runoff, etc.) as a result of increasing impervious surfaces and the number of residents who will increase traffic in the project area.

Residential homesteads on the project site would represent a different vision from the depicted land use designations in DHHL's O'ahu Island Plan, which was developed with input from beneficiaries. A residential subdivision with the lot sizes generally allowed in R-7.5 to R-10 zoning would be inconsistent with the current AG-2 zoning designation. As noted previously in this EA, DHHL does have the authority to exempt its lands from the County's zoning district regulations.

Many of the considerations described for the delayed action alternative would apply if additional environmental studies are needed to assess a residential homestead community intended for many more people on the project site as compared to the proposed agricultural homestead. The traffic analysis and site drainage controls, for example, would need to be reevaluated and redesigned. There is also a potential that existing homestead residents who live in nearby communities would want additional community facilities at the project site or at a nearby location, which would require further investigation, analysis and design. Consequently, DHHL does not favor the development of residential homesteads on the project site at this time.

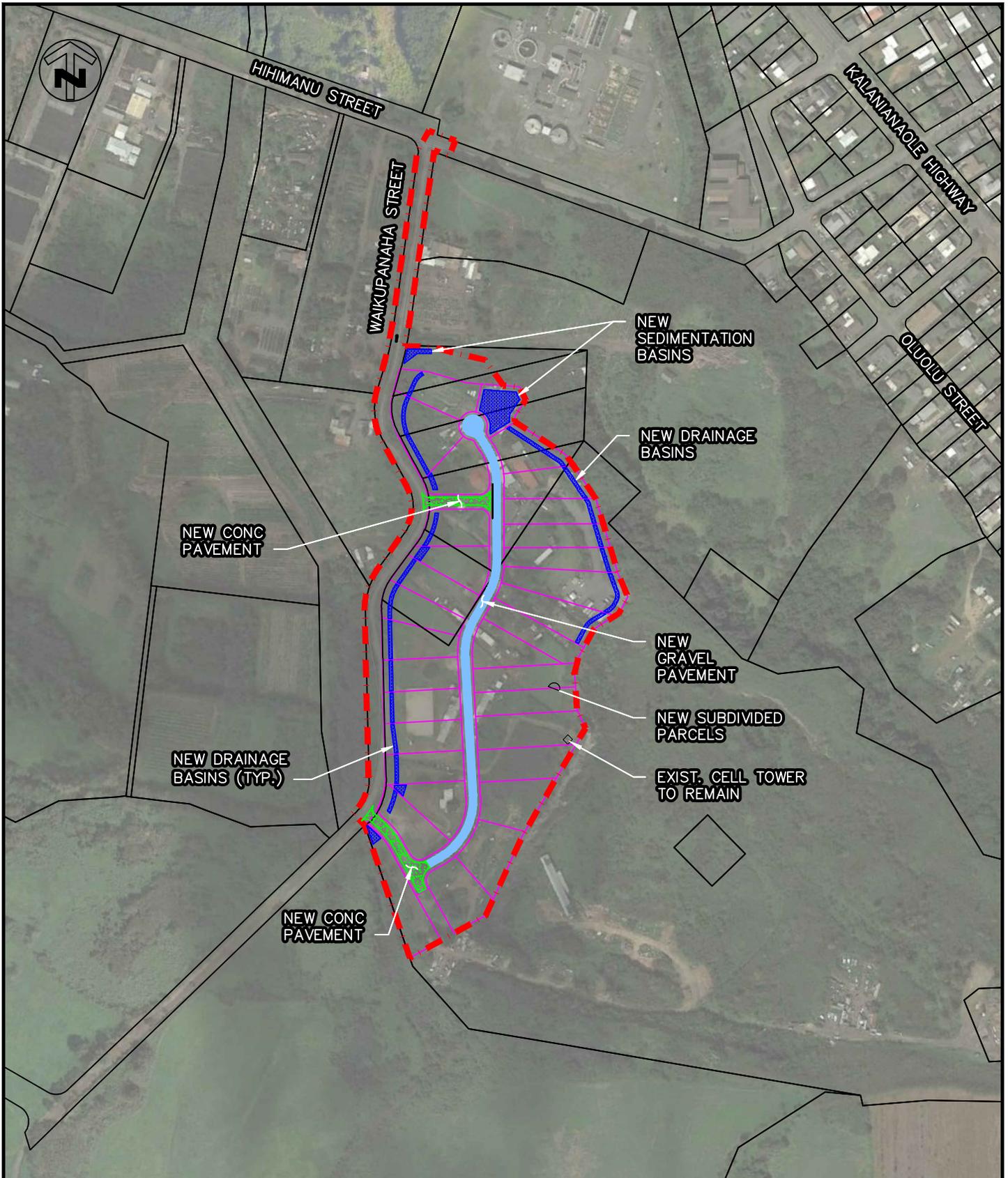
4.5. Agricultural Homesteads on Existing Site (the Preferred Alternative)

The development of agricultural homesteads for native Hawaiian beneficiaries would involve landform alterations and site work in a region that has vehicular access, utility infrastructure and a history of agricultural use. The anticipated visual impact from a developed subdivision where native Hawaiians beneficiaries may reside and actively cultivate subsistence agriculture is expected to be consistent with surrounding and nearby development in rural Waimānalo. The Project also provides the opportunity to improve and realign Waikupanaha Street to fall within the County's right of way since portions of the existing roadway encroach into DHHL's parcels.

The Project provides the opportunity to address reported concerns pertaining to past usage within areas utilized by current and former tenants. Residual contamination, if encountered during construction activities, would be ameliorated. Construction activities are expected to generate short-term environmental impacts such as fugitive dust, noise, intermittent traffic, solid waste, and potential disruptions to utility services that would cease upon project completion. Proposed mitigation that addresses anticipated project impacts is identified in this EA.

The Project requires a necessary transition away from the use of DHHL's parcels for non-homesteading uses for the purpose of preparing DHHL's parcels for long-term agricultural homesteading. The proposed action addresses project objectives and represents a more prudent use of existing resources than other alternatives. The

development of agricultural homesteads according to the proposed conceptual site layout (see Figure 7) would allow the utilization of DHHL land in Waimānalo, which is a region on O‘ahu that has an established Hawaiian community and supports agricultural endeavors. Figure 7 depicts a configuration with 31 lots; however, DHHL may award less than 31 lots due to technical considerations (e.g., the feasibility of siting or sizing site drainage features to achieve required storm water retention). Completion of the Project represents the commitment by DHHL to enable native Hawaiians on the O‘ahu Island Agricultural Waitlist to return to their lands. For all of these reasons, DHHL has determined that the proposed action represents the preferred alternative.



LEGEND

- PROPERTY LINE
- PROJECT LIMITS
- NEW PROPERTY LINE
- NEW GRAVEL PAVEMENT
- NEW CONC PAVEMENT
- NEW DRAINAGE BASIN

THE LIMTIACO CONSULTING GROUP
 CIVIL ENGINEERING AND ENVIRONMENTAL CONSULTANTS

Engineering Services for
 Waikupanaha Agricultural Lots
Conceptual Site Layout

SCALE: 1"=400' DATE: November 2019

FIGURE
7

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5. PERMITS AND APPROVALS

Although exact permitting and approval requirements will be determined during the design phase, the following list contains permits and approvals that may be required for the Project:

State of Hawai'i

- National Pollutant Discharge Elimination System Permit
- Community Noise Permit
- Community Noise Variance
- Non-Covered and/or Covered Source Permit (Air Quality)
- Lane Use Permit for Construction Work
- Oversized and Overweight Vehicles on State Highways Permit

City and County of Honolulu

- Building Permit
- Grubbing, Grading, and Stockpiling Permit
- Erosion Control Plan/Best Management Practices
- Permit to Work Within County Right-of-Way

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6. DETERMINATION

The Project is not likely to have a significant impact on the physical or human environment based on the analysis presented in this document. DHHL anticipates that the Hawaiian Homes Commission will issue a Finding of No Significant Impact (FONSI). The supporting rationale for this finding as established in HAR Title 11, Chapter 200.1, Section 12 is discussed below.

- (1) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*

The cultural resources identified by the CIA are not naturally-occurring, but cultivated. They are reportedly common species, which could be relocated prior to the commencement of site preparation activities. The beneficiaries who are awarded SAH lots may also engage in cultivation activities. DHHL's lessees will be informed of the potential for native plants and animals, primarily birds, to inhabit and pass through the property. The proper protocol for managing important species will be developed with lessees. DHHL will ensure that its contractor stops work and contacts SHPD immediately if any unanticipated buried archaeological or cultural resources are encountered during construction.

- (2) *Curtails the range of beneficial uses of the environment;*

The Project represents the commitment by DHHL to enable native Hawaiians on the O'ahu Island Agricultural Waitlist to return to their lands. Completion of the Project ensures the beneficial use of DHHL-owned land that is in a strategic location for agricultural endeavors including subsistence agriculture.

- (3) *Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;*

The Project is not in conflict with State Environmental Policy, inclusive of its individual policies, goals, and guidelines for population growth; natural resources; biological resources; transportation; energy; and culture, as discussed in the individual resource categories throughout this EA.

- (4) *Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;*

The Project does not substantially or negatively affect the economic or social welfare and cultural practices of the community or State. Short-term jobs for people in design and construction are expected to be created as a result of the Project. Completion of the subsistence agriculture homestead represents the commitment by DHHL to provide opportunities for native Hawaiian beneficiaries

to supplement their incomes with agricultural products grown on their lots and to possibly reside. The beneficiaries who are awarded SAH lots may engage in cultural practices that reflect and are not limited to Hawaiian traditions.

(5) Substantially affects public health;

Public health will not be adversely affected during the construction phases of DHHL's project. Short-term and temporary effects such as surface runoff, fugitive dust, noise, intermittent traffic, solid waste, and potential disruptions to utility services are expected to cease upon project completion. The implementation of construction BMPs will minimize temporary impacts. Completion of the Project would provide on-site infrastructure that is associated with the subsistence agricultural homestead.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

No secondary impacts such as population shifts are anticipated from the completion of the subsistence agricultural homestead, which is expected to provide approximately 30 lots for award to beneficiaries. Utility demands for potable water, wastewater disposal, solid waste disposal and power will be coordinated with the State, County or service provider and are expected to be insignificant due to the size and scope of the Project.

(7) Involves a substantial degradation of environmental quality;

The Project provides the opportunity to address reported concerns pertaining to past usage in areas utilized by current and former tenants if residual solid waste and contamination is encountered during construction. Proposed actions are not expected to degrade environmental quality. Environmental impacts that may occur during the various phases of construction will be mitigated through the implementation of construction BMPs, as appropriate. Appropriate mitigation measures have been identified throughout this EA so they may be implemented.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The Project represents a long-term commitment by DHHL to enable native Hawaiians on the O'ahu Island Agricultural Waitlist to engage in subsistence agriculture on their lands. The development of SAH lots in Waimānalo does not commit DHHL or others to additional related actions.

(9) Substantially affects a rare, threatened, or endangered species, or its habitat;

No species listed by the U.S. Fish and Wildlife Service or in the Endangered Species Act are expected to be significantly impacted by the Project. The project site does not contain habitat for proposed, candidate, or listed threatened or endangered species. DHHL will inform its lessees about the proper protocol for managing important species, primarily birds, that may inhabit and pass through the property.

(10) Detrimentially affects air or water quality or ambient noise levels;

Short-term impacts to air quality, water quality or ambient noise levels may occur during construction. The contractor shall be required to comply with all State or Federal air quality or water quality standards during construction. Likewise, lessees will not be permitted to conduct activities that would violate those standards. Environmental impacts will be mitigated through proper construction techniques and compliance with applicable DOH rules and regulations. The Project is not expected to negatively impact ambient air quality and background noise levels.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

The project site is not situated within an environmentally sensitive area and is not anticipated to affect such areas. Permanent site infrastructure installed as part of the Project will be designed to comply with applicable regulatory standards that consider the health and safety of residents but are appropriate for a rural area. Drainage improvements will be designed to minimize the potential for localized flooding.

(12) Substantially affects scenic vistas and view planes identified in county or state plans or studies; or

The Project will not obstruct or affect scenic vistas and view planes in the project area. Landscaping by DHHL's lessees may further reduce the visual impact of the SAH lots in Waimānalo.

(13) Requires substantial energy consumption.

The new agricultural activities and homes represent an insignificant increase in energy consumption since the Project will create approximately 30 lots for award to native Hawaiian beneficiaries.

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7. PUBLIC AGENCY REVIEW AND CONSULTATION

7.1. Pre-Assessment Consultation

The consulted agencies, organizations, and individuals are listed below. Twenty-nine (29) interested parties including government agencies provided formal correspondence in response to the pre-assessment consultation effort, as indicated by the ✓ below.

Federal Agencies

- ✓ U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Department of Agriculture, National Resources Conservation Service
- Bellows Air Force Station

State of Hawai'i

- ✓ Department of Accounting and General Services, Public Works Division
- ✓ Department of Agriculture, Office of the Chairperson
- Department of Land and Natural Resources
 - ✓ Commission on Water Resource Management
 - ✓ Division of Aquatic Resources
 - ✓ Division of Forestry and Wildlife
 - ✓ Engineering Division
 - ✓ Land Division
 - ✓ Office of Conservation and Coastal Lands
 - State Historic Preservation Division
- Department of Health
 - Environmental Health Administration
 - Clean Air Branch
 - Clean Water Branch
 - ✓ Safe Drinking Water Branch
 - ✓ Indoor and Radiological Health Branch
 - Solid and Hazardous Waste Branch
 - Office of Environmental Quality Control
- ✓ Department of Transportation
 - Statewide Transportation Planning Office
- Department of Business, Economic Development and Tourism
 - ✓ Office of Planning
- Department of Education
 - Windward Oahu District Office, Kailua-Kalaheo Complex Area
 - Office of Hawaiian Affairs, Office of the Administrator

City and County of Honolulu

- ✓ Board of Water Supply
- ✓ Department of Planning and Permitting
- ✓ Department of Design and Construction
- ✓ Department of Environmental Services
- ✓ Department of Facility Maintenance
- ✓ Department of Parks and Recreation
- ✓ Department of Transportation Services
- Office of Climate Change, Sustainability and Resilience
- ✓ Fire Department
- ✓ Police Department
- Neighborhood Commission Office

Elected Officials

- District 25 Senator (Laura Thielen)
- District 51 Representative (Chris Lee)
- ✓ District 3 Councilmember (Ikaika Anderson)
- Waimanalo Neighborhood Board No. 32 Chairperson (Wilson Ho)

Utilities, Community Groups and Associations

- ✓ Hawaii Electric Company, Inc.
- ✓ Charter Communications
- Hawaiian Telcom
- ✓ The Gas Company, LLC (dba Hawaii Gas)
- Waimanalo Hawaiian Homes Association
- Hawaiian Civic Club of Waimanalo
- Kumuhau Community Association

Property Owners, Recorded Lessees and Other Interested Parties

- ✓ 4-1-008: 002
- 4-1-008: 008
- 4-1-008: 071
- 4-1-008: 072
- 4-1-008: 075
- 4-1-008: 079
- 4-1-008: 080
- 4-1-008: 093
- 4-1-008: 094
- 4-1-008: 095
- 4-1-008: 096

Property Owners, Recorded Lessees and Other Interested Parties (continued)

- 4-1-008: 100
- 4-1-008: 101
- 4-1-026: 006
- 4-1-026: 013
- 4-1-026: 021
- 4-1-026: 024
- ✓ L.D. Santos
- ✓ RKT Ohana

In addition to the request for public comments, there were several opportunities during the EA process to participate and provide input to DHHL with regards to its Project. DHHL surveyed the first 100 beneficiaries on the O'ahu agriculture waitlist in February 2019. Information pertaining to the Project was shared on March 18, 2019 at the Hawaiian Homes Commission Meeting in Kapolei and at the Hawaiian Homes Commission Community Meeting in Waimānalo. Project information was also shared at a beneficiary meeting held in Waimānalo on November 14, 2019 and at the Waimanalo Neighborhood Board No. 32 Meeting on November 18, 2019.

7.2. Draft EA Consultation

The Draft EA for the Project was submitted to the Office of Environmental Quality Control (OEQC) for publication in The Environmental Notice on November 23, 2019, which initiated the 30-day public comment period that ended on December 23, 2019. Written comments from DOH and DPP that were received during the public review period for the Draft EA resulted in minor corrections.

DHHL's beneficiaries have provided a wide range of comments about the Project including concerns that are beyond the purview of the EA to address. The comment matrix and DHHL's responses are included in Appendix H.

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APPENDIX A

Site Photographs

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APPENDIX B

Management Summary for the Archaeological Literature Review and Field
Inspection Report by Cultural Surveys Hawaii

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APPENDIX C

Cultural Impact Assessment Report
by Cultural Surveys Hawaii

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APPENDIX D

Phase I Environmental Site Assessment Report
By EnviroServices and Training Center, LLC

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APPENDIX E

Biological Survey Report by AECOS, Inc.

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APPENDIX F

Flood Hazard Assessment Report of Flood Hazard Information and
Sea Level Rise Viewer Information

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APPENDIX G

Traffic Impact Assessment Report by SSFM International

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APPENDIX H

Consultation and Comments

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