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VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII '15 JAN -9 11:06
DEPARTMENT OF HEALTH
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HONOLULU, HI 96801-3378

In reply, please refer to:
File: EPO 15-005

OFC. OF ENVIRONMENTAL
QUALITY CONTROL

January 9, 2015

FILE COPY

JAN 23 2015

TO: JESSICA WOOLEY, Director
Office of Environmental Quality Control, Department of Health

FROM: VIRGINIA PRESSLER, M.D., Director
Department of Health

Virginia Pressler

SUBJECT: Hawai'i Dairy Farms Environmental Impact Statement Preparation Notice

The Department of Health has received notice from Hawaii Dairy Farms indicating that the proposed project may have significant impacts and therefore offering voluntarily to prepare an environmental impact statement pursuant to Chapter 343, Hawai'i Revised Statutes.

Please publish the enclosed environmental impact statement preparation notice (EISPN) in the next available issue of The Environmental Notice. In addition, please find the enclosed publication form, the EISPN, and compact disc containing the required electronic files for the EISPN and publication form.

Feel free to contact Laura McIntyre at (808) 586-4337 if you have any questions regarding this matter.

Thank you.

copy: Hawai'i Dairy Farms, LLC
Jeff Overton, Group 70 International, Inc.

**APPLICANT ACTIONS
SECTION 343-5(C), HRS
PUBLICATION FORM (JANUARY 2013 REVISION)**

Project Name: Hawai'i Dairy Farms
Island: Kaua'i
District: Poipu
TMK: (4) 2-9-003:001 (portion); 006 (portion)
(4) 2-9-001:001 (portion)
Permits: USDA NRCS Conservation Plan; DOH National Pollutant Discharge Elimination System Construction Stormwater General Permit; DOH Review of Animal Feeding Operation/Large Concentrated Animal Feeding Operation; DLNR Chapter 6E-42 Historic Preservation Review; County of Kaua'i Building Permit

Approving Agency: State of Hawai'i, Department of Health
1250 Punchbowl Street, Honolulu, HI 96813
Virginia Pressler, M.D., Director
Laura McIntyre, Environmental Planning Office (808) 586-4337

Applicant: Hawai'i Dairy Farms, LLC.
P.O. Box 1690
Koloa, Hawai'i 96756-1690

Consultant: Group 70 International, Inc.
925 Bethel Street, 5th Floor, Honolulu, HI 96813
Jeff Overton, Principal Planner (808) 523-5866
HDF@Group70int.com

Status (check one only):

- DEA-AFNSI** Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.
- FEA-FONSI** Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
- FEA-EISPN** Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.
- Act 172-12 EISPN** Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
- DEIS** The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
- FEIS** The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

___ Section 11-200-23
Determination

The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.

___Section 11-200-27
Determination

The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

___Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

Establish and operate the first zero-discharge, grass-fed dairy in Hawai'i, utilizing a sustainable, pasture-based rotational grazing system on an approximately 578-acre farm at Maha'ulepu, island of Kaua'i. The pasture-based dairy focuses on growing grass as a local food source for cows' health and quality milk production.

Hawai'i Dairy Farms, LLC (HDF) will construct commercial dairy facilities, including barns, milking parlor, cow walkways, farm roads, waste management ponds, livestock water distribution system, pasture irrigation pivots, storage tanks, operations building and office. Limited support infrastructure will include water supply, individual wastewater system (utilizing a septic system), electrical power, and communications. Buildings roofs will be equipped with photovoltaic panels for solar power generation. Approximately 118 fenced paddocks (about 4.5 - 5.0 acres each) will be established and monitored for effective grass growth, nutrient application and cow grazing. HDF will establish the herd of dairy cows over several years guided by the results of the nutrient analysis, potentially reaching full-scale capacity of 2,000 cows. At full-scale operations, the dairy could produce up to 3.7 million gallons of fresh milk annually for Hawai'i's families, which is double the current volume produced in the state.

HAWAI'I DAIRY FARMS

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

This environmental document is prepared pursuant to Hawai'i Revised Statutes, Chapter 343, Environmental Impact Statement Law and Chapter 200 of Title 11, Administrative Rules, Department of Health, Environmental Impact Statement Rules.

SUBMITTED BY:



Hawai'i Dairy Farms
MAHA'ULEPU, KAUAI

JANUARY 2015

HAWAI'I DAIRY FARMS

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

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SUBMITTED BY:



Hawai'i Dairy Farms
MAHA'ULEPU, KAUAI

PREPARED BY:



Architecture • Planning & Environmental Services • Interior Design • Civil Engineering
925 Bethel Street, 5th Floor, Honolulu, HI 96813 (808) 523-5866

JANUARY 2015

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1.0 INTRODUCTION

This Environmental Impact Statement Preparation Notice (EISPN) was prepared in accordance with Hawai'i Administrative Rules Title 11 Chapter 200, implementing Hawai'i Revised Statutes (HRS) Chapter 343. An Environmental Impact Statement (EIS) is being prepared voluntarily by the Applicant to disclose the potential environmental impacts and mitigation measures associated with agricultural operations at Hawai'i Dairy Farms (HDF) at Māhā'ulepū, Kaua'i. The purpose of this EISPN is to inform interested parties of the project and to seek agency and public input on issues and resources of concern. Input relevant to the Proposed Action received in response to this EISPN will help to define the evaluation conducted in the Environmental Impact Statement.

1.1 PROPOSED PROJECT SUMMARY

Type of Report: Environmental Impact Statement Preparation Notice

Project Name: Hawai'i Dairy Farms

EIS Trigger: Voluntary

Applicant: Hawai'i Dairy Farms, LLC
P.O. Box 1690
Kōloa, Hawai'i 96756-1690

Planning Consultant: Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawai'i 96813
Jeff Overton, Principal Planner
Telephone: 808-523-5866
Email: HDF@Group70int.com

Approving Agency: State of Hawai'i Department of Health
Contact: Laura McIntyre, Environmental Planning Office
Telephone: 808-586-4337
Email: Laura.McIntyre@doh.hawaii.gov

Project Location: Māhā'ulepū Road
Kaua'i, Hawai'i (*Figure 1-1*)

Tax Map Key: (4) 2-9-003: 001 portion and 006 portion
(4) 2-9-001: 001 portion (*Figure 1-2*)

Land Owner: Māhā'ulepū Farms, LLC
3-1850 Kaumuali'i Highway
Līhu'e, Hawai'i 96766

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Project Area:	578 acres
Kaua'i County Zoning:	Agriculture
State Land Use District:	Agricultural District
Proposed Use:	Agriculture (Dairy)
County of Kaua'i General Plan:	Kōloa-Po'ipū-Kalāheo Planning District
Special Management Area:	No
Flood Zone Designation:	Zone X
Required Reviews/Permits:	County of Kaua'i <ul style="list-style-type: none">- Building Permit State of Hawai'i Department of Health <ul style="list-style-type: none">- Animal Feeding Operation/ Large Concentrated Animal Feeding Operation/ Waste Management Plan- National Pollutant Discharge Elimination System (NPDES) – Construction Stormwater General Permit- Milk Producer Permit State of Hawai'i Department of Land and Natural Resources, State Historic Preservation Division <ul style="list-style-type: none">- Hawai'i Revised Statutes, Chapter 6E - Historic Preservation Review U.S. Department of Agriculture <ul style="list-style-type: none">- Natural Resources Conservation Service Conservation Plan
Proposed Action:	Establish and operate the first zero-discharge, grass-fed dairy in Hawai'i, utilizing a sustainable, pasture-based rotational grazing system. Produce fresh, locally-available nutritious milk for Hawai'i families.

HAWAII DAIRY FARMS
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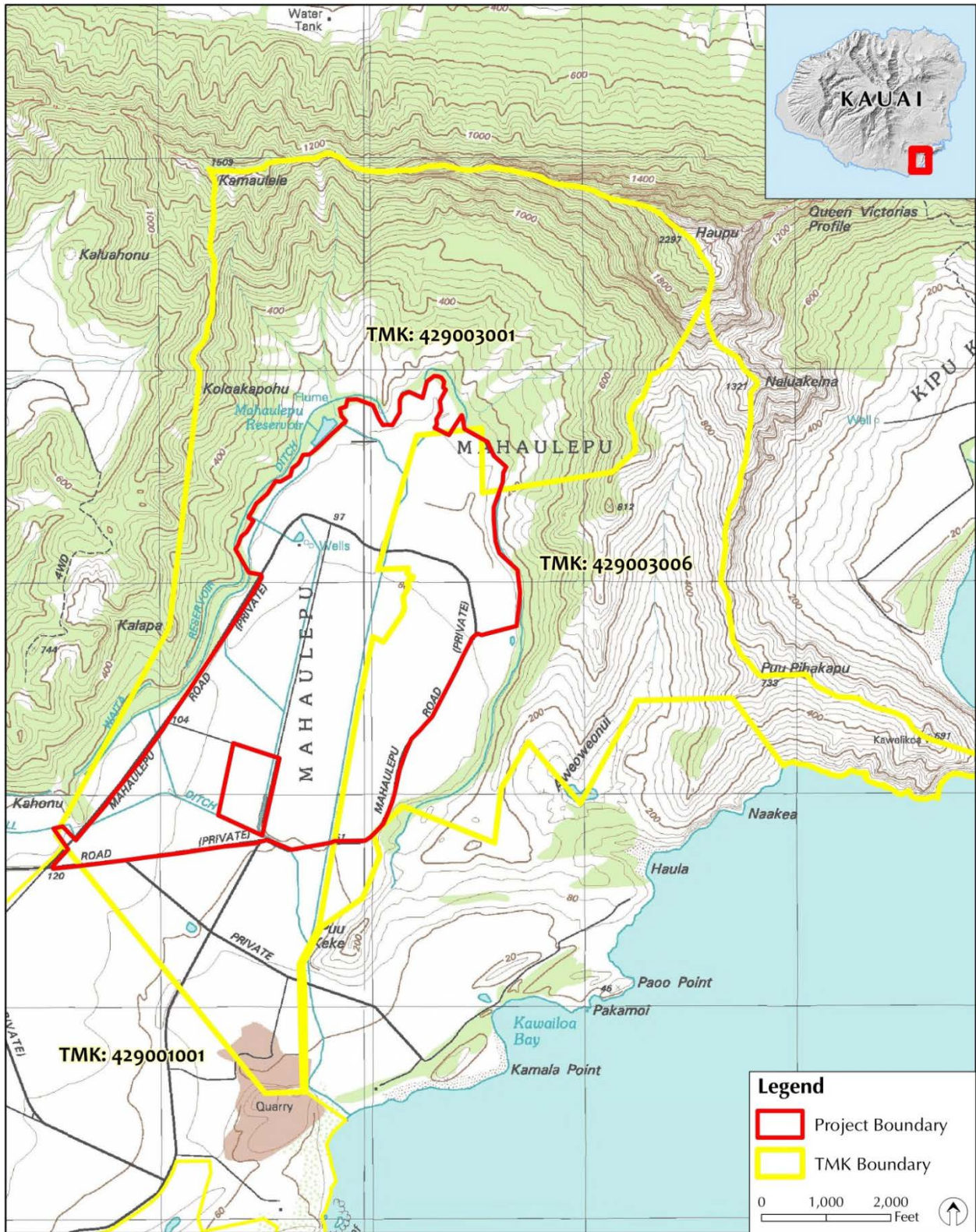


Figure 1.1 Project Location Map

HAWAII DAIRY FARMS

Environmental Impact Statement Preparation Notice

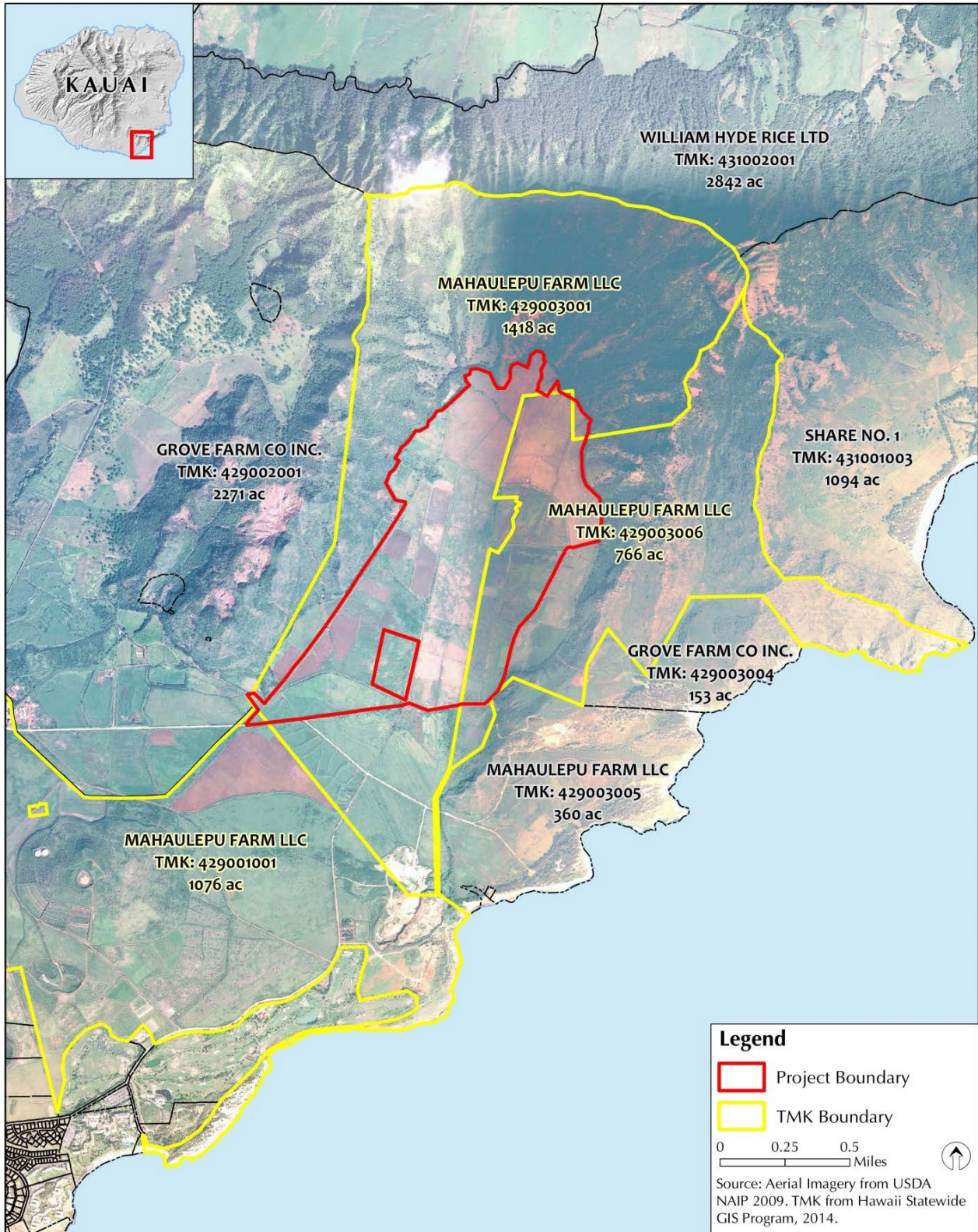


Figure 1.2 Tax Map Key (2-9-001:001-portion; 2-9-003:001-portion & 006-portion)

2.0 PROJECT DESCRIPTION

This section presents the purpose and need for HDF, background, summary project description and alternatives considered.

2.1 PURPOSE AND NEED FOR THE ACTION

Dairies have been an important component of the Hawai'i agricultural industry for over a century. Until 1984, 100 percent of Hawai'i's milk was produced by local dairies. By 2008, costs for importing feed and other operational expenses had skyrocketed, causing nearly all of the local dairies to close. The two remaining dairies located on the Island of Hawai'i only supply about 9 percent of the state's fresh milk demand, with the majority of fresh milk imported. With a growing statewide awareness of the need to increase food security for island communities, the establishment of sustainable dairies will be vital to Hawai'i's future.

Kaua'i landowner Māhā'ulepū Farms, LLC, a subsidiary of Grove Farm, recognized the void and began to explore ways to restart the island's dairy industry. In partnership with various entities, including Ulupono Initiative, a pasture-based system with monitored nutrient input and output was identified as a clean, cost-effective and sustainable method. A partnership of landowners and supporters throughout the state worked to determine optimal sites for Hawai'i's first grass-fed dairy. Kaua'i was found to have sufficient irrigation water quantity combined with suitable soils supportive of nutritious grass types to minimize reliance on imported feed. Māhā'ulepū specifically provides required conditions for a pasture-based dairy, including minimally sloped terrain with few stones for safe navigation by cows, and agricultural-zoned land available for 20 years or more of sufficient acreage to support an economically viable dairy. Ulupono Initiative formed Hawai'i Dairy Farms, LLC with an investment of \$17.5 million and leased Māhā'ulepū land from Māhā'ulepū Farms, LLC to create the first grass-based dairy in Hawai'i.

2.2 BACKGROUND

HDF occupies agricultural land in Māhā'ulepū Valley on the island of Kaua'i's south shore (*Figure 1.1 Project Location Map*). The 578-acre site consists of portions of three parcels leased from Grove Farm (*Figure 1.2 Tax Map Key*). Māhā'ulepū Valley lies on the leeward side of the Hā'upu mountain ridge, a prominent feature of southern Kaua'i, where Mt. Hā'upu forms the highest point at 2,297-foot elevation in the back of the valley.

The area has been used for agricultural operations for the past 200 years, notably part of the Kōloa Plantation for cultivation of sugar cane. Māhā'ulepū has a long history of agricultural use, as it was one of the first places in the island chain where sugar cane was commercially grown. As early as 1820, sugar cane was milled in Māhā'ulepū for local use; commercial-scale operation was established in 1878 by Kōloa Plantation. Cultivation continued under various entities until 1996 when the Kōloa Sugar Mill closed. Ranching began in the valley in 1986, and taro cultivation was introduced on an adjacent parcel in 2007.

The nearest populated area to Māhā'ulepū Valley is the Kōloa town community approximately 2.0 miles to the west. Kōloa town has its roots firmly tied to the agricultural history of the region. The Po'ipū Beach resort area, located approximately 2.5 miles to the south, began with oceanfront resort hotel development in the 1960s. During the 1970s and 1980s, agricultural lands in the Po'ipū area were reclassified from State Agricultural District to Urban District, and rezoned by the County as a resort area. Significant expansion along this coastline occurred from 1980 to present, with active development of hotels, timeshare condominiums, single-family resort residences, golf courses and commercial centers.

Community concern over loss of agricultural land for another proposed resort on the last stretch of undeveloped Māhā'ulepū coastline prompted protection of 1,533 acres of agricultural lands under the Important Agricultural Lands (IAL) provision of the Hawai'i State Constitution (Article XI, Section 3). This constitutional requirement is for conservation and protection of agricultural lands, promotion of diversified agriculture, and increased agricultural self-sufficiency. The IAL designation assures available agriculturally suitable lands to support a diversity of agricultural activities and opportunities that expand agricultural income and job opportunities. The designation process determined the land meets physical requirements including contiguous, functional land units large enough to allow flexibility in agricultural production near appropriate infrastructure and water, with high quality soil agricultural productivity ratings under the Land Study Bureau of University of Hawai'i. In 2011, approximately 1,533 acres of land in Māhā'ulepū were classified by the State Land Use Commission as IAL. This IAL area includes the 578 acres leased by HDF.

2.3 PROPOSED ACTION

The Proposed Action will establish and operate the first zero-discharge, grass-fed dairy in Hawai'i, utilizing a sustainable, pasture-based rotational grazing system to produce fresh, locally available nutritious milk for Hawai'i families. The ultimate herd size will be determined through tracking nutrient uptake and output by cows; the HDF site in Māhā'ulepū Valley on the island of Kaua'i is projected to be capable of supporting up to 2,000 productive dairy cows at full-scale operations. The pasture-based rotational grazing method focuses on growing grass as a local food source appropriate for cow health and quality milk production. The method developed by dairy experts is designed to be zero-point source discharge, meaning 100 percent of the cows' manure will remain on the farm as fertilizer for the pasture grass.

At full-scale operations, the dairy would produce up to 3.7 million gallons annually, which is double the current volume of milk produced in Hawai'i. The type of milking cow to be used is smaller in stature than the dairy cow commonly used across North America, and is known as a "Kiwi cross". A critical element of the sustainable dairy operation is propagation of the primary food source for the dairy cows. HDF will grow Kikuyu and Kikuyu-Guinea grass throughout the pastures. The grasses are established across Kaua'i, and provide a nutritious food source for dairy cows. Field trials of the Kikuyu varieties are underway at the site with assessment of grass yields being monitoring by horticultural experts. Once cows are on the site, the grass will receive fertilizer applications using greatly diluted nutrient waters from the dairy's waste settling pond. The State of Hawai'i Department of Health (DOH) regulates waste management utilizing U.S. Environmental Protection Agency (EPA) requirements. In September and October 2014, a Waste Management Plan for HDF's Animal Feeding Operation (AFO) - up to 699 cows - was reviewed by DOH. Dairy operations with more than 700 cows require additional regulatory review by DOH of an updated Wastewater Management Plan for a Large Concentrated Animal Feeding Operation (CAFO).

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HDF will construct facilities for the commercial dairy operation, including barn and milking parlor, cow walkways and farm roads, effluent settling and storage ponds, livestock water distribution system, storage tanks, operations buildings and office. Limited support infrastructure will include water supply, individual wastewater system (utilizing a septic system), electrical power, and communications. Buildings roofs will be equipped with photovoltaic panels for solar power generation.

HDF will apply modern best practices for pasture dairy operations utilizing precision agricultural technology to monitor grass productivity, health of the cows, and effluent management. Approximately 118 fenced paddocks (about 4.5 - 5.0 acres each) will be monitored for effective grass growth, nutrient application and cow grazing. HDF will establish the herd of dairy cows over several years guided by the results of the nutrient analysis, potentially reaching full-scale capacity of 2,000 cows for the farm. Heifers, non-milking cows, calves and bulls will be moved off-site to pastures of local ranching partners for herd management.

2.4 ALTERNATIVES

The Draft EIS will evaluate alternatives that meet the project's Purpose and Need, and which consider changes to dairy operation and location. Three alternatives to the proposed action will be considered in the Draft EIS, as outlined below. The potential environmental impacts of each alternative will be addressed in the Draft EIS, along with a comparison of alternatives.

No-Action Alternative. The No-Action Alternative would continue future use of agricultural property without the establishment of the sustainable grass-fed dairy operations. With the Important Agricultural Lands designation, this land is expected to be used for either grazing or cultivation. Portions of the property would be available for cattle and sheep grazing, or other more intensive agricultural uses.

Confined Dairy Operation Alternative. The alternative for a Confined Dairy Operation at the Māhā'ulepū location would require additional manure management as nutrients would not be returned to pastures. Additional grain and forages would be imported to sustain dairy cows. The Confined Dairy Operation Alternative would utilize large barns to house and feed the cows. Animals would be confined within the barns and milking parlor; no pasture area would be required. No manure would be deposited on pasture grasses and grass would not be utilized as a locally available feed source. The quantity of effluent to be managed would be increased with cows confined in the barn, and additional water would be required to adequately wash down the barn floors to maintain animal health. Resultant increased quantities of effluent would require disposal, as diluted effluent nutrients would not be needed to grow pasture grasses.

Alternative Dairy Location. An alternative Kaua'i location using a site other than Māhā'ulepū would be considered under this alternative. The grass-fed dairy operation requires 500 to 600 acres of usable, gently-sloped land on agricultural zoned lands available for long-term lease. The micro-climate requires soil conditions favorable for nutrient absorption with access to a reasonable priced irrigation water source, to sustain nutritious grass pastures. Other required elements would include roadway access, potable water and irrigation water sources.

2.5 PROJECT SCHEDULE

Following EIS review, HDF will construct the agricultural buildings and support infrastructure for the grass-fed sustainable dairy operations. It is anticipated that facility development will take approximately 10 months to complete. Initial operations are permitted to begin with up to 699 cows. Expansion of the herd would occur over a period of several years with sufficient grass-food source and nutrient utilization on site. Dairy operations with more than 700 cows require additional regulatory review.

2.6 REQUIRED REVIEWS, PERMITS AND APPROVALS

Agricultural facilities and operations of HDF will require reviews and approvals from federal, state and county agencies and entities. Anticipated permits and approvals are listed in this section, organized by the regulatory agency. Compliance with government plans and policies is noted within Section 5.0 of this EISPN, and will be evaluated in the Draft EIS.

County of Kaua'i –

- Department of Public Works:
 - Building Permit (issued November 2014)
 - Grubbing and Grading (agricultural exemption approved by County March 2014)

State of Hawai'i –

- Department of Health:
 - Wastewater Branch
 - Animal Feeding Operation/Waste Management Plan (review completed Oct. 2014)
 - Large Concentrated Animal Feeding Operation/Waste Management Plan
 - Individual Wastewater System
 - Clean Water Branch
 - National Pollution Discharge Elimination System (NPDES)
Construction Stormwater General Permit
 - Sanitation Branch
 - Compliance with Rules for Livestock Facilities and Milk Industry
 - Milk Producer Permit
- Department of Agriculture:
 - Compliance with Rules for Livestock Facilities
- Department of Land and Natural Resources, State Historic Preservation Division:
 - Hawai'i Revised Statutes, Chapter 6E - Historic Preservation Review

U.S. Department of Agriculture

- Natural Resources Conservation Service:
 - Agricultural Conservation Plan (approved)

3.0 ENVIRONMENTAL SETTING

The Draft EIS will identify the existing environmental conditions at the site of the HDF (Proposed Action). Preliminary information about relevant environmental resource areas is summarized below.

3.1 NATURAL ENVIRONMENT CONDITIONS

3.1.1 CLIMATE

The Kōloa area is generally known for its mild conditions. The average annual rainfall in Māhā‘ulepū is 50 inches at the dairy facility, and temperatures range anywhere from 72-86°F in the summer months, and 64-80°F in the winter.

3.1.2 NATURAL HAZARDS

Flood Hazard: According to the Flood Insurance Rate Map prepared by the Federal Emergency Management Agency, the project is located in Zone X. Zone X includes areas of low flood risk which do not require federal flood insurance.

Tsunami: HDF lies outside the tsunami evacuation zone.

Seismic Hazard: The Kaua‘i and Ni‘ihau region of the Hawaiian Islands has experienced tremors from earthquakes originating further south in the island chain, but no known seismic activity has originated among these northern islands. The earthquake risk has been evaluated as minimal. Appropriate building codes will be adhered to in construction of dairy facilities; these will be documented in the Draft EIS.

Hurricane: The Central North Pacific hurricane season is June through November. Hurricanes are considered to be relatively rare events in the Hawaiian Islands. Records show that strong wind storms have struck all major Hawaiian Islands. The first officially recognized hurricane in Hawaiian waters was Hurricane Hiki in August 1950. Since that time, five hurricanes have caused serious damage in Hawai‘i: Nina (1957), Dot (1959), Iwa (1982), Estelle (1986), and Iniki (1992).

Operational plans for safekeeping of the dairy’s livestock and property during natural hazard events will be identified in the Draft EIS.

3.1.3 TERRESTRIAL ENVIRONMENT

Geology and Soils: The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) survey data shows the project area consisting of various soil types. The most abundant soil types are Kalihi clay and Ka‘ena clay, brown variant, 1 to 6 percent slopes. The USDA Soil Conservation Service Soil Survey from 1972 describes the Kalihi series as poorly drained soils that developed in alluvium derived from basic igneous rock. Average annual soil temperature is 74°F. The Ka‘ena series is a very deep soil that also drains poorly, and is primarily

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located on alluvial fans and talus slopes on both O‘ahu and Kaua‘i. Elevations of this soil series vary anywhere from 50 to 150 feet. Existing soil conditions will be evaluated in the Draft EIS.

Topography: The project site is situated in the valley of Māhā‘ulepū ahupua‘a near the southern coast of Kaua‘i. The Māhā‘ulepū valley is located on the leeward side of the Hā‘upu mountain ridge. The valley is flanked by ridge lines on both sides. Mt. Hā‘upu is the highest point on the ridgeline at the back of the valley with an elevation of 2,297 feet. The HDF site upper elevation is about 150 feet. The parcel is gradually sloped to the 60-foot elevation at Māhā‘ulepū Road at the makai boundary. No changes to topography will occur with the HDF operation, as will be presented in the Draft EIS.

Surface Water Resources: A system of ‘auwai (agricultural ditch), reservoirs and irrigation pipes and pumps were developed to irrigate fields in the area, initially for commercial sugar cane from 1878 to 1996, followed by cattle ranching and taro cultivation. An interior parcel supports a kalo lo‘i (taro field) leased by a farmer. Several ditches exist between these north-south running ditches to drain the fields. Mill Ditch forms the southern boundary of the parcel, which flows into Waiopili Stream and discharges to the ocean at Māhā‘ulepū Beach. Surface water quality is being studied, and will be presented in the Draft EIS.

Ground Water Resources: The HDF parcel is within the Kōloa hydrologic unit defined by the State Commission on Water Resource Management. The Māhā‘ulepū well site includes up to 14 irrigation wells drilled by former sugar cane plantations. About one-half mile to the east of the dairy facility is Kōloa F well, a source for public drinking water used by the County of Kaua‘i Department of Water. Drinking water and irrigation water supply for HDF, and ground water quality will be addressed in the Draft EIS.

Botanical Resources: The area is characteristic of heavily disturbed lowland areas throughout Hawai‘i, dominated by introduced plant species that have become naturalized – those that spread and expand range in suitable habitat. Long-term use by agriculture has removed native plant-dominated ecosystems. No known endangered plants are thought to exist on the parcel. A botanical survey will be conducted for the HDF site and surrounds, and included in the Draft EIS.

Faunal Resources: Four native Hawaiian birds – three waterbirds and the Hawaiian nēnē - are known to utilize water features around the HDF parcel. These species are listed by both federal and state statutes as endangered. Migratory shore birds may occasionally use the pasture areas. A faunal survey will be conducted for the HDF site and surrounds, and included in the Draft EIS. An assessment of arthropods/vector insects (e.g., flies) will be presented in the Draft EIS.

3.2 HUMAN ENVIRONMENT CONDITIONS

Archaeological, Historic, and Cultural Resources: Lowland areas of Māhā‘ulepū were a source for fresh water and irrigation in proximity to the ocean, which provided resources for sustenance of the Hawaiian people and their culture. An expansive early agricultural network on Kaua‘i was established throughout the Kōloa region. Following European contact, Māhā‘ulepū became one of the first sites of commercial plantation agriculture in the main Hawaiian Islands.

An Archaeological Inventory Survey (AIS) was conducted for the project area to assess the presence of historic properties. There are no significant archaeological or historic sites known to exist within the HDF pastures. The AIS study area extended beyond the pasture areas to provide additional information

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on features located on the upslope area, which includes a boulder with petroglyphs and habitation and ceremonial features. In consultation with the State Historic Preservation Division, AIS findings are being properly documented, which will be presented in the Draft EIS.

A Cultural Impact Assessment (CIA) will be undertaken to evaluate knowledge of traditional cultural uses of the HDF site for access, worship and gathering. The study will collect information from people with ancestral ties and connection to the area's history and uses, and will include documents, stories and legends from the region. The CIA will be presented in the Draft EIS.

Recreational Resource: The HDF property has been used for agriculture and grazing, and has not historically been open to the public for recreational use. Traditional cultural activities along the Māhā'ulepū coast include coastal and mountain hiking, hunting, fishing and gathering. "Shipwreck Beach" (Keonelo Bay) fronts the Grand Hyatt Kaua'i, where shoreline access by foot extends northeast to the Māhā'ulepū coast. The Draft EIS will address recreational uses in the area.

Noise: Current noise levels in the area are typical of open space and agricultural use. Noise conditions associated with short-term and long-term activities will be addressed in the Draft EIS.

Air Quality: The State of Hawai'i Department of Health Clean Air Branch monitors ambient air at various stations for gaseous and particulate air pollutants. National ambient air quality standards (NAAQS) have been established by the Environmental Protection Agency for six pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone, and particulate matter (PM₁₀ and PM_{2.5}). In addition, Hawai'i has established a state ambient air standard for hydrogen sulfide. One monitoring station is maintained on Kaua'i to measure air quality impacts from cruise ships. Air quality conditions and agricultural odor conditions will be evaluated in the Draft EIS.

Visual and Aesthetic Resources: Public and private views of the HDF property are limited from off-site locations. Active agricultural uses occur on the lands surrounding HDF and across this valley. Visual resources and future view conditions will be addressed in the Draft EIS.

Socio-Economic Conditions: Hawai'i's resident population is expected to grow from 1,363,621 to 1,708,900 between 2010 and 2040, an increase of 25 percent. Māhā'ulepū is located in the Po'ipū area on the south shore of Kaua'i. In 2010, the population of the Kōloa-Po'ipū Census tract was 2,544 and the median age was 44.5 years. Po'ipū is one of the two major tourist and luxury home destinations on the island, with a large inventory of hotels, transient vacation rentals, and luxury vacation homes. Of the 2,139 housing units in the Po'ipū tract, about 1,203 (56.2 percent) are vacant. About 25% homes in the area are valued above \$1 million.

In 2012, Kaua'i had an estimated 144,127 acres in farming. The County of Kaua'i *Important Agricultural Lands Study* (2014) estimates 21,158 acres of land on Kaua'i is needed to feed 70,000 people (slightly above the total island population) without beef production. Based on a 2,500-calorie diet of fruits, vegetable, starch, dairy and some meat, an estimated 12,775,000 lbs. of milk per year would be needed to sustain 70,000 people on the island. A summary of the existing economic conditions and a projection of the HDF's anticipated economic impact will be included in the Draft EIS.

Hazardous Materials: There are no known hazardous material conditions at the HDF site or adjoining properties. Potential hazardous materials conditions will be addressed in the Draft EIS.

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Emergency Response: The nearest medical facility is Wilcox Memorial Hospital located in Līhu'e, 16.5 miles northeast of the project location. The County of Kaua'i Fire Department services the entire island of Kaua'i. The closest fire station to the site is located in Kōloa, approximately 4.5 miles to the west. The County of Kaua'i Police Department provides services for the entire island. The closest police substation is located in Kōloa, approximately 3.5 miles from HDF. Emergency response services will be addressed in the Draft EIS.

3.3 INFRASTRUCTURE

Agricultural Operations: The current Conservation Plan covers agricultural use of these lands, approved by the West Kaua'i Soil and Water Conservation District in December 2013. An update to the Conservation Plan will include the HDF operations, and be presented in the Draft EIS.

Roadways and Traffic: Access to the property is about one mile off Kōloa Bypass Road by Māhā'ulepū Road. Private agricultural roadways provide access to the HDF site. Current traffic conditions, construction traffic and operational traffic will be addressed in the Draft EIS.

Drainage and Storm Water Runoff: The project site has been used for previous agricultural and grazing activities, and has a system of ditches to channel storm water through the area as well as to drain fields. Existing and future drainage conditions will be presented in the Draft EIS.

Wastewater: There is no existing wastewater system serving the HDF site. The HDF office facility will utilize an Individual Wastewater System consisting of a septic tank system. Wastewater facilities will be presented in the Draft EIS.

A Waste Management Plan (July 2014) was prepared for the HDF operations and was reviewed by the State of Hawai'i Department of Health Wastewater Branch (October 2014). HDF is designed to be a zero-discharge facility, whereby nutrients excreted as manure will be managed on the HDF property to grow grass as the cows' major food source. Manure is excreted within the dairy pastures and also captured at the milking parlors during the twice daily milking cycle. The pasture rotation system will distribute nutrients throughout the fields, supplemented by diluted effluent from the waste management ponds. Findings from the Waste Management Plan and related technical studies will be presented in the Draft EIS.

Water Supply: Water from nearby Waita Reservoir will be used for pasture irrigation and existing wells on site will provide potable water for dairy operations and facility use. Water will be treated to federal milk standards. Treatment of well water to potable standards will provide water for the milking parlor and yards, for milk cooling and for livestock consumption. The water system and water uses will be described in the Draft EIS.

Solid Waste Disposal: Solid waste generated by the dairy facilities will be contained onsite and removed by licensed private waste haulers for disposal at the County's solid waste management facility. Solid waste management will be addressed in the Draft EIS.

Electrical Power and Communications: HDF has obtained a service agreement for power from the Kaua'i Independent Utility Cooperative (KIUC). Electrical power will be generated on-site through rooftop photovoltaic panels. Electrical power infrastructure and communications systems will be covered in the Draft EIS.

4.0 PROBABLE IMPACTS AND MITIGATIVE MEASURES

The construction and operation of HDF may result in environmental impacts. Mitigation measures will be discussed and developed with regulatory agencies.

The EIS will discuss probable impacts, both short- and long-term, and propose appropriate mitigation actions that can minimize potentially adverse effects. Short-term impacts are generally associated with construction, and prevail only for the duration of the construction period. Long-term effects would be those agricultural activities which continue after the construction period.

4.1 SHORT-TERM IMPACTS

The Draft EIS will address potential short-term impacts to the natural environment. Construction-related activities will create noise, dust, air pollution, and traffic due to vehicle and equipment operations. Construction activities may result in short-term adverse impacts to the environment, such as temporary soil disturbance. However, construction will be completed in accordance with federal, state and county regulations and employ best management practices to minimize temporary impacts.

Numerous jobs will be created during the construction period for the overall site development, and off-site improvements. This will result in short-term positive impacts to employment conditions within the area. Construction workers are expected to commute to the site from various parts of Kaua'i.

4.2 LONG-TERM IMPACTS

The Draft EIS will include an analysis of the potential long-term impacts to natural and human environments resulting from agricultural facilities development and operation of HDF. Implementation of the project will support the State and County's agricultural and economic goals by providing for greater food security and economic activity.

Potential for increased air and water emissions will be evaluated in the Draft EIS, along with the anticipated benefits of long-term agricultural land use and increased local employment. Long-term effects to the environment are expected to be minimal.

Cumulative impacts of HDF with planned developments in the Kōloa-Po'ipū region will be identified in the Draft EIS. Continued agricultural use of the area is consistent with the State and County land use policies, which identifies the region as important agricultural land for Kaua'i.

4.3 SIGNIFICANCE CRITERIA

The Draft EIS will assess the overall impact on the environment based on criteria established in HRS Chapter 343, and HAR Chapter 200 (Environmental Impact Statement Rules). In determining whether an action may have a significant effect on the environment, the EIS will consider the potential full scale operations at HDF with up to 2,000 cows, alternative actions, and the expected consequences (primary, secondary and cumulative, as well as short-term and long-term).

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Thirteen categories of Significance Criteria are identified in HAR Chapter 200 (following); the EIS will assess impacts in relation to these criteria.

1. *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*
2. *Curtails the range of beneficial uses of the environment;*
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;*
4. *Substantially affects the economic or social welfare of the community or State;*
5. *Substantially affects public health;*
6. *Involves substantial secondary impacts, such as population changes or effects on public facilities;*
7. *Involves a substantial degradation of environmental quality;*
8. *Is individually limited but cumulatively has a considerable effect upon the environment or involves a commitment for large actions;*
9. *Substantially affects a rare, threatened, or endangered species, or its habitat;*
10. *Detrimentially affects air or water quality or ambient 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;*
12. *Substantially affects scenic vistas and view planes identified in county or state plans or studies;*
13. *Requires substantial energy consumption.*

4.4 REASON FOR PREPARATION OF AN EIS

HDF will voluntarily prepare an EIS to disclose the existing and anticipated environmental conditions at the HDF location. The higher rigor of an EIS was selected over that of an Environmental Assessment to fully analyze potential impacts of construction and ongoing dairy operations, and to recommend appropriate mitigation as warranted. None of the agricultural operations associated with the HDF constitute a "trigger" under HRS Chapter 343 requirements. Hawai'i State Department of Health, as the agency with a preponderance of regulatory involvement, will act as the Approving Agency. This Environmental Impact Statement Preparation Notice has been prepared pursuant to HRS Chapter 343 and HAR Chapter 200. The appropriate environmental documents will be prepared and processed in accordance with Chapter 343.

4.5 EIS TECHNICAL STUDIES

The following is a list of studies consigned to evaluate current conditions and analyze the potential impacts of the HDF improvements and operations. The Draft EIS will summarize study findings and analyses; the reports will be included as appendices.

Civil Engineering / Waste Management Plan

Group 70 International, Inc.

Cultural and Archaeological Impact Assessments

Scientific Consultant Services, Inc.

Marine Biology and Water Quality

Marine Research Consultants, Inc.

Terrestrial Resources Study

Rana Biological Consulting, Inc.

Vector Insect Assessment

Steven Lee Montgomery, Ph.D.

Air Quality Study

ARCADIS

Groundwater Hydrology

Tom Nance Water Resources Engineering

Soils and Agronomy Assessment

Russell Yost, Ph.D

Pasture Nutrient Balance Study

Red Barn Consulting

5.0 CONFORMANCE WITH LAND USE PLANS, POLICIES AND CONTROLS

Relevant plans and policies are shown in the following list. Agricultural facilities and operations of HDF will require reviews and approvals from federal, state and county agencies. Anticipated permits and approvals are listed in Section 2.6. Conformance with applicable land use policies will be addressed in the Draft EIS.

County of Kaua'i

- Kaua'i General Plan
- Kōloa - Po'ipū - Kalāheo Development Plan
- South Kaua'i Community Plan
- Comprehensive Zoning Ordinance
- Kaua'i County Building Code

State of Hawai'i

- Acts 183 and 233: Important Agricultural Lands
- State Constitution
- State Plan
- State Functional Plan: Agriculture, Economy
- State Land Use Law: Agricultural District
- State Water Policies
- 2050 Sustainability Plan
- Coastal Zone Management
- Department of Agriculture
 - Animal Industry
 - Milk Control Rules
- Department of Health
 - National Pollutant Discharge Elimination System Permit
 - Livestock Facility Sanitation
 - Animal Feeding Operations/Large Concentrated Animal Feeding Operations/Waste Management Plan
- Department of Land and Natural Resources, State Historic Preservation Division
 - Hawai'i Revised Statutes, Chapter 6E - Historic Preservation Review

Federal

- U.S. Environmental Protection Agency
 - Animal Feeding Operations/Large Concentrated Animal Feeding Operations/Waste Management Plan
 - Clean Air Act
 - Clean Water Act (see State of Hawai'i Department of Health)
- U.S. Department of Agriculture
 - Natural Resources Conservation Service Conservation Plan

6.0 ANTICIPATED DETERMINATION

It is anticipated the Final EIS will be accepted by the State of Hawai'i Department of Health, the Approving Agency for the Proposed Action.

7.0 AGENCY CONTACT AND PUBLIC OUTREACH

Listed below are the agencies or parties contacted regarding the proposed project prior to publication of the draft Environmental Impact Statement.

Federal Agencies

U.S. Army Corps of Engineers
U.S. Dept. of Agriculture, National Resources Conservation Service – West Kaua'i SWCD

State of Hawai'i Agencies

Department of Agriculture
Department of Business, Economic Development, and Tourism – Office of Planning
Department of Health – Environmental Planning Office, Various Divisions
Department of Land and Natural Resources
Department of Land and Natural Resources, State Historic Preservation Division
Department of Transportation
Kaua'i – Ni'ihau Islands Burial Council, State Historic Preservation Division
Office of Environmental Quality Control
Office of Hawaiian Affairs

County of Kaua'i Agencies

Department of Water
Planning Department
Department of Public Works
Office of Economic Development

State and County Elected Officials

State Senate District 8 – Senator Ron Kouchi
State House of Representatives District 14 – Rep. Derek Kawakami
State House of Representatives District 15 – Rep. James Tokioka
State House of Representatives District 16 – Rep. Dee Morikawa
The Honorable Mayor Bernard P. Carvalho, Jr.

County Council Representatives: Mel Rapozo; Ross Kagawa, Arryl Kaneshiro, Mason Chock, JoAnn Yukimura, KipuKai Kualii, Gary Hooser.

Other Organizations and Individuals

Kaua'i County Farm Bureau	Mālama Māhā'ulepū
Kaua'i Chamber of Commerce	Friends of Māhā'ulepū
Kaua'i Economic Development Board	Surfrider Foundation Kaua'i Chapter
Kōloa Community Association	Po'ipū Beach Resort Association
Kaua'i Filipino Chamber of Commerce	Kaua'i Planning & Action Alliance
Malama Kōloa	Kaua'i Visitors Bureau

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Other Organizations and Individuals (con't)

Contractors Association of Kaua'i

Rotary Clubs (of Po'ipū and Kaua'i)

Kōloa Landing

Whalers Cove