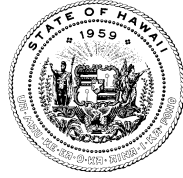


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STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

Ka 'Oihana 'Āina Ho'opulapula Hawai'i

P. O. BOX 1879
HONOLULU, HAWAII 96805

January 28, 2025

Mary Alice Evans, Director
Office of Planning and Sustainable Development
Environmental Review Program (ERP)
235 S. Beretania Street, Room 702
Honolulu, Hawai'i 96813

SUBJECT: Department of Hawaiian Home Lands (DHHL) Wākiu Master Plan Draft
Environmental Assessment - Anticipated Finding of No Significant Impact
(DEA-AFONSI)
Tax Map Key (TMK): (2) 1-3-004:011, :012, :017, and :018 (por.)
Wākiu Ahupua'a, Hāna District, Maui Island

Dear Director Evans:

With this letter, the Department of Hawaiian Home Lands (DHHL) hereby transmits the Draft Environmental Assessment – Anticipated Finding of No Significant Impact (DEA-AFNSI) for the DHHL Wākiu Master Plan Project, located at TMK (2) 1-3-004:011, :012, :017, and :018 (por.), for publication in the February 8, 2025 edition of *The Environmental Notice*.

We have uploaded an electronic copy of this letter, the Environmental Review Program Publication Form, and a searchable PDF file of the DEA-AFNSI compiled together by the Applicant's agent, G70 to your online submittal site.

Should you have any questions, please contact Jeff Seastrom, AIA, AICP, LEED AP BD+C by email at dhhleastmauimp@g70.design or by phone at (808) 523-5866.

Aloha,

Kali Watson, Chairperson
Hawaiian Homes Commission

From: webmaster@hawaii.gov
To: [DBEDT OPSD Environmental Review Program](#)
Subject: New online submission for The Environmental Notice
Date: Monday, February 3, 2025 4:58:55 PM

Action Name

DHHL Wākiu Master Plan

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

Hāna, Maui

Tax Map Key(s) (TMK(s))

(2) 1-3-004:011; (2) 1-3-004:012; (2) 1-3-004:017; (2) 1-3-004:018

Action type

Agency

Other required permits and approvals

Approval of Master Plan and Land Use Designation Amendment; Administrative Rule Amendment for Beneficiary Preference; HRS Chapter 6E Compliance; HAR Chapter 11-55, National Pollutant Discharge Elimination System Permits; Construction Plan Review Permit to Excavate Public Right-of-Way; Building Permits for Building, Electrical, Plumbing, Sidewalk/Driveway, and Demolition Work; Grubbing, Excavation, Grading, and Stockpiling

Proposing/determining agency

Department of Hawaiian Home Lands

Agency jurisdiction

State of Hawai'i

Agency contact name

Julie-Ann Cachola

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[Map It](#)

Is there a consultant for this action?

Yes

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G70

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(808) 523-5866

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111 S. King St., Suite 170
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[Map It](#)

Action summary

The Project is intended to develop a portion of the approximately 656 acres of land in Wākiu for DHHL beneficiaries. These lands were transferred to DHHL as a result of the 1995 settlement of claims between the State of Hawai'i and DHHL that transferred over 16,800 acres from the State to DHHL's land inventory. The purpose of the Master Plan is to identify developable lands and allowable land uses based on existing conditions and engagement with beneficiaries. This includes homestead lot types, sizes, and configurations that fulfill the vision and values of the community based upon multiple outreach and charrette sessions.

Reasons supporting determination

See Section 6.2.

Attached documents (signed agency letter & EA/EIS)

- [DHHL-Wakiu-DEA-2025-02.pdf](#)
- [DHHLWakiu_ERPSubmittal_DHHLLetterOfAcceptance-part-1-signed.pdf](#)

Action location map

- [DHHL-Wakiu-PrjArea_2025_0203.zip](#)

Authorized individual

Jeffrey Seastrom

Authorization

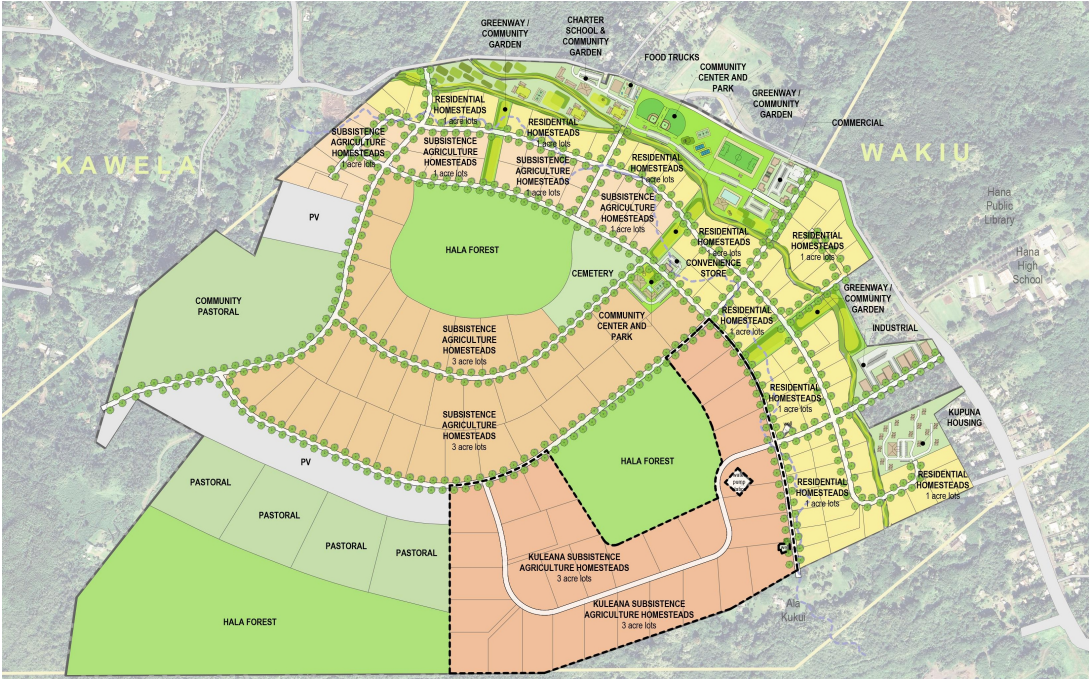
- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

Department of Hawaiian Home Lands Wākiu Master Plan

DRAFT ENVIRONMENTAL ASSESSMENT

Wākiu, Island of Maui, Hawai'i

Tax Map Keys: (2) 1-3-004:011, :012, :017, and :018 (por.)



APPLICANT/APPROVING AGENCY:



HAWAIIAN HOME LANDS
HAWAIIAN HOMES COMMISSION · DEPARTMENT OF HAWAIIAN HOME LANDS

PREPARED BY:



111 S. King Street, Suite 170
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FEBRUARY 2025

DEPARTMENT OF HAWAIIAN HOME LANDS WĀKIU MASTER PLAN

Wākiu, Island of Maui, Hawai'i

Tax Map Key: (2) 1-3-004:011, :012, :017, and :018 (por.)

Draft Environmental Assessment

Applicant/Approving Agency:



HAWAIIAN HOME LANDS
HAWAIIAN HOMES COMMISSION - DEPARTMENT OF HAWAIIAN HOME LANDS

Department Of Hawaiian Home Lands
91-5420 Kapolei Pkwy,
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This environmental document is prepared pursuant to 343, Hawai'i Revised Statutes and Chapter 200.1 of Title 11, Administrative Rules, Department of Health, Environmental Impact Statement Rules.

FEBRUARY 2025

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- B. Preliminary Engineering Assessment
- C. Transportation Assessment Report
- D. Archaeological Resources
- E. Cultural Impact Assessment
- F. Hawai'i Wildlife Management Organization Memo
- G. Honuaiākea and Beneficiary Workshop Reports
- H. Early Consultation Comments

Abbreviations

ADA	Americans with Disabilities Act of 1990
ADM	Alternative Development Model
AFNSI	Anticipated Finding of No Significant Impact
ALISH	Agricultural Lands of Importance to the State of Hawai'i
AMR	American Medical Response
BMP	Best Management Practices
CAB	Clean Air Branch
CDC	Community Development Corporation
CDP	Census-Designated Place
CGS	Cultural Genealogy Study
CIA	Cultural Impact Assessment
CPHC	Central Pacific Hurricane Center
CO ₂ EQ	carbon dioxide equivalent
COM	County of Maui
CWB	Clean Water Branch
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
dBA	Decibels
DBEDT	Department of Business, Economic Development, and Tourism
DEM	Department of Environmental Management
DFPS	Department of Fire and Public Safety
DHHL	Department of Hawaiian Home Lands
DLNR	Department of Land and Natural Resources
DPW	Department of Public Works
DOE	Department of Education
DOFAW	DLNR-Division of Forestry and Wildlife
DOH	Department of Health
DOT	Department of Transportation
DWS	Department of Water Supply
EA	Environmental Assessment
ED	Engineering Division

EKF	Edith Kanaka'ole Foundation
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
gpd	gallons per day
gpm	gallons per minute
GPS	Global positioning system
GHG	greenhouse gas
GRs	Royal Patent Grants
GWh	gigawatt-hours
HAR	Hawai'i Administrative Rules
HDOA	Hawai'i Department of Agriculture
HECO	Hawaiian Electric Company
HHC	Hawaiian Homes Commission
HHCA	Hawaiian Homes Commission Act, 1920
HKLD	Hāna very stony silty clay loam
HKNC	Hāna silty clay loam
HNM	Hāna Airport
HRS	Hawai'i Revised Statutes
HTC	Hawaiian Telcom
HWMO	Hawai'i Wildfire Management Organization
IAL	Important Agricultural Lands
IRHB	Indoor and Radiological Health Branch
IWS	Individual Wastewater Systems
kWh	kilowatt-hours
KWWRF	Kahului Wastewater Reclamation Facility
LCA	Land Patent Grants
LOS	level of service
LUC	State Land Use Commission

LSB	University of Hawai'i's Land Study Bureau
MCC	Maui County Code
MDWS	County of Maui Department of Water Supply
MEMA	Maui County Emergency Management Agency
MECO	Maui Electric Company
mgd	million gallons per day
MIP	DHHL Maui Island Plan
MPD	Maui Police Department
MW	megawatts
MYD	Mālama extremely stony highly decomposed plant material
NAGPRA	Native American Graves Protection and Repatriation Act
NAAQS	National Ambient Air Quality Standards
NFPA	National Fire Protection Agency
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWS	National Weather Service
OHA	Office of Hawaiian Affairs
OPSD-CZM	Office of Planning and Sustainable Development, Coastal Zone Management
PEA	Preliminary Engineering Assessment
PGA	peak ground acceleration
PM	particulate matter
Project	DHHL Wākiu Master Plan
PTWC	Pacific Tsunami Warning Center
PV	Photovoltaic
RFI	radio frequency interference
RMH	Resource Mapping Hawaii
ROW	Right of way
SAAQS	State Ambient Air Quality Standards
SDC	Seismic Design Category
SDG	Sustainable Development Goals
SHPD	State Historic Preservation Division
SLR	Sea level rise
SLR-XA	Sea level rise exposure area
SLUD	State Land Use District

SMA	Special Management Area
SSSC	Stop Sign-Controlled
State	State of Hawai'i
SWD	Solid Waste Division
TAM	Technical Assistance Memorandum
TAR	Transportation Assessment Report
TIAR	Traffic Impact Assessment Report
TMK	Tax Map Key
UIC	underground injection control
USDA-NRCS	United States Department of Agriculture, Natural Resources Conservation Service
VPD	vehicles per day
WPOD	Wellhead Protection Overlay District
WRD	Wastewater Reclamation Division
WUI	Wildland Urban Interface
WUPD	Maui Island Water Use and Development Plan
WWTP	wastewater treatment plant

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Chapter 1

Introduction

Chapter 1

Introduction

This Environmental Assessment (EA) has been prepared in accordance with the requirements of Hawai'i Revised Statutes (HRS) Chapter 343, and Hawai'i Administrative Rules (HAR), Title 11, Chapter 200.1, Department of Health, which set forth the requirements for the preparation of environmental assessments.

1.1 Project Information Summary

Type of Document:	Draft EA
Project Name:	DHHL Wākiu Master Plan
Applicant:	Department of Hawaiian Home Lands (DHHL) P.O. Box 1879 Honolulu, HI 96805 Contact: Julie-Ann Cachola, Planner (808) 620-9480
Agent:	G70 111 S. King St., Suite 170 Honolulu, HI 96813 Contact: Kawika McKeague, AICP, Principal (808) 523-5866
Approving Agency:	Hawaiian Homes Commission (HHC) Department of Hawaiian Home Lands P.O. Box 1879 Honolulu, HI 96805 Contact: Kali Watson, Chairman, HHC (808) 620-9501
EA Trigger:	Use of State Lands and State Funds
Project Location:	Wākiu Ahupua'a, Hāna District, Maui Island (<i>Figure 1.1</i>)
Tax Map Keys (TMK) and Landowners:	(2) 1-3-004:011, :012, :017, and :018 (por.) (<i>Figure 1.2</i>) DHHL
Project Area:	656.3-acres
State Land Use District:	Agriculture (<i>Figure 1.3</i>)

County of Maui Zoning:	Agriculture (<i>Figure 1.4</i>)
Community Plan:	Agriculture (<i>Figure 1.5</i>)
Special Management Area:	Without SMA (<i>Figure 1.6</i>)
Flood Zone:	Zone X: Area of Minimal Flood Hazard (<i>Figure 1.7</i>)
Anticipated Determination:	Finding of No Significant Impact (FONSI)

1.2 Project Overview and Background

The mission of the DHHL is to effectively manage the Hawaiian Home Lands Trust and to develop and deliver lands to native Hawaiians. To accomplish this, DHHL works in partnership with government agencies, private landowners, non-profit organizations, homestead associations, and other community groups.

The Hawaiian Home Lands Program was started with the passage of the Hawaiian Homes Commission Act, 1920, as amended (HHCA) due to the efforts of Prince Jonah Kūhiō Kalanianaʻole. Passed by Congress and signed into law by President Warren Harding on July 9, 1921 (Chapter 42, 42 Stat. 108), the HHCA provides for the rehabilitation of the native Hawaiian people through a government-sponsored homesteading program. Per HHCA Section 201(a)(7), the term “native Hawaiian” (with a lower case “n”) means any descendant of not less than one-half of the blood of the races inhabiting the Hawaiian Islands previous to 1778, or those with 50% and more Hawaiian blood. Native Hawaiian with an upper case “N” refers to all persons of Hawaiian ancestry regardless of blood quantum.

The Project is intended to develop a portion of the approximately 656 acres of land in Wākiu for DHHL beneficiaries. These lands were transferred to DHHL as a result of the 1995 settlement of claims between the State of Hawaiʻi and DHHL that transferred over 16,800 acres from the State to DHHL’s land inventory. The purpose of the Master Plan is to identify developable lands and allowable land uses based on existing conditions and engagement with beneficiaries. This includes homestead lot types, sizes, and configurations that fulfill the vision and values of the community based upon multiple outreach and charrette sessions.

The Project is based on a Master Plan process that spanned over 17 months, beginning with the Project’s initial strategic sessions in November 2022, through the Honuiaiākea Process with the Edith Kanakaʻole Foundation in February 2023, and continuing on through a series of four (4) planning workshops that started in September 2023 and finished in April 2024. The Project includes one-acre residential lots, one- and three-acre subsistence agricultural lots, pastoral lots, and kūpuna housing. One-acre residential lots, making up 88.5 acres or 78 lots, will be located closer to Hāna Highway. One- and three-acre subsistence agricultural lots, totaling 143.8 acres or 65 lots, will be awarded as subsistence agricultural homestead leases, focusing on land cultivation for beneficiary families, with the construction of a home as optional. Four pastoral lots will cover 41.9 acres, and 6.5 acres will be set aside for 30 units of kūpuna housing.

A portion of the Project may include DHHL Kuleana Homesteading and under that program offer Subsistence Agricultural lots for approximately 31 three-acre agricultural homesteading lots. Under this unique designation, DHHL is required only to provide a metes and bounds description and an

unpaved right-of-way to the lots. Awardees will have immediate access, but DHHL is not obligated to provide any improvements.

Non-homestead uses for the project include a community use area for greenways and community gardens (11.6 acres), a charter school and community garden (12.6 acres), a cemetery (7.7 acres), a community center and park along Hāna Highway (18.3 acres), and a second community center (2.46 acres). Approximately 32.3 acres are designated for a photovoltaic solar energy system. The commercial area will host retail, convenience, and food trucks, while the industrial area will support the lifestyle needs for boating and machinery care. Additionally, 138.8 acres will be dedicated to conserving hala and kukui groves already established and are significant to the Hāna community. Access to the project area will be via Olopawa Road at the northern end, a midpoint road aligned with the new access to Waianapanapa State Park, and an existing dirt road used by the Department of Water Supply on the southern end.

1.3 Purpose of the Environmental Assessment

This EA will comply with Hawai'i's Environmental Review Process, HRS Chapter 343. The EA is being prepared because the Project utilizes DHHL or State of Hawai'i (State) lands and funds. The HHC is the approving agency. This EA includes the following as required by HAR §11-200.1-18:

- identification of the applicant and approving agency;
- a list of the required permits and approvals;
- identification of the trigger requiring HRS Chapter 343 environmental review;
- identification of agencies, citizen groups, and individuals consulted in preparing the Draft EA;
- description of the action's technical, economic, social, cultural, historical, and environmental characteristics;
- summary description of the affected environment, including suitable and adequate maps;
- identification and analysis of impacts and alternatives considered;
- proposed mitigation measures;
- anticipated determination from the HHC as the approving agency, including findings and reasons supporting the determination; and
- written comments, if any, and responses to comments received and made to the early consultation and statutorily prescribed public review.

A Notice of Determination for the Draft EA will be filed with an Anticipated Finding of No Significant Impact (AFNSI). After a 30-day review period of the Draft EA has concluded, substantive written comments received will be addressed pursuant to the methodology identified within state administrative rules, addressing and seeking resolve of conflict or inconsistencies in information and to address specific environmental concerns.

A Final EA may be prepared, after reviewing any public and agency comments and applying the significance criteria within state administrative rules. The HHC, as the approving agency, may determine to issue a Notice of a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement Preparation Notice (EISPN). If the HHC determines that this project is not likely to have a significant effect, it shall issue a notice of a FONSI. If the HHC determines that this project may have a significant effect, it shall issue an EISPN.

1.4 Agencies, Organizations and Individuals Contacted During the Pre-Consultation Process

A strategic Planning Meeting was conducted for the Wākiu Community Development Corporation (Wākiu CDC) in September 2022 to begin the project master plan process. Nine members of the CDC board participated in this strategic planning session that discussed the vision of DHHL's East Maui beneficiary lands including; capacity building; educational training; revenue generation and economic sustainability; land use planning; and relationship building. Information addressing each of these subjects is presented in Chapters 2 and 3 of this EA.

The first official kick off meeting for the Project occurred virtually and included six community members along with DHHL staff and consultants. In this meeting, the Project team discussed the scope of work, along with Project details. While the Project originally began as a combined effort that encompassed multiple DHHL East Maui beneficiary communities, the scope has since narrowed to the Wākiu Master Plan out of respect for the preference verbalized by the Ke'ānae and Wailuanui homesteads of not proceeding with their master plan efforts at this current time. The kick-off meeting also included coordination details for the site visit that would occur in February 2023. The second planning meeting, held in October 2023, allowed 25 members of the Wākiu community to engage with DHHL and its consultants to develop a planning vision and assess a range of opportunities for homestead uses, community uses and other non-homestead uses through a series of mapping and polling exercises. Utilizing the findings from the second planning meeting, DHHL consultants created several concept plan options which they presented to the Wākiu beneficiary community in January, 2024. The concepts were delineated into mauka and makai areas with two options for each portion of homestead lands. Makai option one included intensive uses near the highway while siting and protecting residential homesteads further mauka, creating a buffer between the intensive and residential uses. The second option for the makai portion of the homestead lands focused on locating more community uses further mauka with one proposed access point from the airport road, using the existing railroad as a connecting greenway. The first option for mauka sections created conservation areas around existing native forests, and with homestead uses located adjacent to these areas. The second option was to preserve most mauka lands and create very little homestead lots. Provided with these options, the community decided on both the first makai and mauka options to create as many homesteading uses as possible while also locating the more intensive uses near the highway. Notes from these meetings are presented in Appendix B.A Pre-consultation Memo and Participant Letter were sent July 19, 2024 to initiate the environmental review process. These are included as Appendix A. Input from the pre-consultation phase is addressed in this EA.

Listed below are the Federal, State and County agencies, elected officials, organizations, community leaders and neighbors who were engaged during the early consultation period and will receive notification of the publication of the Final EA. Early Consultation comments can be found in *Appendix B: Early Consultation Comments*. For more information, see **Chapter 7**.

Federal Agencies

United States (U.S.) Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. Army Corps of Engineer, Honolulu District

State of Hawai'i Agencies

Department of Accounting and General Services
Department of Agriculture

Department of Business, Economic Development and Tourism (DBEDT), Office of Planning and Sustainable Development
Department of Education (DOE), Maui District
DOE, Planning Section, Facilities Development Branch
Department of Hawaiian Home Lands
Department of Health (DOH), Clean Air Branch
DOH, Disability and Communication Access Board
DOH, Indoor and Radiological Health Branch
DOH, Maui Sanitation Branch
DOH, Clean Water Branch
DOH, Environmental Health Administration
DOH, Wastewater Branch
Department of Land and Natural Resources (DLNR), Commission of Water Resource Management
DLNR, Division of Forestry and Wildlife
DLNR, Engineering Division
DLNR, Land Division
DLNR, Land Division, Maui District
DLNR, Division of State Parks
DLNR, State Historic Preservation Division (SHPD)
Department of Transportation (DOT), Highways Division
Hawai'i State Public Library System
Office of Hawaiian Affairs (OHA)
Office of Planning and Sustainable Development

County of Maui Agencies

Department of Environmental Management
Department of Fire and Public Safety
Department of Housing
Department of Human Concerns
Department of Management
Department of Parks and Recreation
Department of Public Works
DOT, Highways Division, Maui District
Department of Water Supply
Emergency Management Agency
Planning Department
Police Department
State Senator Lynn Decoite (District 7)- Assistant Majority Floor Leader
State Representative Mahina Poepoe (District 13)
Mayor Richard Bissen, Maui County Office of the Mayor
Maui County Councilmember Alice L. Lee, Council Chair
Maui County Councilmember Tasha Kama, Presiding Officer Pro Tempore
Maui County Councilmember Keani Rawlins-Fernandez,
Maui County Councilmember Tom Cook
Maui County Councilmember Gabe Johnson
Maui County Councilmember Nohe U'u-Hodgins
Maui County Councilmember Tamara Paltin
Maui County Councilmember Shane Sinenci
Maui County Councilmember Yuki Lei Sugimura, Council Vice-chair

Utility Companies

Hawaiian Electric (Maui Electric Company, Ltd.)
Hawaiian Telcom
Spectrum

Organizations

Aha Moku O Hāna: Sam Akoi
Council for Native Hawaiian Advancement – Kūhiō Lewis; Chief Executive Officer
Maui Mokuupuni Council
Hāna Business Council, Hāna Community and Hāna Ready – Heidi Lea
The Nature Conservancy Scott-Crawford
Kipahulu O Hāna O Kamalei Pico
Kaupo Community Association- Makalapua Kanuha
Hāna High & Elementary School
Hale Holani- Kauwila Hanchett
Hāna Health- Cheryl Vasconcellos
Ala Kuikui- Kau'i Kanaka'ole
Hāna Cultural Center & Museum
Hāna Public Library
Hāna Ranch

Neighboring Property Owners

Timothy D Everett
Hyland Wah Mee Chang
Lucinda H Trust- Stanton Estrella & Amber Estrella
Cheryla A Maysels Trust
Richard Lynn Griffith, Janet Holmes Crosby, William J Schueller
Hanauekahiokealani Hoopai-Waikoloa & Anjoleen Emma Kuuipo Hoopai-Waikoloa
Malia Ann Collins Fuhrmann & William Kamuela Fuhrmann
Mahealani Farms
Susan E O'Connor Trust
Gary K Chow & Alesiamae Marcinkeviciute Kerr Trust
Marcus W Sanders & Maureen M Sanders
Douglas Ward Mardfin Trust
Frank Redo Sr., Samuel Kawaiola Aina Jr., Valei Lori Ann Manrique
Guy Aina & Rolene Aina
Craig K Castaneda & Felicia K Sinenci
Bruno R West Trust
Robert and Crancine Frost Trust
Michael Farina & Nancy Farina
Tormod Isetorp
Margaret A Mathieson, Andrew F Mathieson & Peter F. Mathieson
Johnathan Tolentino & Ruth Ann Tolentino
Mary Kaikala-Sinenci & Kawehi Kaikala-Sinenci
Kathleen L Street Trust
Kuuipo Kanakaole Family Trust
Matthew Kalanikai Kahuhu & Mary Liz K Smith
Robert J & Sheryl L Fillipi Trust
William H Chang
Barry Wah Kwock Chang Trust

Isles Enterprises, LLC
Frank Joseph Cabral
Roland Torres & Liberata Family Trust
Ella Oliveira, Christina Browne, Helen Kaipolani Cosma, & Vivian Nalani Craycraft
Louis A Hoopai Jr., Christina Browne, Wilhelmina Peetz Butts EST, & Angeline Graces
Tanya L Teig & Tara Kanekoa
Beverly Ann, Victorine-Dyment & Francis P Kealoha Jr. Trust
Leialoha Kahanu Uaiwa Trust

DHHL Homestead Leaders

Hawaiian Homes Commission- Archie Kalepa; Maui Commissioner
'Ahahui 'Āina Ho'opulapula o Waiohuli – Harry Rodriguez, Jr.
Ka 'OHāna o Kahikinui – Elama Farm, President
Kēōkea Agriculture Hawaiian Homestead Association – Robin Newhouse
Leiali'i Homestead Association – Rod Pa'ahana
Paukukalo Community Association- Kalani Tassill
Pa'upena Community Development- Andrew A.M. Hatchie; Kekoa Enomoto
Pa'upena Community Development – Andrew A.M. Hatchie; Kekoa Enomoto
Sovereign Council of Hawaiian Homestead Associations
Sovereign Council of Hawaiian Homestead Associations- Kipukai Kualii'i; SCHHA Chairman
Sovereign Council of Hawaiian Homestead Associations- Kekoa Enomoto; Maui Liason
Wai'ehu Kou 3 – Roy Oliveira
Waiohuli Hawaiian Homestead Association – Perry Artate
Pu'uhona Hawaiian Homestead Association Attn: President Debbie Mahuna
Wākiu Community Development Corporation Jade Alohalani Smith
Blossom Feiteira

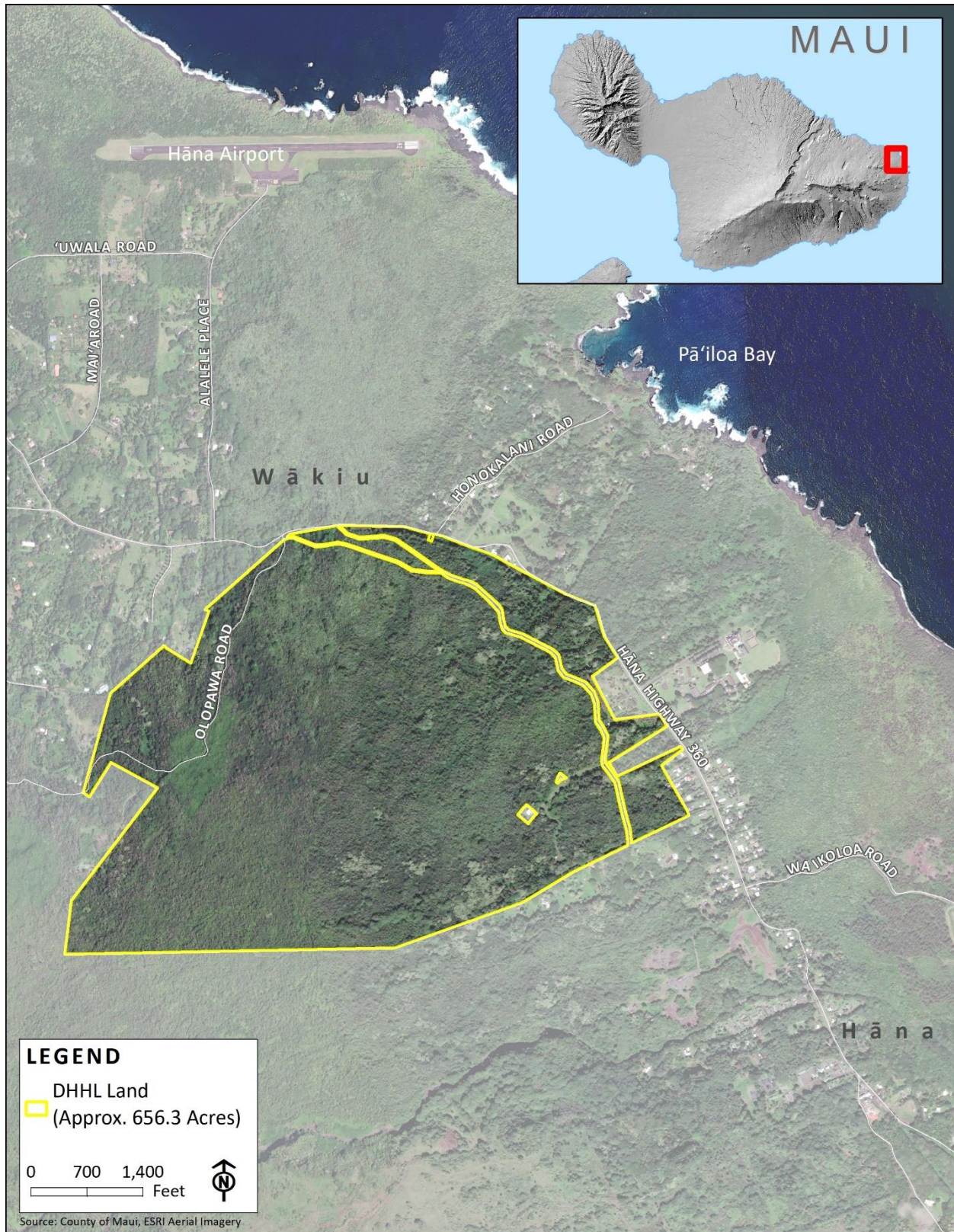


Figure 1-1

Project Location Map

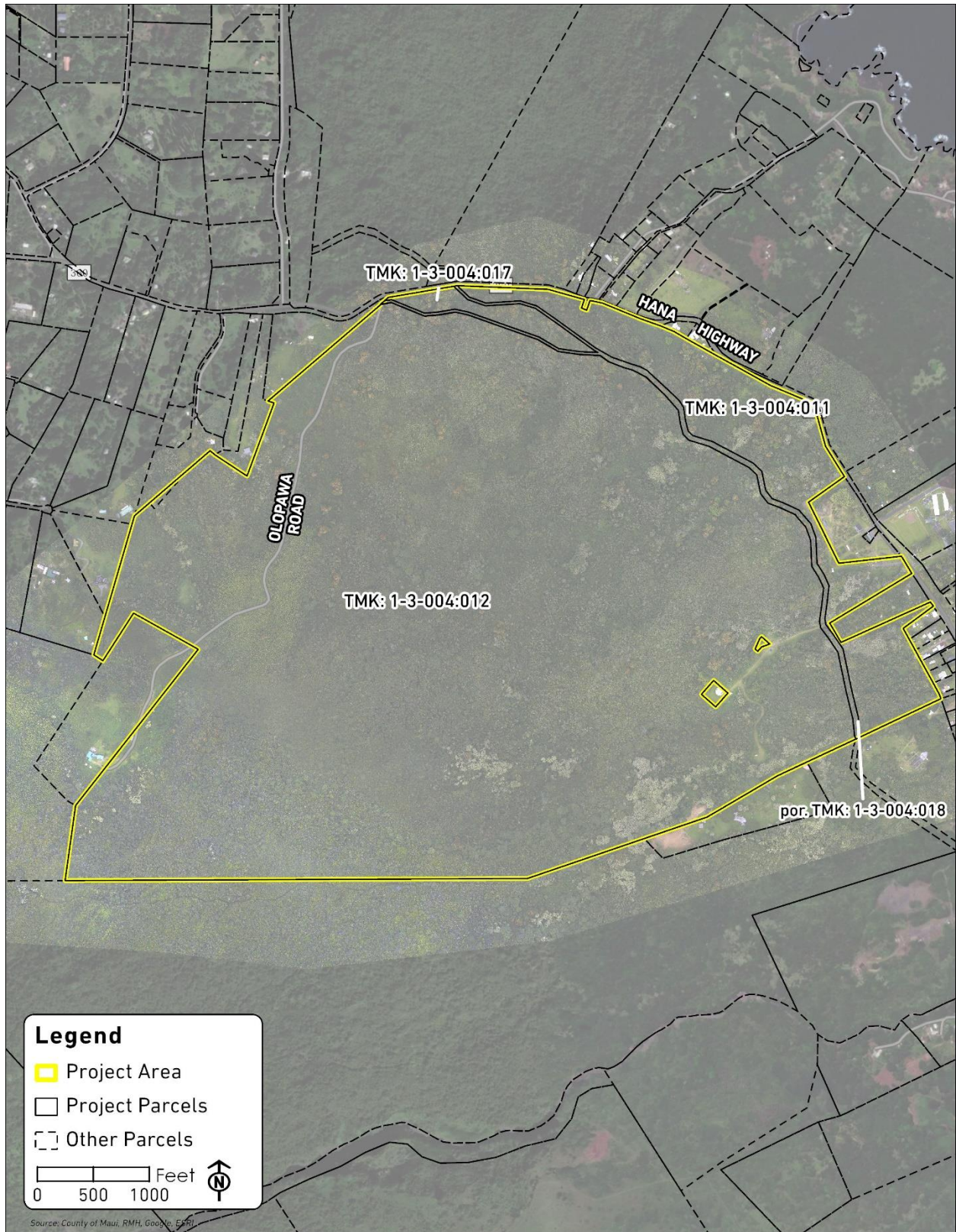


Figure 1-2

Tax Map Keys

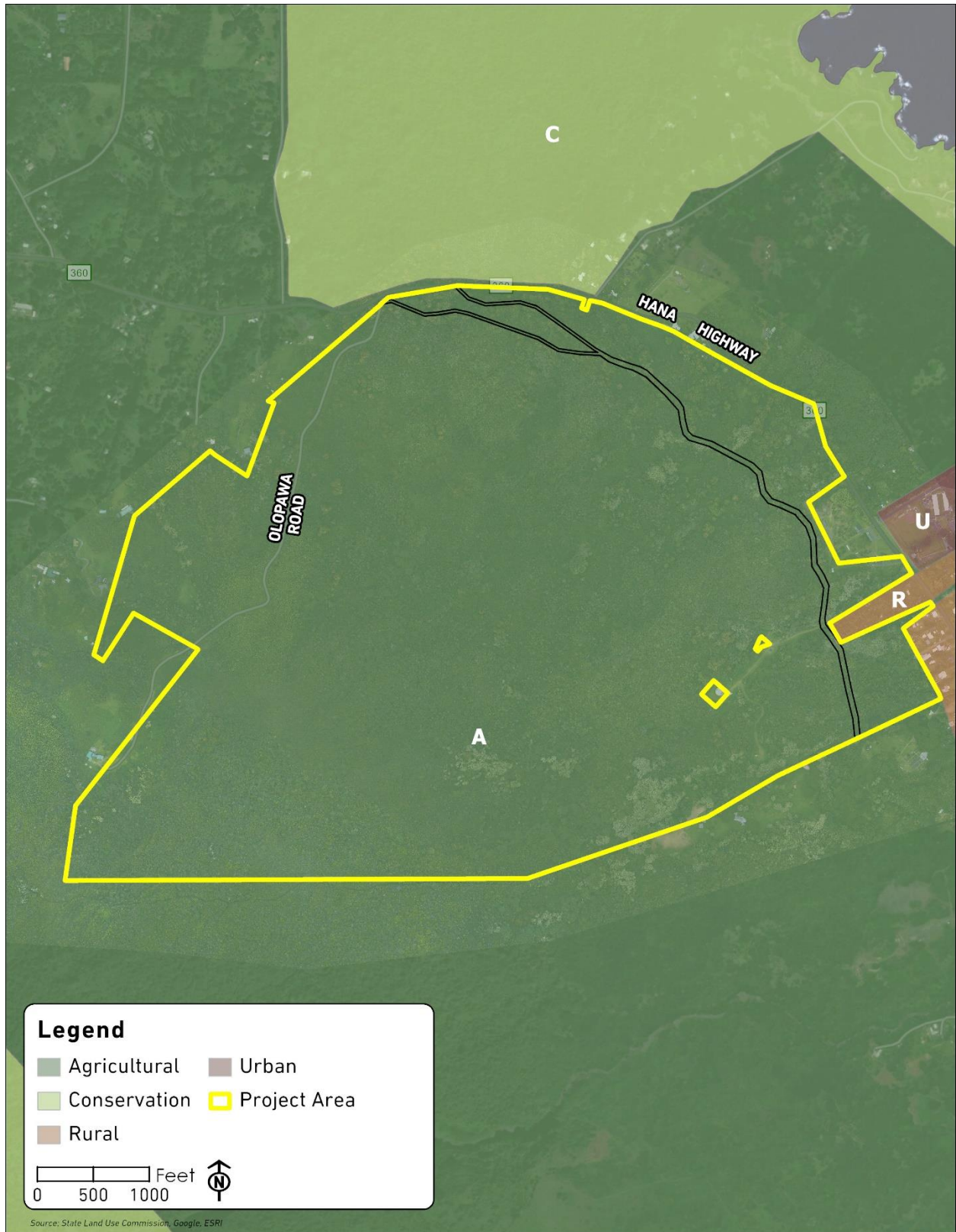


Figure 1-3

State Land Use Districts

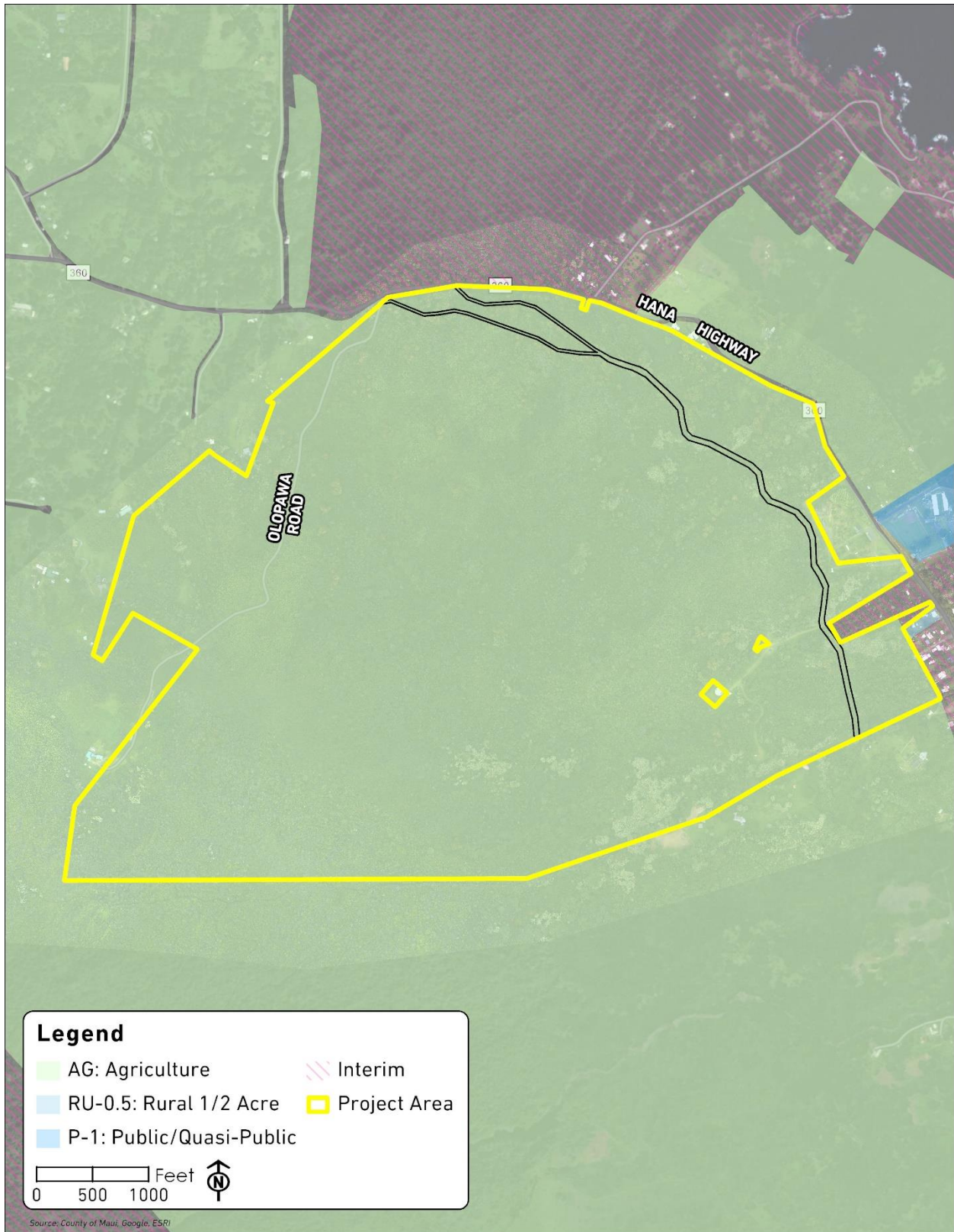


Figure 1-4

County of Maui Zoning Map

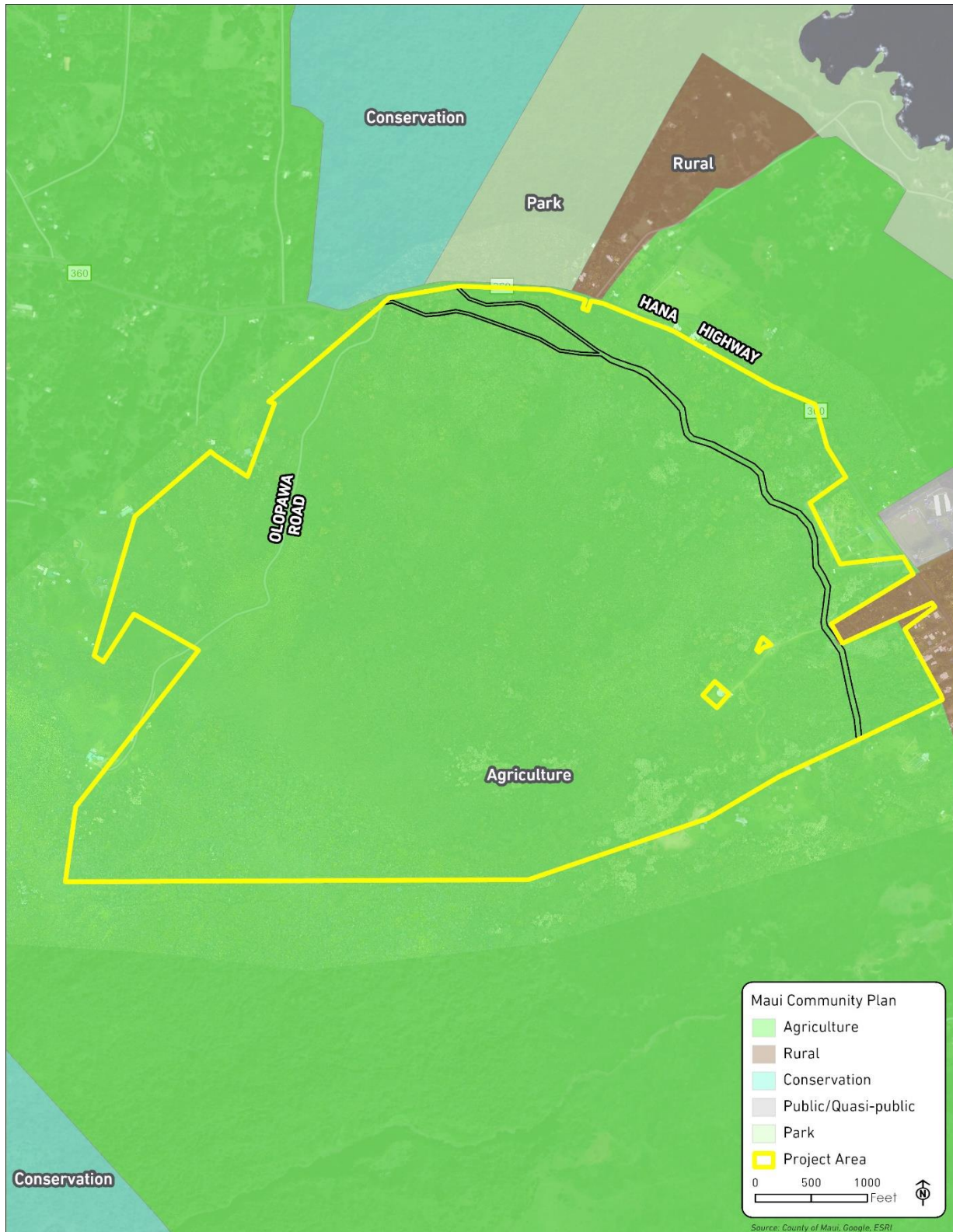


Figure 1-5

West Maui Community Plan

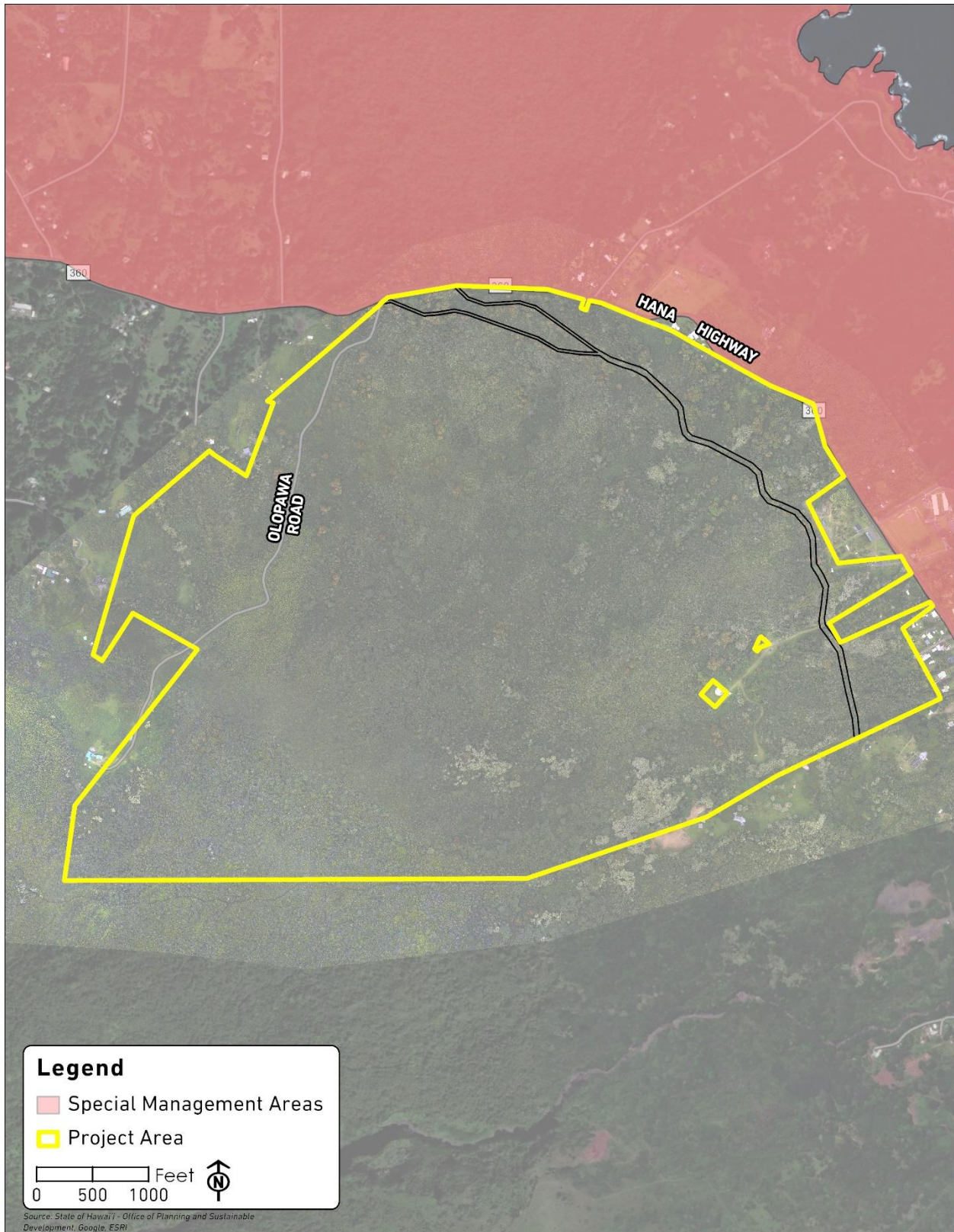


Figure 1-6

Special Management Area

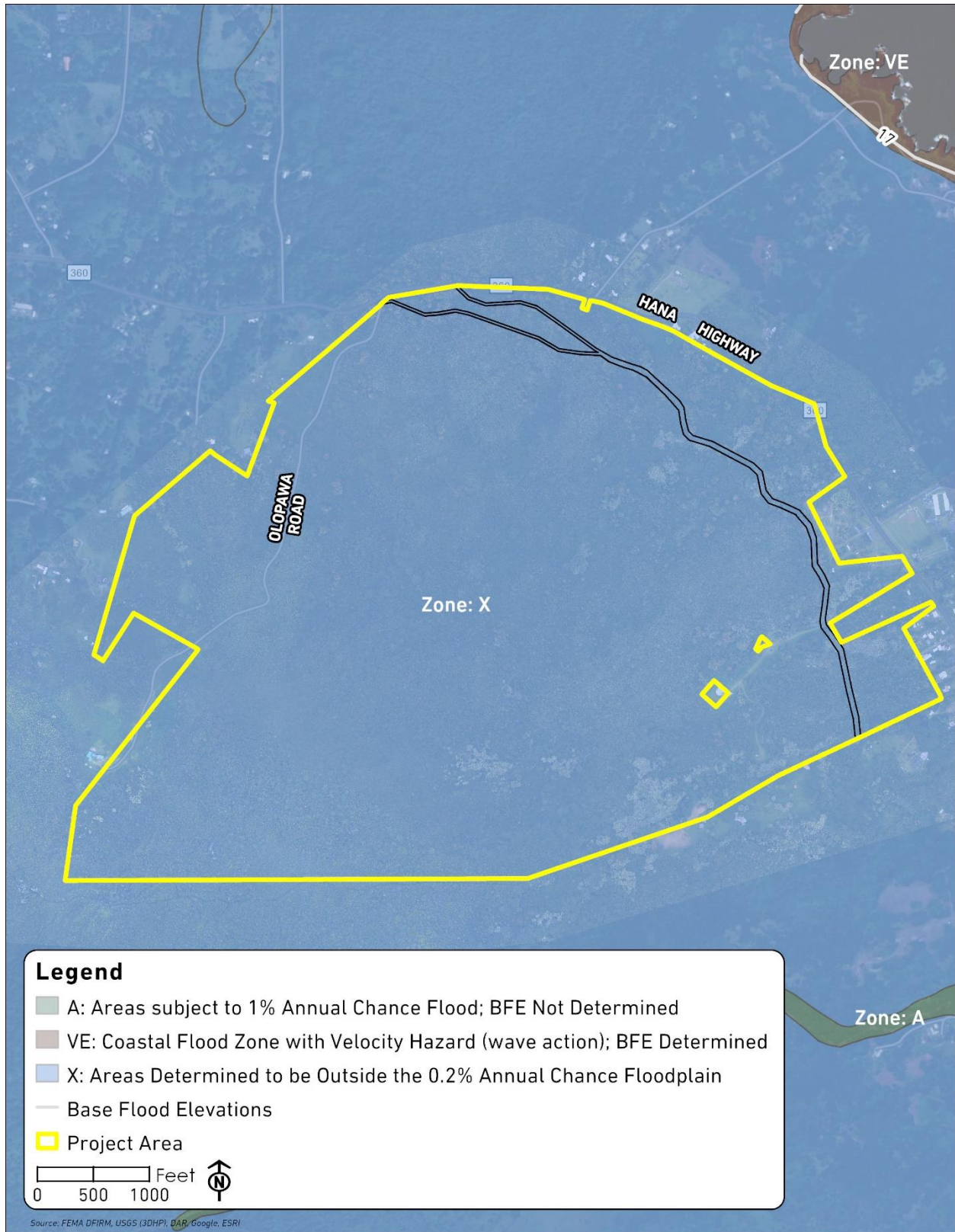


Figure 1-7

Flood Zones

Chapter 2

Description of the Project

Chapter 2

Description of the Project

2.1 Project Location and Existing Land Use

Location

The 656.3-acre DHHL Wākiu Master Plan Project (Project) area is located between Mile Marker 31 and 33, approximately 100 feet mauka of Hāna High & Elementary School, approximately 4,500 feet southeast of the Hāna airport. The Project is located on Tax Map Key (TMKs) parcels (2) 1-3-004:011, :012, and :017 (*Figure 1-2*). These parcels are owned by the DHHL. The Project is bound by the Hāna highway to the east, a combination of State Lands managed by the DLNR and private landowners to the west and south, and private landowners to the north of the site. TMK parcel (2) 1-3-004:018 is located between the DHHL parcels, is owned by a private landowner, and has been included in the EA evaluation process as access between and through the parcels will require coordination with the existing adjacent landowner.

Currently there are two access points into the Project area. The first access point is along Olopawa Road, located in the northeast corner of the Project area. This road is currently utilized by private landowners and by DLNR staff for land management purposes. The second access point is located across the Hāna Highway from Hāna Highway & Elementary School. This access point is currently utilized by the Maui Board of Water Supply. Both of these access areas are 4x4 unimproved earthen roads.

Wākiu is a rural community with agriculture, residential areas, public facilities, and small businesses. The Project area is mauka of Hāna Highway and south of Honokalani Road.

Land uses adjacent to the project parcels include residential and agricultural areas immediately to the north, west, and east, along with State DLNR and lands leased to Māhealani Farms to the South, with the Hāna Forest Reserve located even further south of the parcels. The parcels are bordered by the Hāna Highway to the north and northeast. There are four separate existing parcels located within the existing DHHL parcels, one of which is privately owned former railway lands (TMK (2) 1-3004:018), another is an existing residential parcel that has an existing access agreement with DHHL (TMK (2) 1-3-004:013), and a set of two small parcels owned by the County Board of Water Supply (TMKs (1-3-004:027 and 028).

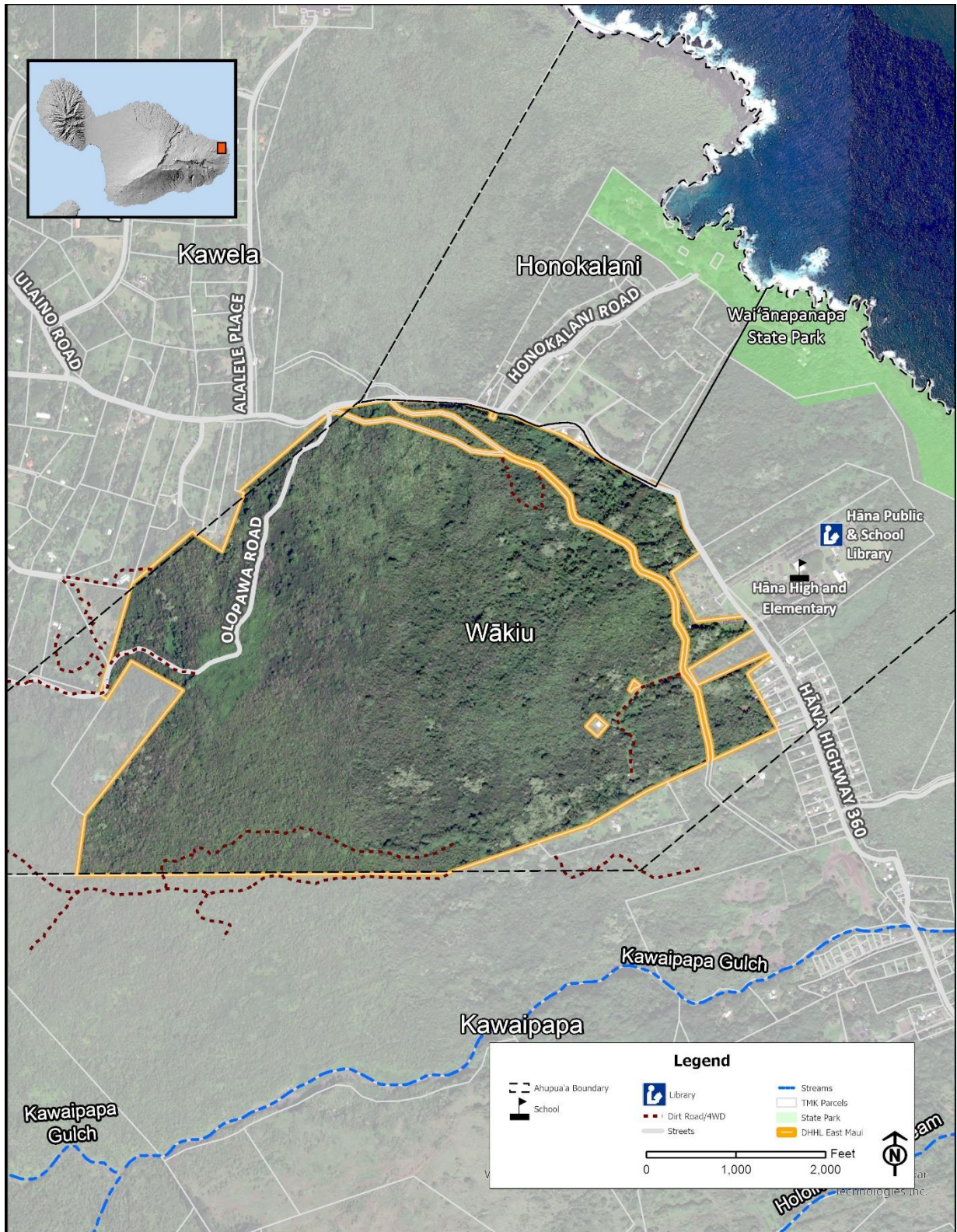


Figure 2-1

Project Location Map

2.2 Planning Efforts and the DHHL Planning Process

DHHL uses a 3-tiered Planning System for developing long-term strategies to determine responsible uses for its land.

2.2.1 DHHL General Plan

The DHHL General Plan (2022) serves as the foundational tier, setting forth the overarching vision, long-range objectives, and policies guiding the decision-making process within the HHC. It is a dynamic document intended for active consultation and reference by DHHL staff, Hawaiian Homes Commissioners, and beneficiaries across all planning tiers. This plan outlines a 20-year trajectory, emphasizing seven critical focus areas: Land Use and Water Resources, Infrastructure, Housing, Food Production, Healthy Communities, Natural and Cultural Resource Management, and Revenue Generation and Economic Development. By establishing a comprehensive land use framework, the General Plan also aims to enhance coherence among DHHL Island Plans by providing consistent land use designations, criteria, and dispositions applicable to all DHHL lands.

Utilization of DHHL lands can be separated into two main categories – homestead and non-homesteading uses. Homesteading uses are the primary means by which DHHL promotes the well-being and economic self-sufficiency of its beneficiaries. As a result, homesteading is the priority use for the Department. Homestead land use designations in the 2022 DHHL General Plan include Residential, Subsistence Agriculture, Supplemental Agriculture, Pastoral, and DHHL Kuleana. While the specific allowable uses for each land use designation are found in the 2022 DHHL General Plan Appendix A: Master Use Table, the setting, intent and purpose of these homestead land use designations are listed below.

Land Use Designation	Setting, Intent, and Purpose
Residential	Residential lot subdivisions built to County standards in areas close to existing infrastructure. Subdistricts may be established for multi-generational and single-family housing types.
Subsistence Agriculture	Small lot agriculture in areas close to existing infrastructure. Lifestyle areas intended to allow for home consumption of agricultural products.
Supplemental Agriculture	Large lot agriculture intended to provide opportunities for agricultural production for supplemental income and home use. Agricultural plan required.
Pastoral	Large lot agriculture specifically for pastoral uses. Ranch plan and fencing required.
DHHL Kuleana	Raw (without infrastructure) lots intended for “off-grid” subsistence lifestyles to allow for more choices as to how lessees wish to develop their lots. Must participate in maintenance of the right-of-way to the Kuleana Homestead tract.

(Source: DHHL General Plan, 2022)

Non-homesteading uses are applied to lands that are deemed unsuitable for homesteading, lands that are supportive to homestead communities, or where the Hawaiian Home Lands Trust can achieve greater benefit through revenue generation to fund projects or programs that benefit beneficiaries. Non-homestead land use designations include Stewardship, Conservation, Special District, Community Use, Community Agriculture, Renewable Energy, Commercial and Industrial (*Table 2.2*).

Table 2.2: DHHL General Plan Non-Homestead Land Use Designations

Land Use Designation	Setting, Intent, and Purpose
Stewardship	Land not currently used for homesteading. Allow uses that maintain or enhance the value and condition of the land to the benefit of beneficiaries and the Trust. May serve as an interim use until opportunities for higher and better uses become available.
Conservation	Environmentally sensitive areas. Lands with watersheds, endangered species, critical habitats, sensitive historic and cultural sites, other environmental factors. Very limited uses.
Special District	Areas requiring special attention because of unusual opportunities and/or constraints. <i>Subdistricts include: hazard areas, open spaces/greenways, cultural resources.</i>
Community Use	Common areas for community uses and public facilities. Includes space for parks and recreation, cultural activities, community based economic development, utilities, and other public facilities and amenities.
Community Agriculture	Common areas used for the cultivation of fruits, vegetables, plants, flowers, or herbs by multiple users. The land must be served by a water supply sufficient to support the cultivation practices used on the site.
Renewable Energy	Lands suitable for siting projects for the generation and transmission of renewable energy.
Commercial	Lands suitable for a concentration of commercial activities.
Industrial	Lands suitable for processing, construction, manufacturing, transportation, wholesale, warehousing, and other industrial activities.

(Source: DHHL General Plan, 2022)

2.2.2 DHHL Strategic Program Plans and Island Plans

At the second tier, there are Strategic Program Plans that are statewide in focus, covering specific topic areas such as the Native Hawaiian Housing Plan and a Native Hawaiian Development Program Plan. This second tier also includes the Department’s Island Plans that identify the Department’s Land Use Designations per island. These regional 20-year visioning documents designate areas for various types of homesteading, as well as conservation, special district, community use, and income generating areas. The DHHL Maui Island Plan (MIP), last updated and endorsed by the HHC in 2004, strategically allocated Land Use Designations for DHHL's land holdings on Hawai'i Island, with specific emphasis on priority homestead development areas.

Notably, the MIP earmarked the Wākiu area as priority tract. The MIP discussed that while all properties in East Maui provide the opportunity to develop “rural” type residential and subsistence agricultural homesteads, the Wākiu tract’s close proximity to Hāna town and its location off of the Hāna highway across from Hāna High School makes it the preferred location for a new homestead project in the region. The available land at Wākiu also offers the opportunity to create community, commercial, and industrial uses according to the MIP. The commercial/industrial use areas

Given the recent adoption of the 2022 General Plan, eventual updates to the MIP are warranted. Nevertheless, until such revisions occur, the MIP remains the primary guiding document for DHHL lands on Maui Island, shaping land use decisions and development trajectories in alignment with DHHL's overarching objectives. This is especially true for the areas of Maui that do not yet have a regional plan.

2.2.3 DHHL Regional Plans

Regional plans constitute the third tier of the Department’s planning framework, focusing on community and regional levels in areas where homestead communities already exist, and operationalizing goals, policies, and land use designations within specific geographic areas. These plans serve to foster community cohesion, build capacity, cultivate partnerships for development, and empower homestead lessees to take active roles in decision-making processes. By engaging beneficiaries and lessees as partners, regional plans facilitate collaborative problem-solving efforts, harnessing local knowledge and expertise.

Though there is no regional plan for the East Maui communities, including Wākiu, the approval of the Project could foster the opportunity to create a regional plan for the area in the future. This regional plan could assist in identifying and inventorying Wākiu’s needs, opportunities, concerns and issues impacting the community, and to identify potential projects to address these needs and resolve issues.

2.2.4 DHHL Master Plans

Master Plans are on the same tier as the Regional Plans and focus on specific projects and areas that are not yet developed. Master Plans are needed for any type of development plan on DHHL lands to define the uses of a given project. This helps guide the development process and brings DHHL one step closer to achieving its goal of awarding lands to native Hawaiian beneficiaries.

The DHHL Wākiu Master Plan was a collaborative effort between the Wākiu Homestead Beneficiaries and DHHL, facilitated by the design team as a whole. This effort took place over a period of 18 months, starting with the Honuiaiākea Process then transitioning through four beneficiary workshop sessions.

During these workshop sessions, the design team and DHHL worked with the beneficiaries to determine five goals and themes shared by the community as a whole. The shared goals and values that emerged from the workshop discussions that formed the key tenets that became the backbone of this plan to create a Healthy Kaiāulu included:

- 1. Provide for lineal descendants**
Those with pilina to the ‘āina should inhabit it. To be successful with this community, transparency is key.
- 2. Perpetuate cultural practices**
Area should remain a cultural kīpuka that maintains Hawaiian culture. Support partnerships, educational and training programs offered within the Hāna community to pass ‘ike down to the next generation.
- 3. Promote Connectivity**
Stronger services and technologies needed for communications, emergency services, disaster management, and business enterprise.
- 4. Restore the ‘Āina/Protect Natural Resources**
Restoring the land for subsistence farming purposes and natural resource protection.
- 5. Develop Agriculture**
Preserve, maintain, and provide opportunities for small-scale subsistence agriculture and self-sustainability.

The Honuiaiākea process and workshop sessions are described in further detail in the Master Plan Summary section 2.3.

The Master Plan seeks to support the overall mission of DHHL and address the needs of existing and future beneficiaries through the following criteria:

1. Meeting Homesteading Demand: The DHHL Wākiu Master Plan addresses the pressing need for housing among DHHL beneficiaries by providing up to 238 homestead lots. This will help to mitigate the housing shortage faced by Native Hawaiians in the County of Maui. It aligns with DHHL’s mission to provide affordable housing opportunities.

2. Preservation of Cultural Heritage: Through its emphasis on traditional Hawaiian practices and subsistence living, the Wākiu Master Plan contributes to the preservation and revitalization of Native Hawaiian culture that is unique to the lifestyle and character of Hāna. By integrating cultural elements into the development plan including agricultural practices such as kalo cultivation and environmental stewardship such as hala preservation and utilization, the Master Plan honors the ancestral connections to the land and promotes cultural sustainability.

3. Empowerment Through Land Stewardship: By awarding homestead lots to beneficiaries, the Master Plan empowers native Hawaiian beneficiaries with a sense of ownership and stewardship over their land. This not only strengthens community ties to Wākiu and Hāna, but also fosters self-sufficiency and pride in cultural heritage.

4. Environmental Conservation: The Master Plan prioritizes sustainable land use practices and environmental conservation, ensuring the protection of natural resources and ecosystems through Hala conservation areas and reinforcement of invasive species removal practices, as well as siting and locating program uses through evaluation of land uses most suitable for the natural topographic and existing environmental conditions of parcel areas. By minimizing ecological impact and promoting responsible stewardship of the land, the plan upholds DHHL’s commitment to environmental sustainability.

5. Community Economic Opportunities: Through initiatives such as the provision of community agriculture areas and economic development projects, the Master Plan creates opportunities for beneficiaries to proceed at the economic pace unique to each individual and family but that collectively help to achieve economic stability. By supporting entrepreneurship and job creation in areas of agricultural training that are unique to the care of the area’s resources, the plan contributes to the economic empowerment of this unique native Hawaiian community.

6. Community Engagement and Collaboration: Since its inception, this Master Plan encouraged active participation from DHHL beneficiaries and community members in the planning and decision-making processes. By fostering collaboration and inclusivity, the plan ensures that the needs and aspirations of the community are heard and integrated into the development framework.

7. Addressing Waiting List Challenges: With a growing waiting list for DHHL homesteads, the Master Plan plays a vital role in providing alternative homesteading opportunities for families in need. By expanding the inventory of available homestead lots, the plan helps alleviate the strain on other DHHL resources and offers hope to those awaiting future homesteading assistance.

8. Promoting Social Well-being: Through the creation of vibrant and sustainable communities, the Master Plan promotes social cohesion and well-being among DHHL beneficiaries. By providing access to affordable housing, cultural amenities, and recreational facilities, the plan enhances the quality of life for native Hawaiian families.

9. Respect for Traditional Practices: The Master Plan acknowledges and respects the traditional practices and customary rights of native Hawaiians to access and utilize ancestral lands. By incorporating traditional land management techniques and cultural protocols, the plan ensures that

development activities are conducted in a manner that honors and perpetuates Indigenous knowledge and values.

10. Long-term Legacy: By fostering intergenerational land tenure and passing down ancestral knowledge, the Master Plan contributes to the long-term sustainability and resilience of native Hawaiian communities. Through the establishment of thriving homesteads and sustainable land use practices, the plan leaves a lasting legacy for future generations of DHHL beneficiaries.

This EA addresses all of the above criteria Master Plan and must be approved by the HHC.

2.3 Summary of Wākiu Master Plan

The Wākiu Master Plan aims to create a cohesive land use plan that champions the vision and goals identified and agreed upon within the homestead community throughout the Honuaiākea sessions and continued DHHL/G70/Wākiu Master Plan workshop sessions that have taken place from February 2023 through April 2024, while also supporting the uses that were previously identified in the DHHL Maui Island Plan. These uses include homestead residential (with utilities), subsistence agriculture homesteading, kuleana homesteading, community use, commercial use and industrial use. The Project aims to support these uses while also safeguarding vital cultural and biological resources for cultural use and long-term management.

Many members of the Hāna community have lineal ties to the lands in Wākiu and the surrounding area dating back to the time of the ali'i (chiefs). These families have a deep understanding of what the 'āina can sustain and what the people of this community need. To help capture this information, master plan uses and configurations were collaboratively developed with DHHL beneficiaries from Hāna during several planning sessions facilitated by DHHL and its consultant team. Refinements were made at subsequent meetings between beneficiaries from Hāna, DHHL and the consultant (G70) as questions arose and discussions furthered the advancement of these concept plan alternatives based on density, adjacency, and community needs. These plans were also accompanied by associated kapu and kānāwai values and concepts that were previously discussed at the Honuaiākea sessions. The Wākiu community reviewed these plans with DHHL and consultants to determine areas for homesteading, community uses, agriculture, and areas that required preservation.

Several iterations of the conceptual plan were brought back to the Waiku community for the third and fourth meetings to decide on the proper use of the lands in Wākiu. The land use schemes considered site topography and drainage, accessibility, size of lots, proximity to water, proximity to natural and cultural resources, economic opportunities, community benefit, and beneficiary preferences (*Table 2.3*).

Table 2.3: Wākiu Master Planning Criteria	
CRITERIA	VALUE
Topography	Approximately 10% slopes, away from drainage ways and flood hazards
Proximity to Roadways	Located directly adjacent to existing Hāna Highway (HI-360).
Size	1-acre residential lots, 3-acre kuleana homestead lots, and up to 10-acre pastoral lots
Proximity to Water	Location in regards to existing water utility connections, distance mauka from the highway requiring additional pump power, and/or sufficient rainfall (128" annual average) for catchment
Proximity to Natural and Cultural Resources	Sited away from denser areas of intact native hala forest, and traditional, cultural sites and features
Beneficiary Preferences	Lot schemes, layouts, configurations, and land uses were all developed and co-created with the Wākiu beneficiaries, derived from the kapu and kānāwai developed during the Honuāiakea process from which all land activities and options were evaluated and measured. The DHHL Wākiu Master Plan is authored by and is owned by the beneficiaries themselves.

The Wākiu homestead beneficiaries emphasized the community goals of providing for lineal descendants, perpetuating cultural practices, promoting connectivity, restoring the ‘Āina/protecting natural resources, and developing agriculture in the community. The Master Plan reflects these values as the land uses emphasize self-reliance through community spaces and economic opportunities, a preservation and promotion of traditional cultural practices, protecting existing native plants such as native hala and kukui groves in addition to water conservation, and a large amount of subsistence agriculture, pastoral lots, and residential opportunities to provide land and resources for local families to secure safety and a sense of community for generations to come.

In summary, after the analysis conducted above, the approximately 656-acre DHHL parcel has been designated as follows: approximately 244 acres are designated under the DHHL land use system as Subsistence Agriculture, 180 acres for Residential, 42 acres for Kuleana Homestead (Pastoral), 53 acres as Community Use, three (3) acres for Commercial, six (6) acres for Industrial, 33 acres for solar-PV, 42 acres for Community Pastoral, and 138 acres as Conservation (*Figure 2.2*). The Master Plan includes DHHL Kuleana Homestead lots that will be awarded as Kuleana homestead leases, providing the opportunity for beneficiaries to settle on their lots in the shortest amount of time. Areas identified for DHHL Kuleana Homestead are intended for lifestyle purposes and for people who may want to supplement their food resources or incomes with agriculture as a secondary economic activity.

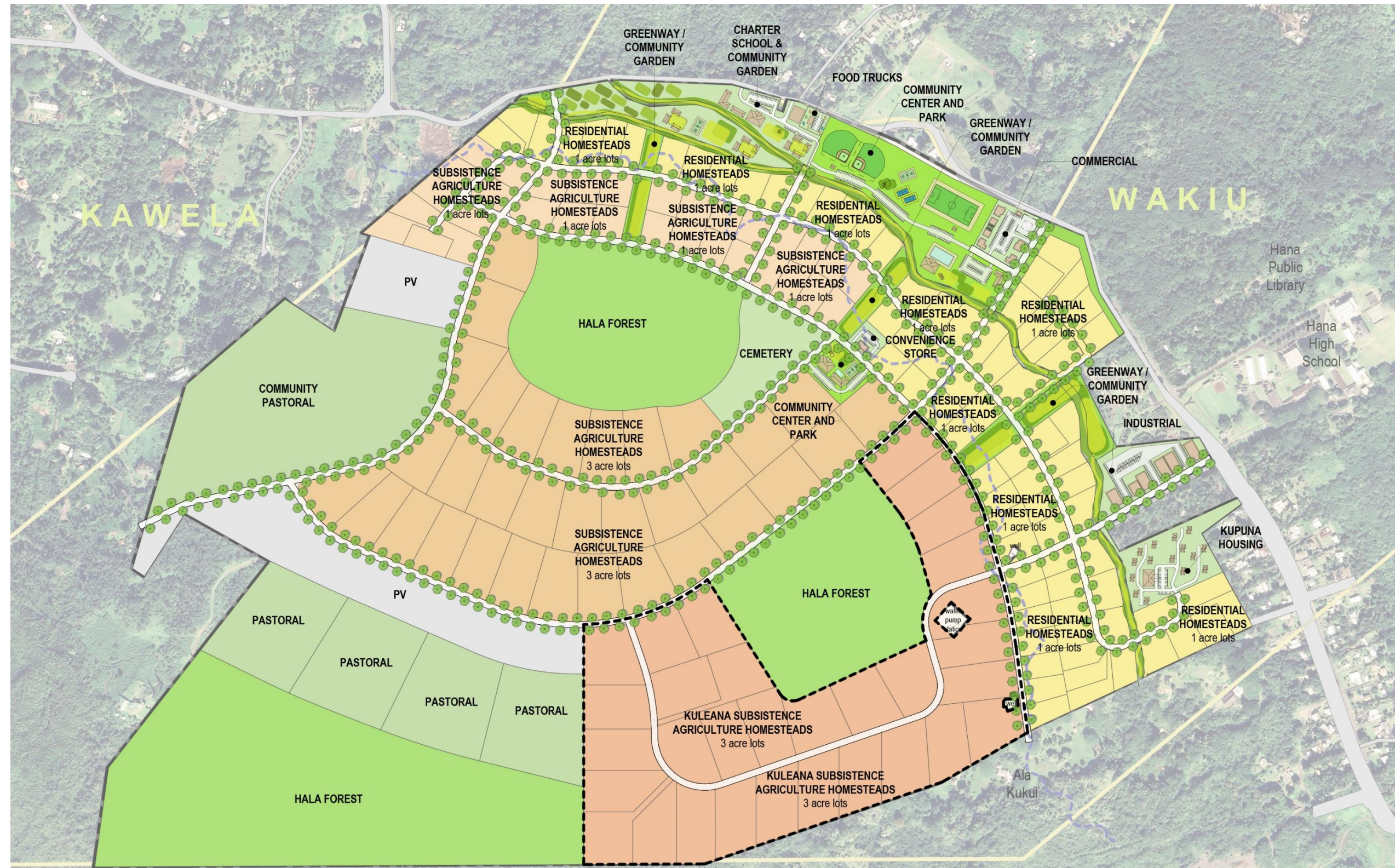


Figure 2-2

Illustrative Master Plan

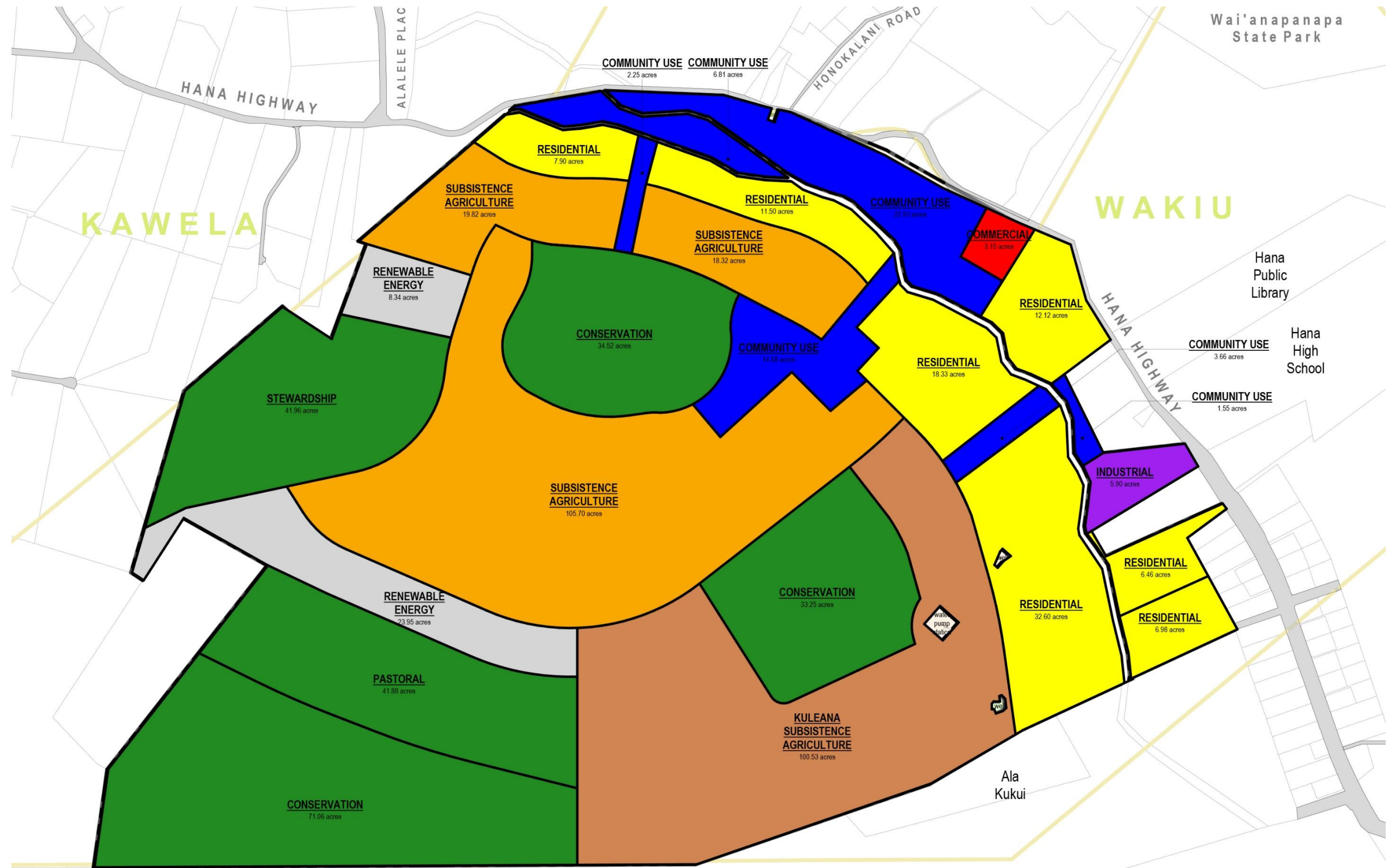


Figure 2-3

Master Plan Uses

Table 2.4: DHHL Wākiu Master Plan Land Use Summary

Land Use Designation	Acreage	Homestead Lots
Subsistence Agriculture	244	96 (31 Kuleana)
Residential	95	138
DHHL Kuleana Homestead (Pastoral)	42	4
Commercial	3	N/A
Industrial	6	N/A
Community Use	52	N/A
Solar - PV	33	N/A
Stewardship - Community Pastoral	42	N/A
Conservation	139	N/A
Total	656	238

2.3.1 Subsistence Agriculture

The Wākiu Homestead beneficiaries described and defined the identity of their community as resilient, independent, and self-reliant throughout their community outreach workshop sessions. A significant component of the history and identity of the Wākiu community is strongly rooted in their agricultural history as a part of traditional cultural practices including kalo farming and cultivation of traditional native plants. The Wākiu beneficiaries view subsistence agriculture as a key land use that ties back to their cultural traditions, as well as a practical land use that allows the community to be resilient and prepared to survive and thrive even though Hāna and East Maui are considered one of the most remote areas on Maui Island.

2.3.2 Residential

The Wākiu beneficiaries noted a strong preference for residential lots in all of the DHHL workshop sessions, as there are many in the community who prefer residential options for homesteaders within Wākiu to assist those who have been on the DHHL island waiting list for many years. The preferred Master Plan provides up to 138 lots within traditional DHHL Residential land uses, a key component of the plan to help further the beneficiary community’s goals of providing for lineal descendants for generations to come, allowing future keiki to have land and remain to continue on traditional cultural practices within Wākiu. Residential lots are all one acre in size and will be set up for beneficiaries as turnkey properties.

2.3.3 DHHL Kuleana Homestead Lot (Pastoral and Subsistence)

The Kuleana Homesteading program is an alternative development model (ADM) codified in the Hawai’i Administrative Rules (HAR) §10-3-30 in 1998. This ADM was developed to offer an alternative to the conventional homestead lease awarding process to accelerate the distribution of benefits to beneficiaries.

HAR §10-3-30 allows for the HHC to establish a homestead program for settlement on unimproved available Hawaiian Home Lands to be known as the Kuleana Homestead Program. A tract or tracts of unimproved “available lands” must be set aside for the purpose of the Kuleana homestead program and all lots awarded under this program shall be known as Kuleana Homestead Lots.

It is the responsibility of DHHL to provide a metes and bounds description of lots and an unpaved right-of-way to the awarded lots. A lessee of a Kuleana Homestead lot shall be subject to all applicable state codes, County ordinances, and departmental rules and policies governing land use, building, health, and safety unless and until the kuleana homestead association's building, health, and safety codes, permits and permitting process are approved by the HHC and become effective for that tract.

The lessee of a DHHL Kuleana Homestead lot must be an active member in the Kuleana Homestead Association, participating in community work days, and maintaining the shared right-of-way road access to their lots. The Kuleana Homestead Association of each individual awarded a lease may develop their own building and land use codes, permits, and permitting processes, with the assistance of a licensed architect, subject to HHC approval. The intent of the Kuleana Homestead lease is to provide a homestead alternative for beneficiaries who desire a more rugged, off-grid subsistence lifestyle, who build their own home, utilizing alternative technologies to secure potable water, electricity, and manage their waste. These homesteads offer affordable options for traditional lifestyles, facilitating subsistence activities such as small-scale agriculture, small-scale animal husbandry, or aquaculture.

Wākiu beneficiaries expressed interest in having a land use option that provided faster access to land parcels without extensive prequalification funding requirements, which the Kuleana Homestead lot designation provides. The nature of the large range of physical land characteristics on the DHHL parcel also allows more flexibility for parcels to be designated kuleana lots that have difficult development characteristics.

According to the DHHL General Plan Master Land Use Table, Subsistence Agriculture lots allow for the development of a residence while using their lot for small-scale agriculture, animal husbandry, or aquaculture for subsistence purposes or to supplement their income. Areas identified for Subsistence Agriculture are intended for lifestyle purposes and for people who may want to supplement their food resources or incomes with agriculture as a secondary economic activity. Subsistence agriculture lessees are not required to submit a farm plan and are not required to cultivate two-thirds of their homestead lot; however, these lots are typically 3 acres or less. Beneficiaries noted their preference for subsistence agriculture lots in order to have land options available to continue traditional kalo and farming practices in the Hāna region.

Larger lots located uphill in mauka areas of the Master Plan were designated as Pastoral (*Figure 2.4*). Pastoral Lots are intended for large lot agriculture specifically for pastoral uses which may include agricultural and ranching activities such as farming and cultivating kalo, as well as the harvesting and processing of crops and livestock. Lessees with lands designated for Pastoral uses are required to submit a ranch plan as well as a fencing plan to DHHL for approval.

2.3.4 Commercial

Approximately three (3) acres are allocated for commercial uses, mainly located near the highway, hosting retail, convenience, and food truck uses. The beneficiaries stated a preference to have retail and convenience available for both beneficiaries as well as for those visiting the Hāna area. These are projected to provide economic benefits and will be separated from the more private residential and agricultural lots mauka inland from the highway. The commercial development is estimated to include building pads and utilities connected off of the existing infrastructure under the Hāna Highway, ranging from brick and mortar commercial spaces to convenience stores and related parking areas.

2.3.5 Industrial

Approximately six (6) acres are allocated for industrial uses, providing lifestyle needs in the form of mechanic shop equipment facilities for boating and machinery care and repair. Fishing and farm equipment are essential to the homestead's day to day operations, and the ability to repair and service the equipment for these uses on site further reinforces the homestead's vision for resilience and self-sufficiency.

2.3.6 Solar-PV

Approximately 32.3 acres of the Master Plan are designated for a photovoltaic solar energy system. A system of this size could potentially generate an output in the range of two to three megawatts (MW). Throughout the beneficiary workshop sessions, the remoteness of Wākiu was noted and the participants were very cognizant of the need to be self-reliant and sustainable in terms of power to prepare for the possibility of power outages from storms and weather conditions. The cost of power was also a concern, as the utilization of lands less suitable for residential and agriculture use were determined to be usable for power generation that could provide a reduction in cost for homesteaders' electrical needs for community uses and other essential facilities needs.

2.3.7 Community Use

Approximately 52 acres are allocated for Community Use, providing common areas such as parks and open space that also include pavilions and gathering areas for community activities and facilities. The General Plan goals and policies encourage and support self-governance by homestead associations. Lands designated for Community Use serve the beneficiary community directly through local and regional Hawaiian Homestead Associations. According to the 2022 DHHL General Plan, allowable uses in Community Use areas include space for parks and recreation, cultural activities, community based economic development, utilities, and other public facilities and amenities.

The DHHL Wākiu Master Plan's community uses include an 'Ōlelo Hawai'i immersion charter school and a cemetery (integral to the community's goal of perpetuating cultural practices), food truck areas and a convenience store for supplies and supplemental income for the homestead, and common areas such as a community garden and greenways.

2.3.8 Community Agriculture

Approximately 42 acres are designated for Community Agriculture lands, allowing multiple beneficiaries to cultivate fruits, vegetables, plants, flowers, or herbs. According to the DHHL General Plan, these lands can be used for communal food production, processing, and harvesting, and must have access to a sufficient water supply. The DHHL General Plan Master Use Table allows for the proposed activities including kalo cultivation, community gardening, small-scale agriculture, aquaculture, and small-scale livestock production.

2.3.9 Conservation

Roughly 139 acres of existing hala forest primarily located further mauka of the highway are reserved for DHHL Conservation land, safeguarding sensitive environmental areas such as the area's traditional hala forests that have been threatened over time by invasive species. This designation also includes important historic and/or cultural sites, species habitats, and other ecologically significant features. This designation permits uses for cultural practices, traditional resource gathering, game management, aquaculture, watershed protection, native forest restoration and protection, and other natural resource management activities. The Homestead Association would be responsible for developing appropriate mitigation and conservation programs, including leasing out these programs

to qualified non-profit and community organizations. Initial plans for the identification, protection and preservation of historical, archaeological and biological resources are outlined in *Chapter 2.8*.

One of the goals of the 2022 DHHL General Plan is to responsibly steward and manage Hawaiian home lands not planned for development in a manner that is culturally grounded, environmentally sound, and maintains opportunities for future uses. This includes implementing water planning and management strategies that meet current needs and protect water resources for the future. Metrics towards obtaining these goals can come from the total acreage designated as Conservation, as well as the number of development plans incorporating watershed protection, water conservation and recharge. Water resource management strategies should account for climate change.

Another goal from the DHHL General Plan is to be responsible, long-term stewards of the Trust's lands and the natural, historic and community resources located on these lands. The number of cultural sites and historic structures and features identified and protected, and inventories completed of archaeological, historic and cultural resources are valuable metrics in obtaining these goals.

2.3.10 Roads and Access

Access to the DHHL Wākiu Master Plan lands is currently located off of the Hāna Highway. The Wākiu Master Plan proposes three main access points off the Hāna Highway in addition to a network of internal circulation options to provide access from more private mauka residential and agriculture land use areas to designated community uses located along the highway. These internal circulation roads are anticipated to be designed to County of Maui code standards to allow potential dedication to the County in the future. See *Chapter 3.10 Roadways, Access, and Traffic Conditions* for additional emergency route information.

2.4 Plan for Protection of Historical, Archaeological and Biological Sites

2.4.1 Historical and Archeological Sites

Cultural resources serve as a binding agent for the community and ultimately perpetuate its “Hawaiian-ness.” History and culture provide a sense of identity, wholeness and significance to one’s life. For these reasons, cultural resource management is critical to the Department’s mission of rehabilitating native Hawaiians. As native Hawaiians living on the land, it is the right and responsibility of the DHHL Wākiu Master Plan residents to make decisions and implement actions relating to the management of cultural resources in the area. The individual homesteader has a role in the Identification and Documentation of historic sites; the individual homesteader and the Wākiu CDC would be responsible for Preservation and Utilization. Additional identification of archaeological sites can be found in *Chapter 3.6 Archaeological and Historical Resources*.

2.4.2 2023 Honuuiākea Framework

Members of the Edith Kanaka’ole Foundation (EKF) facilitated a Honuuiākea session (*Appendix D*) during the weekend of February 25-26, 2023, with a group of 19 kama’āina of Wākiu, which incorporated ancestral knowledge into the Wākiu master planning process. Honuuiākea is a community planning framework that uses ‘oli (chants), mele (songs), and ka’ao (stories/fables) interpreted through the eyes and experiences of community members and those who practice in those areas to understand the important resources that are crucial for ecosystem stability and community survival (kapu), and the actions needed to maintain those resources (kānāwai). The formulation of the kapu and kānāwai for community resource management at Wākiu is discussed below.

There are three parts to the Honuiaiākea Process:

1. **Pre-session.** The Pre-session portion of the Honuiaiākea session involved determining the general topic (in this case Wākiu), gathering relevant source material (two mele: Huluhia ke au ka papahonua o ka moku and Mele no Kapo, and a portion of the ka'ao of Puhi o Laumeki), and convening the group (those who have knowledge of Wākiu or the practices mentioned in the mele and ka'ao).
2. **Session.** The Session was held on February 25-26, 2023. Roughly 19 participants were selected by the DHHL's community partners, Wākiu Community Development Corporation, and represented a range of interests and experience from a cultural perspective, and participants included recognized kumu, loea, cultural practitioners, and kūpuna. Participants met in-person with the Edith Kanaka'ole Foundation who facilitated the analysis of the ka'ao and mele. DHHL and G70 attended as observers of process.
3. **Formulation of kapu and kānāwai.** Kapu and kānāwai were created using the notes and synthesis from each mele and ka'ao analyzed by the group to pinpoint what resources that were and are crucial for the overall ecosystem health, and each and every kapu and kānāwai element was decided upon and confirmed by the participants.

The process yielded four **kapu**, each with several associated **kānāwai**:

1. **Kapu for waterways and continuous water flow: Kapu Kawahikaua-Kawaipapa** The sacred resources include: Constant uninterrupted flow of natural waterways, continuous flow of water from the po'o wai (head waters; water sources) to the muliwai (where the water meets the ocean) or from the pahu a Kanaloa (aquifer to the punawai (springs) in Hāna is held sacred and will be preserved.
 - a. **Kānāwai:** Keiki 'ehu a Kanaloa (Insists upon knowledge of the origin of waterways, the exit, and the path in between. Ensure that development does not interrupt waterflow and is a focus point when water issues such as waterways and water diversion become prevalent.)
 - i. Development does not interrupt the waterflow.
 - ii. How to deal with wastewater. Infrastructure. Where is the wastewater going.
 - b. **Kānāwai:** Ka'ele ke 'eke o Hina (Ensure that water sources are abundant with food and needed nutrients for land and kanaka.)
 - i. Passing down the knowledge of the habitats of the fish and limu to the next generation through place based experiences and mele such as 'Oli helu- counting the names of the waterways in mele.
 - c. **Kānāwai:** Pua'a hiwa a Kāne (the preservation of the natural water cycle of Hana. Managing activities happening mauka will affect the community makai. Prevention of contamination, deforestation, and water draining invasive species are first priority issues that must be addressed. Kanu or replanting, ceremony to restore the natural water cycles are elevating activities that lend to accountability towards this Kānāwai.)
 - i. Understanding actions mauka of the ahupua'a will affect those who live makai of the community.
 - ii. Prevent contamination, deforestation, invasive species as a first priority.

2. **Kapu for Earth Based Objects: Pōhaku Kū** affirms the sacred identity of the pōhaku, or the earth based objects including but not limited to pu'u (hills), pōhaku (stones), heiau, and cliff sides. The acknowledgement of what "pōhaku" needs to be preserved should be refer to the practical and also sacred function of the pōhaku in question.
 - a. **Kānāwai:** Leho
 - i. Prohibiting the tampering of pōhaku based natural phenomenon or manmade ancestral structures
 - b. **Kānāwai:** kuhikuhi
 - i. The importance of framework of education and information on pōhaku based phenomenon in Hāna.
3. **Kapu for Young Aku: Hina i'a e ke Kīna'u.** The sacredness of natural cycles, cyclical, lunar, and seasonal changes for the fish school of the young aku. Planning should not hinder seasonal phenomenon, but rather enhance delivery of seasonal change.
 - a. **Kānāwai:** Kulia
 - i. Establishing balance between natural growth, ecosystems, and man-advanced development
4. **Kapu for Generational Knowledge: Hoakalei – lei of reflections or shadows.** This kapu holds genealogy and the passing down of knowledge as sacred. This passing of knowledge should not be hindered, and should be encouraged.
 - a. **Kānāwai:** Kahalaowaka, Kahalaoweke
 - i. Affirming the framework of family practice and knowledge perpetuation and succession.
 - b. **Kānāwai:** Hale Ko'a.
 - i. Creation of physical space to provide for this kapu through gathering community and family in a central hale or kauhale.

Early understanding of the ancestral knowledge as instructed through early mele (songs), and ka'ao (stories/fables) of the area were incorporated into the DHHL Wākiu Master Plan community development planning process. The kānāwai from the above kapu have been incorporated into all parts of the EA plans as a part of the beneficiary developed master plan charrette process.

2.5 Settlement Timeframe

Beneficiaries were consulted during the development of the Master Plan in October 2023 through April 2024, and an informational presentation was given to the HHC in July 2024. The Master Plan is being evaluated under the state environmental review process promulgated under HRS §343 Environmental Assessments (EA). The Draft Environmental Assessment will be presented to HHC in January 2025 and to beneficiaries during the 30-day public comment period. The Master Plan and EA will need to be approved by HHC before lots are offered, and is expected to occur in March 2025, with Final EA publication occurring in April 2025.

Project Phasing

The project's phasing plan was determined based upon beneficiary preferences expressed to the project team throughout the multiple charrette work sessions held as a part of the beneficiary consultation process. The phasing plan (*Figure 2-4*) prioritizes awarding lands to beneficiaries who wish to access lots as quickly as possible, including kuleana lots, subsistence agriculture lots, as well as traditional DHHL residential lots, while also balancing development costs and available water capacity and resources. See *Table 2-5* for additional description on project phasing. Phasing timeframes are contingent upon timely budget requests and timely budget appropriation/allocation by the Legislature.

DHHL will be responsible for the survey and staking of each lot to determine the metes and bounds descriptions of each Kuleana Homestead lot for lease boundary definition and will be responsible to prepare and provide unpaved right-of-way access to the awarded lots. Although unpaved, these minimal roads should be hard-packed to ensure reliable access by homesteaders and possibly for emergency vehicles including fire, ambulance, and police services, depending on each agency's current ability to service the area. DHHL may plan for the design and installation of other improvements that improve access or provide other infrastructure. After the completion of the FEA, future design and construction phases will begin, dependent upon sufficient funding being allocated to DHHL for design and construction work.

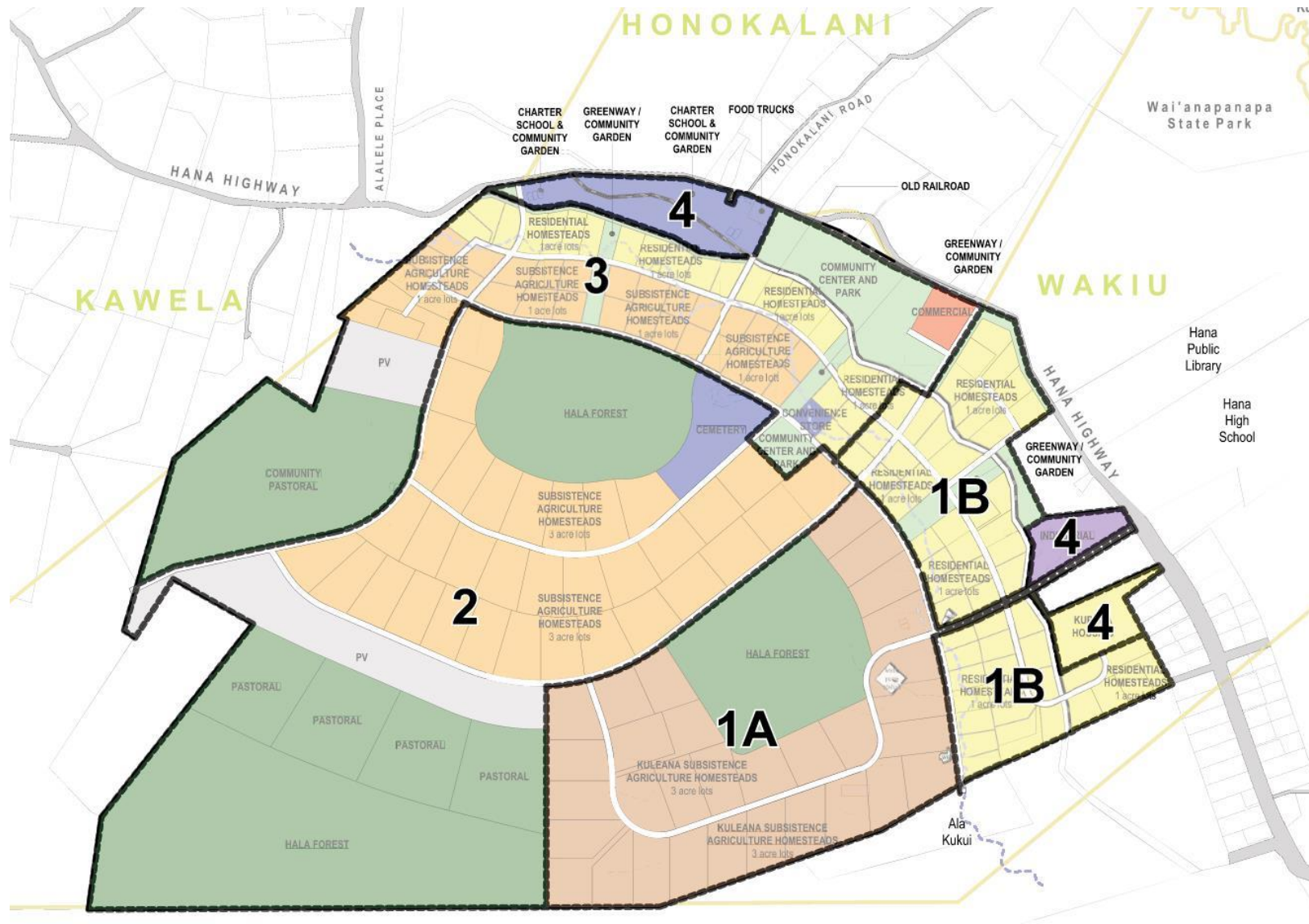


Figure 2-4

Phasing Plan

Table 2.5: Project Phasing			
	Land Uses	Acres	Lots
Phase 1A	Hala Forest	32.6	-
	Kuleana Subsistence Agriculture - 3 Acre	94.37	31
Subtotal		126.97	31
Phase 1B	Greenway / Community Garden	6.41	-
	Residential 1 Acre	55.88	56
Subtotal		62.29	56
Phase 2	Hala Forest	104.66	-
	Pastoral	41.88	4
	Photovoltaic	22.28	-
	Subsistence Agriculture - 3 Acre	99.18	33
	Cemetery	7.74	-
Subtotal		275.74	37
Phase 3	Commercial	2.78	-
	Community Center and Park	18.29	-
	Community Pastoral	40.59	-
	Convenience Store	0.9	-
	Greenway / Community Garden	4.89	-
	Subsistence Agriculture - 1 Acre	33.36	32
	Photovoltaic	8.15	-
	Residential - 1 Acre	22.02	22
Subtotal		130.98	54
Phase 4	Charter School and Community Garden	12.56	-
	Food Trucks	0.56	-
	Greenway / Community Garden	0.32	-
	Industrial	4.98	-
	Kūpuna Housing	6.44	60
Subtotal		24.86	60

2.6 Required Permits and Approvals

The Federal, State and County permits and approvals that will likely be required for the Project are listed below in *Table 2.6*.

Table 2.6: List of Anticipated Government Permits and Approvals	
Permit or Approval	Approving Agency
HRS Chapter 343, Environmental Assessment	State, DHHL, HHC
Approval of Master Plan and Land Use Designation Amendment	DHHL HHC
Administrative Rule Amendment for Beneficiary Preference	Governor of Hawai‘i, DHHL HHC
HRS Chapter 6E Compliance	State, DLNR, State Historic Preservation Division
HAR Chapter 11-55, National Pollutant Discharge Elimination System Permits	State, Department of Health (DOH), Clean Water Branch
Construction Plan Review	State, DOH, Disability and Communication Access Board
Permit to Excavate Public Right-of-Way	State, Department of Transportation
Building Permits for Building, Electrical, Plumbing, Sidewalk/Driveway, and Demolition Work	Formal/informal agreements with the County of Maui for design standards for public infrastructure, HHC for kuleana lands if the community develops its own permits, rules, and permit process.
Grubbing, Excavation, Grading, and Stockpiling	Formal/informal agreements with the County of Maui for design standards for public infrastructure, or the HHC for kuleana lands (if the community develops its own permits, rules, and permit process.)

Chapter 3

**Existing Conditions,
Potential Impacts
and Mitigation Measures**



Chapter 3

Existing Conditions, Potential Impacts and Mitigation Measures

This chapter describes the existing environmental setting and conditions, evaluates the potential impacts of the Proposed Action, and proposes mitigation measures to diminish and/or resolve potential impacts.

3.1 Geology, Topography, Soils, and Agricultural Productivity

3.1.1 Geology and Topography

Existing Conditions

Wākiu is located on the windward slope of Haleakalā on the eastern side of Maui, where the terrain gradually rises toward the volcano's summit. Maui itself was formed by the merging of two volcanoes: the East Maui volcano, known as Haleakalā, and the West Maui volcano, Maui Komohana, creating the second-largest island in the Hawaiian chain.

Wākiu's elevation varies from 160 feet at its northeastern corner to 960 feet in the southwest, with a rough and steep topography, particularly at higher elevations. Some areas feature slopes with grades between 20-25%, while the makai portion near Hāna Highway has gentler slopes of five to ten percent. A water well and pump are located on the Project Site. No natural drainage ways, wells, or other constructed facilities are *on the* Project Site. (MIP, 2004).

Potential Impacts and Mitigation Measures

Earthwork such as excavation and grading will be required to accommodate construction of the Project. In the final stage of construction, the Site will be stabilized with pavement, gravel, or vegetative ground cover. Excavation, clearing and grading, and stockpiling permits will be obtained from the County, as necessary.

With the implementation of the proposed mitigation measures, the Project is not anticipated to significantly adversely impact topography. While the proposed improvements involve the alteration of topographic conditions, they will not adversely impact drainage patterns. The Project will not involve the excavation and/or disturbance of hazardous contaminants that compromise public health and safety. No additional mitigation is recommended.

3.1.2 Soils and Agricultural Productivity

Existing Conditions

According to the United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS), the Site consists of 3 different soil types: Hāna very stony silty clay loam (HKLD), Hāna silty clay loam (HKNC), and Mālama extremely stony highly decomposed plant material (MYD). Permeability for each of these soil types is moderately rapid. However, the Mālama soil series permeability is slow in the underlying bedrock. These soils are formed from materials over 'a'a lava (USDA-NRCS, 2019). See *Figure 3-1, Soil Characteristics*.

The Project area is located within the "Agricultural" SLU District, the "Agriculture" County Zoning District, and is in the "Agriculture" District per the *West Maui Community Plan (2022)*. The Project area does appear in the County's *Maui Island Plan*; however, no land use designation is provided for the area. Instead, small town and rural designations are given to areas surrounding the Project area See *Figure 1-3, State Land Use District, Figure 1-4, County Zoning, and Figure 1-5, West Maui Community Plan* for more information.

The landscape of Wākiu historically contained rich soils. However, with large areas covered by lava and no continuously flowing streams, the area lacked the abundance of water found in other areas, such as Ke'anae-Wailuanui. Traditionally, Native Hawaiians settled the lands below the Wākiu Project area in Honokalani, where they planted and cultivated dry land kalo (taro). Kalo was also cultivated in a small valley in the forest below Olopawa peak during the dry season.

In 1977, the Hawai'i Department of Agriculture (HDOA) established a classification system known as Agricultural Lands of Importance to the State of Hawai'i (ALISH) to identify critical agricultural lands. The system categorizes land types based primarily on soil classification into Prime, Unique, and Other Important. Any land not categorized falls under "Unclassified."

The Site includes a small portion along its eastern (mauka) boundary designated as "Other Important" agricultural land. Although these "Other Important" lands may be less productive or have specific limitations compared to Prime or Unique lands, they remain valuable for agricultural use. They can still contribute significantly to Hawai'i's food security and economy. For further detail, refer to *Figure 3-2, Agricultural Lands of Importance to the State of Hawai'i (ALISH)*.

During the 1960s and 1970s, the University of Hawai'i's Land Study Bureau (LSB) conducted an inventory and evaluation of the state's land, assigning productivity ratings based on soil properties such as texture, structure, depth, drainage, parent material, stoniness, topography, climate, and rainfall. The LSB developed five soil classes: A, B, C, D, and E, with Class A representing the most productive soils and Class E the least productive. Across Hawai'i, there are approximately 447,250 acres of LSB Class A to C lands. Permissible land uses for these classifications are specified in HRS 205-4.5.

A smaller portion of the Site near Hāna Highway, including part of the proposed community park and residential and subsistence agriculture areas, is rated LSB Class D. This land faces challenges due to poor soil and environmental conditions but can still support farming and recreational use. Refer to *Figure 3-3 for the Land Study Bureau Classifications for the Project Site*.

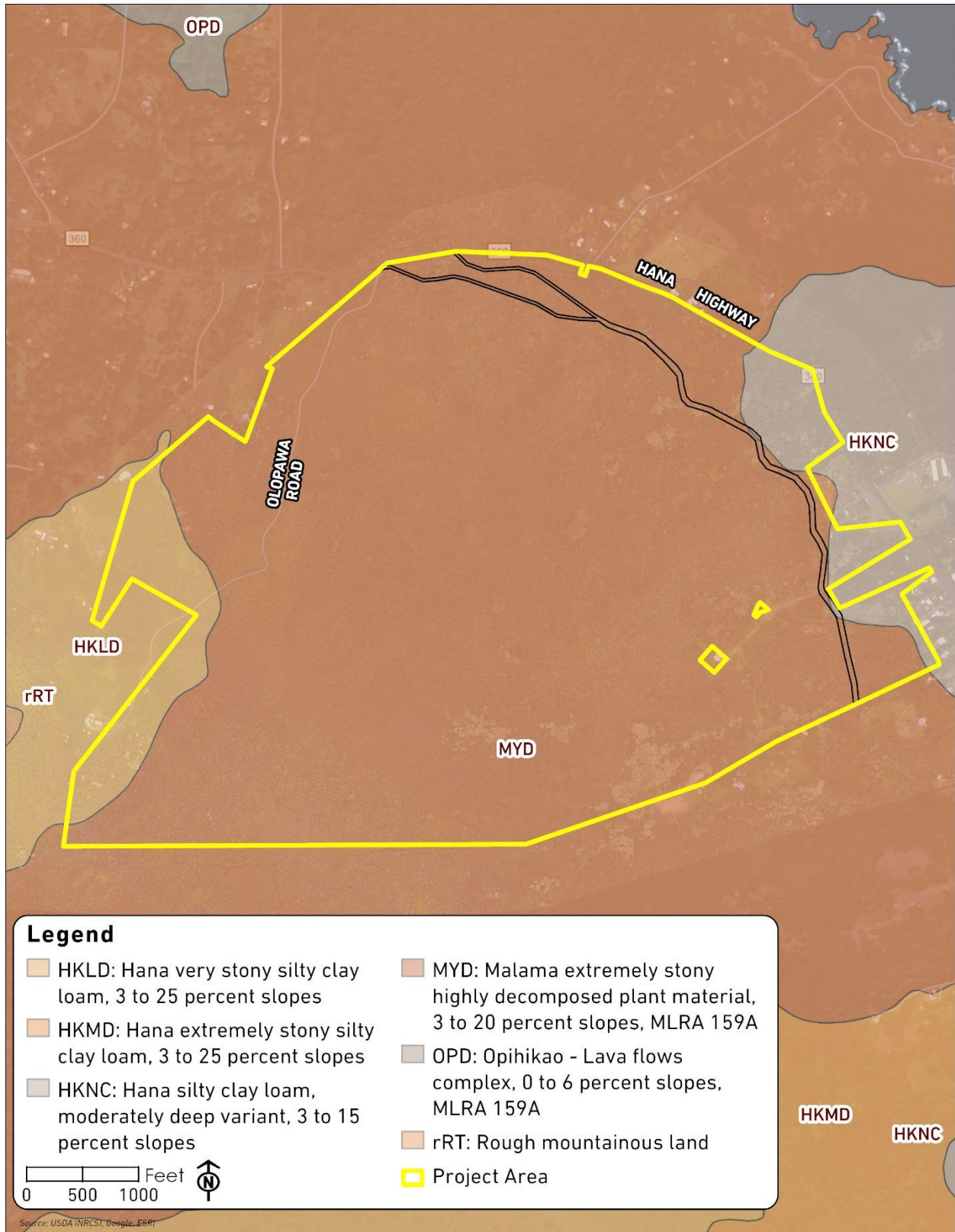


Figure 3-1

Soil Characteristics

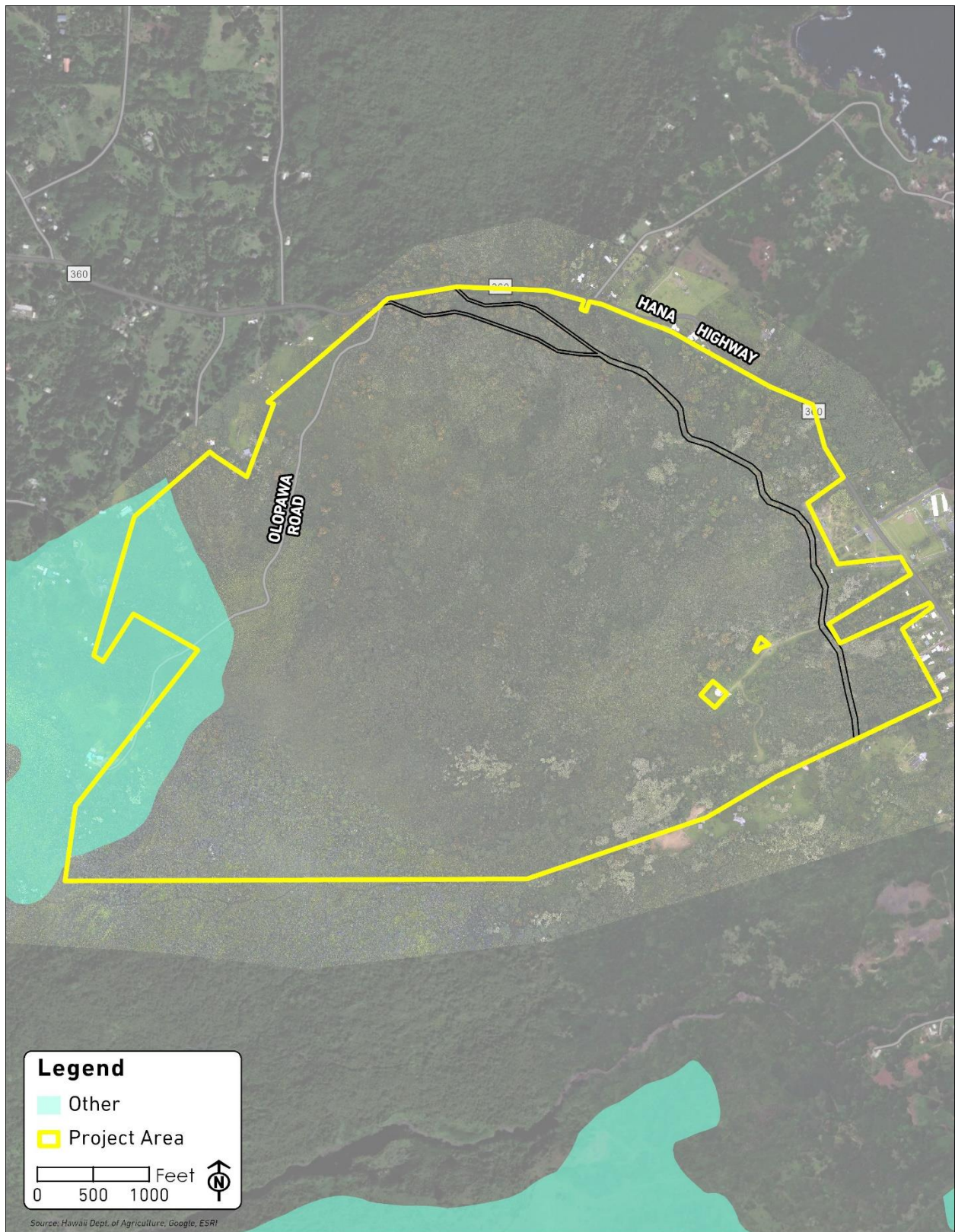


Figure 3-2

Agricultural Lands of Importance to the State of Hawai'i (ALISH)

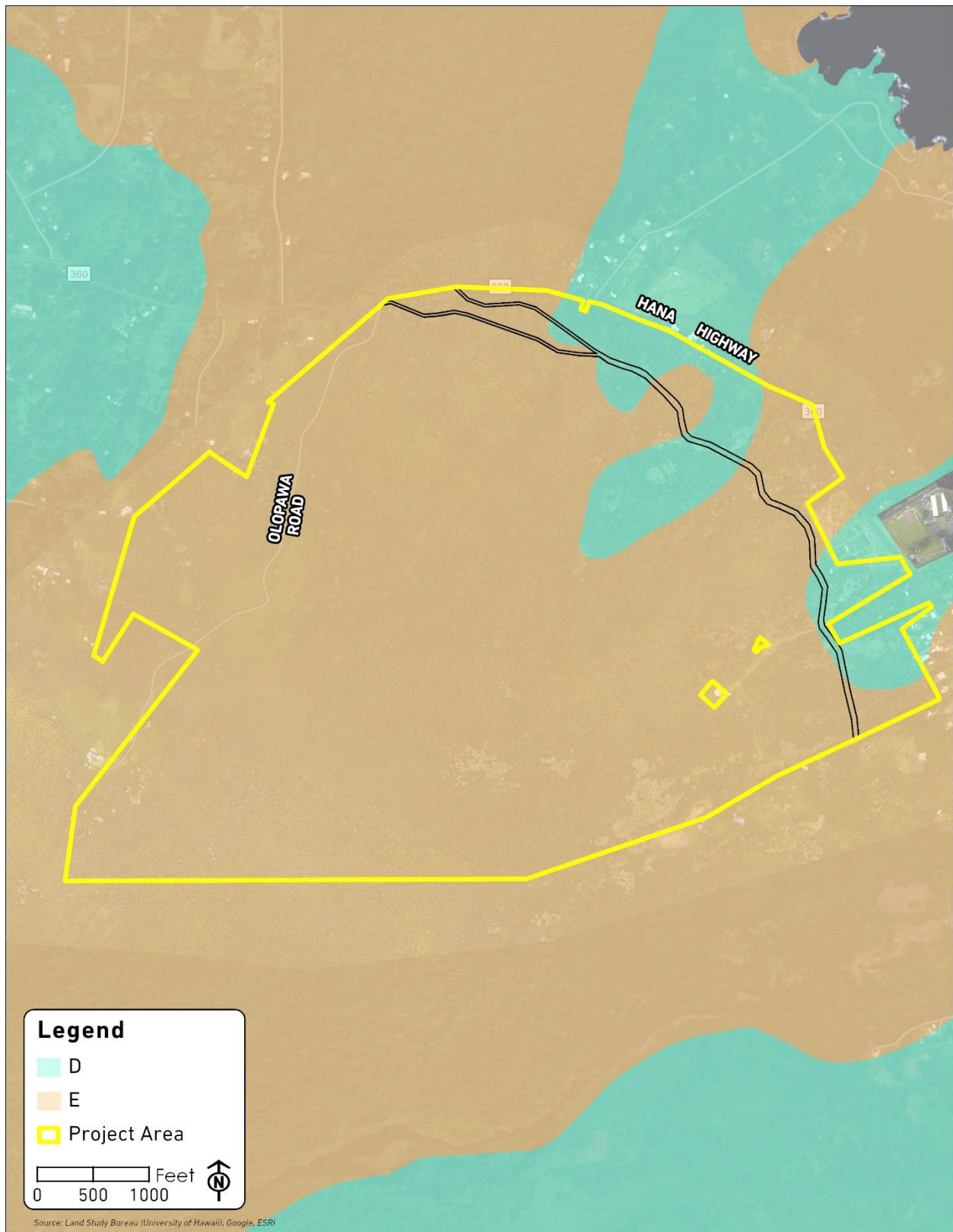


Figure 3-3

Land Study Bureau Soil Rating

Most of the Site is classified as LSB Class E, indicating land unsuitable for agriculture due to rocky terrain, salinity, environmental hazards, or limited water. While this may be typically true, traditional and modern Hawaiian farmers demonstrate exceptional skill in cultivating crops in dry and rocky areas, utilizing innovative techniques to maximize yields in challenging environments. Stone terraces are still built to create level planting surfaces, which help prevent soil erosion and retain moisture. Farmers also enrich the soil with organic matter, such as compost or fish scraps, to improve fertility and water retention. Drought-tolerant and hardy varieties of kalo and other crops are carefully selected to thrive in harsh conditions, and intercropping—planting multiple crops together—is still practiced, reducing the risk of crop failure.

In addition to farming, Class E lands can be used for conservation, recreation, or non-agricultural purposes, such as commercial or community uses.

The Important Agricultural Lands (IAL) designation, administered by the State Land Use Commission (LUC), identifies high-quality farmlands within the State Land Use Agricultural District for long-term agricultural use. Act 233 (SLH 2008) initiated the process to identify, map, and designate IAL across Hawai'i, with counties working alongside the USDA, NRCS, HDOA, State DBEDT, Office of Planning, agricultural groups, landowners, and the public. As of September 4, 2020, 136,489 acres in Hawai'i, including 27,102 on Maui (east of the site), are designated as IAL, primarily for sugarcane (HDOA, 2022). The Property is not designated as IAL.

Potential Impacts and Mitigation Measures

During construction, clearing and grubbing activities will temporarily disturb and expose soil. To minimize erosion, the Contractor will comply with applicable Federal, State, and County regulations for erosion control and will implement Best Management Practices (BMPs), which may include the following:

- Retaining existing ground cover as long as possible;
- Minimizing disturbed areas to reduce the fugitive dust;
- Stabilizing exposed soils as soon as practicable;
- Watering graded areas when ground cover is removed and when construction activity for each day has ceased;
- Installing silt and dust fences and filter socks around active work areas and inlet protection devices near drainage outlets; and
- Vehicular traffic routes will be centralized, and dust-generating equipment will be positioned in low-impact areas to minimize disruption and environmental effects.

An application for a National Pollutant Discharge Elimination System (NPDES) permit will be submitted to the State DOH for review and approval before the start of construction. A grading permit will also be applied for from the County. The underlying soils do not pose limitations concerning the Projects constructability. The Project is not anticipated to have an adverse effect on soils.

The Project will introduce a mix of land uses, including one-acre residential lots (89.43 acres), subsistence agricultural lots (143.84 acres), kūleana subsistence agriculture lots (138.67 acres), pastoral lots (41.88 acres), and kūpuna housing (6.46 acres). It aims to promote both residential living and agricultural sustainability while respecting the natural surroundings of Hāna. In addition to homestead areas, the project will feature non-homestead zones for industrial activities (5.9 acres),

renewable energy generation (32.29 acres for solar), and community spaces (51.78). A significant portion—138.83 acres—will be preserved to safeguard hala groves, vital to the cultural and environmental heritage of the area.

Soil and topographical changes are expected due to the necessary grading and infrastructure development for the residential and agricultural areas, which may alter natural water flow and soil conditions. However, the emphasis on agricultural lots and conservation areas is intended to lessen these impacts, although changes near Hāna Highway and the pastoral lands will still reshape the landscape.

The site, though previously designated for agriculture, has not been cultivated for some time. In response to a 2020 survey showing that 52% of Maui DHHL beneficiaries preferred residential lots, the project will prioritize housing along with additional facilities, including a rural commercial zone, charter school, and greenways for community use. The land is currently vacant aside from a water tank and pump, and it is bordered by Estrella’s farm, Hāna High and Elementary School, and House of Hope church, with the surrounding area characterized by rural land and occasional residences. This project will introduce new resources to the Hāna community, and DHHL’s broader Agriculture Program Plan will guide future agricultural land use across the state.

3.2 Climate, Climate Change, and Sea Level Rise

Existing Conditions

Climate

The National Weather Service (NWS) defines climate as the expected patterns of atmospheric, oceanic, and land conditions, including variables like temperature, wind speed, and direction. In Wākiu and the greater Hāna region, the climate reflects Hawaii’s typical mild temperatures, moderate humidity, and steady northeasterly trade winds.

Hāna’s daily temperatures generally range from the mid-70s to low 80s Fahrenheit (mid-20s to high 20s Celsius), with cooler nights dipping into the 60s (mid-teens Celsius). Wākiu shares this warm climate, along with Hāna’s notable rainfall, receiving over 100 inches (2500 mm) annually. This rainfall sustains the lush vegetation and scenic landscapes for which the area is known. Humidity remains high year-round in Wākiu, moderated by the consistent trade winds that help regulate the tropical environment. See *Figure 3-4, Annual Rainfall*.

Climate Change and Sea Level Rise

The National Weather Service (NWS) defines climate change as any significant, long-term alteration in climate patterns, including changes in temperature, precipitation, or wind that last for decades or longer. Climate scientists estimate that if greenhouse gas (GHG) emissions continue to rise at current rates, global temperatures could increase by 3 to 7 °F (1.7 to 3.9 °C) by 2100. This warming also affects oceans, causing them to expand and contribute to sea level rise (SLR).

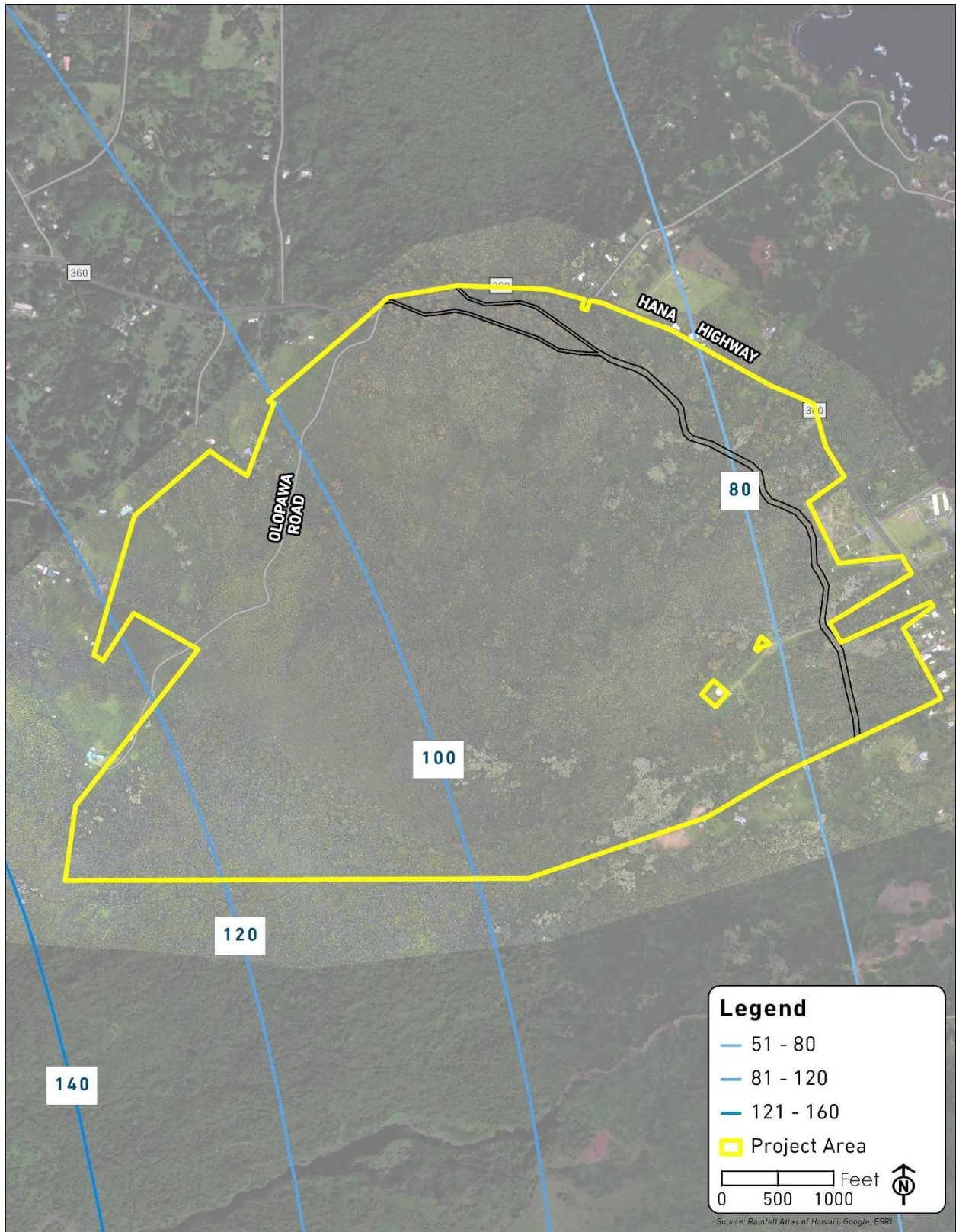


Figure 3-4

Annual Rainfall

The Federal Greenhouse Gas Reporting Program requires facilities emitting 25,000 metric tons or more of carbon dioxide equivalent (CO₂ EQ) annually to report their emissions. On Maui, this includes the Kahului and Ma'alaea Generating Stations, Hawaiian Commercial and Sugar Company, and the Central Maui Landfill Refuse & Recycling Center. Planning for climate change and SLR is complex due to numerous variables and uncertainties. To address this, the Maui County Council adopted Resolution No. 20-170 in December 2020, proposing amendments to the Countywide policy plan to integrate new goals and actions aimed at mitigating climate change and building resilience for the future.

In 2017, the Hawai'i Climate Change Mitigation and Adaptation Commission, the DLNR, and Tetra Tech, Inc. developed the *Hawai'i Sea Level Rise Vulnerability and Adaptation Report*. This report used the best available data to model future exposure to coastal hazards from sea level rise (SLR), including passive flooding, high wave flooding, and coastal erosion, combined to define the SLR exposure area (SLR-XA). The Hawai'i Sea Level Rise Viewer illustrates potential SLR exposure up to 3.2 feet by 2100, or as early as 2060. Importantly, the Project Site is outside of the SLR-XA and is not at risk of being impacted by 3.2 feet of SLR. The SLR-XA model is a planning tool with limitations, requiring site-specific verification, but it confirms that the Project Site lies well beyond areas directly impacted by SLR and chronic flooding indirectly due to SLR. See *Figure 3-5, Sea Level Rise Exposure Area*.

Potential Impacts and Mitigation Measures

Construction activities such as earthwork, grading, excavation, concrete work, stockpiling, and material transport will generate greenhouse gas (GHG) emissions due to vehicle and equipment exhaust. However, these impacts will be temporary and will cease once construction is complete.

The Project includes the development of various lot types: one-acre residential lots (88.5 acres), subsistence agricultural lots (143.8 acres), kūleana subsistence agriculture lots (100.5 acres), pastoral lots (41.9 acres), and a 30-unit kūpuna housing area (6.5 acres). Additionally, non-homestead zones are designated for industrial activities, renewable energy generation (32.3 acres for solar), and community spaces such as gardens, a school, and recreational centers. A significant portion of the land—138.8 acres—will be preserved to protect existing hala groves, promoting agricultural sustainability and respecting the natural surroundings of Hāna.

As the Project develops and becomes operational, GHG emissions will arise from stationary sources (e.g., energy use, water consumption, waste generation) and non-stationary sources (e.g., vehicle trips). However, residential energy use in Hāna tends to be lower than in urban areas because of smaller household sizes, fewer appliances, and greater use of natural ventilation. Given the energy-efficient lifestyle and the Project's design, it is not expected to reach the threshold of mandatory reporting under the Federal Greenhouse Gas Reporting Program (25,000 metric tons of CO₂ EQ).

The Project will adhere to DHHL's Ho'omalū Energy Policy, which encourages the design of energy-efficient homes using "Hawai'i BuiltGreen" and "ENERGY STAR" standards. Energy-efficient fixtures, appliances, and solar water heating systems will be incorporated, where feasible, to reduce GHG emissions. Additionally, native landscaping, farming of traditional food, and preservation of the established hala groves will help absorb local GHG emissions. The property is also well outside the 3.2-foot SLR-XA.

While GHG emissions are cumulative and indirect, the Project's proposed mitigation measures are expected to prevent substantial contributions to climate change. No further mitigation is recommended, as the improvements will not lead to a significant increase in GHG emissions compared to baseline conditions.

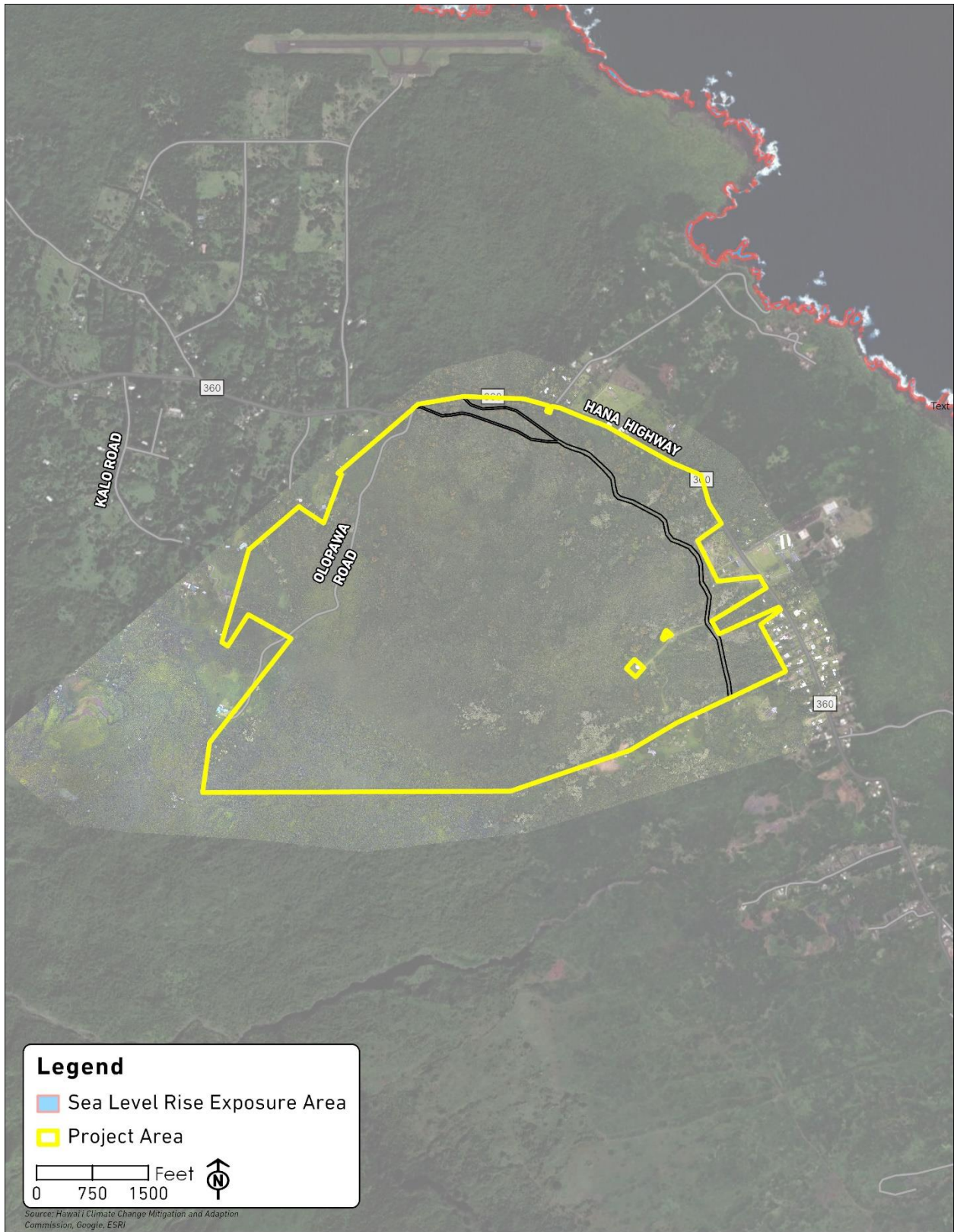


Figure 3-5

Sea Level Rise Exposure Area

3.3 Natural Hazards

3.3.1 Flooding

Existing Conditions

Flooding in Hawai'i typically results from stream overflow and surface runoff following heavy rains that fall on the steep slopes of mountain ranges. While floods are natural events, much of the resulting damage is due to development on flood-prone lands (Fletcher et al., 2002). Like much of Hāna, Wākiu's sloping terrain and high rainfall make it vulnerable to flash flooding. During storms or periods of intense rainfall, water rapidly flows down the hillsides, which can overwhelm streams and drainage systems, leading to flash flooding.

Although there are no streams running directly through the Project Site, Kawaipapa Stream branches mauka of the property, with its tributaries running on both the north and south sides (over adjacent properties). According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) No. 1500030660E (effective September 25, 2009), the Site is in Flood Zone X, an area classified as having minimal flood risk and outside the 0.2% annual chance (500-year) floodplain. Since the Site is not in a Special Flood Hazard Area, flood insurance is not mandatory.

Potential Impacts and Mitigation Measures

During construction, the Site will be at minimal risk from the threat of flooding. The Site is no more vulnerable to flood events than the surrounding area in Flood Zone X. In the event of a flood, construction activities will cease, equipment and materials will be secured, and Federal, State and County regulations will be adhered to, to ensure the safety of construction workers and community members on/near the Site.

The FEMA Flood Insurance Program does not have regulations for development within Flood Zone X. The residences will be designed to comply with MCC, Chapter 19.62, *Flood Hazard Areas*, as applicable. In the event of an emergency in Hāna there are no officially designated shelters. However, residents typically seek refuge at key local facilities. Hāna Health provides first aid and emergency care, while the Hāna Community Center often serves as a gathering point, offering shelter and supplies. During major disasters, temporary emergency shelters may be set up at various locations across the island, with information about these shelters and their availability provided through local news outlets and the Maui County Emergency Management Agency. If an evacuation is ordered, residents will be directed to follow clearly marked evacuation routes, which will be announced through local media. Police, fire, and ambulatory services are approximately one-mile southeast of the Project Site. *Refer to Sections 3.10.3 to 3.10.5 for more information about police, fire, and emergency services.*

The Project does not involve improvements that increase the risk of the public's safety during a flooding event. With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on the surrounding neighborhood during a flood event. No additional mitigation is recommended.

3.3.2 Hurricanes

Existing Conditions

Tropical cyclones (hurricanes, tropical storms, and tropical depressions) form in warm tropical waters and typically have sustained winds exceeding 73 miles per hour (mph). Hurricanes in Hawai'i typically occur during the summer to early winter months (June 1 to November 30). Hawai'i is impacted by hurricane near misses, which generate large wave swells and moderately high winds; however, hurricane strikes have been relatively rare (Fletcher, et al., 2002).

Hawai'i has been affected by *significant* hurricanes twice since 1982; hurricane 'Iwa was a category 1 hurricane (sustained winds of 74-95 mph), which passed over Kaua'i on November 23, 1982 and hurricane 'Iniki was a category 4 hurricane (sustained winds of 130-156 mph), which passed over Kaua'i on September 11, 1992. The most recent hurricane to threaten Hawai'i, Hurricane Dora in 2023, did not make direct landfall on Maui, but it still had significant effects on the island. The storm passed close enough to bring heavy rainfall, leading to flooding in certain areas, particularly in the mountainous regions. Strong winds caused damage to trees, power lines, and structures, while coastal erosion occurred due to the storm surge and high waves along Maui's shorelines. (NWS, 2023d).

The first recorded hurricane to make landfall anywhere on Maui was in 2018 when Hurricane Olivia hit northwest Maui as a tropical storm (NWS 2018). While it is rare for a hurricane to make direct landfall in Hawai'i, it is prudent to assume that future events will occur.

Potential Impacts and Mitigation Measures

During construction, the Site will be at minimal risk from the threat of hurricanes. The Site is no more vulnerable to hurricanes than any other community on the island of Maui. High winds associated with hurricanes can cause strong uplift forces on buildings, structures, construction materials and debris, which can attain high velocity and cause property damage and harm to life. Hurricanes can also result in heavy rains and flash floods, which can inundate structures.

The Central Pacific Hurricane Center (CPHC) issues tropical cyclone warnings, watches, and advisories for tropical cyclones. The CPHC is activated when a tropical cyclone moves into the Central Pacific from the Eastern Pacific or the West, or forms in the Central Pacific. During Central Pacific tropical cyclone events, bulletins are regularly scheduled every six hours (CPHC, nd). A "Hurricane Watch" is typically issued 48 hours in advance of a potential hurricane and a "Hurricane Warning" is typically issued when sustained winds of at least 74 mph are expected within 36 hours. Upon issuance of a "Hurricane Warning," construction activities will cease, construction workers will secure the Site, and evacuate the Site until the hurricane threat has passed. Upon issuance of a "Hurricane Watch," construction workers will secure the Site as follows if applicable:

- Remove or secure equipment, machinery, construction materials, and portable toilets;
- Clean up all construction debris;
- Stop scheduled deliveries of building materials;
- Remove job site signage; and
- Locate and turn off jobsite utilities, including electricity, water, and gas.

Although there are no officially designated shelters in Hāna, Maui, residents typically seek refuge at Hāna Health, located 1.2 miles from the Project Site or Hāna Community Center, 0.9 miles away (around a 4-minute drive). Police, Fire, and emergency ambulatory services are about one mile from the Site. In the event of major disasters, temporary emergency shelters are set up at various locations across the island, with updates provided by local news outlets and the Maui County Emergency Management Agency (MEMA). Should an evacuation be ordered, residents will be directed to follow clearly marked routes announced through local media. It is also recommended that residents purchase hurricane and flood insurance as needed and prepare emergency kits in case of a hurricane.

The Project does not involve improvements that increase the risk of the public's safety during a hurricane event. With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on the surrounding neighborhood during a hurricane event. No additional mitigation is recommended.

3.3.3 Seismic Activity

Existing Conditions

While thousands of earthquakes occur in Hawai'i annually, most are minor and go unnoticed by humans, detectable only by seismometers. However, some are powerful enough to be felt across multiple islands, and a few can cause significant damage statewide. Most earthquakes are concentrated on Hawai'i Island, particularly near the Kīlauea, Mauna Loa, and Lō'ihi volcanoes, with about 95% of seismic activity linked to volcanic or magma movement within Kīlauea or Mauna Loa. (Fletcher et al., 2002).

Seismic events on Maui and throughout the County are less frequent. Small earthquake swarms occasionally occur near Haleakalā volcano in eastern Maui, and notable fault lines in the region include the West Maui Fault, East Moloka'i Fault, and a fault system on Lāna'i. In 2006, Maui was impacted by two significant earthquakes: a 6.7-magnitude earthquake west of Kiholo Bay, followed by a 6.0-magnitude earthquake near Māhukona on Hawai'i Island. These events led to a declaration of disaster for Maui County, with damages estimated at \$28.1 million (County, 2020a). More recently, in 2018, a 6.9-magnitude earthquake off the coast of Hawai'i Island caused some damage to buildings and infrastructure in Hāna, Maui, though no serious injuries or fatalities were reported (USGS, 2018). While smaller earthquakes have occurred since then, the 2018 earthquake remains the most significant seismic event to impact Hāna in recent years.

The severity of earthquakes is classified by magnitude, which measures the energy released, and intensity, which gauges the severity of ground shaking. Seismic events are also characterized by peak ground acceleration (PGA), which is the maximum increase in ground velocity at a specific location during an earthquake. To ensure buildings are earthquake-resistant, they are assigned a Seismic Design Category (SDC), based on occupancy and the potential severity of earthquakes. These categories range from A, indicating a low probability of damaging effects, to E, near major active faults with intense shaking. Maui falls under SDC "C," meaning it is an area that could experience strong shaking. In such zones, buildings with good design and construction will typically suffer negligible damage, ordinary buildings may experience slight to moderate damage, and poorly constructed structures could face significant damage. (USGS, ndb).

Potential Impacts and Mitigation Measures

During construction, the Site will be at minimal risk from the threat of earthquakes. The Site is no more vulnerable to seismic events than the entire island of Maui. The United States Geological Survey,

Region 12 – Pacific Islands Office is the official source for seismic information in Hawai‘i and provides updates on seismic activity. In the event of an intense earthquake of high magnitude, construction activities will cease; equipment and materials will be secured; and Federal, State, and County regulations will be adhered to in order to ensure the safety of construction workers and community members on/near the Site.

The residences will be designed to comply with the current International Building Code and seismic design standards, per MCC, Chapter 16.26B, *Building Code*, as applicable. As aforementioned, there are no officially designated shelters in Hāna. Thus, residents turn to Hāna Health, located 1.2 miles from the project site, or Hāna Community Center, just 0.9 miles away, for refuge. During major disasters, temporary shelters may be set up across the island, with information provided by local news and MEMA. In the event of an evacuation, residents will be directed to follow marked routes communicated through local media.

The Project does not involve improvements that increase the risk to the public’s safety during a seismic event. With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on the surrounding neighborhood during a seismic event. No additional mitigation is recommended.

3.3.4 Tsunami

Existing Conditions

A tsunami involves the generation of destructive waves, created by sea floor movements, often triggered by earthquakes, landslides, submarine faulting or volcanic eruptions. Tsunamis that impact Hawai‘i typically originate from distant, seismically active areas bordering the Pacific Ocean, or from local, undersea earthquakes near Hawai‘i Island (Fletcher, et al., 2002). While tsunamis are a rare phenomenon in Hawai‘i, it is prudent to assume that future events will occur.

The National Oceanic and Atmospheric Administration (NOAA) assists in preparing Tsunami Evacuation Zone Maps for Hawai‘i. The three defined zones include the “Tsunami Evacuation Zone” (represents areas at risk during an average tsunami event), the “Extreme Tsunami Zone” (refers to a tsunami originating near the Aleutian Islands in Alaska), and the “Safe Zone” (areas in the State not likely vulnerable to tsunami events). The Site is in the Safe Zone, as shown in *Figure 3-6, Tsunami Evacuation Zone*.

Potential Impacts and Mitigation Measures

During construction, the Site will be at minimal risk from the threat of tsunamis. The NOAA, Pacific Tsunami Warning Center (PTWC) issues four tsunami alerts: a warning, an advisory, a watch, and an information statement. When a tsunami watch is issued, local officials will begin to plan for response and evacuations. When a tsunami advisory is issued, local officials evacuate the ocean and beaches. When an extreme tsunami warning is issued, a potential tsunami with significant widespread inundation is imminent or expected, and the public should evacuate the Extreme Tsunami Zone. Depending on the type of tsunami warning issued by the NOAA, PTWC, construction activities may have to come to a halt; equipment and materials will be secured; and Federal, State, and County regulations will be followed in order to ensure the safety of construction workers and community members on/near the Site. The County may open emergency shelters throughout Maui outside of tsunami evacuation zones if needed.

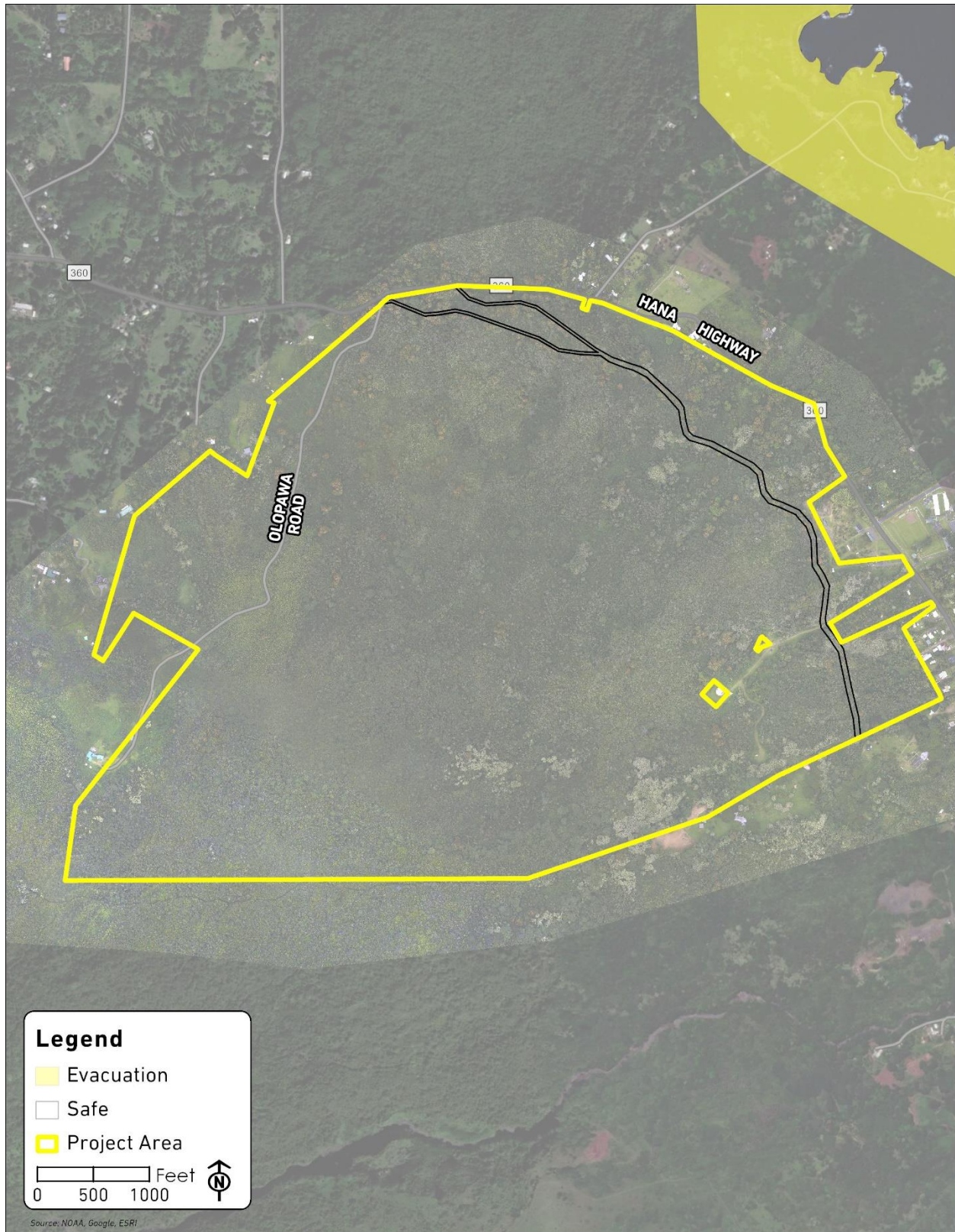


Figure 3-6

Tsunami Evacuation Zone

The Project does not include improvements that would increase risks to public safety during a tsunami event. With the proposed mitigation measures in place, the Project is not expected to have any significant adverse impacts on the surrounding neighborhood during such an event. The Project design features three driveways from Hāna Highway, along with roadway circulation and pedestrian walkways throughout the Site to ensure adequate movement. No further mitigation is recommended.

3.3.5 Wildfire

Existing Conditions

A wildfire is an uncontrolled fire that occurs in natural areas such as grasslands, forests, or brushlands. While wildfires can be a natural part of ecosystem management, they are often caused by human negligence. In fact, more than 80% of wildfires are ignited by human activities, such as improper disposal of cigarettes or the use of machinery that sparks dry vegetation. Wildfires are categorized into three main types: surface fires, which burn along the forest floor; ground fires, which burn below the surface; and crown fires, which spread rapidly through the treetops, driven by wind. The risk of wildfires increases during droughts and is exacerbated by climate change, particularly in Hawai'i, where non-native grasses and shrubs serve as fuel.

Over the past 30 years, Maui County has experienced increasingly severe drought conditions, a trend expected to worsen with climate change. Rising temperatures, reduced stream flows, and decreasing rainfall further increase the risk of wildfires. The most significant wildfire in recent history on Maui occurred in August 2023, devastating over 2,170 acres in Lahaina and claiming more than 100 lives. While rural areas like Hāna experience fewer wildfires, they are still at risk due to dense vegetation and dry conditions. Fires in Hāna often occur in remote areas, threatening agricultural lands and homes, as seen in the October 11, 2016, Wākiu fire, which required significant local firefighting efforts to contain.

Maui County has implemented several wildfire prevention strategies, such as controlled burns and public education initiatives. The Hāna Fire Station plays a key role in wildfire management for the area. The 2020 Maui Hazard Mitigation Plan highlights the increasing wildfire risk in Hāna, where non-native grasses, combined with drought conditions, allow fires to spread rapidly. Additionally, Hāna's steep terrain increases the risk of erosion and landslides after fires.

The Hawai'i Wildfire Management Organization (HWMO) also underscores the wildfire risks in Hāna and promotes preparedness through programs like Firewise, which encourage communities to manage vegetation and use fire-resistant building materials. These initiatives are essential in helping rural areas like Hāna mitigate the growing threat of wildfires.

In June 2023, HWMO's "Wildfire Hazard Considerations Memo, DHHL East Maui Master Plan" was prepared by Elizabeth Pickett to assess wildfire risks in East Maui, focusing on Ke'anae, Wailua Nui, and Wākiu. The memo identifies Wākiu as having the highest number of wildfire starts in the region, primarily due to human activities such as agriculture and recreation, along with the presence of fine fire fuels like dry grasses. Although current wildfire risk in Wākiu is classified as low to moderate, this is expected to rise with increased development (HWMO, 2023).

The memo emphasizes the challenges posed by Wākiu's topography and vegetation, with fine fire fuels igniting easily and steep slopes complicating firefighting efforts. It recommends proactive measures, such as community education, vegetation management, and planning to mitigate future wildfire risks. Enhancing firefighting preparedness and fostering collaboration with local agencies are also key to addressing Wākiu's unique landscape challenges. The memo outlines the importance of strategic

planning and community involvement in reducing wildfire risks, ensuring that wildfire mitigation efforts are tailored to the specific needs of East Maui.

Potential Impacts and Mitigation Measures

The proposed Project aims to mitigate the risk associated with wildfires through a combination of strategic planning and implementation of best management practices for wildfire prevention and response. In April 2024, the County of Maui released the After-Action Report on the Maui Wildfires, produced by the Western Fire Chiefs Association. This report provided recommendations for enhancing future wildfire preparedness across the island. The central focus of the report was on creating defensible spaces to protect structures from wildfires. It recommended the establishment and enforcement of a Defensible Space Program requiring at least 100 feet of clearance around structures, with fuel reduction zones to improve the ability to defend against fires. Additionally, the report called for a 0-5 foot clear zone between buildings and any nearby vegetation or combustible materials. The report also emphasized the importance of collaboration between local agencies by suggesting the establishment of joint approval authority between County Planning and the Maui Fire Department for new construction projects. This measure would ensure that fire safety is prioritized in the approval process. It further recommended the development of water supply standards, which should account for fire water flow requirements and include backup power supplies in case of emergencies. For larger developments, the report urged the requirement of secondary access roads that provide alternative evacuation routes in emergencies. It also highlighted the need to revise hazard maps to create parcel-level risk maps, enabling more precise risk assessments and mitigation efforts.

The report further called for the adoption of modern building codes that incorporate a Wildland Urban Interface (WUI) component, tailored to areas where human development meets wildland vegetation. Public education was also a key focus, with the recommendation to implement the *Ready, Set, GO!* public education program to raise awareness about wildfire risks and the importance of early evacuation. Finally, it encouraged the promotion of community-based programs like Firewise USA®, which foster proactive risk reduction through neighborhood collaboration and education. These measures aim to build a more resilient community in the face of increasing wildfire risks.

By carefully designing the Project's site layout and landscaping, incorporating fire-resistant building materials, providing multiple points of access (ingress/egress), and implementing defensible space measures, the Project should aim to enhance this community's resilience to wildfires. Also, through proper design, the Project can potentially contribute to reducing the overall risk of wildfire ignition and spread in the area by using and managing currently fallow lands and implementing best management practices at a localized scale.

The Contractor will ensure that equipment and machinery are operating properly; fire safety protocol is followed by construction workers, and that combustible construction materials are stored away from fire risk areas. As per the recommendations provided by the DLNR-Division of Forestry and Wildlife (DLNR-DOFAW) (*received April 2024*), when engaging in activities that have a high risk of starting a wildfire (i.e. welding in grass), it is recommended that contractors: wet down the area before starting your task, continuously wet down the area as needed, have a fire extinguisher on hand, and in the event that your vision is impaired, (i.e. welding goggles) have a spotter to watch for fire starts.

Residences will be built with flame-resistant building materials, including ignition resistant materials for roofs, walls, windows and other building components, as feasible. To the extent possible, open spaces within the subdivision will be landscaped with native shrubs and grasses to decrease the frequency and intensity of potential wildfire events. Furthermore, DHHL will work with neighboring landowners of the subdivision that have adjacent large tracts of unmanaged vegetation to ask those

landowners to provide adequate buffers as defensible spaces by removing flammable vegetation, converting vegetated areas to a use that ensures it stays consistently maintained, and/or by hardening with pavement, gravel, or other non-combustible material.

HWMO recommends that the future ROW includes a provision for emergency evacuation use to be the width and condition of road necessary and recommended. There will be three access roads to Hāna Highway from the Project Site, which is an important measure to ensure residents in the community are not left vulnerable to evacuation traffic, or worse, blockage of one access point without any alternative. Multiple accessways also give emergency responders the ability to access needs for suppressing fires and responding to emergencies. All access points will be two lanes to allow for bidirectional flow and to allow for continued flow in the event of a stalled vehicle. The three main accesses from Hāna Highway will be graded or maintained in adequate condition for 2-wheel drive vehicles to pass without issue.

Vegetative fuels maintenance plans for ongoing management and risk mitigation will be developed for the parks, gardens/open spaces, and the Hala grove preservation areas.

The project will establish a baseline emergency evacuation route plan to enhance resident safety and support emergency response planning. The plan should also encourage future Wākiu residents to participate in Hawai'i's Firewise Communities Program. Coordination with the DOE/Hāna High and Elementary School will be prioritized to prevent any evacuation challenges.

The Project will replace unmanaged and relatively inaccessible existing fields of invasive grass with Fire Code-compliant buildings, Fire Code-compliant access roads, and a modern County-maintained fire protection system with fire hydrants that together will enable faster emergency response, reliable containment and effective suppression of any fires that may occur in the Project area. With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on the surrounding neighborhood during a wildfire event.

In summary, the proposed Project will include several wildfire mitigation strategies that incorporate best management practices and recommendations from the County of Maui's After-Action Report on the 2024 Maui Wildfires:

1. *Defensible Space Program*: Establish at least 100 feet of defensible space around structures, with fuel reduction zones, and enforce a clear zone of 0-5 feet between buildings and combustible materials to improve fire defense.
2. *Collaboration with Local Agencies*: Ensure joint approval from County Planning and the Maui Fire Department for new construction to prioritize fire safety and establish water supply standards, including backup power for emergencies.
3. *Fire-Resistant Infrastructure*: Residences will be built using flame-resistant materials, and open spaces will be landscaped with native, fire-resistant plants to decrease fire risks.
4. *Evacuation Routes*: The Project site will have three main access points from Hāna Highway to facilitate evacuations and ensure efficient emergency response.
5. *Hazard Mapping*: Update hazard maps to parcel-level detail for more precise wildfire risk assessment and promote public education through the "Ready, Set, GO!" program and Firewise Communities Program.
6. *Fire Safety in Construction*: Ensure fire safety protocols for construction activities with high wildfire risk (e.g., potential welding activities at proposed industrial use site) by implementing measures like wetting down areas, using fire extinguishers, and having spotters on hand.

7. *Ongoing Vegetation Management*: Maintain vegetation fuels in parks and open spaces and collaborate with neighboring landowners to manage large tracts of unmanaged vegetation, creating fire-resistant buffers around the Project area.

These combined measures aim to enhance the community's resilience to wildfires and improve overall fire safety for both residents and the surrounding environment. With these mitigation strategies, no significant adverse impacts on the surrounding neighborhood are anticipated.

3.4 Water Resources

3.4.1 Groundwater

Existing Conditions

The DLNR, Commission on Water Resource Management (CWRM) defines and regulates groundwater management areas (DLNR-CWRM, 2005). A report titled "Hydrogeology Report: DHHL East Maui Master Plan and Environmental Assessment" was prepared by INTERA Incorporated in July 2023. It provides an assessment of the hydrogeological conditions and water resources in the East Maui area, particularly in relation to the proposed Project. The report aims to offer a comprehensive understanding of groundwater availability, quality, sustainability, and the potential impacts of development on local water resources and the environment.

The Wākiu property is within the Kawaipapa Aquifer System (Aquifer Code 60302), part of the Hāna Aquifer Sector in eastern Maui. The Kawaipapa Aquifer has a sustainable yield of 5 million gallons per day (mgd), as outlined by the DLNR CWRM. According to the *Hydrology Report for DHHL*, prepared by Intera Incorporated (July 2023), this project is estimated to use about 0.638 mgd. This total includes both the pumpage allocation of 0.52 mgd and DHHL's reserved water allocation of 0.118 mgd within the Kawaipapa Aquifer System. The aquifer predominantly consists of basal groundwater within the Honomanū Basalts, with minor contributions from perched aquifers in the Kula Volcanics. Contributions from the overlying Hāna Volcanics are minimal to the aquifer's supply.

Wākiu does not have streams running through it, but it is situated between the Honomā'ele and Kawaipapa watersheds. Tributaries of the Kawaipapa stream run over adjacent properties on the north and south sides of the Project property, but not in close proximity. The existing water supply for the Wākiu area is managed by MDWS, which provides potable water to the community. The report finds no significant groundwater quality concerns in the Kawaipapa Aquifer, as testing has revealed no organic contaminants near the development sites.

The majority of the Site is located above (mauka of) the underground injection control (UIC) line established by the DOH, Safe Drinking Water Branch (DOH-SDWB), although a small portion along Hāna Highway on the East of the property where kūpuna housing, a portion of residential homesteads, industrial use, and the community garden/greenway will be located is shown as below the UIC. Groundwater above the UIC line is considered a potential drinking water source; therefore, injection wells are prohibited inland of the UIC line (Intera, 2023).

The Project Site area has an existing water tank and pump, although the capacity of the tank is still to be determined. MDWS operates wells in Wākiu (State Well Nos. 6-4600-002, 003, and 004), which have a combined pump capacity of 600 gallons per minute (gpm), should the Project need to connect to these wells in the future. The Wākiu wells extract groundwater from the Kawaipapa Aquifer for distribution.

The Project is located within Zone C of the Maui Department of Water Supply's (MDWS) Wellhead Protection Overlay District (WPOD). Zone C is classified as an Indirect Chemical Contamination Zone, which includes the surface and subsurface areas over an aquifer that contributes water to a well over a ten-year period. This zone accounts for the potential migration of chemical pollutants and the time it takes for bacteria and viruses to travel to the well. While contaminants in Zone C may take longer to reach the well compared to closer zones, it is still vital for safeguarding the water source. The MDWS regulates this area to mitigate potential chemical contamination risks and protect the quality of the water supply (MDWS, 2024).

Potential Impacts and Mitigation Measures

During construction, groundwater is not expected to be encountered. Additionally, the Project does not involve the construction of an injection well, which is prohibited by the DOH-SDWB inland of the UIC line. Therefore, the Project is not anticipated to have any significant adverse impact on groundwater.

The residential lots and community park at the southern end of the property fall within Zone C. MDWS guidelines emphasize siting any proposed development as far as feasible from the wellhead. Stormwater infiltration basins should be positioned outside the wellhead protection overlay district where possible or as far as practical from the wellhead. In accordance with MCC Section 19.61.100 and the Maui Island Water Use and Development Plan (WUDP), the drainage basin for this Project, located at the site's northeast corner, is outside the wellhead protection overlay district. This basin follows DWS and CWRM recommendations for feasible BMPs, including permeable detention ponds, to enhance groundwater recharge and promote the protection of groundwater.

Other activities, including parks, must comply with conservation practices outlined in Maui County Code Section 19.61.090(C), such as using EPA WaterSense-labeled plumbing fixtures and Smart Approved WaterMark irrigation products. Incorporating native Hawaiian plants and minimizing the use of fertilizers and biocides are key measures that contribute to water conservation and watershed protection.

For development within a wellhead protection overlay district, activities should be focused outside the district wherever feasible. The DHHL will incorporate best management practices where applicable. The community park will align with Maui County standards, with an emphasis on indoor and outdoor water conservation measures.

In a letter dated August 5, 2024, Dean D. Uyeno, Acting Deputy Director of the Commission on Water Resource Management, provided early consultation on water resource management for the Project, as outlined by the State Water Code (HRS Chapter 174C). As recommended, DHHL will coordinate with the county to integrate the project into the Water Use and Development Plan and collaborate with the State Department of Land and Natural Resources to include it in the State Water Projects Plan. The DHHL will also work with HDOA to address agricultural land reclassification and resource redistribution.

To enhance water efficiency, the Project will include water-efficient fixtures, utilize BMPs for stormwater management, and incorporate alternative water sources where feasible. The Project will also participate in the Hawaii Green Business Program and adopt landscape irrigation conservation practices endorsed by the Landscape Industry Council of Hawaii.

By implementing these measures, the Project is not anticipated to have any significant adverse impact on groundwater resources or the surrounding neighborhood. No additional mitigation is recommended.

3.4.2 Surface Water

Existing Conditions

The Site is within the Honomā'ele and Kawaipapa watersheds. There are no significant surface water resources such as streams running through the Wākiu property. This means that while the area is part of these watersheds, the reliance is primarily on groundwater from Kawaipapa Aquifer for water supply (Intera 2024).

The Hydrogeology report mentions a network of 'auwai in the Ke'anae and Wailua areas, which are also relevant to the overall water management strategy in the Hāna region. These ditches play a role in local hydrology and are considered in the planning and management of water resources.

Potential Impacts and Mitigation Measures

The project site is not located near any natural waterways, such as streams, rivers, or coastal areas. However, full compliance with all regulatory requirements will be ensured by obtaining the necessary permits, including a County grading permit. The project will also comply with HAR Chapters 11-54 and 11-55, which govern water quality standards and permit requirements. A National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater runoff discharges will be obtained from the State DOH Clean Water Branch (CWB). If necessary, additional NPDES General Permits for dewatering and hydrotesting water discharges will also be secured from the DOH, CWB.

During construction, the contractor will implement BMPs to manage stormwater runoff and prevent construction-related pollutants (e.g., sediment, petroleum products, and debris) from entering any water sources. These BMPs will include the installation of filter socks around active work areas to filter stormwater runoff and mitigate potential pollutants. Erosion and sediment control measures, such as silt fences and sediment traps, will be employed to contain disturbed soil, particularly during rainfall events.

In addition to erosion control, proper stormwater management techniques will be implemented, such as installing drainpipes to move water across roadways within the project site. Green infrastructure options, such as bioswales or permeable surfaces, will be used where feasible to reduce surface runoff and improve filtration. Cleared areas with invasive vegetation will be replanted with native species to promote soil stabilization and support the re-establishment of local ecosystems. Soil stabilization measures, including the application of mulch, erosion control mats, or hydroseeding, will also be used to prevent erosion.

To control dust during construction, water or approved dust suppressants will be regularly applied. A maintenance plan will be developed to ensure the long-term functionality of the drainage system, with regular inspections to prevent erosion, flooding, or system failures. By adhering to these technical measures and obtaining all pertinent permits, the project will mitigate environmental impacts and maintain regulatory compliance throughout construction.

3.5 Flora and Fauna

The report *Biological Survey for DHHL East Maui: Ke‘ānae, Wailuanui, and Wākiu* (July 2023) was prepared by Hawaiian Ecosystems, LLC. The field surveys were conducted on April 4-5, 2023, and aimed to evaluate the flora and fauna in the project areas. The primary objectives were to catalog the existing biological resources, particularly identifying significant species, including those classified as threatened or endangered, and to document their locations using GPS technology. Additionally, the survey sought to determine if any federally designated critical habitats were present within the project boundaries.

The study used a multi-faceted methodology for data collection. Field surveys employed a combination of windshield and walk-through techniques to navigate the challenging terrain, which included dense vegetation. Due to the rugged conditions, not all areas could be fully explored on foot. Surveyors used the Trimble TDC100 handheld GPS unit and a Trimble R1 GNSS receiver to map significant plant and animal species within the parcel boundaries. Aerial vegetation maps, provided by Resource Mapping Hawaii (RMH), were integrated with on-the-ground observations to better understand vegetation types and coverage across the parcels.

During the fieldwork, the flora survey focused on documenting plant communities by taking detailed field notes and photographs. Species not identified in the field were collected through photographic documentation for later analysis. Concurrently, the fauna survey recorded all bird and mammal species observed and indirect evidence of their presence, such as signs of animal activity (e.g., pig wallows). This data was used to assess the presence and distribution of flora and fauna within the study area.

Post-survey data analysis was conducted to evaluate the composition and distribution of species in the project areas. This included identifying key plant and animal species, assessing their ecological importance, and determining if any critical habitats were present. The analysis was crucial in informing land-use decisions and ensuring that development planning considered the conservation of significant species and habitats. See *Appendix A: Biological Survey*.

3.5.1 Flora

Existing Conditions

The vegetation survey prepared by Hawaiian Ecosystems LLC for the Wākiu area identified 79 plant taxa, but only 12 taxa, or about 15%, are native to the region. One notable indigenous species is hala (*Pandanus tectorius*), which historically dominated the Wākiu area and still covers portions of the Project Site today. These hala groves remain a vital part of the local ecosystem and cultural heritage. However, many hala trees are affected by an infestation of hala scale (*Thysanococcus pandani*), a pest that causes yellowing of the leaves, stunted growth, and, in severe cases, death of the trees. In addition to hala, indigenous species such as mamaki (*Pipturus albidus*), which is used in traditional Hawaiian medicine, ‘ōhi‘a lehua (*Metrosideros Polynesianymorpha*), pōpolo (*Solanum americanum*), and ka‘e‘e‘e (*Mucuna gigantea sub. Gigantea*) are also found in the area. One species of indigenous fungi, pepeiao or the Hawaiian wood ear (*Auricularia cornea*) is also present in the Project area. Polynesian-introduced species include kukui (*Aleurites moluccana*), ‘ulu or breadfruit (*Artocarpus altilis*), ti (*Cordyline fruticosa*), and hoi or bitter yam (*Dioscorea bulbifera*).

Hawaiians previously cultivated kalo (dryland taro) in Wākiu, making use of the area's rich, fertile soil. Although the soil is conducive to agriculture, the area lacks the abundant water resources found in neighboring regions, which limits the extent of traditional wetland kalo farming.

The Wākiu project area is heavily dominated by mixed alien forests, where invasive species form a substantial portion of the plant life. These invasive species present a significant challenge to preserving native ecosystems, which are already under pressure from habitat alteration. Among the key invasive plants in this area are Koster's curse (*Clidemia hirta*) and *Miconia calvescens*. Shoebutton ardisa (*Ardisia elliptica*) is a fast-spreading shrub that aggressively displaces native vegetation. Other major invaders include black bamboo (*Phyllostachys nigra*), known for its rapid and dense growth, and strawberry guava (*Psidium cattleianum*), which forms thick, impenetrable thickets, making it particularly harmful to native forests by shading out understory plants and limiting biodiversity. These aggressive alien species disrupt the balance of the native ecosystem by outcompeting native plants for resources, further threatening the historical hala forests that remain.

In a letter dated July 23, 2024, Jason Omick, Acting Wildlife Program Manager, DOFAW, highlighted the potential presence of the Coconut Rhinoceros Beetle (*Oryctes rhinoceros*) in the Project area. This invasive species poses a risk to various palm species. The beetle's host material includes dead trees, mulch, compost, trimmings, fruit, and decaying stumps, which can harbor the beetle at any life stage.

The Biological Survey stresses the urgent need for targeted management of invasive species in the Wākiu area to preserve the remaining native plant communities. Specific recommendations include removing fast-growing, highly invasive plants, such as those mentioned above, to facilitate the restoration of native biodiversity. In addition, the report advises that landscaping in developed areas prioritizes the use of native plant species, which are better suited to the local environment and can help maintain ecological balance. Note that Per HRS §103D-408, Hawaiian plants shall be incorporated in landscaping that utilizes public funds. Flora species with associated status and abundance classifications are listed below in *Table 3-1*:

Table 3-1: Flora Species		
Scientific Name	Common/Hawaiian Names	Status
PTERIDOPHYTES - FERNS & FERN ALLIES		
ATHYRIACEAE		
<i>Diplazium esculentum</i>	paca/vegetable fern, <i>ho'i'o</i>	Naturalized
CYATHEACEAE		
<i>Sphaeropteris cooperi</i>	Australian tree fern	Naturalized
DAVALLIACEAE		
<i>Davallia tyermannii</i>	white rabbit's foot fern	Naturalized
MARATTIACEAE		
<i>Angiopteris evecta</i>	mule's foot fern	Naturalized
NEPHROLEPIDACEAE		
<i>Nephrolepis multiflora</i>	sword fern	Naturalized
Polynesian YPODIACEAE		
<i>Phlebodium aureum</i>	<i>laua'e haole</i>	Naturalized

Table 3-1: Flora Species		
Scientific Name	Common/Hawaiian Names	Status
THELYPTERIDACEAE		
<i>Cyclosorus dentatus</i>	downy wood fern	Naturalized
<i>Cyclosorus parasiticus</i>	christella fern	Naturalized
FLOWERING PLANTS - DICOTS		
ACANTHACEAE		
<i>Thunbergia fragrans</i>	sweet clock-vine	Naturalized
<i>Thunbergia laurifolia</i>	blue trumpet vine	Naturalized
ANACARDIACEAE		
<i>Mangifera Indigenousica</i>	mango	Naturalized
<i>Schinus terebinthifolius</i>	Christmas berry	Naturalized
APOCYNACEAE		
<i>Alstonia macrophylla</i>	deviltree	Naturalized
ARACAEAE		
<i>Archontophoenix alexandrae</i>	Alexander palm	Naturalized
<i>Washingtonia robusta</i>	Mexican fan palm	Naturalized
ARACEAE		
<i>Dieffenbachia sp.</i>	dumb cane	Naturalized
<i>Epipremnum pinNaturalizededum</i>	pothos	Naturalized
<i>Philodendron sp.</i>	philodendron	Naturalized
ARALIACEAE		
<i>Schefflera actinophylla</i>	octopus tree	Naturalized
ASTERACEAE		
<i>Ageratum conyzoides</i>	billygoat weed	Naturalized
<i>Conyza bonariensis</i>	flax-leaved fleabane	Naturalized
<i>Sphagneticola trilobata</i>	wedelia	Naturalized
<i>Taraxacum officinale</i>	dandelion	Naturalized
BIGONACEAE		
<i>Spathodea campanulata</i>	African tulip tree	Naturalized
BUDDLIACEAE		
<i>Buddleia asiatica</i>	dogtail	Naturalized
CACTACEAE		
<i>Hylocereus undatus</i>	night blooming cereus	Naturalized
CARICACEAE		

Table 3-1: Flora Species

Scientific Name	Common/Hawaiian Names	Status
<i>Carica papaya</i>	papaya	Naturalized
CONVOLVULACEAE		
<i>Ipomoea alba</i>	moonflower	Naturalized
CLUSIACEAE		
<i>Clusia rosea</i>	autograph tree	Naturalized
CUCURBITACEAE		
<i>Momordica charantia</i>	bitter melon	Naturalized
EUPHORBIACEAE		
<i>Aleurites moluccana</i>	<i>kukui</i>	Polynesian
<i>Manihot glaziovii</i>	ceara rubber tree	Naturalized
<i>Ricinus communis</i>	castor bean	Naturalized
FABACEAE		
<i>Acacia formosa</i>	Formosan koa	Naturalized
<i>Caesalpinia bonduc</i>	gray nickers, <i>kakalaioa</i>	Indigenous
<i>Canavalia cathartica</i>	<i>maunaloa</i>	Naturalized
<i>Chamaecrista nictitans</i>	partidge pea	Naturalized
<i>Desmodium incanum</i>	Spanish clover	Naturalized
<i>Desmodium intortum</i>	tick clover	Naturalized
<i>Falcataria moluccana</i>	Moluccan albizia	Naturalized
<i>Indigenousofera suffruticosa</i>	upright Indigenouso	Naturalized
<i>Mimosa pudica</i>	sensitive plant	Naturalized
<i>Mucuna gigantea sub. gigantea</i>	<i>ka'e'e'e</i>	Indigenous
LAMIACEAE		
<i>Clerodendrum chinense</i>	Chinese glory bower, <i>honohono pikake</i>	Naturalized
LAURACEAE		
<i>Cinnamomum verum</i>	cinnamon	Naturalized
<i>Persea americana</i>	avocado	Naturalized
MALVACEAE		
<i>Hibiscus tiliaceus</i>	<i>hau</i>	Polynesian
MELASTOMATACEAE		
<i>Clidemia hirta</i>	Koster's curse	Naturalized
<i>Medinilla magnifica</i>	medinilla	Naturalized
<i>Miconia calvescens</i>	miconia	Naturalized

Table 3-1: Flora Species		
Scientific Name	Common/Hawaiian Names	Status
MORACEAE		
<i>Artocarpus altilis</i>	'ulu	Polynesian
<i>Ficus microcarpa</i>	Chinese banyan tree	Naturalized
MYRSINACEAE		
<i>Ardisia elliptica</i>	shoebuttan ardisia, inkberry	Naturalized
MYRTACEAE		
<i>Metrosideros Polynesianymorpha</i>	'ōhi'a lehua	Indigenous
<i>Psidium cattleianum</i>	strawberry guava	Naturalized
<i>Psidium guajava</i>	guava	Naturalized
NYCTAGINACEAE		
<i>Bougainvillea spectabilis</i>	bougainvillea	Naturalized
PASSIFLORACEAE		
<i>Passiflora edulis</i>	Jamaican lilikoi, passion fruit	Naturalized
<i>Passiflora subpeltata</i>	white passionflower	Naturalized
PLANTAGINACEAE		
<i>Plantago major</i>	broad-leaved plantain	Naturalized
PIPERACEAE		
<i>Macropiper puberulum</i>	hairy piper	Naturalized
RUBIACEAE		
<i>Coffea arabica</i>	coffee	Naturalized
<i>MorIndigenouosa citrifolia</i>	noni	Polynesian
<i>Paederia foetida</i>	maile pilau	Naturalized
SOLANACEAE		
<i>Solanum americanum</i>	pōPolynesiano	Indigenous
<i>Solanum torvum</i>	turkeyberry	Naturalized
ULMACEAE		
<i>Trema orientalis</i>	gunpowder tree	Naturalized
URTICACEAE		
<i>Pipturus albidus</i>	mamaki	Indigenous
VERBENACEAE		
<i>Stachytarpheta dichotoma</i>	blue vervain	Naturalized
FLOWERING PLANTS - MONOCOTS		
ASPARAGACEAE		

Table 3-1: Flora Species		
Scientific Name	Common/Hawaiian Names	Status
<i>Cordyline fruticosa</i>	<i>ti, la'i</i>	Polynesian
COMMELINACEAE		
<i>Commelina diffusa</i>	<i>honohono</i>	Naturalized
COSTACEAE		
<i>Costus comosus</i>	red tower	Naturalized
DIOSCOREACEAE		
<i>Dioscorea bulbifera</i>	<i>hoi, bitter yam</i>	Polynesian
HELICONIACEAE		
<i>Heliconia spp.</i>	heliconia	Naturalized
MUSACEAE		
<i>Musa ornaturalizeda</i>	flowering banana	Naturalized
PANDANACEAE		
<i>Pandanus tectorius</i>	<i>hala</i>	Polynesian
POACEAE		
<i>Pennisetum purpureum</i>	elephant grass	Naturalized
<i>Phyllostachys nigra</i>	black bamboo	Naturalized
<i>Urchloa/Brachiaria mutica</i>	California grass	Naturalized
GYMNOSPERMS		
PODOCARPACEAE		
<i>Podocarpus gracilior</i>	fern pine	Naturalized
FUNGI		
AURICULARIACEAE		
<i>Auricularia cornea</i>	<i>pepeiao, Hawaiian wood ear</i>	Indigenous

Potential Impacts and Mitigation Measures

During construction, most of the existing non-native grasses, shrubs, and trees will be removed to accommodate the development of the residences and vacant lots in accordance with the Plant Protection Act of 2000 (7 U.S.C 7701 *et seq.*). The movement of plant or soil material between worksites will be minimized throughout construction; and equipment, materials, and personnel will be cleaned of excess soil and debris to minimize the risk of spreading fungal pathogens, vertebrate and invertebrate pests, or invasive plant parts and noxious plants.

Approximately 138 acres of the Project Site are dedicated to the preservation of the existing hala grove within the project area. Park, greenway, and community garden spaces, which will include landscaping of native plants, total approximately 30 acres. Drought-tolerant species will be propagated where possible in accordance with the County of Maui’s Planting Guidelines (Maui DWS). The reintroduction of historically present species no longer found in the area, such as *Touchardia latifolia* (olonā), is also

encouraged, as this culturally significant plant can contribute to ecological restoration and the revival of traditional biodiversity in the region (Barboza, 2023).

With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on Federally- or State-listed, threatened, or endangered flora species. No additional mitigation measures are recommended.

3.5.2 Fauna

Existing Conditions

The survey of the Wākiu area recorded 8 avifauna taxa, consisting of 6 introduced species and 2 native species. The indigenous species observed in the Project area are the kolea or Pacific golden plover (*Pluvialis fulva*) and auku'u or the black-crowned night heron (*Nycticorax nycticorax hoactli*). The kōlea is a migratory bird that winters in Hawai'i and is an important cultural symbol, while the auku'u is a resident species more often found in wetlands and other aquatic environments. These native birds, though present, are outnumbered by introduced species in the area, reflecting the pressure on native wildlife due to habitat modification and competition from non-native species. Although the survey did not report sightings of the 'ōpe'ape'a or Hawaiian hoary bat (*Aeorestes semiotics*), the only native land mammal in Hawai'i, it does note that the tall, woody vegetation in Wākiu provides suitable habitat for this elusive species. 'Ōpe'ape'a are known for their cryptic nature and are often difficult to detect. The habitat conditions present in Wākiu are conducive to supporting the species, meaning its potential presence cannot be ruled out. In addition, although the survey did not report sightings of pueo, the short-eared Hawaiian owl (*Asio flammeus sandwichensis*) they may most likely exist in the area (DOFAW, 2023).

Terrestrial fauna observations included feral pigs and mongooses, which are known to contribute to habitat degradation. Feral pigs uproot native plants, disturbing the soil and aiding the spread of invasive species, while mongooses prey on native birds and their eggs, further threatening local biodiversity. No native mammals were recorded during the survey, which is consistent with the dominance of invasive species in these ecosystems. See *Table 3-2 Fauna below*:

Table 3-2: Fauna Observed		
Scientific Name	Common/Hawaiian Names	Status
BIRDS		
ARDEIDAE		
<i>Nycticorax nycticorax hoactli</i>	black-crowned night heron/ ahuku'u	Indigenous
CHARADRIIDAE		
<i>Pluvialis fulva</i>	Pacific golden plover/ kōlea	Indigenous
COLUMBIDAE		
<i>Geopelia striata</i>	zebra dove	Naturalized
ESTRILDIDAE		
<i>Lonchura castaneotorax</i>	chestnut-breasted mannikin	Naturalized
STURNIDAE		
<i>Acridotheres tristis</i>	common myna	Naturalized
ZOSTEROPS JAPONICUS		
<i>Zosterops japonicus</i>	mejiro, warbling white-eye	Naturalized
TERRESTRIAL FAUNA		
HYAENIDAE		
<i>Herpestes javanicus</i>	mongoose	Naturalized/Invasive
SUIDAE		
<i>Sus scrofa</i> *	feral pig	Naturalized/Invasive

Potential Impacts and Mitigation Measures

During the EA process, DHHL will continue to reach out for consultation with USFWS and DLNR-DOFAW. The following mitigation measures will be implemented prior to or during construction to minimize potential impacts to the following species:

- Hawaiian Seabirds:** Nighttime construction will be avoided during the seabird fledging period (September 15 through December 15) to prevent injury to seabirds. Outdoor lights will be shielded to the maximum extent possible, so the bulb can only be seen from below, and as much as possible, the lowest wattage bulbs will be used. The Contractor will provide construction crews with information about seabird fallout before initiating work. If a downed seabird is found, the Contractor will contact the USFWS immediately.
- Hawaiian Waterbirds:** If a nest or active brood is discovered during construction the USFWS and DLNR, DOFAW, Maui Branch Office will be contacted within 48 hours. All activities within 100 feet of the active nest and/or brood will cease, and the bird(s) will not be approached until the chicks/ducklings have fledged.
- Globe Skimmer Dragonfly:** Though a common species throughout the Hawaiian Islands, the Contractor will do its best to avoid harming this species.

- **‘Ōpe‘ape‘a (Hawaiian Hoary Bat):** Woody plants taller than 15 feet will not be disturbed, removed, or trimmed during the Hawaiian hoary bat’s birthing and pup-rearing season, which spans from June 1 through September 15. Additionally, the use of barbed wire for fencing will be avoided to protect the species. If avoiding these actions is not feasible, any disturbance, removal, or trimming of woody plants greater than 15 feet tall should only proceed after consultation with USFWS and the DLNR-DOFAW.
- **Pueo (Hawaiian Short-Eared Owl):** Conduct transect surveys during crepuscular (twilight or dawn and dusk) hours. If nests are discovered, a minimum buffer distance of 100 meters should be established.
- **Blackburn Sphinx Moth:** Although not directly observed in the biological survey, Blackburn’s Sphinx Moth (*Manduca blackburni*) could potentially be present in the project area, as indicated by DOFAW. The Maui Island Branch DOFAW office will be consulted regarding the need for a vegetation survey to assess the presence of BSM’s preferred host plants. DOFAW also recommends that plants under one meter in height be removed during the dry season to avoid harming BSM populations. If plants taller than one meter need to be removed or disturbed, they must first be inspected by a qualified entomologist for the presence of BSM eggs or larvae.
- The Project acknowledges the significant threat of non-native predators to vulnerable native bird species. To mitigate this, covered trash receptacles will be utilized during construction to minimize attracting predators such as rats and feral cats. DHHL will also educate future lessees about the risks associated with nonnative predators. Residents with pet cats will be advised to keep them indoors or safely contained at all times. Additionally, feeding feral cats on the premises will be strictly prohibited to prevent further harm to native wildlife.
- The Project also involves the installation of streetlights along subdivision roads. To minimize any adverse effects on seabirds and prevent unnecessary light spillage, all exterior lights will be fully shielded, ensuring that the lighting does not disrupt sensitive seabird populations.

Exterior lights will comply with HRS §201-8.5, *Night Sky Protection Strategy*, and MCC, Chapter 20.35, *Outdoor Lighting*, as amended.

With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on fauna species, as the Project will not result in a substantial decline or take of a Federally- or State-listed, threatened, or endangered species. No additional mitigation is recommended.

3.6 Air Quality

Existing Conditions

The Clean Air Act (42 U.S.C. 7401 et seq.) requires the United States Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for seven criteria pollutants that are harmful to public health and the environment: carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone, and particulate matter (PM) less than 10 and 2.5 microns respectively (PM10 and PM2.5).

The DOH, Clean Air Branch (CAB) has established State Ambient Air Quality Standards (SAAQS) for criteria pollutants in HAR §11-59, *Ambient Air Quality Standards*, and HAR §11-60, *Air Pollution Control*. The DOH, CAB, Air Surveillance and Analysis Section, collects measurements of ambient level pollutants in the air through a statewide monitoring network.

The DOH, CAB has one air monitoring station on Maui in Kahului at LOT 11-D-1-A-1-D-1 MAUI LANI (LRG-LOT) SUBD NO 7 Kuihelani Highway. Based on DOH, CAB's air monitoring data, Maui is currently attaining all applicable NAAQS and SAAQS (DOH-CAB, 2022).

There are no point sources of airborne pollutants in the vicinity of the Site. Minimal, indirect non-point sources of airborne pollutants in the vicinity are attributable to vehicular traffic and dust from surrounding fallow agricultural lands; however, prevailing winds quickly disperse these particulates.

Potential Impacts and Mitigation Measures

During construction, fugitive dust, criteria pollutants and GHG emissions will result from grubbing, grading, demolition, excavation, structure construction, and asphalt paving. However, construction-related emissions will be short-term, intermittent, and spread over several acres. The following mitigation measures will be implemented:

- Phasing/limiting disturbed areas;
- Stabilizing disturbed areas as soon as practicable;
- Periodic watering of exposed surfaces;
- Installation of dust screens around the perimeter of the Site;
- Regular maintenance of construction equipment;
- Covering open-bodied trucks when transporting soil materials;
- Application of water on disturbed areas and haul roads; and
- Reduction of speeds on unpaved roads to <15 mph.

Additionally, the Contractor will comply with HAR §11-60.1-33, *Air Pollution Control* and may develop a dust control management plan.

Once the Project is developed, direct and indirect criteria pollutant and GHG emissions may result from residential uses (e.g., energy usage, water usage, solid waste generation, landscaping equipment, and consumer products) and mobile sources (e.g., vehicle trips); however, the quantity of emissions will not result in a significant adverse impact on existing air quality.

With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on air quality, as the proposed improvements do not involve permanent point source activities that will impair the State's ability to meet Federal or State air quality standards. No additional mitigation is recommended.

3.7 Noise Conditions

Existing Conditions

Noise is defined as any unwanted or unpleasant sound that causes a disturbance or interferes with everyday activities. It may be intermittent or continuous, steady or impulsive, and stationary or temporary. Existing ambient noise in the Project vicinity is attributable to both the natural environment and human activity from sources typical of residential environments.

In Hawai'i, noise is regulated by the DOH, Indoor and Radiological Health Branch (IRHB), in accordance with HAR §11-46, *Community Noise Control*. HAR §11-46-3 defines maximum permissible sound levels (at property lines) for three land use classifications (i.e., zoning districts). It provides for the abatement and control of excessive noise sources, including stationary and temporary construction and industrial-generated noise sources. "Class A" zoning districts include residential, conservation, preservation, public space, open space, or similar types of zoning districts; "Class B" zoning districts include multi-family dwelling, apartment, business, commercial, hotel, resort, or similar types of zoning districts; and "Class C" zoning districts include agriculture, country, industrial or similar types of zoning districts. The Site is in the Class C zoning district. The maximum permissible sound levels in the Class C zoning district are 70 A-weighted decibels (dBA) from 7:00 AM to 10:00 PM and 70 dBA from 10:00 PM to 7:00 AM. If impulsive sounds exceed 120 impulses in any 20-minute period, the noise limit is 10 dB above the maximum permissible sound level. Per HAR §11-46, noise levels are not permitted to exceed the maximum permissible sound levels for more than 10% of the time within any 20-minute period, except by permit or variance from DOH, IRHB.

Noise generated in the vicinity is primarily attributed to vehicular traffic along Hāna Highway, east (makai) of the Site. Also, due to the Site's proximity to the Hāna Airport, noise may occur from the occasional aircraft flight over the Site.

Potential Impacts and Mitigation Measures

During construction, short-term, intermittent noise impacts will occur during site work and earthwork phases (e.g., excavation, grading, sheet pile driving, concrete pouring, and hammering). Construction noise will gradually diminish as the exterior structure of the building is built and roofed.

The Contractor will obtain a noise permit from DOH, IRHB. A noise permit is required for construction activities (from 7:00 AM to 6:00 PM Monday through Friday and 9:00 to 6:00 PM on Saturday) that exceed 78 dBA or have a total cost of more than \$250,000 (based on the value of the building permit). Additionally, the Contractor will employ the following mitigation measures to minimize noise impacts:

- Construction equipment and vehicles will be appropriately muffled and maintained to reduce backfires. Generators will be placed in locations distanced from neighbors, be equipped with an attached muffler, or use other noise-abatement methods in accordance with industry standards.
- Construction equipment use, including pile drivers, hydraulic hammers, and jackhammers, will be limited to Monday through Friday (9:00 AM to 5:30 PM); and
- Equipment staging and storage areas will be distanced from neighbors.

Once the Project is developed, additional ambient noise may result from residential uses and traffic; however, the quantity of noise will not significantly impact existing conditions.

With the implementation of the proposed mitigation measures, the Project is not anticipated to significantly adversely impact existing noise conditions. No additional mitigation is recommended.

3.8 Utilities and Infrastructure

G70 prepared a Draft Preliminary Engineering Assessment (PEA) for the Project in January 2025. The PER evaluates the availability of potable water, wastewater, drainage, electrical, telecommunications, transportation infrastructure, and requirements for servicing the Project. See *Appendix E: Preliminary Engineering Assessment*.

3.8.1 Potable Water

Existing Conditions

The Project Site is located between Honomā‘ele Stream to the north and Kawaipapa Stream to the south. Despite its proximity to these surface water sources, the Project will primarily rely on groundwater as its water source. Water is extracted from wells owned by the Maui Department of Water Supply (DWS), which oversees the potable water system for the region.

Maui DWS operates wells and a 0.5 million-gallon storage tank at an elevation of 325 feet in the southeastern portion of the site. These wells are connected to a 12-inch ductile iron water line that runs to a 12-inch water main along Hāna Highway. This main supplies a fire hydrant near Hāna High School and transitions to a 6-inch water main as it continues west along the highway. However, there is currently no meter or lateral connection serving the Project Site, meaning it is not yet connected to the DWS water system.

The existing Wākiu water tank has the capacity to accommodate the proposed uses that can be feasibly served by the tank, however the system lacks sufficient pressure to serve higher elevations of the development. If future mauka uses require water infrastructure at these elevations, then additional infrastructure will be required, such as a new mauka storage tank and a booster pump, to ensure reliable water access.

Based on the current conceptual site plan, the Project Site is divided into areas that may or may not be supplied by the existing DWS water system (*Figure 3-7*). These areas are classified into a Makai Water System (below the existing pressure zone) and Mauka Land Uses (above the existing pressure zone). Water demand calculations were estimated for each zone, considering land use types and their associated water consumption rates.

Table 3-3: Proposed Potable Water Demand (Not Including Fire Flow)	
Makai Water System¹	
Average Daily Demand	174,000 gallons
Maximum Daily Demand	260,000 gallons
Mauka Land Uses²	
Average Daily Demand	155,000 gallons
Maximum Daily Demand	232,000 gallons

¹ Below the existing anticipated workable DWS pressure zone

² Above the existing anticipated workable DWS pressure zone

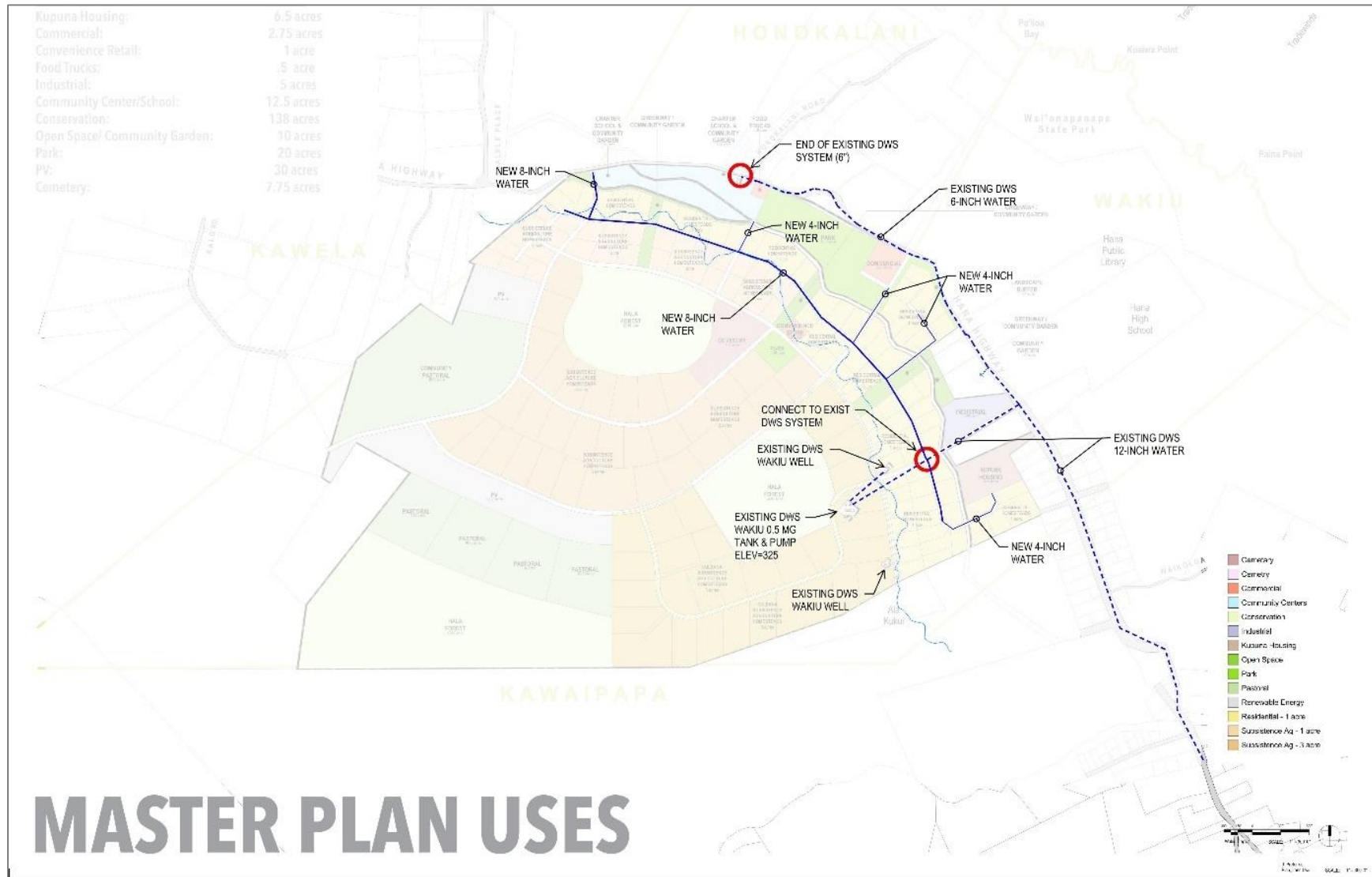


Figure 3-7

Conceptual Potable Water System Plan

The potable water system must also meet fire protection demands. To satisfy these requirements, the system must provide a minimum fire flow of 1,000 gpm at a residual pressure of 20 psi. Since the water supply primarily comes from groundwater wells, additional infrastructure will be needed to ensure sufficient service for domestic use and fire protection.

The Project adheres to water demand rates established by the State Water Projects Plan Update by DHHL, which specifies:

- 600 gallons per unit for residential, subsistence agriculture, and pastoral uses,
- 1,700 gallons per acre or 60 gallons per student for community use,
- 3,000 gallons per acre or 140 gallons per 1,000 square feet for commercial use,
- 6,000 gallons per acre for industrial use.

The total maximum daily water demand for the Project is estimated at 452,474 gallons, including both domestic use and fire protection requirements. *The County of Maui DWS stated during early consultation that the development of a new source of water for this project is not anticipated based on the Project's projected daily consumption calculations (see Appendix H).*

The Maui Department of Water Supply will oversee the management of the water system, ensuring the necessary infrastructure is implemented to meet domestic and fire safety requirements for the development.

Potential Impacts and Mitigation Measures

The water needs of DHHL are given high priority under the Hawai'i State Constitution and the Water Code, with CWRM establishing water reservations in accordance with HRS 174C-40(d). These reservations are deducted from the available sustainable yields and designated for DHHL use. The project site falls within the Kawaipapa aquifer system, which was allocated 0.118 MGD in DHHL water reservations as of September 2018.

As of December 2022, the pumping allocation for the Kawaipapa aquifer system was 0.52 MGD, resulting in a combined pumpage and reservation total of 0.638 MGD. Considering that the CWRM-established sustainable yield for the Kawaipapa aquifer system is 31 MGD, this combined usage has minimal impact on overall water availability within the region.

Construction activities will require potable water (or another water source secured by the Contractor) for dust control, vehicle wash down, concrete mixing, etc. These uses will be intermittent and will cease upon Project completion. Since the project site is not currently connected to the DWS system, temporary solutions may be necessary to provide water for construction activities. If feasible, options include establishing temporary connections to the existing DWS water system or using water trucks to transport water from nearby sources. Onsite water storage tanks could also hold water for construction needs, with refills coming from the DWS system or other approved sources. Additionally, all water use must comply with local regulations, and the necessary permits for construction water usage must be obtained.

The Project will require potable water for drinking, sanitation, irrigation, and fire protection. Based on the conceptual site plan, the projected average daily demand for the makai system is 106,800 gallons, accounting for residential and subsistence agricultural uses. The system must also accommodate maximum daily demand, ensuring sufficient capacity during peak usage.

Table 3-4: Water Uses for DHHL Land Use in Wākiu		
Land Use	Potable	Non-Potable
Residential	600 gal/unit	None
Subsistence Ag	600 gal/unit	3,400 gal/acre
Supplemental Agriculture	None	3,400 gal/acre
Pastoral	600 gal/unit	20 gal/acre
General Ag	None	3,400 gal/acre
Special District	Varies	Varies
Community Land Acres	1,700 gal/acre or 60 gal/student	None
Conservation	None	None
Commercial	3,000 gal/acre or 140 gal/1,000 sf	None
Industrial	6,000 gal/acre	None

(G70, 2025)

To meet fire safety standards, the water infrastructure must deliver a minimum of 1,000 gpm at a residual pressure of 20 psi. This requirement can be fulfilled by installing additional fire hydrants and water mains, ensuring the project's compliance with local fire protection codes. Design of the site, structures, and fire water supply stems for the project will be based on the National Fire Protection Agency (NFPA) 1, Uniform Fire Code, dated 2018, and all additional amendments as a part of the HAR Title 12, Subtitle 7, Chapter 45.2 as well as City and County ROH. DWS standards further require fire flow via hydrants spaced no more than 350 feet apart. A fire main and hydrants would likely be provided along the private driveways in the makai portion of the master plan.

While there is currently no direct connection to the DWS system, the existing infrastructure can be extended and integrated into the project to allow potable and fire connections for the proposed lots within the makai water system. A new 8-inch water main will connect residential and subsistence agricultural homesteads within the makai area to the DWS system, allowing for efficient water distribution. This water main will connect to new laterals serving residential, community, commercial, and industrial areas. Additionally, onsite pumps and storage systems will be deployed in future phases of development for sections of the project that cannot be directly connected due to elevation constraints in future mauka master plan areas. These systems are designed to handle both daily water needs and peak demand, ensuring reliable service to all areas of development. Non-potable water sources, such as rainwater and reuse should be considered for landscaping and gardens, in compliance with requirements of the State DOH and the Maui County Wastewater Reclamation Division (www.mauicounty.gov/wastewater).

While the existing infrastructure offers a foundational system, additional improvements such as new water mains, lateral connections, and storage solutions are needed to fully meet the water demand for the Wākiu project. These technical upgrades will ensure the water infrastructure can support both domestic use and fire protection, providing a reliable and sustainable water supply system for the development. Note that water availability and the scope of required water infrastructure improvements will not be finalized until construction drawings, water meter reservation, and building permits are submitted to DWS and DFPS, per MCC §14.05.120. The Project will be processed under exemptions per Section 221 of the Hawaiian Homes Commission Act and MCC §14.12.030.H.

With the implementation of the proposed mitigation measures, the Project is not anticipated to result in a significant adverse impact on the existing potable water system.

3.8.2 Wastewater

Existing Conditions

The County, Department of Environmental Management, Wastewater Reclamation Division (DEM, WRD) is comprised of the Wastewater Administration and Wastewater Operations, which collectively share the responsibilities of achieving public health through maintenance of the County's wastewater facilities. Wastewater Operations consists of the Wastewater Facilities Program and Wastewater Collection System. The Wastewater Facilities Program manages, operates, maintains, and repairs the County wastewater and pumping facilities. The Wastewater Collection System manages, installs, maintains, and repairs County wastewater collection lines, force mains, and manholes (DEM, 2021).

There is no municipal wastewater collection system currently serving the Project Site, and the County has no plans to develop a regional system for the East Maui region. According to Department of Health (DOH) records, there are no existing cesspools or Individual Wastewater Systems (IWS) on the site, as defined under Hawaii Administrative Rules (HAR) Title 11, Chapter 62. Cesspools or septic tanks currently serve neighboring parcels. Most of the project site lies on the mauka side of the State of Hawaii Underground Injection Control (UIC) line, which subjects it to stricter regulations governing the use of injection wells and seepage pits for treated wastewater disposal under UIC rules (G70, 2024).

Potential Impacts and Mitigation Measures

The total average daily wastewater flow from homestead and non-homestead lots is estimated at approximately 480,000 gallons per day (gpd), see *Table 3-5* below (G70, 2025).

Wastewater treatment and disposal are regulated by the State of Hawai'i Department of Health under Hawai'i Administrative Rules (HAR) Title 11, Chapter 62. These regulations allow for using either a wastewater treatment plant (WWTP) or Individual Wastewater Systems (IWS) for onsite wastewater treatment. Multiple IWS may be allowed for large land areas, or a single IWS serve multiple structures if wastewater characteristics are similar. Each lot is 1 acre or greater allowing for the installation of an IWS without triggering the need for a WWTP.

Each IWS is prohibited from being located within 1,000 feet of a public drinking water source. The southeast portion of the project site is situated within the minimum distance from DWS-owned wells on the project site. The minimum horizontal spacing requirement from potable water sources, as per HAR 11-62-32, is outlined below. Lots that are located within 1,000 ft of the existing onsite DWS well will need to apply for a variance with the Department of Health which may require stricter treatment processes for each IWS such as an If the DOH requires a WWTP for specific uses due to flow demands, land area, or land use, the effluent disposal system must be designed to accommodate peak flows and include a 100% backup component, as specified in HAR 11-62. The WWTP must be operated and maintained by a certified treatment plant operator, and effluent disposal must conform to monitoring, recordkeeping, and reporting of continuous flow measurements, and overflow requirements. (Figure 3-8).

Table 3-5: Domestic Wastewater Flow Projection		
Land Use	Area	Projected Daily Flow
Residential (74 lots)	74 ac	74,000 gpd ¹
Sub-Ag (20 lots)	20	20,000 gpd ¹
Sub-Ag (48 lots)	192 ac	48,000 gpd ¹
Kupuna housing	6.5 ac	87,750 gpd ²
Commercial	2.75 ac	22,500 gpd ²
Convenience Retail	1 ac	7,300 gpd ²
Food Trucks	0.5 ac	--
Industrial	5 ac	81,000 gpd ²
Community Center/School	12.5 ac	57,600 gpd ²
Conservation	138 ac	--
Open Space/Community Garden	10 ac	--
Park	20 ac	81,000 gpd ²
Photovoltaic (PV)	30 ac	--
Cemetery	7.75 ac	--

¹ Land uses were calculated following HAR 11-62 maximum daily flows for an IWS

² Land uses were calculated as 90% of the maximum daily water demand.

Treated effluent must meet the R-1 or R-2 water quality standard, as outlined in the "Guidelines for Treatment and Use of Recycled Water" (January 2016). R-1 recycled water is suitable for spray irrigation, while R-2 is used primarily for drip irrigation. The construction, use, or modification of any recycled water system requires written approval from the Director of the Department of Health (DOH) before implementation.

With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on the existing wastewater system. No additional mitigation is recommended.

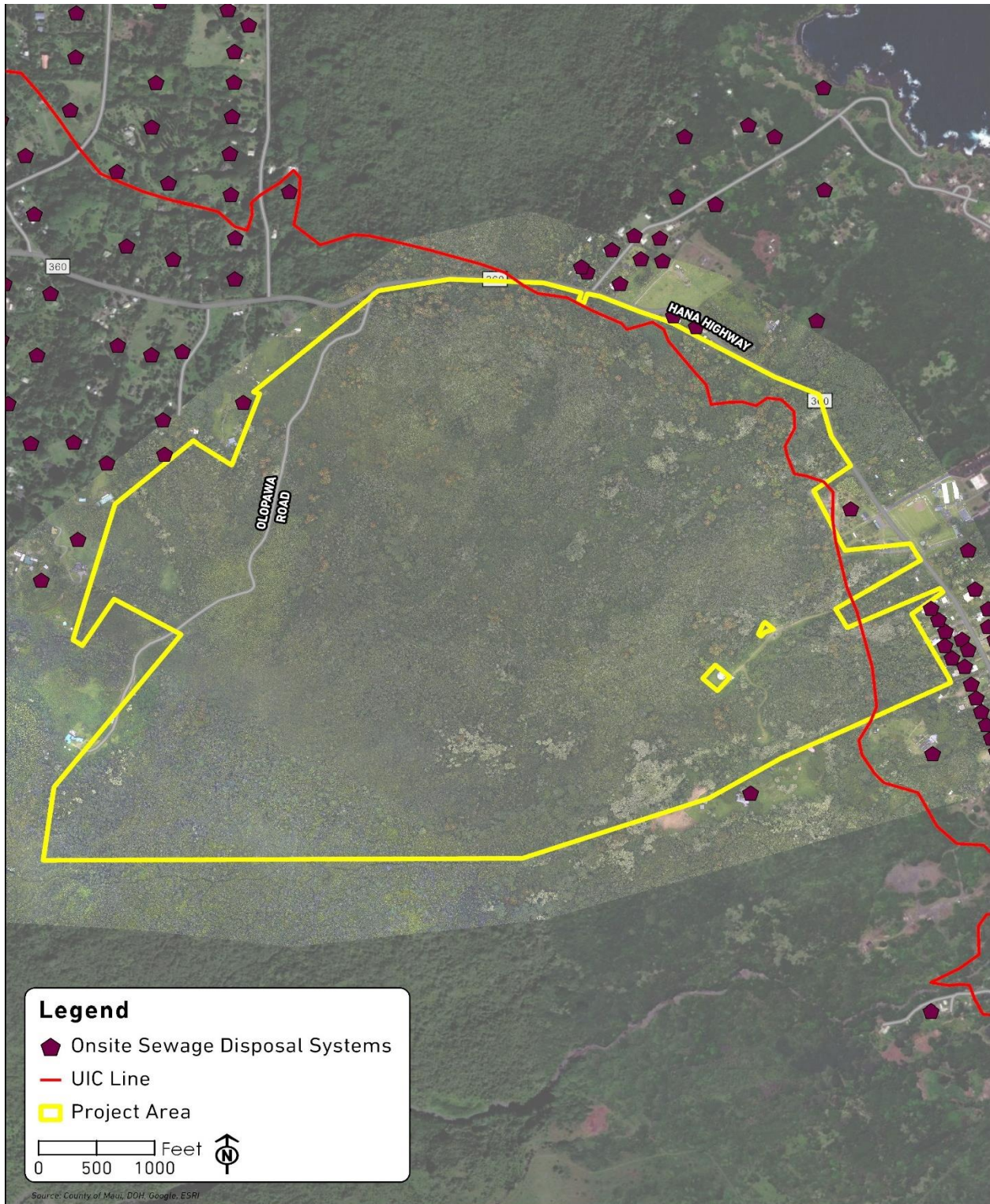


Figure 3-8

Onsite Sewage Disposal Systems

3.8.3 Drainage

Existing Conditions

The County of Maui Department of Public Works (DPW), Engineering Division (ED) provides engineering and inspection services for the planning, designing, and constructing the County's drainage system. The DPW, ED aims to improve the water quality that enters the County's drainage system, which discharges into waterways and eventually the Pacific Ocean.

The project site is located between Honomā'ele Stream to the north and Kawaipapa Stream to the south. No streams or ditches cross the project site (G70, 2025). Stormwater generally flows toward Hāna Highway; however, there is no existing stormwater infrastructure on the property. Additionally, the portion of Hāna Highway adjacent to the project boundary lacks municipal drainage systems, such as culverts or bridges. As a result, runoff from the project site flows as sheet flow toward Hāna Highway and continues as overland flow onto neighboring parcels and roads downstream. Hāna High and Elementary School has a stormwater headwall inlet along the highway to help mitigate flooding from this runoff.

According to the FEMA FIRM, the project site falls within Zone X, described as "Areas determined to be outside of the 0.2% annual chance floodplain." While flood hazards in this area are designated as Zone X, localized flooding risks are not well documented, and the site could experience regular flooding depending on the condition and capacity of the existing drainage systems. The project site is also outside of tsunami evacuation zones.

Potential Impacts and Mitigation Measures

During construction, there is the potential for pollution associated with stormwater runoff to discharge into nearby drainage systems and surface waters. The Contractor will install BMPs such as temporary sedimentation basins, silt fence around active work areas and inlet protection devices near drainage outlets to treat runoff and mitigate potential construction-related pollutants from entering drainage infrastructure and surface waters. The Project will comply with HAR Chapters 11-54 and 11-55. A NPDES General Permit for potential stormwater runoff discharges will be obtained from the DOH, CWB. NPDES General Permits for dewatering and hydrotesting water discharges may also be obtained from the DOH, CWB, if required.

The site design, including roadways, pavements, and open areas, should prioritize maximizing percolation, minimizing impervious surfaces, and replicating the existing drainage patterns. To ensure peak runoff rates remain below pre-development levels, permanent Best Management Practices (BMPs) will be implemented. These improvements are expected to include features such as roadside swales, grassy swales, and retention/detention areas, which will manage runoff from the added impervious surfaces and mitigate potential adverse downstream impacts, as runoff currently flows overland toward Hāna Highway and neighboring parcels, including Hāna Elementary and High School. It is likely that offsite drainage infrastructure will be required to convey stormwater from mauka of Hāna Highway to the makai side of Hāna Highway, potentially in the form of roadway culverts and/or crossings.

Since the site exceeds 1 acre, the project will be subject to the Rules for the Design of Storm Water Treatment Best Management Practices. Low Impact Development (LID) features will also be required on individual lots to provide water quality treatment, reduce erosion, and remove pollutants from stormwater discharges.

Drainage improvements will need to comply with the Rules for the Design of Storm Drainage Facilities in the County of Maui to ensure proper runoff conveyance and to mitigate potential flood hazards. Given that the site is over 100 acres, hydrologic calculations will be based on the Natural Resources Conservation Service (NRCS) Method. Additionally, a hydraulic analysis, including floodplain evaluation, will be required to assess the existing storm drainage system and determine the necessary drainage improvements for the project. See *Figure 3-9, Conceptual Drainage System Plan*.

With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on existing drainage infrastructure or surrounding properties.

3.8.4 Solid and Hazardous Waste

Existing Conditions

Solid waste management in Hāna, Maui, is handled through a mix of county-operated services and private efforts, reflecting the rural nature of the community. The primary facility for waste disposal is the Hāna Landfill, which is operated by the County of Maui's Department of Environmental Management, Solid Waste Division. This facility accepts household trash, green waste, and limited construction debris. For many residents, the landfill serves as the central location for waste disposal due to the lack of formal curbside collection in most areas (MSWD).

While there is no formal curbside trash collection for many residents, the County of Maui provides weekly waste collection for single-family homes in select areas. In these locations, residents place their trash out for manual collection, which is then transported to the Hāna Landfill. For those living in more remote areas, residents are responsible for hauling their waste to either the landfill or designated drop-off points.

Recycling services in Hāna are limited, but residents can bring recyclable materials such as aluminum, glass, and certain plastics to local recycling centers. Additionally, green waste, such as yard clippings and leaves, can be taken to Hāna landfill for composting. Some residents choose to manage organic waste through composting on their own property.

In the vicinity of the Project Site, commercial waste from businesses like The Hāna Hotel, The Hāna Ranch, and Hāna High and Elementary School (2004 FEA Hāna High and Elementary School) is also managed in this manner. Weekly waste collection helps maintain public health standards while complying with county regulations.

Potential Impacts and Mitigation Measures

During construction, green waste and non-hazardous construction materials will be generated from grubbing, grading, and construction of the residences and vacant lots, and utility infrastructure. Green waste and non-hazardous construction materials will be recycled or disposed of at the Hāna Landfill and/or Central Maui Landfill or another approved facility. Any discovered hazardous waste will follow applicable Federal, State and County regulations and will be handled and disposed of at a facility permitted by the DOH, Solid and Hazardous Waste Branch. The Project will comply with HRS Chapters 342H and 342I and HAR §11-260.1 to 11-279.1, 11-58.1, 11-280.1, 11-501, 11-503, and 11-504 as applicable.

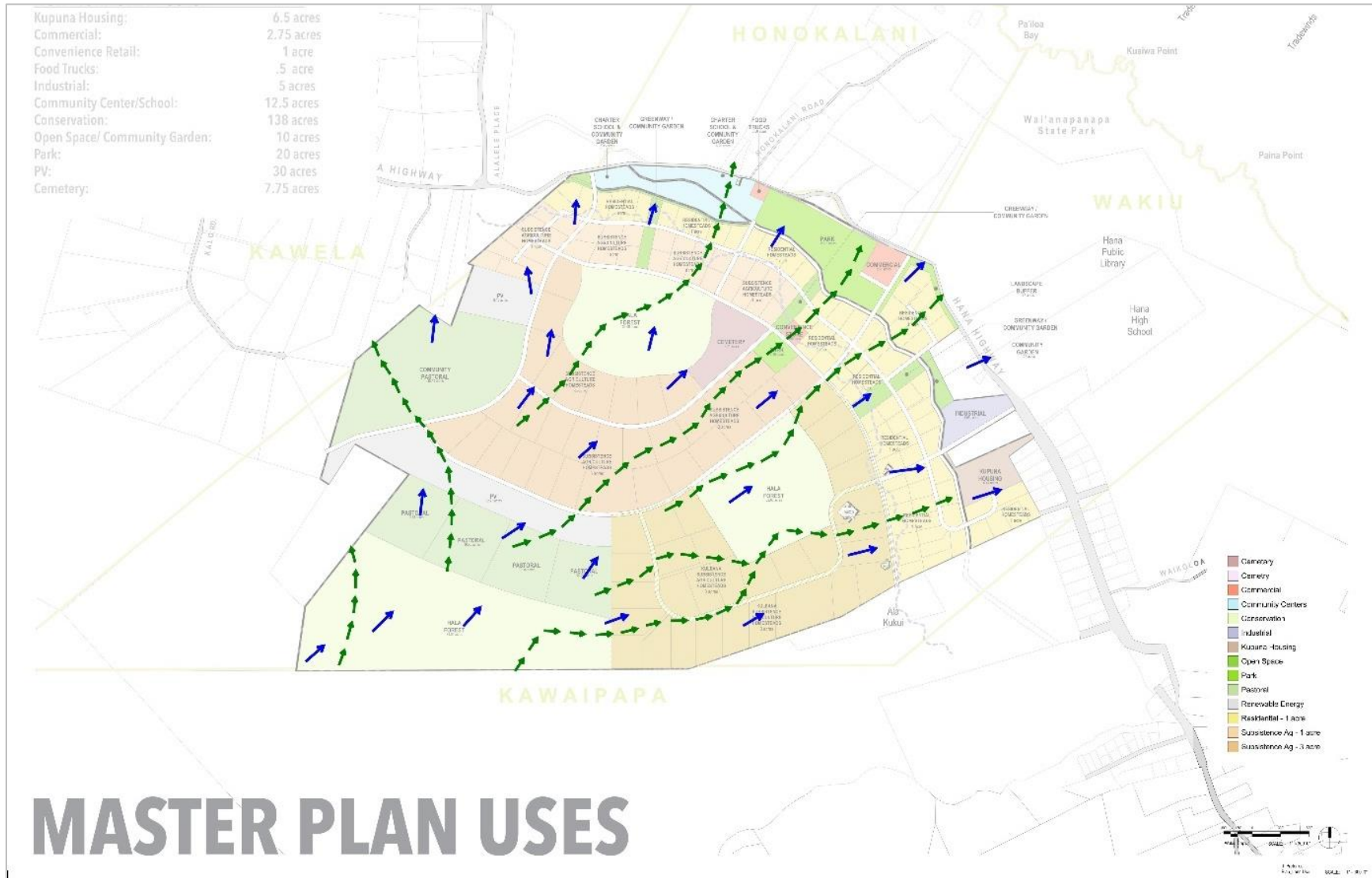


Figure 3-9

Conceptual Drainage System Plan

A Solid Waste Management Plan is recommended to address the residential, agricultural, commercial, and industrial waste generated by the Project Site. The plan should detail whether solid waste services will be acquired for a fee from the Maui Solid Waste Division (MSWD) or if residents will be responsible for individually transporting their waste to the Hāna Landfill. Additionally, the plan should outline specific methods for handling bulky items and commercial, agricultural, and industrial waste, ensuring compliance with local disposal regulations and best practices for sustainable waste management. This plan should also discuss recycling resources and encourage recycling, reuse, and upcycling of materials to the extent possible.

The Project is not anticipated to result in a significant adverse impact on the existing solid waste disposal system, as the proposed improvements will not lead to a substantial increase in the generation of solid waste during and/or post-construction or a delay or disruption in the collection of solid waste for the surrounding community. No additional mitigation is recommended.

3.8.5 Electrical Power and Telecommunications

Existing Conditions

The Hāna Substation in Hāna, Maui, is managed by Maui Electric Company (MECO), which operates as a subsidiary of Hawaiian Electric Company (HECO). MECO is responsible for providing electrical service to the islands of Maui, Molokai, and Lanai, including areas such as Hāna. The Hāna Substation is an oil power plant. The substation has two diesel units that total 1.94 MW of firm capacity. The substation has a total output of 2.00 MW. MECO had previously upgraded the 23-kilovolt transmission line to Hāna in 2012, improving electrical service reliability for East Maui. The Hāna Substation is approximately one mile from the Project Site. Existing HECO infrastructure in the Project vicinity includes underground lines which run along Hāna Highway (MECO).

Approximately 32.29 acres of the Project Site is reserved for solar, which will help to provide additional power for homestead, commercial, industrial, and community uses. In general, a 32.9-acre solar photovoltaic (PV) array in Hawai'i, benefiting from *high solar irradiance levels averages 5 to 6 kWh per square meter daily*. This area, covering approximately 133,065 square meters, could generate about 242.8 gigawatt-hours (GWh) of electricity annually. With an estimated daily output of around 665,325 kWh and a total capacity of about 26.6 megawatts (MW), this array would support the energy needs of multiple homesteads and non-homestead uses where average monthly energy consumption is roughly 500 to 600 kWh. Hawai'i's warm climate reduces heating needs, and high energy costs encourage efficiency, leading to slightly lower consumption than the national average. Consequently, this array can meet a substantial portion of local residential energy demand and contribute significantly to reducing the Project's reliance on fossil fuels, enhancing energy resilience and sustainability (Hawai'i State Energy Office; Aloha Challenge).

Existing telecommunications (phone) services to Wākiu area are provided by Hawaiian Telecom (HTC). Verizon Hawai'i connects to Hāna via microwave links from radio stations at Hu'ehu'e on the Big Island and Haleakalā. Other service providers include Spectrum (cable), Viasat (satellite), and Starlink (satellite) (Broadband Now, 2024).

Potential Impacts and Mitigation Measures

During construction, the Project will not adversely impact the provision of electrical power to the surrounding community. To mitigate potential impacts to underground utilities, coordination with MECO will be undertaken to locate service lines prior to excavation. The existing MECO system is

anticipated to meet the electrical power requirements during construction activities. In an electrical power outage, the Contractor will be prepared with an on-site generator.

The project site will address its energy needs through a combination of renewable energy systems and connections to existing power infrastructure, ensuring both sustainability and reliability.

A key development feature is installing a PV renewable energy system across 32.9 acres. This initiative aims to reduce reliance on fossil fuels and promote sustainable energy practices, aligning with broader environmental goals. The project will incorporate energy-saving fixtures, appliances, and solar water heating systems in the residences to enhance energy efficiency. These measures are designed to reduce greenhouse gas emissions and improve energy use. Homeowners will also have the option to install their own solar PV systems, further encouraging individual contributions to renewable energy and energy self-sufficiency at the residential level. For areas not covered by renewable energy, the project will connect to the existing Maui Electric Company (MECO), which services Hāna. This connection provides a stable backup energy source and ensures the project's power demands are met without straining existing infrastructure.

Energy-efficient designs and renewable energy options, such as solar water heating and solar PV, will reduce greenhouse gas emissions and promote energy self-sufficiency. The DHHL Ho'omalūō Energy Policy promotes energy self-sufficiency and sustainability among Native Hawaiian communities. This policy emphasizes the development of energy-efficient homes and communities, the use of diverse renewable energy resources, and the education of beneficiaries on sustainable living practices.

During construction, the Project is not anticipated to have an adverse impact on existing telecommunication systems. To mitigate potential impacts to underground utilities, coordination with will be undertaken to locate service lines prior to any excavation.

Existing power lines are located on Hāna Highway from MECO and service requests will need to be prepared/made. Streetlights may be incorporated into the master plan during coordination with the County during the design of the roads that are intended to be dedicated to the County. The DHHL will coordinate with the County of Maui for streetlight requirements as design and details of the master plan progress going forward.

With the implementation of the proposed mitigation measures, the Project is also not anticipated to have a significant adverse impact on existing telecommunication infrastructure, as the proposed improvements are not anticipated to cause delays or disruptions to the surrounding community. No additional mitigation is recommended.

3.9 Transportation System

The *Waiku Master Plan Transportation Assessment Report (TAR)* was prepared by Fehr & Peers for the DHHL (November 7, 2024). This report provides an evaluation of the transportation impacts of the proposed master plan development on the surrounding infrastructure and systems. It specifically assesses current transportation conditions, planned improvements, and potential impacts related to the East Maui area, including the Project area in Wākiu. The report also notes that daily traffic volumes on Hāna Highway is less than 2,000 vehicles per day, which is considered low. See *Appendix C: Traffic Analysis Report*.

3.9.1 Roadways, Access, and Traffic

Existing Conditions

Roadways and Access

The TAR was completed using field observations at key intersections (*Figure 3-10*), analysis of traffic volumes, and input from the local community. Currently, access to the Project Site is limited to a restricted entrance from, with only a basic, unimproved roadway providing entry to the Site's interior.

Key intersections observed:

- Hāna Highway / Olopawa Road / Project Access (West)
- Hāna Highway / Honokalani Road
- Hāna Highway / School Driveway 1
- Hāna Highway / School Driveway 2 / Project Access (East)

Traffic

The key roadway serving the master plan area is Hāna Highway (aka Route 360). Hāna Highway is a two-lane rural highway designated with a major collector functional classification per HDOT's Straight Line Diagrams (as of January 2021). Hāna Highway extends from Kahului to Hāna with narrow or no shoulders along much of its length adjacent to the project site. Prior to the study area, Hāna Highway narrows down to one lane in some locations due to physical constraints where vehicles in each direction must share the road and yield to vehicles traveling in the opposite direction.

Speed limits are at or below 35 mph on straight sections in most locations, and advisory speeds of 15 mph are posted along the curved sections near the site. The majority of traffic, including visitors and tour buses drive to Hāna in the eastbound direction in the morning and drive out of Hāna or westbound in the afternoon. Based on the most recent data from the HDOT Highway Program Status: Fatal Crashes through 2023, no fatal crashes were reported near the project study area between 2012 and 2019.

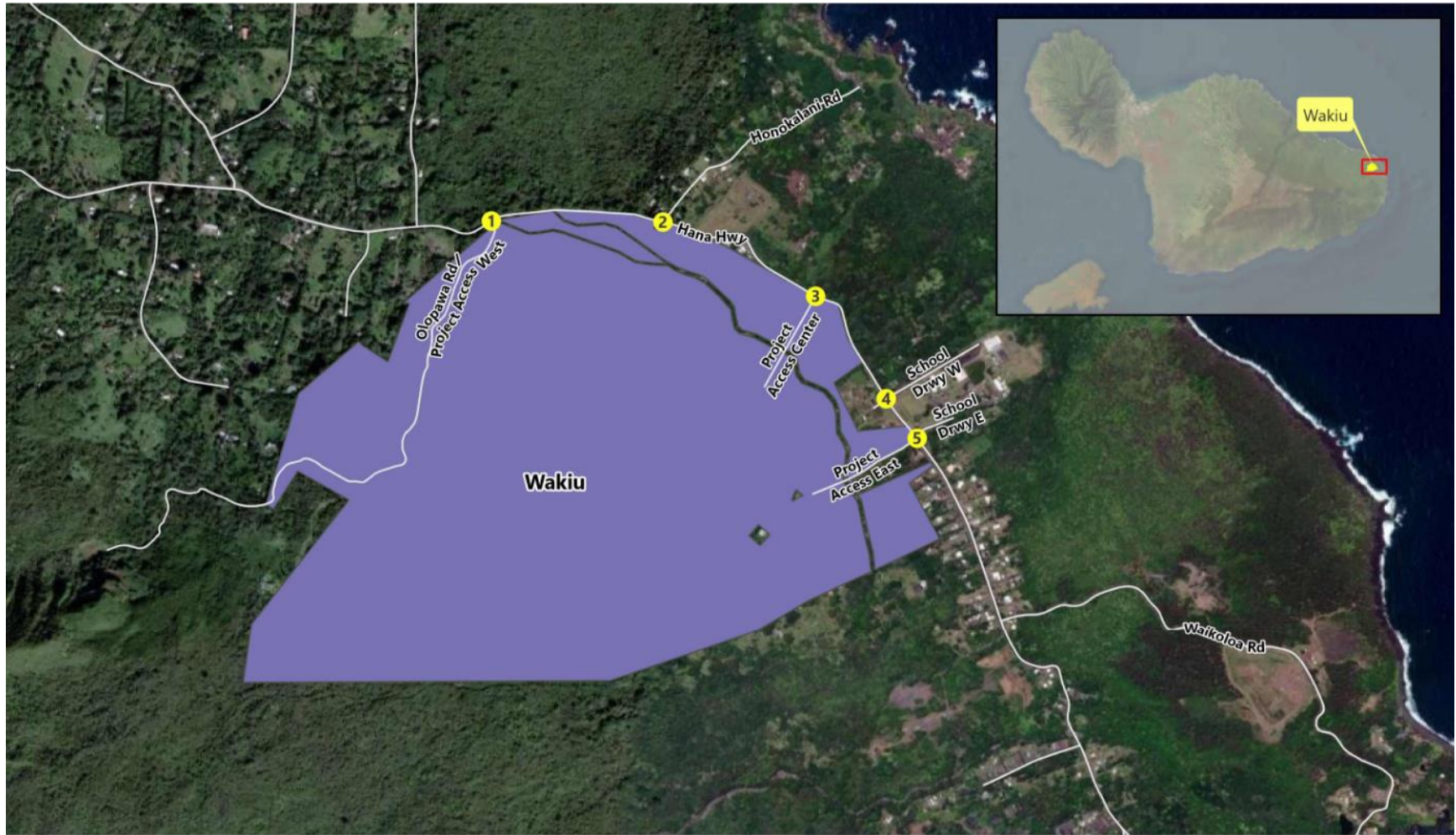


Figure 3-10

TAR Study Intersections

According to the 2016 *Highway Capacity Manual* (6th Edition), published by the Transportation Research Board, roadway facilities are described by their level of service (LOS), which is qualified by traffic flow factors such as speed, travel time, delay, and freedom to maneuver. Six LOS are defined, from LOS A (least congested operating conditions) to LOS F (most congested operating conditions). Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions. The State, Department of Transportation (HDOT) and County Department of Transportation (MDOT) generally defines an impact as an intersection or turning movement that lowers from an LOS D or better to LOS E or F.

The traffic volume in the Wākiu area is described as relatively low. The proposed project is not expected to interfere with existing pedestrian or bicycle infrastructure. Importantly, the report stresses that the proposed project should not impede any future efforts to enhance the walking and biking network in the area.

Community input has been crucial in shaping the conceptual design of the roadways and multimodal amenities associated with the Project Site, with local representatives emphasizing the significance of addressing the specific transportation needs and safety concerns in Wākiu. These considerations focus on improving the overall safety and accessibility for pedestrians and cyclists in the area.

For the TAR Key Intersections and Access Points:

- **Hāna Highway / Olopawa Road:** This intersection leads to an unpaved, gated entrance to an agribusiness lot on the south side of H Highway. During a site visit, no pedestrian or vehicle traffic was observed entering or exiting through the gate.
- **Hāna Highway / Honokalani Road:** This intersection serves as an SSSC (Stop Sign-Controlled) access point for Wai'ānapanapa State Park and provides access to nearby residences. Recently, access to the state park has shifted to a reservation-based system to manage parking overflow, which previously caused safety concerns by forcing overflow parking onto H Highway and Honokalani Road. According to community representatives, the new system has been successful in containing park visitors' vehicles within the park, and no operational or capacity issues were observed.
- **Hāna Highway / School Driveway West:** This SSSC intersection serves H High School. Most of the traffic at this intersection involves right turns into the school and left turns outbound onto H Highway. According to input from community representatives and the school crossing guard, peak activity occurs during the AM hours (7-9 AM), when inbound tourist traffic overlaps with school drop-offs. Occasional queuing (4-6 vehicles) was observed during peak times, but queues were cleared regularly, with no significant operational or capacity issues reported during field observation.
- **Hāna Highway / School Driveway East:** This is also a SSSC access point that primarily serves H Elementary School. Most of the traffic at this intersection involves right turns into the driveway and left turns outbound onto H Highway. According to feedback from community representatives and the school crossing guard, this location experiences its highest activity during the AM peak hours (7 to 9 AM), when inbound tourist traffic overlaps with school drop-offs, similar to the situation at School Driveway 1. Field observations showed occasional queuing of 2 to 3 vehicles during pick-up and drop-off times; however, these queues were regularly cleared, and no significant operational or capacity issues were identified. It is also important to note that the school site serves as a shelter during hurricane evacuations, as

mentioned by a community representative. Consequently, maintaining smooth operations at this intersection is critical, especially during emergency situations.

Overall, key access points and intersections generally operate efficiently, with recent changes such as the reservation system at Wai'ānapanapa State Park improving safety and traffic flow.

Potential Impacts and Mitigation Measures

Roadways and Access

The Project site is accessible via two main routes: Hāna Highway, a public road, and Olopawa Road, a private road. Hāna Highway is a narrow, winding two-lane road maintained by the HDOT. It lacks curbs, sidewalks, and turning lanes, making it less accommodating for increased traffic. Olopawa Road serves as the primary entrance to the project site; however, it is in poor condition and partially obstructed by vegetation, which may require significant improvements to support the proposed development.

To improve connectivity, the project will establish three new access points, which will require obtaining permits for work within the public right-of-way (*Figure 3-10*). Additionally, smaller driveway aprons may be constructed along Hāna Highway to accommodate various land uses, including commercial and residential developments. These upgrades aim to enhance overall access while ensuring safety and compliance with regulatory requirements.

The DHHL is generally exempted from County roadway standards under HRS Chapter 171 and Chapter 46. DHHL developments are subject instead to their own HHCA and accompanying rules. However, DHHL may voluntarily adopt certain county standards for consistency, particularly when county infrastructure (like roads) will connect to or service DHHL developments. If roads within a DHHL development will connect to or depend on county-maintained infrastructure, Maui County may require adherence to specific standards to ensure seamless integration and maintenance. Continued consultation with HDOT on ingress/egress design onto the Project site is important to ensure that traffic will not be severely impacted during peak traffic hours along Hāna Highway. Additionally, DHHL will meet fire protection requirements as established by the Maui County Fire Department or the National Fire Protection Association (NFPA).

Access to the private residence mauka of the project site via Olopawa Road will be preserved as part of the master planning process, with DHHL maintaining ongoing communication with the homeowner to ensure uninterrupted access.

Traffic

During construction, construction-related traffic will be temporarily noticeable, but will not significantly increase traffic on surrounding streets. During construction, the following mitigation measures are recommended, for optimal traffic conditions:

- Trucks delivering construction material and disposing of construction waste should be scheduled on weekdays during times of non-peak commuter periods (9:00 AM to 3:00 PM);
- All construction vehicles will be kept in proper operating condition to prevent adverse impacts on public roadways; and

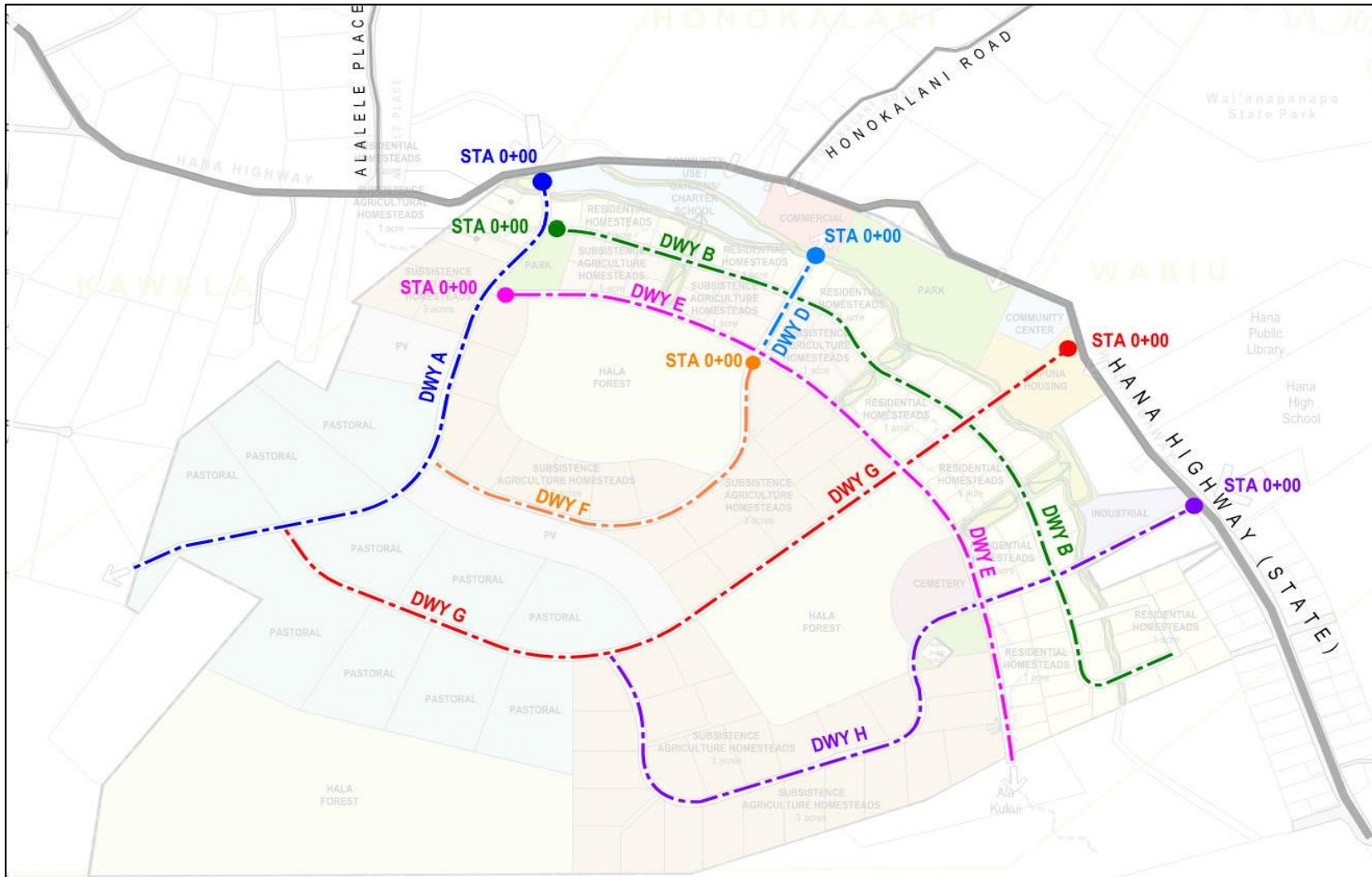


Figure 3-11

Conceptual Roadways

- Construction plans and drainage/discharge/connection permit applications for work done within a HDOT ROW will be submitted to the HDOT, Highway Division for review and approval. This applies to underground and overhead powerlines and stormwater management structures within the HDOT ROW's. Similarly, construction plans and drainage/discharge/connection permit applications for work done within a MDOT ROW will be submitted to the MDOT for review and approval.
- Permit applications to operate or transport oversize and/or overweight vehicles and loads over State highways will be submitted if and when necessary to the HDOT, Highway Division for review and approval. Similarly, permit applications to operate or transport oversize and/or overweight vehicles and loads over County roads will be submitted to MDOT for review and approval if necessary.

The geographic distribution of trips generated by the proposed project depends on the surrounding street network and the accessibility of routes to and from each study location. Given that major destinations lie to the west and east of the site, trips from the residential uses are expected to use the eastern and western collector streets more frequently, while the center street will see most traffic destined for the proposed commercial uses and community center/park. Additionally, trips generated by the school and food trucks are expected to primarily access the highway directly, reducing the demand on internal routes. Industrial use traffic will also be focused on the eastern collector street. Estimated peak-hour distribution patterns for project-generated traffic at each project access are as follows:

- Hāna Highway & Project Access West (Intersection #1): 65 to 93 peak hour trips
- Hāna Highway & Project Access Center (Intersection #3): 91 to 147 peak hour trips
- Hāna Highway & Project Access East (Intersection #5): 94 to 119 peak hour trips

The Project is anticipated to generate 3,233 net new daily vehicle trips along this roadway, including 518 trips during the AM peak hour and 343 trips during the PM peak hour (*Figure 3-12*). The majority of these trips are anticipated to stay within the greater East Maui area, and they will be distributed in both directions on the highway. As a result, no segment is expected to serve more than approximately 4,000 vpd.

While the project is expected to generate a substantial number of new vehicle trips on the highway compared to the existing volume of up to 2,000 vehicles per day, Hāna Highway has adequate capacity to accommodate this volume. As such, no significant traffic impacts are anticipated with the implementation of the proposed project. Even during the peak hours, the turning volumes on and off the highway are anticipated to experience short but temporary delays with stop sign control on the side street approaches. The volumes are not expected to warrant the need for separate turn lanes or refuge/two-way left-turn lanes. However, some enhancement will be needed to address or minimize the potential for multimodal circulation and safety issues. The following roadway and intersection improvements with a focus on enhancing operations and safety are recommended:

- If the project intersections are proposed to be constructed as standard Three-Way or Four-Way intersections, the proposed project access approaches are recommended to be controlled by a stop sign.
- Align the proposed access at 90 degrees to Hāna Highway to discourage inbound/outbound traffic from speeding and to maximize driver visibility of approaching traffic.

Land Use Size/Unit	Weekday Daily Trip Rate / Unit		PEAK AM Rate	PEAK PM Rate	Daily Trips	AM Peak					P.M. Peak				
						%		trips		Total	%		trips		Total
						in	out	in	out		in	out	in	out	
Wākiu															
138 Residential Units ¹	4.72	per lot	0.35	0.47	652	25%	75%	12	37	49	63%	37%	41	24	65
100 Subsistence Agriculture/Pastoral Homesteads ¹	4.72	per lot	0.35	0.47	472	25%	75%	9	26	35	63%	37%	30	17	47
3 acres Commercial Use (35% GFA) ^{2,8}	27.23	per ksf	1.18	3.3	1,246	60%	40%	32	22	54	50%	50%	76	75	151
<i>Primary (60%)</i>					748			19	13	32			46	45	91
<i>Pass-By (40%)</i>					498			13	9	22			30	30	60
5 acres Industrial (35% GFA) ^{3,8}	2.44	per ksf	0.37	0.33	187	88%	12%	26	3	29	14%	86%	4	22	26
300 students in Charter School/Garden ⁴	1.85	per student	1.04	0.16	555	52%	48%	162	150	312	35%	65%	17	31	48
Community Center, Park, Greenway, Community Garden ⁵	-	-	-	-	100	50%	50%	10	10	20	50%	50%	10	10	20
2,000 square foot Convenience Store ⁶	381	per ksf	31.27	24.56	762	88%	12%	55	8	63	14%	86%	7	43	50
<i>Primary (60%)</i>					457			33	5	38			4	26	30
<i>Pass-By (40%)</i>					305			22	3	25			3	17	20
5 Food Trucks ⁷	24.61	per truck			124	50%	50%	3	2	5	50%	50%	16	15	31
<i>Primary (50%)</i>					62	-	-	2	1	3	-	-	8	8	16
<i>Pass-By (50%)</i>					62	-	-	1	1	2	-	-	8	7	15
<i>Total Driveway Trips</i>					4,098			309	258	567			201	237	438
Net New Trips (Excluding Pass-By Trips)					3,233			273	245	518			160	183	343

1. Rate is based on the ITE Trip Generation Manual (11th edition), a Single-family detached Housing (Code 210). The rate is reduced by 50% to account for local context and area internalization.
2. Rate is based on the ITE Trip Generation Manual (11th edition), Strip Retail Plaza under 40 ksf (Code 822). The rate is reduced by 50% to account for local context and area internalization.
3. Rate is based on the ITE Trip Generation Manual (11th edition), General Light Industrial (Code 110). The rate is reduced by 50% to account for local context and area internalization.
4. Rate is based on the ITE Trip Generation Manual (11th edition), Elementary Charter School (Code 536).
5. ITE does not provide trip rates for this use. The trip generation assumes 100 daily trips (20 during each peak hour) based on our understanding of the population, local context, and area internalization.
6. Rate is based on the ITE Trip Generation Manual (11th edition), Convenience Store (Code 851). The rate is reduced by 50% to account for local context and area internalization.
7. Rate is based on the ITE Trip Generation Manual (11th edition), Food Cart Pod (Code 926).
8. The project trip estimates are calculated assuming a 35% Gross Floor Area (GFA)

Figure 3-12

Project Trip Generation

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- The proposed project access should provide adequate sight distance in both directions. Landscaping should be pruned to maintain adequate sight distance. If necessary, install traffic calming devices (e.g., speed humps) to moderate speeds to provide minimum stopping sight distance.
- Install appropriate warning signs to inform highway drivers of upcoming intersections, turning vehicles, and multimodal activity.
- The project should consider constructing all new project public street intersections on Hāna Highway as roundabouts, as well as modifying the existing Honokalani Street intersection as a roundabout if a Charter School or other driveway is added as a fourth/mauka leg. Roundabouts help moderate travel speeds and minimize pedestrian exposure to moving vehicles at crossing locations.

3.9.2 Mass Transit, Pedestrian and Bicycle Facilities

Existing Conditions

Public transportation in Maui is primarily provided by the Maui Bus; however, there are no services along Hāna Highway in East Maui. Most visitors travel by rental car, use tour shuttles, or occasionally fly into the Hāna Airport for local transport.

The Wākiu area sees most pedestrian and bicycle traffic from students attending Hāna High & Elementary School, which is directly across Hāna Highway from the Project Site to the east. The TAR discusses sidewalks on the east side of Hāna Highway adjacent to the school, which facilitate safe access for students. A crosswalk equipped with a Rectangular Rapid Flashing Beacon (RRFB) is installed to help guide pedestrians safely across the highway.

Currently, no designated bike facilities are provided along Hāna Highway within the study area. Bicycles must share the travel lane with other vehicles or ride on the shoulder where it exists. Based on community input, bicycle activity is negligible along the section of Hāna Highway near the school site and along the project site frontage.

Potential Impacts and Mitigation Measures

The project will feature two parks, as well as greenways and walkways, specifically designed to promote walking and biking as central components of the development's layout. These pathways will offer residents and visitors safe and accessible routes for recreation and commuting, providing multiple benefits for physical health, mental well-being, and social interaction. By integrating these greenways and walkways, the project strongly supports the State and County's goals of advancing multi-modal transportation, reducing dependence on motor vehicles, and lowering fossil fuel consumption.

These pathways will connect various parts of the site, encouraging active transportation, whether for commuting to local services, visiting community centers, or engaging in recreational activities. Walkways and bike paths will offer seamless movement throughout the project area, making walking and biking a practical and attractive alternative to driving.

Additionally, the interior roadways will be developed in accordance with Maui County Code 18.16.050 for Residential Minor Streets (rural) and Agricultural Minor Streets, ensuring that road designs are pedestrian and cyclist-friendly while maintaining the rural character of the area. This careful planning

of transportation infrastructure will enhance mobility options, support a healthier lifestyle, and contribute to a more sustainable and connected community.

With the implementation of the proposed mitigation measures, the Project is not anticipated to result in a significant adverse impact on mass transit, pedestrian or bicycle facilities as the proposed improvements do not involve the obstruction or removal of facilities that would permanently limit the public's use of mass transit, pedestrian, or bicycle routes.

Currently, there is a walking path on the east side of Hāna Highway along the school frontage. Considering the width of the walking path and the lack of standard separation between the walking path and the main road, the pathway is not considered to be ideal for pedestrian comfort. The following improvements are recommended for implementation by the project by the traffic engineer:

- Construct a continuously shared use path along the entire project frontage between the West Collector and East Collector Streets. This facility will encourage the use of walking and biking between the various project uses, as well as provide community benefits for existing residents in homes on both sides of the highway.
 - To complete this link, coordinate with the property owners of the parcels opposite the Hāna Public Library and Hāna High and Elementary School sites
- All interior streets should have a dedicated and ADA-compliant space for pedestrians to walk on at least one side of the roadway, and ideally shared by bicyclists who are not comfortable sharing the street with vehicles.
 - For the interior street that intersects the border between the community center/park and the school sites, a safe and convenient pedestrian and bicycle connection should be provided to encourage site resident students and their guardians, as well as community park visitors, to walk or bike to these areas.
- Design and construct the East Collector Street alignment to be directly opposite the southern driveway serving Hāna High and Elementary School to create a consolidated intersection. A single intersection enhances pedestrian safety by increasing the visibility of pedestrians and bicyclists crossing the highway. The existing site access centerline is offset from the school driveway centerline by roughly 45 feet. This improvement is also listed in the next section.
- Design and construct any Charter School site driveway alignment on the highway near Honokalani Street to be directly opposite this existing public roadway to create a consolidated intersection. A single intersection enhances pedestrian safety by increasing the visibility of pedestrians and bicyclists crossing the highway. In addition, an enhanced crosswalk with an RRFB should be installed at this location to facilitate crossings and enhance safety. This crossing will encourage existing residents to access the community amenities and commercial uses by walking or biking. Similarly, an RRFB would encourage project site residents to walk or bike to the State Park and its amenities.

3.10 Public Facilities and Services

3.10.1 Recreational Facilities and Amenities

Existing Conditions

While official state and county parks near the Project site are limited, there are other recreational amenities in the area that attract both residents and visitors to Maui. The State of Hawai'i DLNR, through its Division of State Parks, is responsible for managing and maintaining the state's parks. In addition, DLNR oversees coastal and forest reserves, some of which may have minimal active management. The County of Maui's Department of Parks and Recreation manages county parks, recreational areas, and related programs.

Additionally, there are publicly accessible recreational areas that may be under the stewardship of private entities or be informal yet popular spots. While these areas may lack formal management, they draw a significant number of visitors and can pose potential hazards. As a result, they are often monitored by emergency services, including fire and rescue, due to their associated risks.

Recreational facilities and amenities located near the Project site include the following (listed from nearest to farthest):

- Wai'ānapanapa State Park (State) – 1.3 miles NE.
- Pā'ani Mai Park (County) – 1.6 miles SE.
- Hāna Bay Beach Park (County) – 2.2 miles SE.
- Helene Hall (County) – 2.2 miles SE.
- Hāna Community Center and District Complex and Ballpark (County) – 2.2 miles SE.
- Kaihalulu Beach a.k.a Red Sand Beach (Ke Ao Ali'i or KAH stewards area surrounding beach) – 2.3 miles SE.
- Kahanu Botanical Garden (National Tropical Botanical Garden) – 3.2 miles NE.

Potential Impacts and Mitigation Measures

During construction, traffic congestion and detours may have a minimal and temporary impact on public access to nearby recreational facilities within a 1.0-mile radius from the Site. However, mitigation measures are proposed in *Section 3.9.1, Roadways, Access, and Traffic* to manage construction-related traffic.

The Project site will offer new recreational amenities to its residents and the surrounding Hāna community. Parks and other recreational opportunities are currently limited in the mauka of Hāna Highway. The project plans include approximately 18.29 acres of park space and 11.63 acres of greenway and community space, providing ample recreational opportunities. A community center (and charter school) will occupy approximately 12.56 acres. Additionally, 137.26 acres of the site will be dedicated to preserving the existing hala grove, maintaining a connection to the natural environment.

The Project will also feature walkways throughout the community, encouraging active and healthy lifestyles by offering residents alternative routes for movement within the area and reducing the

reliance on cars for transportation. These walkways will promote a more pedestrian-friendly environment, enhancing the community's access to recreational spaces.

With the implementation of the proposed mitigation measures, the Project is not anticipated to have a significant adverse impact on existing recreational facilities, as the Project does not involve a long-term loss of access or overuse of recreational facilities. No additional mitigation is recommended.

3.10.2 Educational Facilities

Existing Conditions

Hāna High and Elementary School, directly east (makai) of the Project Site across of Hāna Highway, is the only school in the Hāna District. Hāna High and Elementary School is a DOE school. It has 378 students in grades Pre-Kindergarten and K-12, with a student-teacher ratio of 14 to 1 (DOE, 2024). Hāna Public and School Library is also located on the school campus.

Act 245 authorized the Board of Education to approve School Impact Districts, which allows the collection of impact fees. These School Impact Districts are in areas of high growth that require new schools or the expansion of existing schools to accommodate the increase in new families and projected school enrollments. The Project is not within an Impact District (DOE, 2024).

A charter school and community center are planned for the project site, located adjacent to Hāna Highway. Approximately 12.56 acres will accommodate these facilities, providing educational and communal spaces for the residents and the broader Hāna community. This initiative will enhance local access to education and serve as a hub for community activities.

Potential Impacts and Mitigation Measures

During construction, traffic congestion and detours may have a minimal and temporary impact on public access to nearby schools within a 1.0-mile radius from the Site. However, mitigation measures are proposed in *Section 3.9.1, Roadways, Access, and Traffic* to manage construction-related traffic.

- The average number of children per household in Hāna, Maui is around 0.76 children per household, based on the information that roughly 23.8% of households in Hāna have children under 18 living with them, with an average household size of 3.17 (DBEDT, 2024).
- For the 2023-2024 school year, DOE schools received \$14,161 per pupil (DOE, 2024). An increase in student enrollment at Hāna High and Elementary School resulting from the Project could help boost the school's funding resources. However, it is currently uncertain how many new students will be added, as beneficiaries of the Project may already have children attending Hāna High and Elementary School. In its response to the early consultation for the Project, the Hawai'i Department of Education (DOE) requested that the Department of Hawaiian Home Lands (DHHL) continue consulting with them as residential and potential school developments progress (August 19, 2024, letter from Roy Ikeda, Interim Public Works Manager, DOE).
- A charter school is also planned for the Project site, with approximately 12.56 acres designated for educational and community use. However, specific details regarding the charter school's grade levels and capacity are yet to be determined through further site planning.
- Per comments from Kristin Laitila, Hawai'i Documents Center at Hawai'i State Library, a copy of the draft EA will be available at the Hāna Public and School Library.

With the implementation of the proposed mitigation measures, the Project is not anticipated to significantly impact existing educational facilities in the vicinity of the Project. No additional mitigation is recommended.

3.10.3 Police

Existing Conditions

The County, Maui Police Department (MPD) provides police protection services for Maui. The nearest MPD station is one mile south-west of the Project Site at 4611 Hāna Highway.

Potential Impacts and Mitigation Measures

During construction, there may be an increase in phone calls to the police concerning Project-related traffic and noise. This may result in minor adjustments of police allocation within Central Maui, to provide traffic control at the Site. However, this reallocation of police services would be minimal and temporary.

Hāna is a Census Designated Plan. In 2024, the population of Hāna was 647. Hāna is currently declining at a rate of -6.1% annually, and its population has decreased by -15.76% since the most recent census, which recorded a population of 768 in 2020. Thus, the Project may necessitate an increase in the number of officers stationed at the Hāna Police Station and additional resources for the Maui Police Department (MPD). As the Project develops and leases are awarded, consultation with MPD and the Hāna Police Station is recommended to ensure adequate planning for law enforcement support and resources.

3.10.4 Fire

Existing Conditions

The County of Maui Department of Fire and Public Safety (DFPS) provides emergency and non-emergency services for Maui. DFPS responds to emergencies, including fires, medical emergencies, hazardous materials incidents, motor vehicle accidents, natural disasters, and technical rescues. DFPS provides non-emergency services, including public education, fire inspections, and permit review. The DFPS has 10 fire stations on Maui (DFPS, 2021). The nearest DFPS fire station is the Hāna Fire Station, located next to the Hāna Police Station, approximately one mile from the Project Site at 4611 Hāna Highway.

Potential Impacts and Mitigation Measures

There may be a minimal increase in the demand for fire services during construction, should construction worker safety emergency situations arise. Coordination with the DFPS will be necessary to maintain fire vehicle access to the Site.

The Project will be designed and constructed in compliance with MCC, Chapter 16.04C, *Fire Code*. Driveways will have unobstructed width and vertical clearance to meet DFPS requirements.

The Project Site will include three access roads to Hāna Highway, essential for ensuring efficient emergency response and public safety. These multiple access points will provide crucial routes for emergency responders, such as firefighters and paramedics, allowing them to quickly reach all community areas in case of fires, medical emergencies, or other incidents. In the event of an

evacuation, the additional access roads will prevent bottlenecks and ensure residents have alternative escape routes should one become blocked.

Each access road will have two lanes, enabling bidirectional traffic, which is vital during emergencies when both evacuation and the arrival of emergency vehicles must occur simultaneously. In case of a stalled vehicle or obstruction, traffic can continue to flow in the other lane without hindrance. These roads will be graded and maintained to ensure that even two-wheel drive vehicles can navigate them safely and efficiently, supporting emergency response and evacuation efforts.

The DFPS will review construction drawings during the building permit review process to ensure that fire department access, water supply for fire protection, and fire and life safety requirements are addressed. Additional mitigation measures are proposed in *Section 3.3.5, Wildfire*.

The anticipated population increase due to the Project may necessitate additional crew members and resources for the Hāna Fire Department. However, many beneficiaries may already live in the Hāna area. To adequately plan for growth, consultation with the DFPS is recommended as the Project progresses. This collaboration will help ensure that the fire department is properly equipped and staffed to meet the increased demand for emergency services in the area.

3.10.5 Emergency Medical

Existing Conditions

Two primary medical facilities and services are located near the Project Site: Hāna Health, approximately one mile away, and American Medical Response (AMR), located about two miles southwest of the site. Hāna Health offers primary health care and emergency medical services to the Hāna community, while AMR provides ambulatory and emergency response services. Additionally, there is a family practice physician located near the AMR facility, also about two miles from the Project Site.

Potential Impacts and Mitigation Measures

During construction, there may be a slight increase in demand for medical services if any worker safety emergencies occur. However, emergency vehicle access to the Project Site will be maintained throughout construction to ensure timely medical response when necessary.

At full build-out, the Project could lead to an increased need for emergency medical services due to the projected rise in population. This could place long-term demand on existing medical services in the area. Therefore, ongoing consultation with local medical facilities, particularly Hāna Health, is recommended to ensure that health services can meet the community's growing needs.

3.10.6 Airport

Existing Conditions

The Project site is approximately 2.2 miles from Hāna Airport (HNM). Due to its proximity to the airport, future residents and lessees may occasionally experience noise from aircraft operations, particularly during single-event flights. Additionally, there is potential for intermittent exposure to fumes, smoke, vibrations, or odors resulting from aircraft flying over or near the Project area. The frequency and intensity of these occurrences may fluctuate over time, depending on airport operations and flight activity levels.

Potential Impacts and Mitigation Measures

The proposed development project is located approximately 0.8 miles from the boundary of HNM. It falls within a 5-mile radius of the airport, requiring adherence to regulatory guidelines set by the Federal Aviation Administration (FAA) and the Hawai'i Department of Transportation (HDOT). As outlined in the Technical Assistance Memorandum (TAM). The TAM provides essential guidance on airport-adjacent development, and notes projects in this zone may require additional review or permits, as referenced in the Letter from Edwin H. Sniffen, Director of Transportation (August 19, 2024).

In addition, the project site is approximately 4,750 feet from the end of Runway 26 at HNM. FAA regulations mandate that developers submit FAA Form 7460-1 for any construction or alteration occurring within 20,000 feet of a public or military airport with runways exceeding 3,200 feet in length, especially if the construction exceeds a 100:1 slope from any point on the runway. The use of temporary construction equipment, including cranes, will be accounted for in the submittal. Upon completing the Part 77 analysis, the FAA's response will be forwarded to the HDOT Airport Planning Section.

The Project will not interfere with airport operations, including potential issues like aircraft noise, fumes, vibrations, and odors that may arise due to the proximity of Hāna Airport. These effects are likely to fluctuate based on airport activity and may impact future residents of the project site (TAM, 2016).

Furthermore, the Project includes installing a solar PV system on approximately 32.29 acres (or 5%) of the Project Site. FAA requires a glint and glare analysis to ensure that reflective hazards do not endanger pilots navigating the approach path. As outlined by the HDOT and FAA, the PV system DHHL must mitigate any hazards immediately upon notification. Additionally, FAA Form 7460-1 will be submitted specifically for the PV system, and the FAA's determination will be forwarded to the HDOT Airport Planning Section. There are also potential concerns about radio frequency interference (RFI), which could disrupt aviation communications. In such cases, immediate mitigation would be required (TAM 2016).

Lastly, the project's landscaping will be carefully planned to avoid creating a wildlife attractant, which could pose a hazard to aircraft operations. FAA Advisory Circular 150/5200-33C provides detailed guidelines on minimizing the risk of attracting wildlife near airports. As noted in the Director's Letter, any issues related to wildlife attractants shall be addressed immediately upon notification from the FAA or HDOT. This is especially critical in areas close to active airports, where wildlife hazards can affect aviation safety and community well-being (TAM, 2016).

3.11 Historic, Archaeological, and Cultural Resources

3.11.1 Historic and Archaeological Resources

Existing Conditions

‘Āina Archaeology prepared a Cultural Genealogy Study (CGS) in December 2024 (see *Appendix D*). The study area comprised of TMK parcels: (2) 1-3-004:011, :012, :017, and :018 (por.). For the cultural-historical genealogy, the ahupua‘a of Wākiu is considered the “project area” while Wākiu and adjacent areas within Hāna moku (district) are considered the overall “study areas.” The purpose of AA’s study is to establish the context whereby the significance of the cultural-historical information collected can be assessed. The document also assists in identifying the traditional cultural practices within the study area to distinguish any potential effects on these practices that may occur during, or as a result of, the implementation of the proposed project.

Context

Once a densely populated natural environment with extensive dryland agriculture, fishing, and harvesting of available resources, the Hāna area was converted to sugar production in the mid-1800s. With the terrain unsuitable for this type of commercial cultivation, the sugar plantations struggled on, ultimately shutting down in the mid-1900s. The clearing of the land, however futile, allowed for the forest and native plants to be overrun by non-native species, which, according to the late Robert Hobdy, “changed its character and species makeup”. Regarding the vegetation in the project area, it appears that hala, kukui, and hau are still present. In a 2014 survey of the adjacent ahupua‘a of Kawaipapa, Hobdy did detect the endangered ‘ōpe‘ape‘a (Hawaiian hoary bat, *Lasiurus semotus*), which indicated at least a temporary use of the surrounding area that may include nearby Wākiu.

Based on the Hawaiian Government Survey map for the District of Hāna, the moku of Hāna is comprised of some 37 known ahupua‘a, which, from north to south, include: Ulaino, Makapu‘u, Honomā‘ele (West and East), Kawela, Kauamanu, Ka‘elekū, Honokalani, Wākiu, Kawaipapa, Palemo, Wānanalua, Oloewa, Papaauhau, Aleamai, Haneo‘o, Hāmoa, Mokae, Kakio, Makaalae, Waiohonu, Pohue, Pukuilua, Haou, Hulihana, Kaukuhalahala, Piapia, Koakapuna, Kiwaloa, Pueokauiki, Pohakanele, Ahuakeio, Kihapuhala, Papahawahawa, Muolea, Koali, Wailua, and Puuhaoa. The current project area is located situated in the ahupua‘a of Wākiu, within the moku of Hāna. While an early survey map of Hāna Moku shows the sole ahupua‘a of Honokalani sharing the primary northern boundary with Wākiu (*Figure 3-13*), the final Hawaiian Government Survey title map for Hāna depicts the boundary of Wākiu Ahupua‘a as beginning at the pu‘u of Olopawa (*Figure 3-14*). From this apex, the boundary extends makai, sharing borders with both Ka‘elekū and Honokalani Ahupua‘a to the north, reaching Kuaiwa at the shoreline. It then continues along the coast to a kahuahale (house site) at the shared boundary with Kawaipapa Ahupua‘a to the south, before returning to Olopawa.

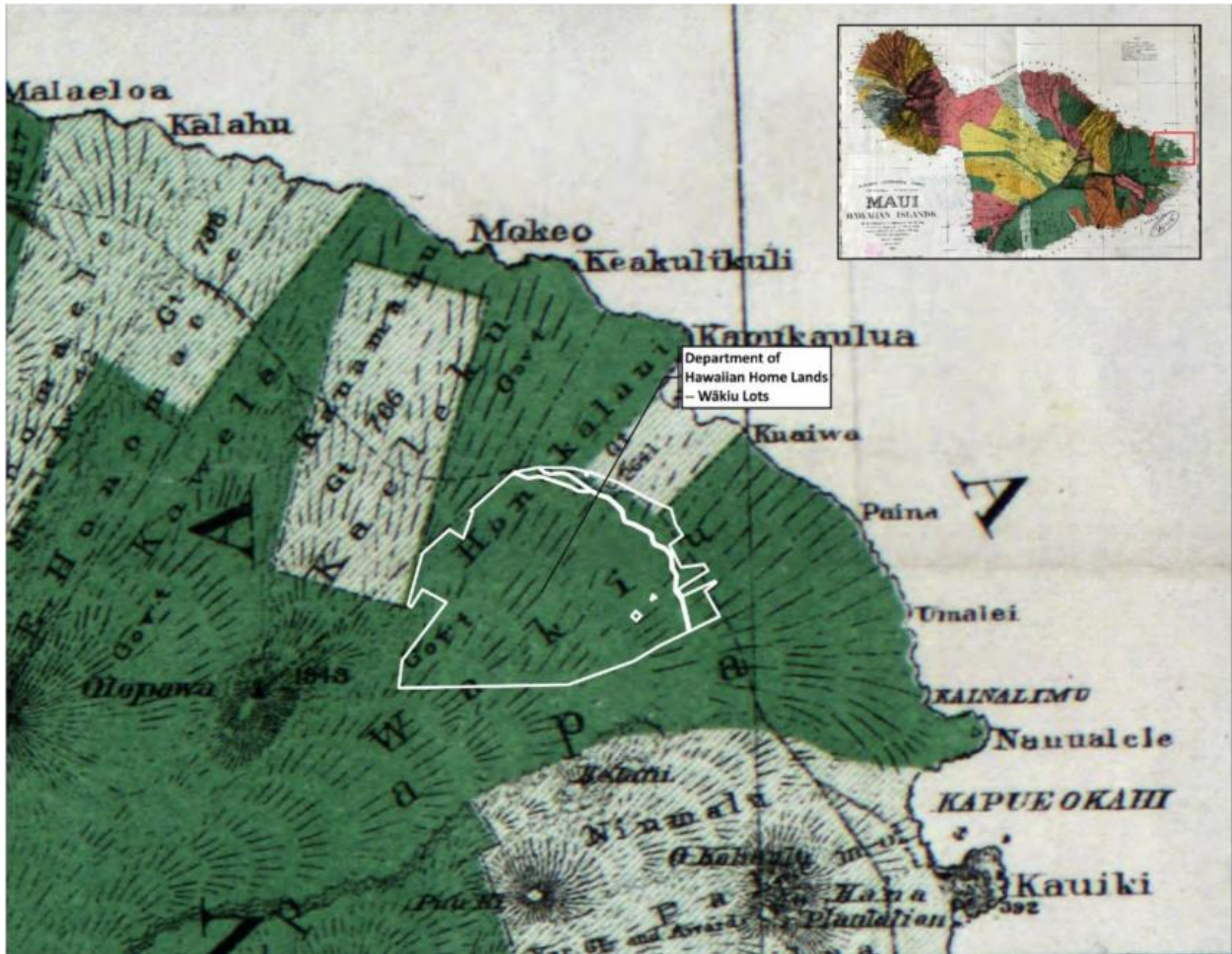


Figure 3-13

1878 Hawaiian Government Survey Map of Maui

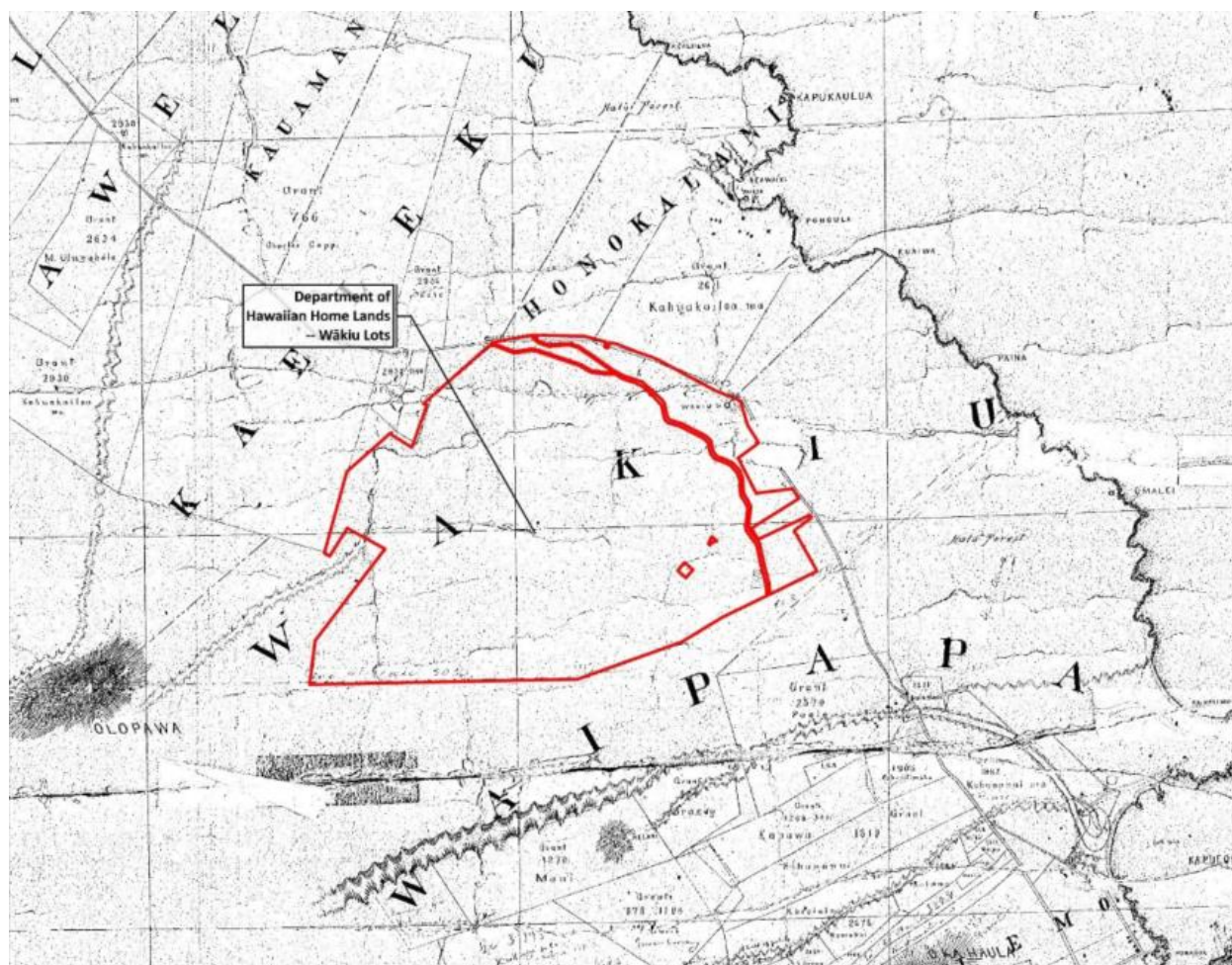


Figure 3-14 1878 Hawaiian Government Survey Title Map of Maui

Ka 'Oihana Mahi 'Ai no Maui Hikina – Traditional Agriculture of Hāna

The Hawaiian worldview and sustainability relied heavily on reciprocity throughout the ahupua'a. The people of the uplands relied on the people of the ocean, and vice versa, to ensure that they had equal amounts of ocean and land resources to continually thrive. It was common for the extended members of an 'ohana to live spread across the coast and uplands to ensure this type of reciprocity maintained community viability through fishing and farming. There is a saying "o ko-a-uka, o ko-a-kai" (of the uplands, of the sea) which refers to this system of kinship exchange that is often used as a trope within traditional mo'olelo. This trope of division of labor paired with geography is evident in the mo'olelo of Kū'ula-kai, who had a younger brother, Kū'ula-uka, whose work, when split between the two, became farming the lands from the seashore to the uplands. Kū'ula-uka eventually moved to the mountains where he took Hina-puku-i'a's sister, Hina-ulu-'ōhi'a, as his wife.

According to Handy and Handy, Maui consisted of five main population centers. Hāna, one of the centers of East Maui, focused on dry taro and sweet potato cultivation. Much of Hāna was cultivated in upland kalo along with banana, yam, wauke, and olona but it was also very famous for 'awa and ali'i also coveted the area for the abundant woods best for crafting scaffolds and ladders to scale fortresses of their enemies during times of war.

The agriculture of Wākiu, although virtually missing from the resources listed in the few claims of the Māhele 'Āina, can be inferred based on the maps of the area and the cultivation occurring throughout other ahupua'a of Hāna moku. Handy and Handy reference Honokalani, the adjacent ahupua'a to Wākiu as "a sizable native settlement, where some dry taro is grown" and the areas of North Hāna as "gently sloping land covered by a recent rugged lava flow; hence there are no constantly flowing streams... [but] dry taro flourishes... in the rich soil composed of a mixture of humus and decomposed lava, which is plenteously watered by rain except during occasional periods of drought". The authors also note that in a small valley just below Olopawa Peak, in the ahupua'a of Wākiu, taro had been cultivated at around 1,500 feet during the dry seasons.

One of the kuleana claims of an 'āina kula, Helu 4931 by Kaahaaina, mentions the large hala (*Pandanus odoratissimus*) forest that borders the 5-acre area distinguished by the claimant. In addition, maps of the area along the coast demarcate "hala forest" stretching from Ka'eleku to Kawaipapa. Hala usage was primarily through the leaves, or lauhala, which are long, slender, and typically have thorns, and were gathered and prepared to weave into various household goods such as mats, pillows, fans, and baskets. The leaves were also integral in thatching hale pili (grass houses) while the fruit (keys) were eaten in times of need, to make lei, and the individual drupes (dried keys) were used as brushes and stamps for kapa. Abbott also mentions use of the hala as and on the rare occasion to create cordage using the aerial roots (ule hala) of the female tree.

Previous Archaeological Studies

Since 1984, a total of 17 archaeological studies have been carried out in the vicinity surrounding the DHHL Wākiu Master Plan area (*Figure 3-15*). While none of these investigations have directly included the master plan area, they have yielded extensive findings along both the coastline and inland regions, with particularly dense and complex archaeological sites and features identified along the Kawaipapa Stream.

The following provides a summary of the types of archaeological findings that have been found in previous studies done *outside of the project area* in the Hāna region:

1. Ceremonial and Religious Features

- Heiau and related complexes, such as the Ohala Heiau Complex (SIHP -05364).
- Ritual and ceremonial platforms with evidence of multiple occupational phases.
- Features associated with burial and mixed ceremonial purposes, including SIHP -08317 and the lava tube cave complex.

2. Habitation Features

- Permanent structures, including platforms, enclosures, rock shelters, and U-shaped alignments.
- Temporary and dispersed habitation features, often associated with cultural deposits of charcoal, marine shell, and artifacts.

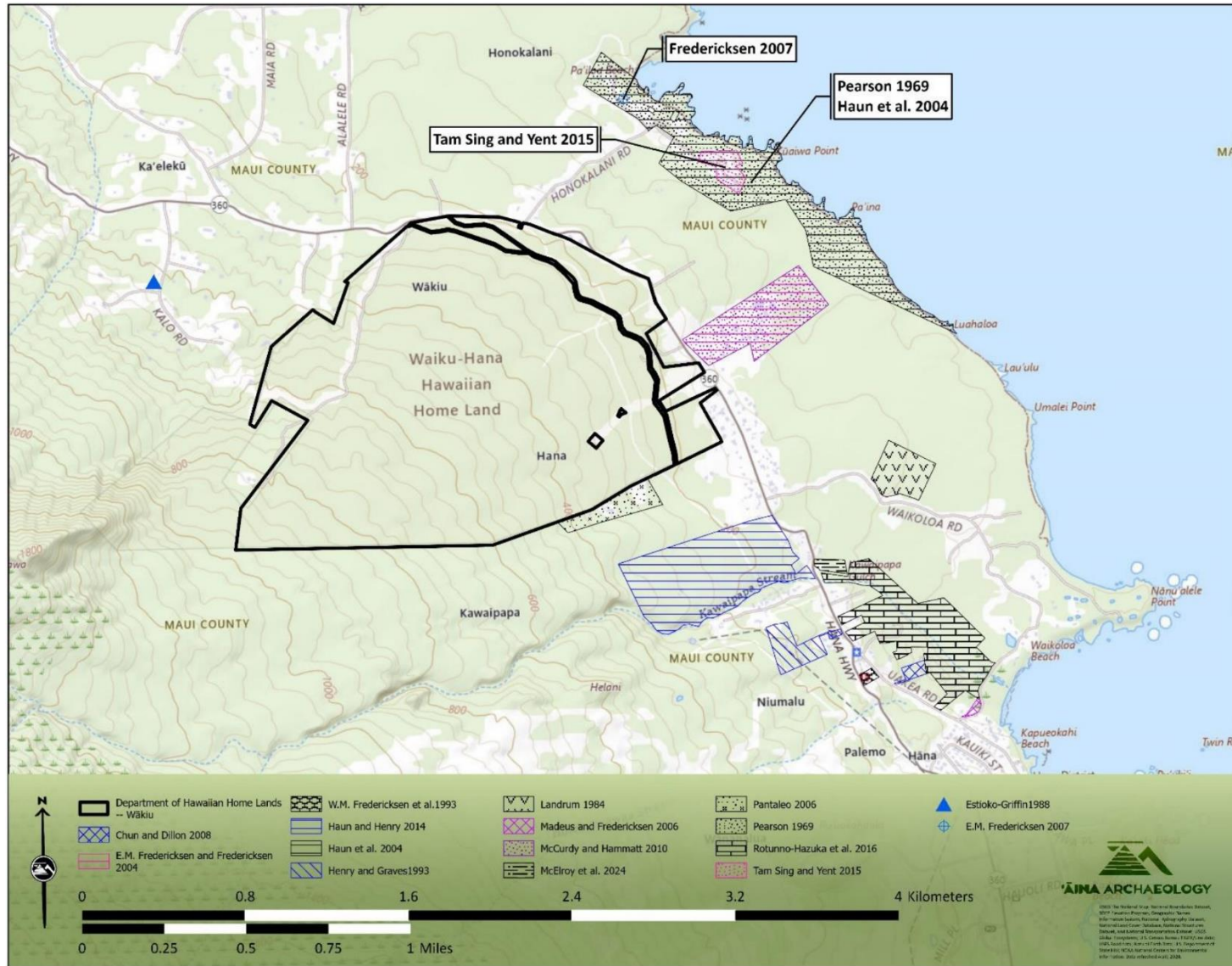


Figure 3-15

Previous Archaeological Study Areas ('Āina 2024)

3. Agricultural Features

- Agricultural complexes featuring terraces, rock mounds, stone-lined pits, and ‘auwai (irrigation channels).
- Features indicative of traditional and historic period cultivation, including wet taro patches and extensive stone-walled enclosures.

4. Coastal and Marine Features

- Fishing shelters, trails, and markers illustrating coastal adaptation and subsistence practices.
- Associated navigational landmarks and pathways connecting coastal and inland resource zones.

5. Transportation and Boundary Features

- Historic transportation routes, such as the Kiha-a-Pi‘ilani Trail and railroad grades.
- Stone walls and alignments marking historic land boundaries or agricultural zones.

6. Animal Husbandry Features

- Enclosures, pens, and walls linked to cattle ranching and pig farming during the historic era.

7. Cemetery and Burial Features

- Historic cemeteries and burial mounds reflecting multi-ethnic and Hawaiian ancestry.
- Lava tube cave burials with associated habitation and defense uses.

8. Historic Infrastructure

- Structures such as boundary walls, concrete slabs, and foundations related to early 20th-century agricultural and residential developments.

Methodology

A project site visit with Wākiu CDC members Alohalani (Jade) Smith, Alikea Smith, Sam Kalalau III, and Loretta “Etta” O’Hara occurred on July 22, 2024 with ‘Āina Archaeology staff Tanya L. Lee-Greig and Leimomi Ah Sing. The primary focus of the visit included gaining familiarity with the cultural resources of the proposed DHHL Wākiu Master Plan area with an emphasis of on the potential presence of highly significant archaeological features. Members of Wākiu CDC graciously spent their time introducing the ‘Āina team the landscape and outer boundary of the master plan area as accessible by existing roads and trails to assist with understanding the extent of the project area, logistical challenges for future archaeological work, and insight into the type of sites and features present.

Findings

Previous archaeological research and field studies in the area surrounding the DHHL Wākiu Master Plan area resulted in the identified site complexes and features that span a broad temporal range, from pre-contact Hawaiian settlement (circa A.D. 1285-1405) to the historic period (19th–20th century). The features demonstrate transitions in land use, ceremonial practices, habitation, and agricultural activities, reflecting the dynamic evolution of the cultural landscape over time.

Potential Impacts and Mitigation Measures

The comprehensive dataset quantified within the CGS study that resulted from background historical research and the subsequent site visit illustrates the region's long-standing cultural significance, encompassing ritual, habitation, and agricultural activities, alongside adaptation to post-contact economic and social changes. With the limited vantage of walking and driving along the boundary of the master plan area along with the extent of both the railroad bed and cleared utility lines near the water tank during the brief, one-day site visit, it is clear that there will always be potential for the presence of above-ground archaeological sites and features representing both pre-contact traditional Hawaiian architecture and historic era ranch and components of industrial sugar ventures as summarized above within the DHHL Wākiu Master Plan area. The most likely areas would be along drainages and contouring low ridges where present.

Given the scale of the proposed project, a comprehensive Archaeological Inventory Survey Plan is recommended prior to initiating formal archaeological fieldwork. This plan should identify phases of development, areas to be avoided, and the required intensity of effort to ensure thorough documentation of historic properties, the results of which could also inform future beneficiary land use based on traditional settlement and agricultural use areas and overall planning.

While no historic properties are currently identified in the project area, the following mitigation actions should be administered.

1. **Documentation and Compliance:** DHHL is tasked with ensuring all historic sites are appropriately documented and managed in compliance with State and Federal laws. An agency letter will be filed by DHHL to SHPD that engages formal consultation under HAR §13-275-5(b). This agency letter will formally request SHPD to opine whether or not an Archaeological Inventory Survey (AIS) should be prepared. Consultation between DHHL and SHPD will be ongoing to assess and ensure compliance under Federal and State law. In compliance with HRS §6E-8 and HAR §13-275, DHHL will work with SHPD to conduct an Archaeological Inventory Survey (AIS), if needed, prior to the finalization and issuance of the lot leases. This survey will ensure that the newly discovered sites and other historic properties are properly identified and evaluated under applicable historic significance criteria.
2. **Cultural Resource Management:** The Wākiu CDC will further support opportunities of cultural resource management and education. The plan emphasizes the necessity to develop capacity and competency towards native Hawaiian stewardship in managing cultural resources, including proper identification, documentation, preservation, and adaptive reuse of these sites. Per HAR §13-276-3, site-specific preservation plans will be prepared and submitted based on the AIS findings and SHPD's recommendations after its review and concurrence.
3. **Regulatory Compliance:** Any construction or land-altering activities will need to adhere to the HRS §6E and HAR §13-275. This includes the short-term and long-term measures of preservation and protection of archaeological sites during project implementation.
4. **NAGPRA Compliance:** As DHHL lands are recognized as tribal lands under the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, any discovery of iwi kūpuna (ancestral human remains), funerary objects, or other culturally significant items must follow NAGPRA's protocols for notification, inventory, and consultation. In addition to further study under an AIS, other specific procedures inclusive of consultation with lineal descendants and/or culturally affiliated Native Hawaiian organizations should be conducted.

Although the CGS was completed as a part of the master plan study, DHHL is required to comply with HRS §6E and the applicable administrative rules for any additional work that may require a State or

County permit or approval. Further, since DHHL lands are defined as tribal lands under NAGPRA, if iwi kūpuna, funerary objects, sacred objects, or objects of cultural patrimony are encountered during construction, its statutory requirements and rules for notification, inventory, consultation, and resolution apply.

3.11.2 Cultural Resources

Existing Conditions

A Cultural Impact Assessment (CIA) was prepared for the Project by Keala Pono Archaeological Consulting, LLC in January 2025. The CIA comprises archival background research that synthesizes traditional and historic accounts for the Wākiu Ahupua‘a, located in the Hāna District. The CIA includes interviews with community members for the purposes of identifying cultural and traditional resources and practices of importance and potential concerns regarding the Project (Keala Pono, 2025). See *Appendix E: Cultural Impact Assessment*.

Context

Under the traditional Hawaiian system, one island or section of an island was the domain of an ali‘i nui or mō‘ī who had gained control through a combination of inherited rank and personal prowess. It was during the time of the ali‘i Kaka‘alaneo of Maui that land on the island was divided up and portioned out into districts, sub-districts, and smaller divisions. Each of these was ruled over by an appointee of the landlord of the next larger land division. All of these divisions and subdivisions were ultimately under the control of the chief who ruled a portion of, if not the entire, island. Traditional sources recount that this division on Maui came shortly after the time of Wākea, ancestor of all ali‘i. The unification of Maui by the brothers Pi‘ilani and/or Kihapi‘ilani brought together two comparable systems operating in East and West Maui, pulling them together under a single ali‘i nui or mō‘ī.

The largest divisions were the islands themselves. These were then divided into moku and smaller districts called kalana, though neither of these had designated administrators. The next unit down in size was the ahupua‘a, which was ruled over by a chief or a konohiki.

Whereas district and ahupua‘a boundaries were likely defined roughly 500 years ago, some district boundaries were established more recently, and this is the case with Hāna. Due to governmental changes in the mid-19th century, some district boundaries on Maui were renamed or redefined as people moved to different areas and land use changed. The current moku of Hāna includes the ancient districts of Kahikinui, Kaupō, Kīpahulu, Hāna, and Ko‘olau. It spans from Makapu‘u Ahupua‘a in the north to Pu‘ualu in the south and is a legendary moku associated with ali‘i. Wākiu is situated between Kawaipapa Ahupua‘a to the south, Ka‘elekū to the northwest, and the small, coastal ahupua‘a of Honokalani to the north.

Hawaiian place names provide a “living and largely intelligible history” for these landscapes. Several place names associated with the study area are listed in the Place Names of Hawai‘i, along with the meanings of the names and/or comments about the specific locales:

Hāna. Quadrangle, village, bay, surfing area, elementary and high school, beach park, district, forest reserve, plantation and road, East Maui. Queen Ka‘ahumanu was born here at a place called Pōnaha ke one (circle [of] the sand) Poetic: ‘āina ua, lani ha‘aha‘a, rainy, low-lying sky.

Honokalani. Land section, Hāna qd., Maui. Lit., the royal chief bay.

Ka'elekū. Land section near, Hāna, Maui. Lit., the basaltic rock.

Kapukaulua...Point, Hāna qd., Maui... Lit., the ulua fish hole.

Kawaipapa. Land section and gulch near Hāna, Maui where chief Kihaapi'ilani built a path paved with stones. Lit., the stratum stream.

Wai'ānapanapa. Lakes (6,800 feet elevation), Hāna Forest Reserve, Nāhiku qd.; State park and caves, Hāna qd., Maui. A cruel chief, Ka'akea, suspected his wife, Pōpō'alaea (ball of ochrous earth), of having an affair with her younger brother. The wife hid in a cave, but the shadow of the kāhili waved by the attendant betrayed their hiding place, and Ka'akea killed them both. On the night of Kū, the water in the pool is said to run red... Lit. glistening water.

Wākiu. Land section near Hāna, Maui. Lit., northwest wind sound.

'Ōlelo no'eau (proverbs) are another means by which Hawaiian history has been handed down and recorded. Keala Pono found just one 'ōlelo no'eau that mentions Wākiu specifically, which described the theory-leaved hala of the area as a metaphor for a person not to be tampered with. Other 'ōlelo speak of the greater Hāna region as a whole, including the scarcity of fish in the area, the extents of the Hāna district, battles and political discussions of the time, the misty rain of Hāna that comes from the sea, legends of historic figures from the area, and geographical descriptions of places such as Kaihuokala (a hill on the Hāna side of Haleakalā), Wananalua, Punahoa, and Ka'uiki (Keala Pono, 2025). For a more detailed discussion on the 'ōlelo no'eau for this area, please see Appendix E: Cultural Impact Assessment.

The entirety of Hāna was considered a wahi pana and was linked through legendary, historical, and traditional accounts to various traditional deities like Pele, Kāne, Kanaloa, Pu'uhele, and Maui. Like 'ōlelo no'eau, mo'olelo offer insight into what life may have been like in the project region in ancient Hawai'i. They preserve topics of interest relevant to particular areas that were meant to be passed down the generations of those living in that place. While just one story speaks of Wākiu, the greater Hāna region is often discussed in legendary accounts. One mo'olelo was also found that speaks of the nearby Wai'ānapanapa caves in Honokalani (Keala Pono, 2025). For a more detailed discussion on the mo'olelo or mele for this area, please see Appendix E: Cultural Impact Assessment.

Traditionally, Wākiu was considered to be well supplied with both marine and terrestrial resources, however the entire northern half of the Hāna District where the project area is located did not have any perennial streams during ancient times due to a relatively recent lava flow. One nearby source of freshwater is the Wai'ānapanapa caves near the coast, which collect freshwater since it floats at the surface above the ocean water. Despite the lack of reliable water sources, the rich, volcanic soil made the region ideal for dryland kalo cultivation. Though most of Hāna is too wet for growing 'uala, it was farmed near the coast where it was drier. Close to the Wai'ānapanapa caves was a large settlement called Honokalani, which shares its name with the small ahupua'a at the shore, adjacent to Wākiu. This area was known for having cultivated some dryland kalo and 'uala. Wākiu and Honokalani are also known for vast hala groves, which are noted in historical documents and 'ōlelo no'eau. The project area still contains several of these areas of large hala forest. The island of Maui exhibits eleven great heiau (200 ft. in length or longer), and six of them are located within Hāna District, demonstrating the importance of the project region in traditional times. A number of smaller heiau were also scattered throughout the district. Two heiau are located within Wai'ānapanapa State Park, which spans the ahupua'a of Honokalani and Wākiu.

Historical contact between Hawaiians and the western world is generally accepted to have begun with Captain James Cook in 1778, and the Hawaiian islands were not yet united under one sovereign at that time. Following Cook, a wave of other foreign explorers landed on Hawai'i's shores. It was during this time that O'ahu's sovereignty ended with the invasion of the Maui chiefs, and the Maui rule was subsequently overcome by the invasion of forces from Hawai'i Island. Kaua'i and Ni'ihau were ruled by Kaumuali'i who relinquished control in 1810 during peaceful negotiations with Kamehameha I, who then became the ruler of all the Hawaiian Islands.

Changes in the traditional land tenure system in Hawai'i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Great Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands (Keala Pono, 2025).

Land Patent Grants and Royal Patent Grants (LCAs and GRs) generated during the Māhele offer valuable information regarding land use, traditional and historic boundaries, and landmarks, as well as the natural resources of the area. A total of 11,179.39 acres consisting of 77 LCAs and 71 GRs were awarded in the Hāna District. LCAs were approximately 2.10–1,093.50 acres, while GRs measured between 0.66–336.30 acres in size. Records show that these lands were used for wet and dry kalo cultivation, 'uala, kō, niu, and as piggeries. Three LCAs were awarded near the current project area. Two are located on either side of Hāna Highway and the other is east of the Government Road. Māhele documentation lists a hala grove, an 'a'ā ridge, and a nearby trail leading to the ocean for the makai lot, LCA 4931 awarded to Kaahina. No land use or additional information was listed for the other two parcels awarded to Puhake as LCA 4666 and Pua Lou as LCA 4665 (Keala Pono, 2025).

By the mid-1800s missionaries began to settle in East Maui, establishing mission stations and churches, some constructed near traditional heiau. In 1837 a mission station was built at Hāna, which drew residents from around the district. Also in the mid-1800s, the sugar industry reached East Maui, becoming one of the first places with commercial sugar cultivation. The earliest sugar plantation in Hāna was established near Ka'uiki around the same time as the Māhele. The 60-acre plantation was owned by Lindgren who also built a sugar mill out of a grass shack. Initially, local farmers would cultivate sugarcane on their LCAs and GRs to sell to the mill. In 1851, the Hana Plantation Company was established by a former whaler, George W. Wilfong, though it soon burned down and became abandoned. A Dane named August Unna began purchasing the smaller plantations such as that owned by Lindgren in order to restore the Hana Plantation Company. He began his endeavor in 1861 and by the end of the 1800s, nearly all of the small farmers ceased operations, changing the livelihood of Hāna residents. Fertile land was farmed, used for grazing or "at least surveyed for its economic potential." Not many maka'ainana owned land and lost their traditional land use rights in the private land tenure system. Since they were no longer self-sufficient, many of these people had little choice but to become indentured laborers as a means to buy food and pay the king's taxes.

Plantation workers would move cane from the field to the Hana Plantation mill located mauka of Hāna Harbor until 1883 when a 20-inch gauge rail system was constructed. By this time, Hāna had six commercial sugar plantations: Kaeleku Sugar Company, Hamoa Agricultural Company, Kawaiapa Agricultural Company, Hana Sugar Company, Reciprocity Sugar Company, and the Haneoo Agricultural Sugar Company. The commercial sugarcane era in Hāna peaked around 1936, however, just a decade later in 1946 the last sugar plantation in Hāna closed, in part due to tsunami damage to the harbor.

Roughly 14,000 acres of the Hana Plantation was sold in 1944 to Paul Fagan, who had plans to start Hāna Ranch. The same year, he founded Ka'uiki Inn, later named Hotel Hāna Maui. The cane fields served as the initial pasturage for cattle, but were converted over the years through the addition of various grasses, including the down dominant pangola. Ranch land clearing took place in the 1960s, utilizing bulldozers created numerous piles of wood and dirt and stone piles. The proliferation of non-native plant growth from the 1960s to present day has resulted in significant alteration of the vegetation in the area. Prior to converting Hana Plantation's cane fields into ranchland, Fagan had been the owner of Moloka'i's Pu'u o Hoku Ranch and Maunawili Ranch on O'ahu. Fagan brought cattle from Moloka'i and put them out to graze in the existing fields, which drastically altered the landscape once more.

Today, tourism has grown in the Hāna District. The makai subject parcels are located along one of the most popular tourist destinations on Maui, the scenic Road to Hāna (Hāna Highway), and the original hotel established by Fagan is still the main hotel in the area, now called the Hyatt Hāna-Maui Resort.

Community Consultation

The CIA was conducted between September 2024 and January 2025 through a multi-phase process. Interviewees were selected because they met one or more of the following: 1) was referred by Keala Pono Archaeological Consulting or DDC2 LLC; 2) had/has ties to the Project area or vicinity; 3) is a known Hawaiian cultural resource person; 4) is a known Hawaiian cultural practitioner; and/or 5) was referred by other cultural resource professionals. These interviews were conducted in person and recorded. Transcriptions were completed by listening to the recording of each interview and verifying the transcript with each interviewee. A total of four interviews were conducted, with interview topics that included connections to the project lands, Wākiu history, the natural environment, archaeological sites and cultural practices, change through time, and recommendations and mitigations for the project.

Although the project area in Wākiu has had a relatively sparse population throughout history, there are 'ohana which have historically been tied to that area, and there are familial descendants today who continue to have this deep connection. While very few families lived in the mid to higher elevations of Wākiu, many others lived at the lower elevation to carry on their fishing traditions while farming, hunting, and harvesting various resources, such as bamboo and bird's nest ferns, up in the project area. Other resources included the selecting of trees to make canoes and the collecting of rock to make slingstones. A very important resource of the landscape were the lava tubes and caves themselves, which were strategically used for war purposes, or used as refuse pits, or used to store fishing canoes in the makai area. Some of the crops that were farmed in Wākiu are the papaya, sweet potato, 'ulu, kalo, and banana, including the introduced bluefield banana.

Besides farming, small-scale ranching of cattle took place along with the raising of pigs. As the land use of the region changed over time, from subsistence use to ranching to the large-scale production of sugarcane, so too did the landscape change. Houses were clustered along the old sugarcane road. Tunnels were built at the cinder peak to bring water down to the sugarcane fields, and a railroad track was installed to run through Wākiu, transporting agricultural produce and other things down to the wharf at Hāna Bay. Perhaps more impactful than the change of the landscape is the change of the community due to wealthy newcomers moving into the area. What was once a tight-knit community of less than 1,000 people has increased to more than 7,000. The Hāna community continues to try to get along with this influx. The interviewees also talked about the changes they have seen in the area, including environmental changes such as fewer hala and 'ōhi'a today due to the introduction of

miconia and other exotic, non-native plants, and buffalo grass and other grasses overcoming the forest. Edited transcripts are presented in Appendix E (Keala Pono, 2025).

Ka Pa'akai Analysis

The Ka Pa'akai Analysis framework originated from a landmark Hawai'i Supreme Court ruling in the case of *Ka Pa'akai O ka 'Āina vs. Land Use Commission, State of Hawai'i*, in 2000. This ruling was pivotal in the context of the proposed development of Ka'ūpūlehu in North Kona. Overturning the Land Use Commission's decision to reclassify approximately 1,000 acres of land from conservation to urban, the court emphasized the imperative to safeguard and uphold the gathering and access rights of Native Hawaiians. The Ka Pa'akai Analysis framework was thus established to ensure the enforcement of traditional and customary Native Hawaiian rights while balancing competing private development interests (OHA, 2023).

To adhere to Article XII, Section 7 of the Hawai'i Constitution, which mandates the preservation and protection of customary and traditional Native Hawaiian rights to the extent feasible, an administrative agency must conduct a comprehensive assessment. This assessment should entail specific findings of fact and conclusions of law pertaining to the following tests:

- 1. Identification of Valued Cultural, Historical, or Natural Resources:** This involves recognizing tangible cultural, historical, or natural resources within the project area, as well as acknowledging the extent to which traditional and customary Native Hawaiian rights are exercised therein.
- 2. Assessment of Impact on Resources:** This entails evaluating the potential adverse effects of the proposed action on identified resources, including any alterations, destruction, or modifications that may occur.
- 3. Identification of Feasible Protective Measures:** This step seeks to identify practical actions, if any, that can be taken to reasonably safeguard Native Hawaiian rights if they are found to exist (OHA 2023, Honua 2023).

First Test: Identification of Valued Cultural, Historical, or Natural Resources

This test comprises two elements:

- **Identification of Tangible Resources:** Recognizing existing cultural, historical, or natural resources, such as sacred sites and culturally significant flora and fauna. The previous sections have provided sufficient detail as to identifiable tangible resources within the Project area.
- **Assessment of Utilization:** Understanding how these resources are accessed and utilized in connection with traditional practices. The Cultural Impact Assessment conducted for this EA provides sufficient details as to how cultural and natural resources have continued to be accessed and utilized for continued traditional and customary practices with the Project area.

Second Test: Assessment of Impact on Resources

This test involves evaluating whether the proposed action may adversely affect identified resources, including potential harm to biological, cultural, and historical sites. The proposed Project action at Wākiu holds the potential to benefit and upholding Native Hawaiian rights, provided existing tenants' rights and traditional practices remain unimpeded and wherein appropriate are further protected and restored.

Third Test: Identification of Feasible Protective Measures

The third test includes feasible actions to protect Native Hawaiian rights may include:

- Collaborating with the Wākiu CDC to ensure cultural resources remain unharmed.
- Adopting agreements and conditions for future leases, incorporating the Wākiu Master Plan (built upon the foundation of kapu and kōnāwai developed in the Honuailākea process) to safeguard cultural rights and environmental integrity.
- Establishing hala preserve areas to ensure native plant resources remain available for cultural practices for generations to come.

By adopting such measures, the DHHL can ensure the preservation of cultural rights and practices at Wākiu in alignment with the principles of the Ka Pa‘akai Analysis.

Potential Impacts and Mitigation Measures

The purpose of the Project is to provide homesteading opportunities to DHHL beneficiaries and decrease the number of beneficiaries on the DHHL Maui Islandwide Residential Waiting List, thereby fulfilling the purpose of the HHCA and the 2022 DHHL General Plan Update.

Due to the history of Wākiu, a historic railroad track still runs through the area. And from the ranching era, walls and animal enclosures might still be present under the vegetation. Furthermore and perhaps more importantly, lava tubes and caves, utilized since traditional times for war, refuse, or storage, might be uncovered. Farming was also done in the area, so traditional agricultural remnants could still be present. Besides the practices of farming and ranching, hunting and the harvesting of natural resources did occur in the mauka portions of Wākiu, and might still occur today. In mele and mo‘olelo, the abundance of ‘awa was celebrated, and the presence of the ‘ōpae‘ula was noted to memorialize the death of an ali‘i wahine in the area. No other cultural resources, practices, or beliefs were identified.

The CIA noted that all of the interviewees express their support for the DHHL project, adding that it is much needed in the community. Generally speaking, the interviewees did not expect the project to have any adverse effects on specific cultural resources and traditional practices in Wākiu. However, adverse effects are not ruled out, and care should be taken as the project moves forward, in case culturally significant lava tubes and caves or other traditional properties are inadvertently discovered.

The Wākiu Master Plan emphasizes the restoration of disturbed and converted agricultural era land uses back to ‘āina, restoring Hawaiian people back to place based upon the cultural and ‘āina engagement developed with the Wākiu CDC and beneficiaries of the Hāna region. The Master Plan is anticipated to preserve cultural and natural resources to provide a positive benefit for generations to come.

3.12 Socio-Economic Characteristics

Existing Conditions

The estimated population of Maui County in 2020 was 164,754 (USCB, 2020), with projections indicating an increase to 211,537 by 2045 (County, 2020b).

Hāna, a Census-Designated Place (CDP) in Maui County, has a population of 647 in 2024. The area is facing a population decline, with an annual decrease rate of -6.1%, representing a -15.76% reduction since the 2020 census, which recorded 768 residents. Approximately 23.9% of Hāna’s population is employed, with the majority working in the Accommodation and Food Services sector, followed by the Construction and Agriculture, and Forestry, Fishing, & Hunting industries (Data USA 2024). Meanwhile, the median household income in the Hāna CDP was \$51,188 in 2022 dollars (Data USA 2022).

In 2020, the majority of DHHL lessee households in Maui comprised three to four people per household with no children. Approximately 55% of households had 1-2 adults employed full-time, while approximately 28% had 1-2 adults employed part-time (DHHL, 2020b). For further information, see *Figure 3-16, 2020 Lessee Characteristics*.

Median sales prices for single-family residences and condominiums on Maui have reached historically high rates, highlighting the need for affordable housing.

Potential Impacts and Mitigation Measures

The Project involves the development of up to 238 residential and subsistence agricultural homestead lots for DHHL beneficiaries in the Hāna District. It is aligned with the existing residential land use and character of the community. While the Project may increase the population in the Hāna area, it primarily targets beneficiaries who already live in or have strong ties to Hāna. Although some beneficiaries may relocate from other parts of Maui or neighboring islands, the majority are expected to move to Wākiu from other parts of Hāna or nearby communities. Therefore, the Project is not expected to alter the region’s demographic composition significantly.

In the short term, the Project will generate economic benefits by employing design and construction firms and purchasing construction materials. The State and County will also receive revenues from general excise and income taxes. Over the long term, residents will contribute to the County revenue fund through property taxes. The socio-economic benefits of providing DHHL beneficiaries with permanent residences in the area are significant. Although services are limited, the area does have access to health and emergency services. The County of Maui also operates a branch of its Public Works Department in Maui. There is also the opportunity for small farming, fishing, and value-added businesses in the new Wākiu community. The Project will include small commercial and industrial (boat storage and repair) spaces fronting Hāna Highway), space for community services (such as for small business and kūpuna support), and a charter school.

The Project supports DHHL’s mission to effectively manage the Hawaiian Home Lands Trust and provide land for beneficiaries. DHHL maintains waiting lists for homestead leases, and demand is high. As of January 2025, the Maui Islandwide Residential Waiting List included approximately 3,987 applicants (DHHL, 2025). While this Project specifically benefits DHHL beneficiaries, DHHL recognizes that all housing developments contribute to addressing Maui’s broader housing shortage.

The Project is expected to have long-term positive socio-economic impacts, as it will increase housing opportunities for native Hawaiian beneficiaries and generate direct, indirect, and cumulative benefits in terms of jobs, earnings, and tax revenues. No mitigation is recommended.

		County of Residence					Total
		Honolulu	Maui	Hawai'i	Kaua'i	Out of State	
		Col %	Col %	Col %	Col %	Col %	
Household Size	1 to 2 people	23.1%	25.8%	41.9%	30.7%	57.1%	28.5%
	3 to 4 people	30.8%	29.5%	30.5%	34.3%	28.6%	30.7%
	5 to 6 people	26.3%	24.8%	14.7%	14.5%	0.0%	22.4%
	7 or more	17.8%	15.8%	8.6%	16.3%	14.3%	15.3%
	Not reported	2.0%	4.1%	4.3%	4.2%	0.0%	3.1%
Household Members Under Age 18	None	33.3%	33.8%	48.7%	43.4%	28.6%	37.4%
	One member	17.3%	13.5%	11.9%	9.6%	28.6%	14.9%
	Two members	18.5%	17.6%	11.2%	15.1%	14.3%	16.4%
	Three members	9.2%	9.5%	5.5%	7.8%	0.0%	8.3%
	Four or more members	7.7%	8.4%	4.9%	9.0%	0.0%	7.3%
	Not reported	14.0%	17.1%	17.8%	15.1%	28.6%	15.6%
Household Members Over Age 70	None	49.4%	44.8%	52.1%	51.8%	14.3%	49.0%
	One member	21.5%	19.9%	16.6%	20.5%	28.6%	20.1%
	Two members	11.3%	12.3%	12.1%	9.0%	42.9%	11.7%
	Three members	1.9%	.4%	.8%	.6%	0.0%	1.3%
	Four or more members	1.7%	2.1%	1.2%	.6%	0.0%	1.6%
	Not reported	14.2%	20.4%	17.2%	17.5%	14.3%	16.3%
Adults in Household Employed Full-time	None	7.3%	8.6%	12.7%	9.0%	14.3%	8.9%
	1-2 adults	54.8%	54.9%	49.1%	54.8%	42.9%	53.5%
	3-5 adults	20.1%	12.8%	9.2%	9.6%	0.0%	15.4%
	6 or more adults	1.0%	.2%	1.0%	2.4%	14.3%	1.1%
	Not reported	16.8%	23.4%	28.0%	24.1%	28.6%	21.1%
Adults in Household Employed Part-time	None	26.8%	21.3%	23.3%	25.3%	28.6%	24.9%
	1-2 adults	24.8%	27.9%	24.7%	24.1%	28.6%	25.3%
	3-5 adults	1.0%	.7%	1.4%	1.2%	0.0%	1.0%
	6 or more adults	0.0%	0.0%	0.0%	.6%	0.0%	.0%
	Not reported	47.4%	50.1%	50.7%	48.8%	42.9%	48.7%

Source: DHHL, 2020b

Figure 3-16

2020 Lessee Characteristics

3.13 Visual and Scenic Resources

Existing Conditions

Visual and scenic resources include panoramic views and vistas, landmarks, landscape features and open space areas.

The County *Maui Island Plan* identifies the following as protected views: Haleakalā, ʻĪao Valley, the Mauna Kahalawai (West Maui Mountains), Puʻu ʻŌlaʻi, Kahoʻolawe, Molokini, Molokaʻi, Lānaʻi, Mauna Kea, Mauna Loa, and the Pacific Ocean. The following roadways are identified as scenic corridors: Haleakalā Highway, Honoapiʻilani Highway, Hāna Highway, Kula Highway, and Kahekili Highway (PD, 2012).

Haleakalā is west of the Project Site with Hāna Highway and the Pacific Ocean to the east. The Site is predominantly surrounded by open space and views of Waiʻānapanapa State Park and the Hāna coast. A portion of Hāna Airport is visible to the northeast of the Project Site. Views of Haleakalā and the Hāna coast will be mostly unobstructed once the Project Site is cleared of overgrowth of invasive trees, such as Miconia and African Tulip.

The Project Site is adjacent to the Historic Hāna Belt Road. In August 2000, President Bill Clinton designated the highway as the Hāna Millennium Legacy Trail. The Hāna Highway was listed on the National Register of Historic Places on June 15, 2001. Scenic views from this corridor are highly protected.

Potential Impacts and Mitigation Measures

Construction activities and equipment will be visible from neighboring properties. However, construction-related visual impacts will be temporary. Dust screens will be installed at the Site, which will have a dual function of mitigating the dispersion of dust and screening views into the Site, thereby mitigating visual distractions to the surrounding area.

The Project design considers the important scenic resources for the surrounding community and the beneficiaries of this project. Thus, the Project is committed to protecting views and scenic corridors. The design and scale of the single-family residences will be compatible with the surrounding community character. The Project will generally conform with the allowable height and development limits per the MCC. The residences will be painted with neutral/natural colors to blend into the surrounding landscape. The Project will improve the Site's overall aesthetics by removing obstructing invasive vegetation, preserving the existing hala grove, providing parks and open space, and native landscaping to the extent possible.

The Project is not anticipated to have a significant adverse impact on visual, scenic, and open space resources in the vicinity of the Site. No mitigation is recommended.

3.14 Potential Cumulative, Indirect, and Secondary Impacts

Per HAR §11-200.1-2, cumulative impacts result from an action's incremental effects when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individual minor actions that become collectively significant over time. Indirect or secondary impacts are associated with but do not result directly from an action. They are reasonably foreseeable impacts that are caused by the action but are distanced by time and space from the Site. Indirect impacts may include growth-inducing effects and other effects related to changes in land use patterns, population density, and related effects on air, water, and other natural resources.

The proposed Project is planned for development on a vacant, undeveloped inland (mauka) area of Hāna. It is an independent initiative, not part of a larger development, nor does it represent a commitment to future phases or related actions. The project's design and construction will focus on minimizing potential negative impacts on cultural, historic, environmental, and scenic resources. The goal is to enhance preservation efforts while also supporting the continuation of subsistence agriculture in the area. Given these considerations, no significant environmental impacts are anticipated as a result of the project.

Most of the Site falls under the ALISH "Other" classification (as opposed to "Prime" or "Unique") and carries an LSB rating of "D". More details on these classifications can be found in *Section 3.2.1* of this document. Additionally, the site is not designated as an IAL. Although the land is zoned for agricultural use, it has not been cultivated for some time. The DHHL intends to revitalize agriculture in the area, focusing on traditional practices while incorporating homestead and pastoral (livestock) uses, commercial and educational facilities, and recreational and preservation spaces. These efforts aim to enhance access to agricultural products, promote economic development, provide educational opportunities, and offer community services for the greater Hāna region.

While access to government services in Hāna is limited, medical and emergency services are within 1-2 miles of the project site. The site is located directly west (mauka) of Hāna High and Elementary School, which also houses the Hāna Library. Additionally, the site is within a mile of Wai'ānapanapa State Park, with beaches and coastal trails nearby. The project site is adjacent to a section of the historic Hāna Belt Road, offering scenic views of Haleakalā, Wai'ānapanapa State Park, coastal landscapes, and Pu'uki'i islet to the southeast. Hāna Airport is located approximately 2 miles away from the project site to the northeast.

It is also important to note that DHHL is actively working on a statewide Agriculture Program Plan to identify DHHL lands best suited for agricultural use, further supporting agricultural initiatives on the Wākiu site.

The proposed project is expected to result in a modest population increase in the Hāna area. However, this increase is not anticipated to significantly impact the region or Maui's overall population projections due to the ongoing population decline in the Hāna region. Hāna currently has a population of 647 as of 2024 and has been experiencing an annual decline of -6.1%. Since the most recent census in 2020, which recorded a population of 768, Hāna has seen a -15.76 % decrease in its population. Given this trend, the cumulative impact of the project on population shifts will be minimal, as it is not expected to cause a substantial increase in regional population density.

The project requires basic infrastructure such as potable water, wastewater service, power, and telecommunication; however, the Project will be developed within service capacities and will not

overcommit resources. Further, the TAR concluded that study intersections will operate at a similar LOS during base and future year scenarios. Minor traffic and roadway improvements will be implemented; however, traffic signals are not warranted at any of the Project's proposed three driveways at Hāna Highway/Olopawa Road, Hāna Highway/Honokalani Road, and Hāna Highway/Hāna High & Elementary School Driveway(s). As such, cumulative impacts on utilities and infrastructure are relatively minor.

The effects of climate change are cumulative and indirect, occurring gradually over time and often distanced geographically and temporally from the project site. The proposed project's contribution to GHG emissions is expected to be relatively minimal, especially with the incorporation of planned mitigation measures. As a result, the project does not meet the threshold for mandatory federal GHG reporting.

In alignment with DHHL's Ho'omalū Energy Policy, the project will incorporate sustainable design principles, promoting the construction of energy-efficient homes under programs such as Hawai'i BuiltGreen and ENERGY STAR. Energy-saving fixtures, appliances, and solar water heating systems will be installed where feasible, contributing to reducing GHG emissions. Additionally, landscaping with native trees and vegetation will be implemented throughout the site, further aiding in the absorption and mitigation of local GHG emissions. These efforts collectively support the Project's commitment to minimizing environmental impact and enhancing sustainability.

The Project's construction is expected to have both short- and long-term positive impacts on the local economy, contributing to job creation, increased earnings, and higher tax revenues. The project will generate employment opportunities in construction and related fields in the short term. Over the long term, the project will provide socio-economic benefits by offering permanent residences for beneficiaries, supporting subsistence and economic activities, and creating commercial services and employment opportunities.

These cumulative and indirect impacts will contribute to the overall economic well-being of the Hāna community. Therefore, with the proposed mitigation measures, the Project is not anticipated to result in significant *adverse* cumulative, indirect, or secondary impacts.

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Chapter 4

Alternatives to the Proposed Project

Chapter 4

Alternatives to the Proposed Project

This chapter describes a range of alternatives considered to the Proposed Action, and a high-level analysis of the potential impacts in comparison to the Proposed Action. Overall, the Proposed Action seeks to support the overall mission of DHHL and address the needs of existing and future beneficiaries through the following criteria:

1. Meeting Homesteading Demand: The DHHL Wākiu Master Plan addresses the pressing need for housing among DHHL beneficiaries by providing up to 238 homestead lots. This will help to mitigate the housing shortage faced by Native Hawaiians in the County of Maui. It aligns with DHHL’s mission to provide affordable housing opportunities.

2. Preservation of Cultural Heritage: Through its emphasis on traditional Hawaiian practices and subsistence living, the Wākiu Master Plan contributes to the preservation and revitalization of Native Hawaiian culture that is unique to the lifestyle and character of Hāna. By integrating cultural elements into the development plan such as hala conservation areas and sustainable agriculture and pastoral land use options tied to traditional Hawaiian agriculture practices, the Master Plan honors the ancestral connections to the land and promotes cultural sustainability.

3. Empowerment Through Land Stewardship: By awarding homestead lots to beneficiaries, the Master Plan empowers native Hawaiian beneficiaries with a sense of ownership and stewardship over their land. This not only strengthens community ties to Wākiu and Hāna, but also fosters self-sufficiency and pride in cultural heritage.

4. Environmental Conservation: The Master Plan prioritizes sustainable land use practices and environmental conservation through the implementation of programs to remove invasive species, and the conservation of native plants and water resources, ensuring the protection of natural resources and ecosystems. By minimizing ecological impact and promoting responsible stewardship of the land, the plan upholds DHHL’s commitment to environmental sustainability.

5. Community Economic Opportunities: Through initiatives such as the provision of community agriculture areas and economic development projects, the Master Plan creates opportunities for beneficiaries to proceed at the “economic velocities” that are unique to each individual and family but that collectively help to achieve economic stability. By supporting entrepreneurship and job creation in areas of workforce development and training that are unique to the care of the area’s resources, the plan contributes to the economic empowerment of this unique native Hawaiian community.

6. Community Engagement and Collaboration: Since its inception, this Master Plan encouraged active participation from DHHL beneficiaries and community members in the planning and decision-making processes. By fostering collaboration and inclusivity, the plan ensures that the needs and aspirations of the community are heard and integrated into the development framework.

7. Addressing Waiting List Challenges: With a growing waiting list for DHHL homesteads, the Master Plan plays a vital role in providing alternative homesteading opportunities for families in need. By expanding the inventory of available homestead lots, the plan helps alleviate the strain on other DHHL resources and offers hope to those awaiting future homesteading assistance.

8. Promoting Social Well-being: Through the creation of vibrant and sustainable communities, the Master Plan promotes social cohesion and well-being among DHHL beneficiaries. By providing access to affordable housing, cultural amenities, and recreational facilities, the plan enhances the quality of life for native Hawaiian families.

9. Respect for Traditional Practices: The Master Plan acknowledges and respects the traditional practices and customary rights of native Hawaiians to access and utilize ancestral lands. By incorporating traditional land management techniques and cultural protocols, the plan ensures that development activities are conducted in a manner that honors and perpetuates Indigenous knowledge and values.

10. Long-term Legacy: By fostering intergenerational land tenure and passing down ancestral knowledge, the Master Plan contributes to the long-term sustainability and resilience of native Hawaiian communities. Through the establishment of thriving homesteads and sustainable land use practices, the plan leaves a lasting legacy for future generations of DHHL beneficiaries.

4.1 Alternative A – No-Action Alternative

The “No-Action” alternative is the baseline against which all other alternatives are measured. “No-action” refers to the future site conditions that would result should the project not proceed.

Opting for Alternative A would not address critical issues faced by DHHL beneficiaries and the broader East Maui community. Firstly, under Alternative A, DHHL would fail to address the pressing concerns of the beneficiaries residing in Wākiu, who currently do not have guaranteed housing or community spaces. Alternative A would hinder the rights of future generations of families living in Wākiu, perpetuating uncertainty for families residing in the area.

Moreover, Alternative A would impede DHHL’s efforts to alleviate the extensive waitlist of applicants seeking homestead leases. With nearly 9,373 applications for homestead opportunities on the Island of Maui, the demand for housing solutions continues to escalate. By not proceeding with the Project, DHHL would forgo the opportunity to provide approximately 238 new lots and would forgo offering affordable options for beneficiaries who may not qualify for conventional home loans. This alternative undermines the Project’s goal of addressing housing affordability challenges within the beneficiary community. Given these considerations, Alternative A is not deemed viable as it contradicts the objectives of the Project and fails to provide tangible solutions to the pressing needs of DHHL beneficiaries.

4.2 Preferred Alternative/Proposed Action – Preferred Plan

The preferred alternative plan includes significant non-homestead active uses along Hana Highway, offering convenient access to resources for the Hana community, as well as neighborhood-scale active uses integrated within the homestead community for beneficiaries (*Figure 4.1*). The plan incorporates the railroad parcel as a greenway to connect the community, along with additional greenways running mauka-makai. The mauka-makai greenways offer open space and connectivity and serve as pathways for directing site drainage down the slope.

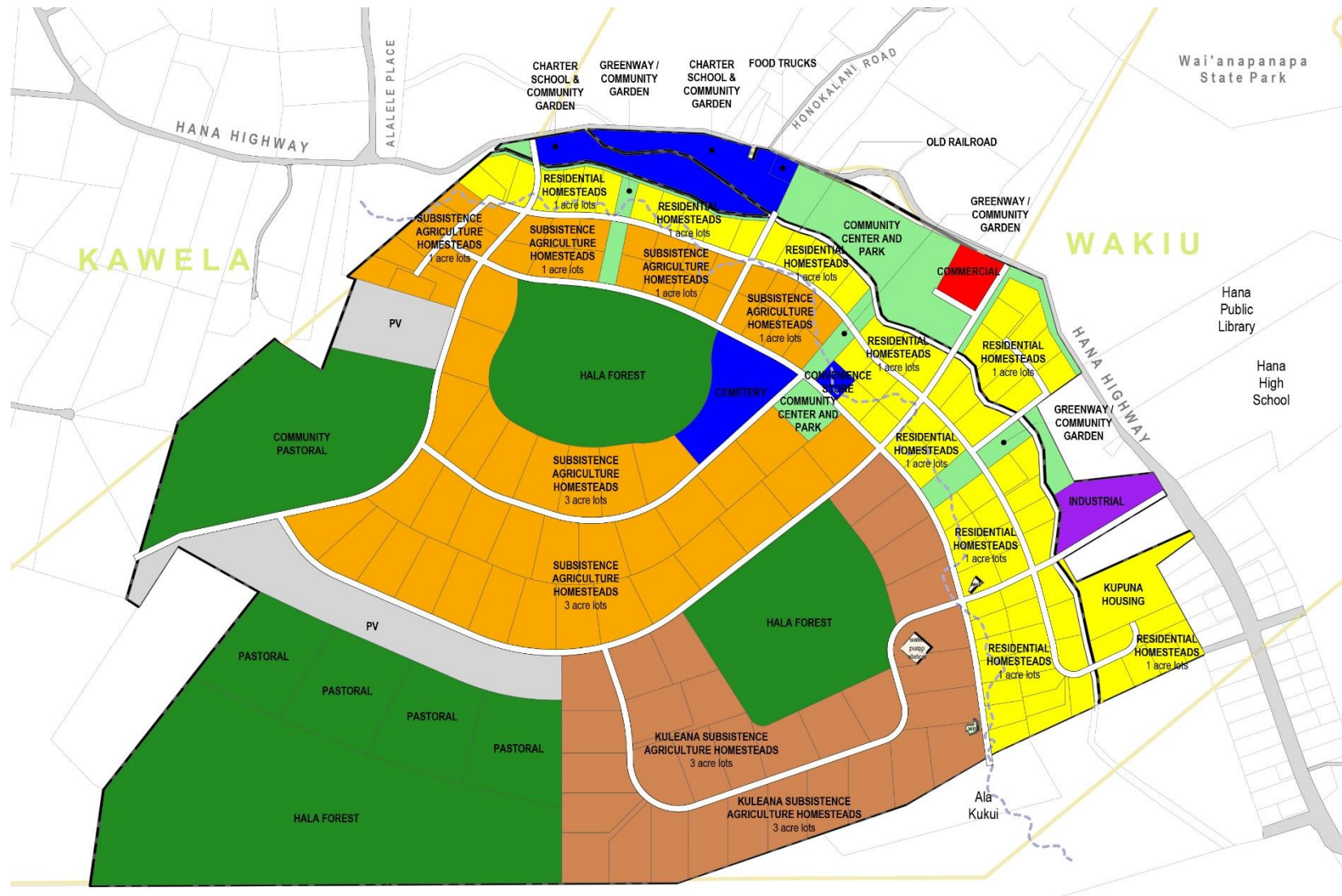


Figure 4-1

Preferred Plan

The Project development includes one-acre residential lots, one- and three-acre subsistence agricultural lots, ten-acre pastoral lots, and approximately 6-acres for 30-60 units for kūpuna housing. One-acre residential lots, making up 89.43 acres or 78 lots, will be located closer to Hāna Highway.

One- and three-acre subsistence agricultural lots, totaling 244.4 acres or 96 lots, will be awarded as subsistence agricultural homestead leases, focusing on land cultivation for beneficiary families, with the construction of a home as optional.

A portion of the Project will include DHHL Kuleana Homesteading and under that program offer Subsistence Agricultural lots for approximately 31 three-acre agricultural homesteading lots. Under this unique designation, DHHL is required only to provide a metes and bounds description and an unpaved right-of-way to the lots. Awardees will have immediate access, but DHHL is not obligated to provide any improvements.

Non-homestead uses for the project include a community use area for greenways and community gardens (11.6 acres), a charter school and community garden (12.6 acres), a cemetery (7.7 acres), a community center and park along Hāna Highway (18.3 acres), community pastoral lands, and a second community center (2.46 acres). Approximately 32.3 acres are designated for a photovoltaic solar energy system. The commercial area will host retail, convenience, and food trucks, while the industrial area will support the lifestyle needs for boating and machinery care. Additionally, 138.8 acres will be dedicated to conserving hala and kukui groves already established and are significant to the Hāna community.

4.3 Alternative B – Homestead Buffer Configuration

The Alternative B plan explored using the railroad parcel as a boundary for land uses (*Figure 4.2*). In comparison to the preferred alternative, Alternative B incorporated the beneficiaries suggested idea of keeping the homestead community "hidden" from Hāna Highway through utilizing the railroad lot as a greenway that connects the community and as a natural buffer. This alternative also placed active commercial and community activities between the railroad and the highway to create more separation between the community and residential activities of the master plan.

Populated with primarily with non-homestead uses, this area includes a community use area for greenways and community gardens (11.4 acres), a charter school and community center (10.0 acres), a cemetery (6.3 acres), a community center and park along Hāna Highway (24.9 acres), and kūpuna housing with 90 units (9 acre). The commercial area will host retail, convenience, and food trucks, while the industrial area will support the lifestyle needs for boating and machinery care.

Homesteads are located mauka of the railroad lot, with a small enclave of residential homesteads in the westernmost corner of the site being the exception to this rule. One-acre residential lots, 70 lots, will be located closer to Hāna Highway. One- and three-acre subsistence agricultural lots, a total of 66 lots, will be awarded as subsistence agricultural homestead leases, focusing on land cultivation for beneficiary families, with the construction of a home as optional.

Also identified are ten pastoral homesteads, each ranging from 10- to 15-acres, situated on the downslope of these parcels. Approximately 22-acres are designated for a photovoltaic solar energy system, intended to capture some of the runoff from the pastoral activities. The land uses for the mauka lands are limited to sites not set aside for forest preservation, 160.0 acres will be dedicated to conserving hala and kukui groves already established and are significant to the Hāna community.

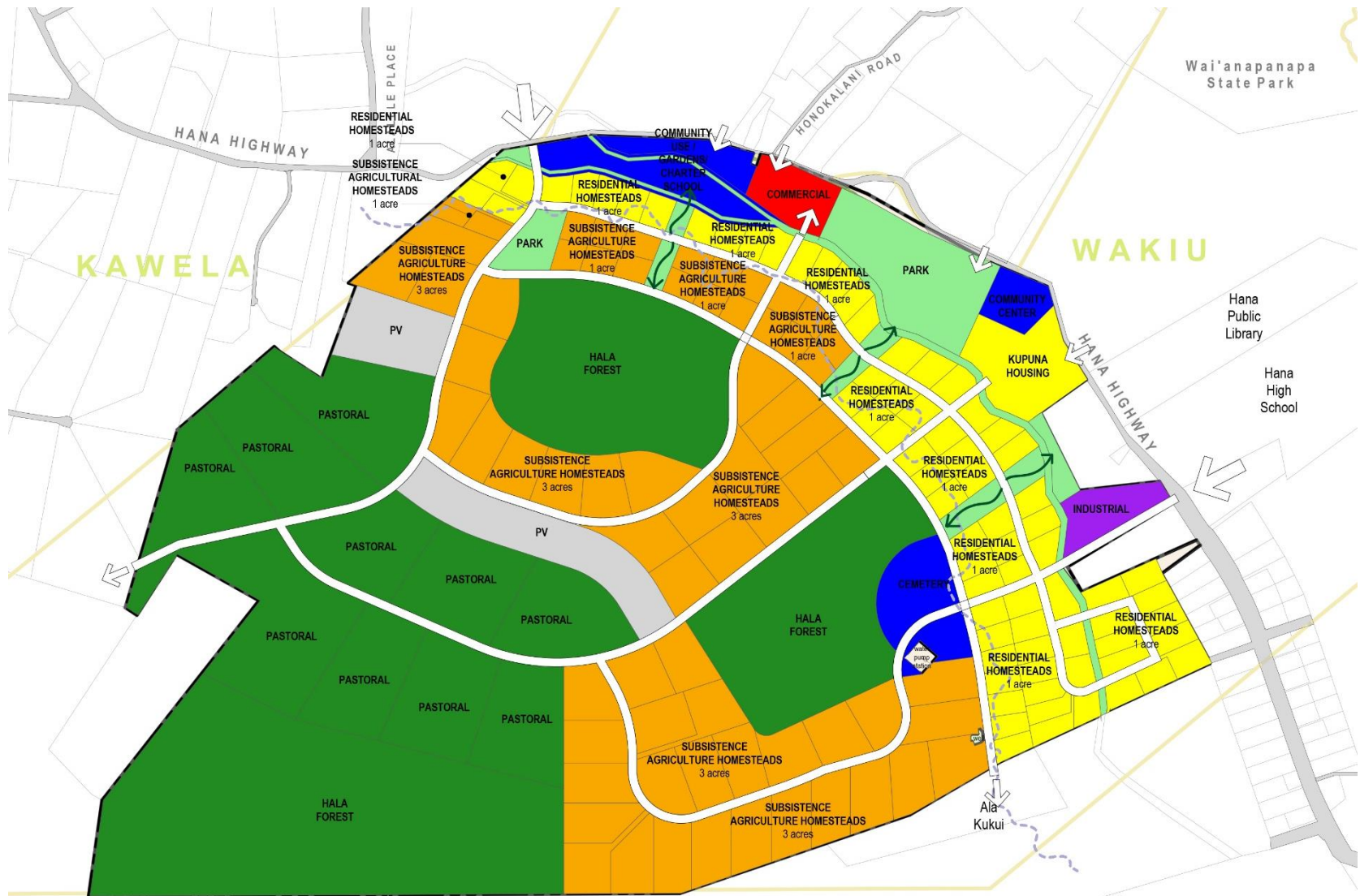


Figure 4-2

Alternative B - Homestead Buffer Configuration

Primary access to the project area off Hana Highway would be via Olopawa Road at the northern end and an existing dirt road used by the Department of Water Supply on the southern end. In addition to the major access points into the community, there would be multiple entry points for lots fronting Hana Highway. Additionally, access points to existing mauka uses would be preserved and enhanced, with an emergency egress identified into the neighboring property on the site's eastern end.

Unlike the Preferred Alternative, Alternative B has less opportunities for subsistence agriculture lots, therefore less opportunities for housing and also is less integrated and accessible to the surrounding community.

While short term impacts from construction will be similar to the Preferred Alternative, and the long-term impacts to the surrounding community will also be similar in terms of traffic and infrastructure (as with the Preferred Plan, the traffic impacts from this alternative are within acceptable level of service for the highway per the TIAR in Appendix C, and demand will not exceed capacity for water, wastewater, and electrical capacity per Appendix B), the Homestead Buffer configuration is less flexible in terms of land use options as it has a larger amount of lots specifically dedicated to pastoral lots opposed to the flexibility of the Preferred Plan's sustainable agriculture mixed with community pastoral, which was the stated preference by the Wākiu beneficiaries.

4.4 Alternative C – Consolidated Uses Configuration

The Alternative C plan configuration sited the major park space directly into the heart of the community, while also consolidating the commercial and industrial uses at the mid-point of the site along Hāna Highway (*Figure 4.3*). This allows for more homesteads to be realized in the areas viable for residential uses. Active community uses are embedded within the homestead community for convenient beneficiary access. The plan proposed limiting improvements to the mauka portion of the site, by consolidating heavier impact uses to the lower fourth of the site. Compared to the Preferred Alternative, this plan features significantly less density of development in the Mauka portion of the parcel, and focuses more residential lots forward to the makai portion of the parcel.

The makai area of the parcel includes a community use area for greenways and community gardens (8.29 acres), a charter school and community garden (13.8 acres), a community center, charter school and gardens along Hana Highway (30.0 acres), and a second community center adjacent to kūpuna housing with 130 units (13.5 acres) embedded into the homestead community. The commercial area will host retail, convenience, and food trucks, while the industrial area will support the lifestyle needs for boating and machinery care.

Homesteads include one-acre residential lots, 60 lots will be located directly adjacent to Hāna Highway and nearer to the eastern portion of the site. One- and three-acre subsistence agricultural lots, a total of 22 lots, will be awarded as subsistence agricultural homestead leases, focusing on land cultivation for beneficiary families, with the construction of a home as optional.

The majority of the mauka area of the site has been identified for conservation dedicated to conserving and expanding already established hala and kukui groves. A park and a cemetery are centrally located, just mauka of the homesteads. Along the middle of the site are twelve pastoral homesteads, each ranging from 10- to 20- acres. Approximately 22-acres are designated for a photovoltaic solar energy system located within the mid-region of the site.

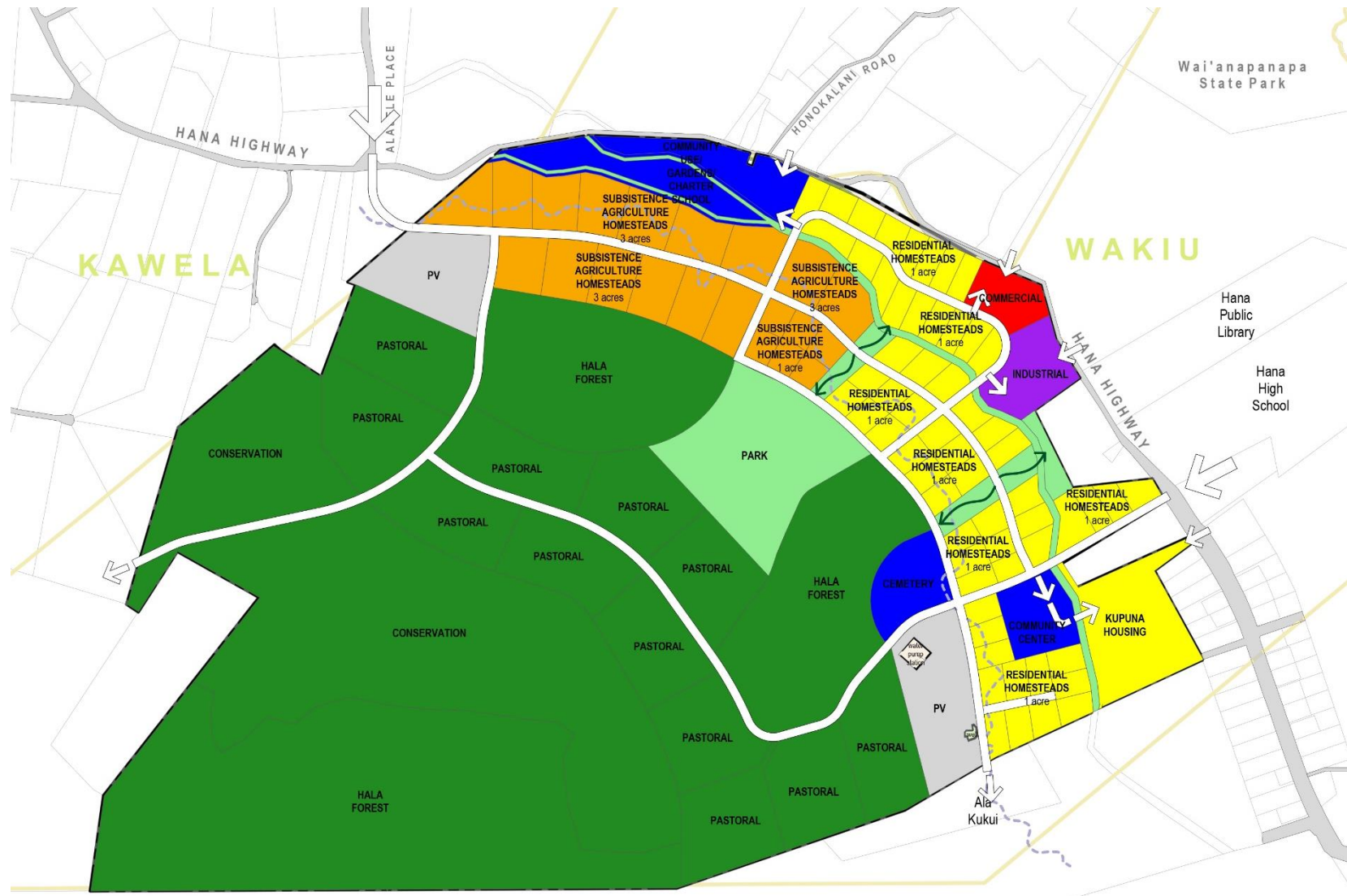


Figure 4.3

Alternative C – Consolidated Uses Configuration

Primary access to the project area off Hana Highway is facilitated by extending Alalele Place from the northern end, directly connecting to Hana Airport, which would require passing through a privately owned parcel. A secondary access point is available via an existing dirt road used by the Department of Water Supply at the site's southern end. Additionally, access points to existing mauka uses will be preserved and enhanced, with an emergency egress identified into the neighboring property on the site's eastern end.

In comparison to the preferred alternative, which located park uses further makai off of the Highway. Alternative C prioritizes efficiency in land use by concentrating development around the Highway while designating mauka lands for less intensive Pastoral Lots.

Short term impacts from construction will be similar to the Preferred Alternative, and the long-term impacts to the surrounding community will also be similar in terms of traffic and infrastructure (as with the Preferred Plan, the traffic impacts from this alternative are within acceptable level of service for the highway per the TIAR in Appendix C, and demand will not exceed capacity for water, wastewater, and electrical capacity per Appendix B). However, the Consolidated Uses configuration is less flexible in terms of land use options as it has a larger amount of lots specifically dedicated to pastoral lots opposed to the flexibility of the Preferred Plan's sustainable agriculture mixed with community pastoral, which was the stated preference by the Wākiu beneficiaries.

4.5 Alternative D – Kuleana Homesteads Configuration

Alternative D is a variation of the preferred plan, with all residential and subsistence lots designated as Kuleana homesteads (*Figure 4.4*). In a conventional lease, DHHL would generate the funding required to develop the lot, and pay for infrastructure and contract a developer to build a turnkey residence built to code and standard County subdivision requirements. In contrast, per Hawai'i Administrative Rules (HAR) §10-3-30, a kuleana lease requires DHHL to provide the following:

- Settlement Plan / EA (this document)
- Metes and bounds for lots
- Unpaved right-of-way to lots

In comparison to the Preferred Plan, the Kuleana alternative would allow the largest amount of possible lots without financial loan approval, while also providing the fastest path to access and utilization of the parcels. However, in this alternative, DHHL would only provide metes and bounds for lots, and unpaved rights of way to lots. This plan would also limit the types of uses to a far smaller variety than the wealth of uses the Preferred Alternative provides. The Kuleana approach will also require additional regulatory and insurance certifications, as obtaining insurance for a large amount of lots in one TMK is more difficult and subdivisions will likely be necessary. These challenges will be magnified with the larger amount of Kuleana lots in Alternative D in comparison to the preferred alternative.

Primary access to the project area off Hana Highway will be via Olopawa Road at the northern end a midpoint road aligned with the new access to Waianapanapa State Park, and an existing dirt road used by the Department of Water Supply on the southern end. In addition to the major access points into the community, there would be multiple entry points for lots fronting Hana Highway. Additionally, access points to existing mauka uses will be preserved and enhanced, with an emergency egress identified into the neighboring property on the site's eastern end.

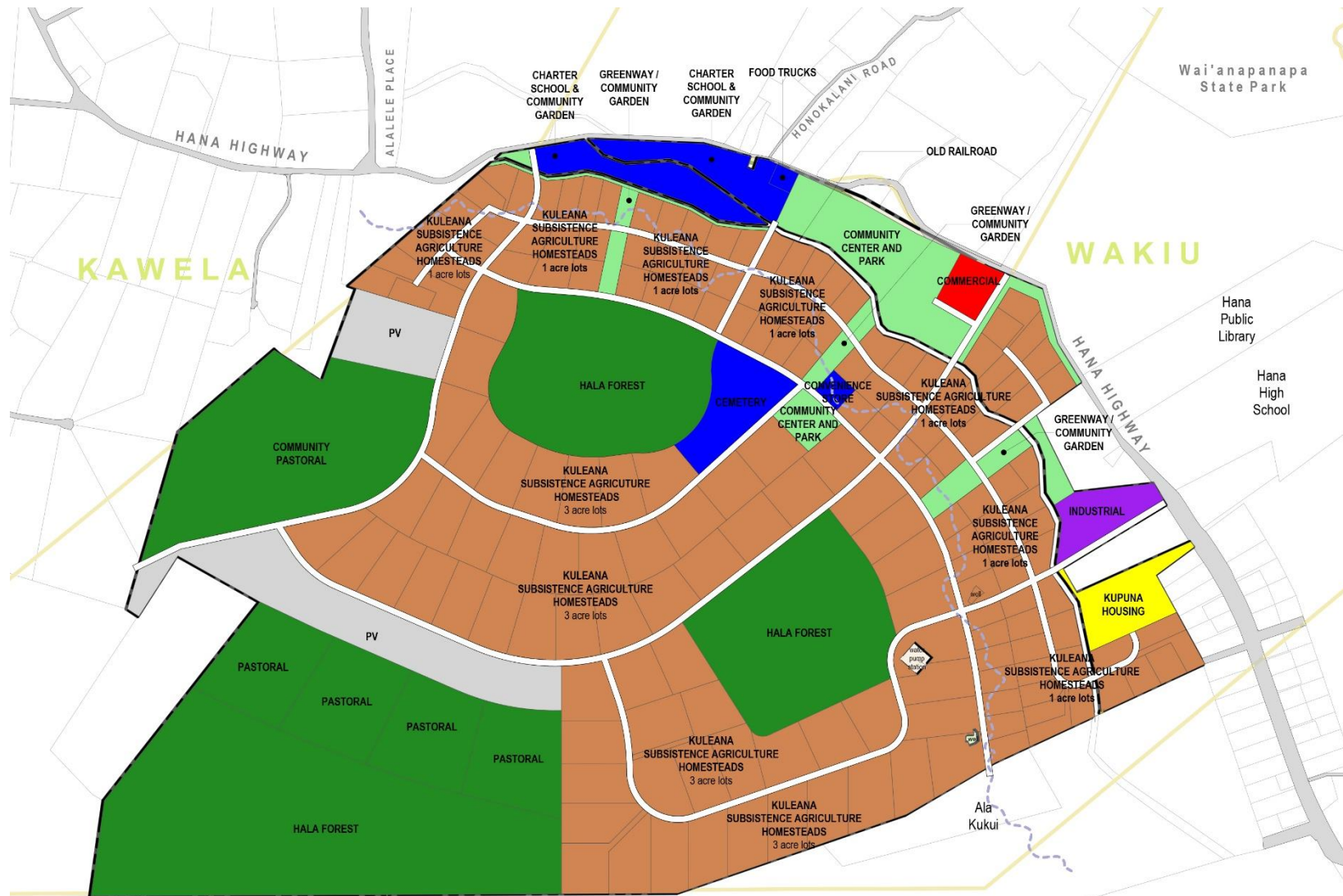


Figure 4-4

Alternative D – Kuleana Homesteads Configuration

While short term impacts from construction will be similar to the Preferred Alternative, and the long-term impacts to the surrounding community will also be similar in terms of traffic and infrastructure (as with the Preferred Plan, the traffic impacts from this alternative are within acceptable level of service for the highway per the TIAR in Appendix C, and demand will not exceed capacity for water, wastewater, and electrical capacity per Appendix B), the Homestead Buffer configuration is less flexible in terms of land use options as it has a larger amount of lots specifically dedicated to pastoral lots opposed to the flexibility of the Preferred Plan's sustainable agriculture mixed with community pastoral, which was the stated preference by the Wākiu beneficiaries. There will be greater challenges in relation to fire hazard and first responder access depending on the type of roads utilized within kuleana lots, as well as obtaining construction loans and insurance if the lots are under one TMK versus being subdivided.

Table 4.1 summarizes the master plan alternatives strengths, weaknesses, short term impacts, and long term impacts in comparison to the Preferred Alternative.

Table 4.1: Wākiu Master Plan Alternatives Summary

Alternative	Land Use Configuration Strengths	Configuration Weaknesses	Short Term Impacts	Long Term Impacts
Preferred Alternative	<p>Widest variety of uses, with most flexibility for future utilization.</p> <p>The largest number and widest variety of homestead options. Provided options include residential, subsistence agricultural, Kuleana, and pastoral homesteads.</p>	<p>Largest amount of DHHL residential homesteads, requires the most time and resources for DHHL to develop, and financial loan approval for beneficiaries.</p>	<p>Baseline for this EA. Short term impacts due to construction will be mitigated through coordination with County agencies and best management practices.</p>	<p>Baseline for this EA. Traffic will not exceed the Hāna Highway’s capacity of 6,000 vehicles per day (VPD), and water, wastewater, and electrical are not anticipated to exceed capacity.</p>
Alternative B – Homestead Buffer Configuration	<p>The plan provides a greater separation between community uses and homestead lots as compared to the Preferred Alternative, using the greenway as a buffer.</p>	<p>Less flexibility for beneficiaries uses due to the large amount of pastoral homesteads, which the was determined to be excessive by the community.</p> <p>No Kuleana homesteads, and fewer subsistence agricultural homesteads.</p>	<p>Less environmental impact in the short-term because less infrastructure would need to be developed as compared to the Preferred Alternative (no Kuleana homesteads).</p> <p>Less infrastructure development, requiring less construction and investment of DHHL resources.</p> <p>Fewer beneficiaries taken off the waitlist compared to the Preferred Alternative.</p>	<p>Less development is anticipated to result in less impact to traffic.</p> <p>Less infrastructure development, requiring less construction and investment of DHHL resources as compared to the Preferred Alternative.</p> <p>Fewer beneficiaries taken off the waitlist compared to the Preferred Alternative.</p>
Alternative C – Consolidated Uses Configuration	<p>A smallest development footprint with the greater amount of the overall site designated preservation.</p> <p>Easier access, greater efficiency, and less infrastructure required by having uses concentrated makai by the highway.</p>	<p>Less long term opportunity and flexibility as the majority of mauka land use is designated for pastoral and conservation.</p> <p>Least amount of homesteads.</p> <p>Similar amount of DHHL residential homesteads to the Preferred plan requiring the most time and resources for DHHL to develop and financial loan approval for beneficiaries.</p>	<p>Less environmental impact in the short-term because infrastructure would need to be developed (no Kuleana homesteads).</p> <p>Less development is anticipated to result in less impact to traffic.</p> <p>Less infrastructure development, requiring less construction and investment of DHHL resources.</p> <p>Fewer beneficiaries taken off the waitlist compared to the Preferred Alternative.</p>	<p>Less development is anticipated to result in less impact to traffic.</p> <p>Less infrastructure development, requiring less construction and investment of DHHL resources as compared to the Preferred Alternative.</p> <p>Fewer beneficiaries taken off the waitlist compared to the Preferred Alternative.</p>
Alternative D – Kuleana Homesteads	<p>Quicker timeline to get the beneficiaries on the land (reducing the time and investment for DHHL to develop infrastructure).</p> <p>Greatest number of Kuleana homesteads, Kuleana homesteads were identified as desired use in the later community meetings.</p>	<p>The least amount of support from DHHL for construction and infrastructure costs</p> <p>All Kuleana homesteads provide limited housing options and does not accommodate beneficiaries who may want more site-ready lots and access to infrastructure.</p>	<p>Greatest number of homesteads awards (due to limited improvements) in the short-term.</p> <p>Less infrastructure development, requiring less construction and investment of DHHL resources.</p>	<p>Less infrastructure development, requiring less construction and investment of DHHL resources as compared to the Preferred Alternative.</p>

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Chapter 5

Relationship to Plans and Policies

Chapter 5

Relationship to Plans and Policies

This chapter outlines the Project's consistency and compliance with applicable State and County land use plans and policies. Plans and policies include the *Federal Aviation Act of 1958*, *Federal Aviation Regulations Part 77*, *Hawai'i State Plan*, *State Housing Functional Plan*, *Hawai'i 2050 Sustainability Plan*, *Hawai'i State Land Use District Boundaries*, *Hawai'i Coastal Zone Management Program*, *Hawaiian Homes Commission Act of 1920*, *DHHL General Plan Update*, *DHHL Maui Island Plan*, *Maui County General Plan 2030*, and the Maui County Zoning Code Title 19. It should be noted that DHHL is not required to comply with State or County land use plans, policies, and regulations based on the HHCA.

5.1 Coastal Zone Management Act of 1972

The Coastal Zone Management Act (CZMA) of 1972 (16 USC §1451), as amended through Public Law 104-150, created the coastal management program and the National Estuarine Research Reserve system. The coastal states are authorized to develop and implement a State Coastal Zone Management (CZM) Program. The objectives of the Hawai'i CZM Program, HRS §205A-2, are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values, and recreational opportunities. The objectives of the program are also to reduce coastal hazards and to improve the review process for activities proposed within the coastal zone.

The Hawai'i CZM Law delegates each County with designating and administering the Special Management Area (SMA) within the State's coastal areas that extend inland from the shoreline. Development within the SMA is typically subject to County approval to ensure the proposal is consistent with the policies and objectives of the Hawai'i CZM Program. However, for DHHL projects, consistency with the CZMA is internally reviewed in consultation with the State Office of Planning and Sustainable Development, Coastal Zone Management (OPSD-CZM). DHHL and OPSD-CZM are conducting a study that will analyze the potential for the HHC and DHHL to administer coastal zone management for DHHL's coastal areas. The results of this study, if implemented, could potentially streamline implementation of projects on the shoreline by allowing DHHL to conduct its own CZM reviews.

The HHC has the sole authority to regulate land use and zoning on Hawaiian Home Lands. For a DHHL-initiated and funded project, according to the Attorney General Opinion No. 72-21 and the legal memorandum dated October 23, 1987, OPSD acknowledges that SMA permit requirements do not apply to Hawaiian Home Lands that are deemed required for the purpose of the Hawaiian Homes Commission Act (HHCA) of 1920. However, if DHHL, through its Commission, deems that Hawaiian Home Lands are not required for the purpose of the HHCA of 1920, DHHL may subject such lands to SMA permit requirements. The EA would be the vehicle to discuss the project's adherence to HRS §205A goals, objectives and guidelines, and respond to comments from agencies such as the County CZM and DLNR Office of Conservation and Coastal Lands. DHHL must still comply with federal and state laws and regulations, including the goals, objectives and guidelines of HRS §205A, compliance with HRS §343, flood regulations, the Endangered Species Act, etc. In addition, DHHL participates as

an agency partner of the Ocean Resources Management Plan: Coastal Zone Management Mauka to Makai and convenes as part of the Development and Coastal Hazard Action Team and the Land Based Pollution Action Team.

The entire Project area is located outside of the County designated SMA. The following is a discussion of the Project's consistency with the Hawai'i CZM Program objectives and policies:

Recreational Resources

Objective: *Provide coastal recreational opportunities accessible to the public.*

- (A) Improve coordination and funding of coastal recreation planning and management; and*
- (B) 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 restoration of coastal resources that have significant recreational and ecosystem value, including, but not limited to coral reefs, surfing sites, fishponds, sand beaches, and coastal dunes, when these resources will be unavoidably damaged by development; or requiring monetary compensation to the State for recreation when restoration 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, 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 that dedication against the requirements of section 46-6.*

Discussion: While there are no direct public access paths to shoreline areas from the Project, the Project will not restrict or interfere with public access to coastal or recreational resources and is located outside of the SMA and inland over 2,600 feet from the shoreline. During construction, BMPs will be implemented to protect and regulate point and nonpoint sources of pollution to protect the recreational value of coastal waters. A NPDES General Permit for stormwater runoff discharges may be obtained from the DOH, CWB prior to construction. NPDES General Permits for dewatering and hydrotesting water discharges may also be obtained from the DOH, CWB, if required. For further discussion, see **Section 3.8.3, Drainage**.

Historic Resources

Objective: *Protect, preserve and, where desirable, restore those natural and man-made historic and pre-historic resources in the coastal zone management area that are significant in Hawai'i and American history and culture.*

- (A) Identify and analyze significant archaeological resources;*
- (B) Maximize information retention through preservation of remains and artifacts or salvage operations; and*
- (C) Support state goals for protection, restoration, interpretation, and display of historic resources.*

Discussion: The Project conducted initial an archaeological literature review and cultural genealogy study to preliminarily identify significant archaeological resources. As the Project progresses into the next phase of implementation, all necessary studies concerning state historic preservation review compliance, inclusive of further inventory and/or the preparation of mitigation plans will be conducted and subject to the State Historic Preservation Division for review and approval. Should any iwi kūpuna or moepū be identified, the appropriate procedures outlined in the Native American Graves Protection and Repatriations Act will be followed accordingly.

Scenic and Open Space Resources

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

- (A) Identify valued scenic resources in the coastal zone management area;*
- (B) Ensure that new developments are compatible with their visual environment by designing and locating those developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) Encourage those developments that are not coastal dependent to locate in inland areas.*

Discussion: The Project is not anticipated to affect scenic view planes or resources, and it will not disrupt public views to and along the shoreline. The Project will be designed to be compatible with the character and feel of the surrounding area and Hāna region as a whole.

Coastal Ecosystems

Objective: *Protect valuable coastal ecosystems, including reefs, beaches, and coastal dunes, from disruption and minimize adverse impacts on all coastal ecosystems.*

- (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
- (B) Improve the technical basis for natural resource management;*
- (C) Preserve valuable coastal ecosystems of significant biological or economic importance, including reefs, beaches, and dunes;*
- (D) 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*

- (E) *Promote water quantity and quality planning and management practices which 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.*

Discussion: The Project is located outside of the SMA and is not anticipated to impact coastal ecosystems. Throughout the construction phase, BMPs will be implemented to safeguard and control both point and nonpoint sources of pollution, ensuring the continued ecological value of the area's coastal waters and resources. Prior to construction, the Project may secure a NPDES General Permit from DOH, CWB for stormwater runoff discharges.

Economic Uses

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

- (A) *Concentrate coastal dependent development in appropriate areas;*
- (B) *Ensure that coastal dependent development and coastal related development are located, designed, and constructed to minimize exposure to coastal hazards and adverse social, visual, and environmental impacts in the coastal zone management area; and*
- (C) *Direct the location and expansion of coastal development to areas designated and used for that development and permit reasonable long-term growth at those areas, and permit coastal development outside of designated areas when:*
- (i) *Use of designated locations is not feasible;*
- (ii) *Adverse environmental effects and risks from coastal hazards are minimized; and*
- (iii) *The development is important to the State's economy.*

Discussion: The Project is not near the shoreline and is not anticipated to interfere with coastal-dependent or coastal-related development such as harbors and ports, visitor-industry facilities, and energy generating facilities.

Coastal Hazards

Objective: *Reduce hazard to life and property from coastal hazards.*

- (A) *Develop and communicate adequate information about the risks of coastal hazards;*
- (B) *Control development, including planning and zoning control, in areas subject to coastal hazards;*
- (C) *Ensure that developments comply with requirements of the National Flood Insurance Program; and*
- (D) *Prevent coastal flooding from inland projects.*

Discussion: The Project will not pose a hazard to life or property from coastal hazards. The Site is not within the Tsunami Evacuation Zone. The Site is within the FEMA Flood Zone X (minimal flood risk, outside of 0.2% annual chance floodplain). The Project is also located outside of the 3.2 feet SLR-XA. For further discussion, see **Section 3.3, Natural Hazards.**

Managing Development

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

- (A) *Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*
- (B) *Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and*
- (C) *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.*

Discussion: The Project will not have an impact on coastal resources and hazards. This Draft EA identifies potential impacts and proposes mitigation measures to address anticipated impacts from the construction and operation of the Project. Stakeholder consultation that has begun with beneficiaries and the general public and will continue to ensure that agencies, organizations, and individuals stay informed and engaged throughout the Project.

Public Participation

Objective: *Stimulate public awareness, education, and participation in coastal management.*

- (A) *Promote public involvement in coastal zone management processes;*
- (B) *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*
- (C) *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

Discussion: DHHL has worked diligently to create public awareness and education prior to this EA through the Honuiaiākea process, the series of beneficiary driven master plan charrette sessions, the DHHL website, and presentations to the Hawaiian Homes Commission. This EA identifies potential impacts and proposes mitigation measures to address anticipated impacts from the construction and implementation of the Project. During early consultation, agencies, organizations, and individuals were consulted and will continue to be informed throughout the planning process.

Beach and Coastal Dune Protection

Objective: *(1) Protect beaches and coastal dunes for: public use and recreation; the benefit of coastal ecosystems; and use as natural buffers against coastal hazards; and (2) Coordinate and fund beach management and protection.*

- (A) *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;*
- (B) *Prohibit construction of private shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;*

- (C) *Minimize the construction of public shoreline hardening structures, including seawalls and revetments, at sites having sand beaches and at sites where shoreline hardening structures interfere with existing recreational and waterline activities;*
- (D) *Minimize grading of and damage to coastal dunes;*
- (E) *Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and*
- (F) *Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.*

Discussion: The Project is located over 2,600 feet inland and will not impact the public use and recreation of beaches and coastal dunes, coastal ecosystems, of natural buffers.

Marine and Coastal Resources

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

- (A) *Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
- (B) *Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;*
- (C) *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;*
- (D) *Promote research, study, and understanding of ocean and coastal processes, impacts of climate change and sea level rise, marine life, and other ocean resources to acquire and inventory information necessary to understand how coastal development activities relate to and impact ocean and coastal resources; and*
- (E) *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

Discussion: The Project will not impact the protection, use or development of marine and coastal resources. The Project's approach to the protection, use, and development of marine and coastal resources aligns with sustainability goals by prioritizing ecologically, culturally, and environmentally sound practices avoid adverse impacts on marine and coastal resources. The master plan emphasizes cultural and environmental stewardship by incorporating traditional ahupua'a management practices. The Project acknowledges and integrates beneficiaries' knowledge from the Wākiu and Hāna areas, leveraging their traditional ecological expertise to guide ongoing stewardship and ensure sustainable management of the region.

5.2 Federal Aviation Act of 1958 and Federal Aviation Regulations Part 77

The Federal Aviation Act of 1958 established the Federal Aviation Administration (FAA). The FAA is responsible for the management of air navigation and air traffic control in the United States. Federal Regulation Title 14 Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This regulation evaluates the effects of a construction project on operating procedures, determines the potential hazardous effects of the proposed construction on air

navigation, and identifies mitigating measures to enhance safe air navigation to prevent or minimize the adverse impacts to the safe and efficient use of navigable airspace.

According to Part 77 of Federal Aviation Regulations, the Administrator of the FAA is to be notified as to any proposed construction or alteration of an object that extends outward and upward at a slope of 100:1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of an airport, which could affect navigable air space, including approach and departure surfaces of airfields. The Federal Aviation Regulations Part 77 also requires a clear zone approach slope of 34:1 within a designated boundary. Part 77 also addresses concerns of glint and glare, attraction of hazardous wildlife, and obstruction hazards.

Discussion: The Project is not required to submit a FAA Form 7460-1 Notice for Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9, although it is approximately 0.8 miles from the boundary of Hāna Airport (HNM) and within a 5-mile radius. Though construction of the Project is within 20,000 feet of a public airport, the development of any structures and the construction equipment required for the Project are not anticipated to exceed a 100:1 surface from any point on the current runway of the airport. If Project parameters change, DHHL will complete and submit FAA Form 7460-1 as appropriate.

The Project will not interfere with airport operations but may expose future residents to occasional aircraft noise, fumes, and vibrations. A 32.29-acre solar photovoltaic (PV) system is planned, requiring a glint and glare analysis to ensure pilot safety. Any identified hazards, including potential radio frequency interference (RFI), will be mitigated promptly.

Landscaping will be designed to avoid attracting wildlife that could endanger aircraft. Any wildlife issues will be addressed immediately upon FAA or HDOT notification.

5.3 Hawai'i State Plan

The Hawai'i State Planning Act, adopted in 1978, and promulgated in HRS Chapter 226, resulted in the *Hawai'i State Plan*. The *Hawai'i State Plan* provides goals, objectives, policies, and priority guidelines for growth, development and the allocation of resources throughout the state in various areas of State interest. The purpose of the *Hawai'i State Plan* is to improve the planning process in the State; increase the effectiveness of government and private actions; improve coordination among different agencies and levels of government; provide for wise use of Hawai'i's resources and to guide the future development of the State.

State goals under the Hawai'i State Planning Act are set to guarantee, for present and future generations, those elements of choice and mobility to ensure that individuals and groups may approach their desired levels of self-reliance and self-determination:

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i present and future generations.
- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.
- Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life.

Objectives and policies of the *Hawai'i State Plan* are discussed based on their relevance to the Project in the below *Table 5.1, Hawai'i State Plan*.

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
§226-1: Findings and Purpose			
§226-2: Definitions			
§226-3: Overall Theme			
§226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:			
(1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations	X		
(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.	X		
(3) Physical, social and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life.	X		
<p>Discussion: The DHHL East Maui project in Wākiu, Hāna (Project), is a thoughtfully designed initiative that integrates diverse land uses to support residential living, agricultural sustainability, and community services while prioritizing cultural and environmental preservation. The Project aims to create a balanced and vibrant community where beneficiaries can thrive economically, socially, and culturally. Residential and agricultural homesteads will provide housing and opportunities for food production and self-sufficiency. Subsistence agricultural and kūleana subsistence lots encourage both modern and traditional farming practices, fostering economic resilience and cultural preservation. Pastoral lots will support livestock grazing, promoting agricultural diversity and sustainability. Non-homestead areas will include industrial zones to support local industries such as fishing and small-scale manufacturing and renewable energy generation through solar power, contributing to the community's energy independence and economic stability. Community spaces such as parks, gardens, a charter school, and recreational facilities will enhance social well-being by fostering engagement, education, and recreational opportunities. The Project strongly emphasizes environmental stewardship by designating significant areas for conservation, including the protection of indigenous hala groves that hold cultural, environmental, and historical significance. These efforts aim to preserve natural resources while respecting traditional ecological knowledge and practices. By integrating housing, agriculture, community services, and environmental conservation, the Project promotes a sustainable and resilient community that supports economic growth, social cohesion, and environmental protection for beneficiaries and the greater Hāna region.</p>			
§226-5: Objective and policies for population			
(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter;			
(b) To achieve the population objective, it shall be the policy of this State to:			
(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county.	X		
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs-and desires.	X		
(3) Promote increased opportunities for Hawai'i's people to pursue their socioeconomic aspirations throughout the islands.	X		

Table 5-1: Hawai'i State Plan		S	N/S	N/A
Part 1. Overall Theme, Goals, Objectives, and Policies				
S = Supportive, N/S = Not Supportive, N/A = Not Applicable				
(4)	Encourage research activities and public awareness programs to foster and understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population.			X
(5)	Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among states, provided that such actions do not prevent the reunion of immediate family members.			X
(6)	Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population			X
(7)	Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area	X		
<p>Discussion: As of 2024, the population of Hāna, Maui County, is approximately 647 residents, reflecting a -6.1% annual decline since the 2020 Census population of 768. Households in Hāna typically consist of three to four people, with an average size of 3.17. About 55% of households have one or two adults employed full-time, while 28% have one or two adults working part-time. The Project is anticipated to impact Hāna High and Elementary School by potentially increasing student enrollment, which could boost funding, though many beneficiaries may already have children attending. The development of up to 238 residential and subsistence agricultural homestead lots, including a 60-unit kūpuna housing complex, addresses Maui's pressing need for affordable housing. With historically high median home prices, this initiative is especially significant for native Hawaiian beneficiaries. Long-term impacts include stable housing, job creation, and increased local spending. The Project also supports local businesses by incorporating small commercial and industrial spaces, fostering economic diversification. These spaces could enable the growth of small farming, fishing, and value-added businesses, further enhancing community well-being. Additional community services, such as a charter school and business spaces, aim to improve quality of life by creating a supportive environment for families and individuals. (US Census, 2022 Data USA, 2023 American Community Survey).</p>				
§226-6 Objectives and policies for the economy in general.				
(a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:				
(1)	Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people.	X		
(2)	A steadily growing and diversified economic base that is not overly dependent on a few industries and includes the development and expansion of industries on the neighbor islands.	X		
(b) To achieve the general economic objectives, it shall be the policy of this State to:				
(1)	Promote and encourage entrepreneurship within Hawai'i by residents and nonresidents of the State.			X
(2)	Expand Hawai'i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.			X
(3)	Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.			X
(4)	Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			X
(5)	Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i.			X
(6)	Seek broader outlets for new or expanded Hawai'i business investments.			X

Table 5-1: Hawai'i State Plan			S	N/S	N/A
Part 1. Overall Theme, Goals, Objectives, and Policies					
S = Supportive, N/S = Not Supportive, N/A = Not Applicable					
(7)	Expand existing markets and penetrate new markets for Hawai'i's products and services.				X
(8)	Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation.				X
(9)	Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.	X			
(10)	Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small-scale producers, manufacturers, and distributors.				X
(11)	Encourage labor-intensive activities that are economically satisfying, and which offer opportunities for upward mobility.	X			
(12)	Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i.				X
(13)	Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities.	X			
(14)	Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.				X
(15)	Maintain acceptable working conditions and standards for Hawai'i's workers.	X			
(16)	Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures.	X			
(17)	Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.				X
(18)	Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy.	X			
(19)	Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.				X
(20)	Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular.				X
(21)	Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.				X
Discussion: The proposed Project in Wākiu includes features designed to stimulate local economic growth and provide long-term benefits to the community. Subsistence agricultural lots and kūleana subsistence agriculture lots will traditional and modern farming, fostering local food production and opening opportunities for small agricultural businesses. Additionally, designated spaces for small commercial ventures and boat storage and repair, will promote local entrepreneurship while providing valuable services to beneficiaries and the Hāna community. Community services such as a charter school and community centers will enhance the area's appeal, attracting families and supporting the local economy by creating jobs and fostering community engagement. The Project also includes 32.29 acres for solar energy generation, advancing sustainability goals while lowering energy costs for residents. Together, these elements aim to create a balanced, economically vibrant community.					
§226-7 Objectives and policies for the economy - agriculture.					
(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:					
(1)	Viability of Hawai'i's sugar and pineapple industries.				X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable			S	N/S	N/A
(2)	Growth and development of diversified agriculture throughout the State.				X
(3)	An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.				X
(b) To achieve the agriculture objectives, it shall be the policy of this State to:					
(1)	Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy.				X
(2)	Encourage agriculture by making best use of natural resources.				X
(3)	Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture.				X
(4)	Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.				X
(5)	Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy.				X
(6)	Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries.				X
(7)	Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's producers and consumer markets locally, on the continental United States, and internationally.				X
(8)	Support research and development activities that provide greater efficiency and economic productivity in agriculture.				X
(9)	Enhance agricultural growth by providing public incentives and encouraging private initiatives.				X
(10)	Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.				X
(11)	Increase the attractiveness and opportunities for an agricultural education and livelihood.				X
(12)	Expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.				X
(13)	Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency.				X
(14)	Promote and assist in the establishment of sound financial programs for diversified agriculture.				X
(15)	Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.				X
(16)	Facilitate the transition of agricultural lands in economically non-feasible agricultural production to economically viable agricultural uses.				X
(17)	Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu.				X
(18)	Increase and develop small-scale farms.				X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable			S	N/S	N/A
<p>Discussion: The Project integrates land use, community services, and economic opportunities to support and promote agriculture while fostering cultural preservation and economic resilience. Subsistence agricultural lots encourage self-sufficient food production, kūleana lots emphasize traditional Hawaiian farming practices, and pastoral lots provide space for livestock grazing. Community garden spaces near the proposed charter school and kūpuna housing will engage residents of all ages in food and resource cultivation, enhancing intergenerational learning and sustainability. The commercial area will bolster agriculture by hosting farmers' markets, enabling value-added processing, and offering essential services such as equipment sharing and maintenance. Community facilities, including the charter school and community centers, will provide spaces for educational programs, workshops, and initiatives focused on farming practices, sustainability, and entrepreneurship.</p>					
<p>§226-8 Objective and policies for the economy--visitor industry.</p> <p>(a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy.</p> <p>(b) To achieve the visitor industry objective, it shall be the policy of this State to:</p>					
(1) Support and assist in the promotion of Hawai'i's visitor attractions and facilities.					X
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.					X
(3) Improve the quality of existing visitor destination areas.					X
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.					X
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people.					X
(6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry.					X
(7) Foster a recognition of the contribution of the visitor industry to Hawai'i's economy and the need to perpetuate the aloha spirit.					X
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.					X
<p>Discussion: While the Project supports the State's objectives and policies specified in HRS §226-8, policies outlines are not directly applicable to the Project.</p>					
<p>§226-9 Objective and policies for the economy--federal expenditures.</p> <p>(a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy.</p> <p>(b) To achieve the federal expenditures objective, it shall be the policy of this State to:</p>					
(1) Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment.					X
(2) Promote Hawai'i's supportive role in national defense.					X
(3) Promote the development of federally supported activities in Hawai'i that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment.					X
(4) Increase opportunities for entry and advancement of Hawai'i's people into federal government service.					X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies		S	N/S	N/A
S = Supportive, N/S = Not Supportive, N/A = Not Applicable				
(5)	Promote federal use of local commodities, services, and facilities available in Hawai'i.			X
(6)	Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i.			X
(7)	Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.			X
Discussion: The objectives and policies specified in HRS §226-9 are not directly applicable to the Project.				
§226-10 Objectives and policies for the economy--potential growth and innovative activities.				
(a) Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base.				
(b) To achieve the potential growth and innovative activity objective, it shall be the policy of this State to:				
(1)	Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;			x
(2)	Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products;			x
(3)	Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;			x
(4)	Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;			x
(5)	Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;			x
(6)	Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people;			x
(7)	Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;			x
(8)	Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;			x
(9)	Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;			x
(10)	Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawai'i's social, economic, physical, and environmental objectives;			x
(11)	Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;			x
(12)	Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i;			x
(13)	Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawai'i;			x
(14)	Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives;			x

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable			S	N/S	N/A
(15) Increase research and development of businesses and services in the telecommunications and information industries;					X
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and					X
(17) Recognize and promote health care and health care information technology as growth industries.					X
Discussion: While the Project supports the objectives and policies specified in HRS §226-10, the policies are not directly applicable to the Project.					
§226-10.5 Objectives and policies for the economy--information industry.					
(a) Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region.					
(b) To achieve the information industry objective, it shall be the policy of this State to:					
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i;					X
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy;					X
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i;					X
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-state;					X
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry;					X
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people;					X
(7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry;					X
(8) Foster a recognition of the contribution of the information industry to Hawai'i's economy; and					X
(9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific.					X
Discussion: The objectives and policies specified in HRS §226-10.5 are not directly applicable to the Project.					
§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources.					
(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:					
(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.					X
(2) Effective protection of Hawai'i's unique and fragile environmental resources.	X				
(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:					
(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.	X				
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.	X				

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.	X		
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			X
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			X
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.	X		
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			X
(8) Pursue compatible relationships among activities, facilities and natural resources.	X		
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational and scientific purposes.			X
<p>Discussion: The Project is not located near the shoreline, within the SMA, or near the SLR-XA. The site is currently undeveloped, except for an existing water tank and pump. The Project's design and scale are planned to align with the surrounding rural community character. The Project will preserve the existing hala groves on-site, and BMPs will be implemented to prevent adverse impacts on natural resources during construction. Any potential impacts to endangered or threatened species identified on the site will be mitigated throughout the construction and operation phases.</p>			
<p>§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources.</p> <p>(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.</p> <p>(b) To achieve the scenic, natural beauty, and historic resources objectives, it shall be the policy of this State to:</p>			
(1) Promote the preservation and restoration of significant natural and historic resources.	X		
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			X
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.	X		
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.			X
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.	X		
<p>Discussion: The Project emphasizes preserving natural landscapes, including significant features like hala groves, as a part of beneficiary land stewardship and cultural sustainability practices that maintain the area's cultural and environmental heritage and scenic beauty. Situated adjacent to the historic Hāna Highway, a protected scenic corridor, the Project's design will minimize visual impacts and ensure development complements the natural surroundings. Cultural heritage is honored by integrating traditional agricultural practices, community spaces, and elements reflecting the region's history and Native Hawaiian land use. Sustainability is a core focus, with plans for native landscaping, invasive species removal, and eco-conscious construction practices to protect local ecosystems and enhance the natural environment. Parks, greenways, and community spaces will provide open space venues for recreation and community engagement.</p>			
<p>§226-13 Objectives and policies for the physical environment--land, air, and water quality.</p> <p>(a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:</p>			

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.	X		
(2) Greater public awareness and appreciation of Hawai'i's environmental resources.			X
(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:			
(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.			X
(2) Promote the proper management of Hawai'i's land and water resources.	X		
(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground and coastal waters.	X		
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.	X		
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.	X		
(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.	X		
(7) Encourage urban developments in close proximity to existing services and facilities.	X		
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.			X
<p>Discussion: The Project will address natural hazards, promote sustainability, and enhance community well-being while acknowledging limited essential services in Hāna. Healthcare, police, and fire services are approximately one mile away, and the site will have three access points from Hāna Highway for efficient emergency response. With no surface water or streams, the site minimizes flooding risks, but its slope requires design measures to reduce impacts from flooding and other hazards. Sustainable features include eco-conscious construction, native landscaping, and a 32.29-acre solar PV system. Parks, agricultural lots, and communal spaces will foster social interaction and cultural identity, with development reflecting Hāna's rural character.</p>			
<p>§226-14 Objective and policies for facility systems--in general.</p>			
<p>(a) Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.</p>			
<p>(b) To achieve the general facility systems objective, it shall be the policy of this State to:</p>			
(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			X
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.			X
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.	X		
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			X
<p>Discussion: The Project aligns with the State's policies for facility systems. Under the Kuleana Homesteading administrative rules, DHHL is responsible for defining infrastructure and development costs, while future lessees are tasked with developing and managing their own infrastructure, including water, electricity, telecommunication, and wastewater. This approach reduces demand for public infrastructure, particularly in areas where traditional systems may be unnecessary or unsuitable.</p>			

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
§226-15 Objectives and policies for facility systems--solid and liquid wastes.						
(a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:						
(1)	Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.	X				
(2)	Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.	X				
(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:						
(1)	Encourage the adequate development of sewerage facilities that complement planned growth.					X
(2)	Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.	X				
(3)	Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.					X
Discussion: Solid waste management in Hāna, Maui, combines county services and private efforts, reflecting its rural nature. The Hāna Landfill, operated by the County of Maui, serves as the primary facility for household trash, green waste, and limited construction debris. While formal curbside collection is unavailable in most areas, weekly waste pickup is provided for select homes, with other residents hauling waste to the landfill or drop-off points. Recycling options are limited but include local centers for aluminum, glass, and plastics. Green waste is accepted at the landfill for composting, and many residents manage organic waste through on-site composting. Promoting residential composting, recycling, and reuse remains a key strategy to reduce landfill dependency and support sustainable waste practices in the community.						
§226-16 Objective and policies for facility systems--water.						
(a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.						
(b) To achieve the facility systems water objective, it shall be the policy of this State to:						
(1)	Coordinate development of land use activities with existing and potential water supply.	X				
(2)	Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.					X
(3)	Reclaim and encourage the productive use of runoff water and wastewater discharges.					X
(4)	Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.	X				
(5)	Support water supply services to areas experiencing critical water problems.					X
(6)	Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.	X				

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
<p>Discussion: The Project will require an average daily water demand of 106,800 gallons for drinking, sanitation, irrigation, and fire protection, with additional capacity for peak usage. Water needs vary by land use: residential lots require 600 gallons per unit of potable water, subsistence agriculture 600 gallons per unit of potable water and 3,400 gallons per acre of non-potable water, and pastoral lots 600 gallons per unit of potable water and 20 gallons per acre of non-potable water. Community, commercial, and industrial areas will also have specific potable water requirements. To meet fire safety standards, the water system must deliver a minimum flow of 1,000 gallons per minute at 20 psi, necessitating additional hydrants and water mains. Temporary water solutions during construction may include connections to the Department of Water Supply (DWS) system, water trucks, or onsite storage tanks. The Project will utilize existing DWS infrastructure, including a water tank, pump station, and well on the site. New water lines will connect these facilities to DWS lines, servicing residential homesteads, kūpuna housing, charter school, community centers, parks, and small commercial and industrial areas. For subsistence agricultural and pastoral lots, rainfall is expected to support water catchment systems as part of the Kuleana homestead program, which does not require DHHL to provide water infrastructure. BMPs will mitigate any discharge from the Project to prevent water source contamination. DHHL will encourage lessees to implement stormwater management strategies, such as low-impact development and ecological bio-engineering, to protect natural ecosystems and support traditional uses of state waters.</p>						
<p>§226-17 Objectives and policies for facility systems--transportation.</p>						
<p>(a) Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:</p>						
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.				X		
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.						X
<p>(b) To achieve the transportation objectives, it shall be the policy of this State to:</p>						
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;				X		
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;				X		
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;				X		
(4) Provide for improved accessibility to shipping, docking, and storage facilities;						X
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;						X
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities;				X		
(7) Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods;						X
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;						X
(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;				X		

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment;	X		
(11) Encourage safe and convenient use of low-cost, energy- efficient, non-polluting means of transportation;	X		
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and			X
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.	X		
<p>Discussion: The Project integrates multimodal transportation to encourage walking and biking as practical alternatives to driving. By incorporating pathways and greenways, the design aims to provide safe and accessible routes for residents and reducing reliance on vehicles. Pathways and greenways will connect key areas of the site, including two parks and walkways designed to facilitate walking and biking. These connections will allow residents to easily access the small commercial center, school, community centers, and recreational areas, supporting a cohesive and active community. Currently, Hāna Highway lacks designated bike facilities, requiring bicycles to share lanes with vehicles. To address this, improvements to existing walking paths and the creation of shared-use paths along the Project frontage are needed. Community feedback has played a vital role in shaping transportation infrastructure. Local input emphasized the need for improved safety, circulation, and accessibility for pedestrians and cyclists, which the Project design reflects. These measures aim to encourage walking and biking, benefiting existing residents and enhancing overall connectivity.</p>			
<p>§226-18 Objectives and policies for facility systems--energy.</p>			
<p>(a) Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:</p>			
(1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;			X
(2) Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawai'i's dependence on imported fuels for electrical generation and ground transportation;	X		
(3) Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems;			X
(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and			X
(5) Utility models that make the social and financial interests of Hawai'i's utility customers a priority.			X
<p>(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.</p>			
<p>(c) To further achieve the energy objectives, it shall be the policy of this State to:</p>			
(1) Support research and development as well as promote the use of renewable energy sources;	X		
(2) Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;			X
(3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;			X
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including:	X		
(A) Development of cost-effective demand-side management programs;			

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
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	S	N/S	N/A
(B) Education;			
(C) Adoption of energy-efficient practices and technologies; and			
(D) Increasing energy efficiency and decreasing energy use in public infrastructure;			
(5) Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies;			X
(6) Support research, development, and demonstration of energy efficiency, load management, and other demand-side management programs, practices, and technologies;			X
(7) Promote alternate fuels and energy efficiency by encouraging diversification of transportation modes and infrastructure;	X		
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; and	X		
(9) Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.			X
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects;			X
(11) Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and			X
(12) Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i.			X
<p>Discussion: The DHHL has implemented the <i>Ho'omalūō Energy Policy</i> to advance energy self-sufficiency and sustainability for Native Hawaiian communities. This policy focuses on integrating renewable energy sources and enhancing energy efficiency across DHHL-managed lands. Key initiatives include partnerships with HECO to develop renewable energy Projects and improve infrastructure. DHHL is also exploring community-based renewable energy initiatives to provide beneficiaries with clean energy access and lower utility costs. Aligned with the <i>Ho'omalūō Energy Policy</i>, the Project leverages existing energy infrastructure, including the upgraded Hāna Substation located one mile from the site, which provides 2.00 MW of diesel-powered capacity for East Maui. A 32.29-acre solar PV system on the Project site is projected to generate approximately 242.8 GWh annually, reducing reliance on fossil fuels while supporting energy needs for both homesteads and non-homestead uses. Energy-saving measures, such as efficient fixtures, appliances, and solar water heating, will be integrated into residences. Beneficiaries will also have the option to install individual solar PV systems, promoting energy self-sufficiency. Areas not covered by renewable energy will connect to Maui Electric Company (MECO) infrastructure. The Project is not expected to significantly impact existing energy systems, as coordination with utility providers will ensure alignment with service requirements and sustainable energy use.</p>			
<p>§226-18.5 Objectives and policies for facility systems--telecommunications.</p>			
<p>(a) Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.</p>			
<p>(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.</p>			
<p>(c) To further achieve the telecommunications objective, it shall be the policy of this State to:</p>			
(1) Facilitate research and development of telecommunications systems and resources;			X

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Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;			X
(3) Promote efficient management and use of existing telecommunications systems and services; and			X
(4) Facilitate the development of education and training of telecommunications personnel.			X
<p>Discussion: While the objectives and policies specified in HRS §226-18.5 are not directly applicable to the Project, efforts align with broader goals to enhance telecommunications infrastructure. In November 2024, DHHL secured a \$72 million NTIA grant to expand high-speed internet for Native Hawaiian households, supporting fiber optic deployment, digital innovation centers, workforce training, digital literacy programs, and outreach initiatives. In 2020, DHHL also applied for an unassigned 2.5 GHz spectrum under the FCC's Rural Tribal Priority Window to improve broadband in rural homestead areas. Following the June 2024 closure of Sandwich Isles Communications, DHHL partnered with Hawaiian Telcom and Spectrum to restore connectivity through wireless hotspots and planned fiber optic upgrades. Coordination with telecommunications providers will be prioritized to minimize potential impacts during construction. Service lines will be located before excavation to avoid disruptions to existing infrastructure. The Project is not anticipated to cause significant adverse effects on surrounding telecommunications services. Planned improvements include measures to prevent delays or interruptions, with no additional mitigation required beyond initial coordination. Upon completion, homeowners must submit service requests to HTC and pay monthly fees for telecommunications services.</p>			
<p>§226-19 Objectives and policies for socio-cultural advancement--housing.</p>			
<p>(a) Planning for the State's socio- cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:</p>			
(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawai'i's population.	X		
(2) The orderly development of residential areas sensitive to community needs and other land uses.	X		
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.			X
<p>(b) To achieve the housing objectives, it shall be the policy of this State to:</p>			
(1) Effectively accommodate the housing needs of Hawai'i's people.	X		
(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.	X		
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.	X		
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas.			X
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.	X		
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			X
(7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.	X		

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Part 1. Overall Theme, Goals, Objectives, and Policies			
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	S	N/S	N/A
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i.			X
<p>Discussion: The Project will develop up to 238 residential and subsistence agricultural homestead lots for DHHL beneficiaries, addressing the critical need for affordable housing in Hāna while aligning with the community's rural character. It aims to serve families of multiple generations through kauhale-style homesteads, offering one-acre residential and one to three-acre subsistence agricultural lots. Additionally, the Project will include 60 units of kūpuna housing on 6.5 acres, providing dedicated housing for elders. The Project seeks to strengthen cultural and community ties for native Hawaiian beneficiaries, supporting their socio-economic well-being and preserving cultural identity.</p>			
<p>§226-20 Objectives and policies for socio-cultural advancement--health.</p>			
<p>(a) Planning for the State's socio- cultural advancement with regard to health shall be directed towards achievement of the following objectives:</p>			
(1) Fulfillment of basic individual health needs of the general public.			X
(2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.			X
<p>(b) To achieve the health objectives, it shall be the policy of this State to:</p>			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			X
(2) Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.			X
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			X
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			X
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			X
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.			X
(7) Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.			X

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<p>Discussion: The Project includes 60 kūpuna housing units designed to meet the unique needs of older adults, enabling kūpuna to age in place while staying connected to their community. The kūpuna housing will provide access to outdoor spaces and community facilities, fostering mobility, social interaction, and a high quality of life. The Project also promotes healthy living by integrating residential and agricultural areas that support small-scale farming and community gardening. These initiatives enhance food security and encourage healthier dietary choices rooted in traditional foods. Parks and greenways will provide physical activity, recreation, and relaxation opportunities, contributing to residents' overall health and well-being. Community facilities, such as a charter school, community center, and small commercial convenience space, will foster social interaction and cohesion while serving as venues for health and wellness programs, workshops, and events. These spaces will support a healthy and engaged lifestyle, emphasizing respect for cultural values and the community's well-being. Although the Project is designed to enhance community wellness, a modest population increase may place additional demand on local health services, particularly Hāna Health, located approximately one mile from the Project site. Continued coordination with Hāna Health and other healthcare providers in the area will be essential to address growing needs and prevent potential service shortages.</p>						
<p>§226-21 Objective and policies for socio-cultural advancement--education.</p> <p>(a) Planning for the State's socio- cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.</p> <p>(b) To achieve the education objective, it shall be the policy of this State to:</p>						
(1)	Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.					X
(2)	Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.	X				
(3)	Provide appropriate educational opportunities for groups with special needs.					X
(4)	Promote educational programs which enhance understanding of Hawai'i's cultural heritage.					X
(5)	Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.					X
(6)	Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.					X
(7)	Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.					X
(8)	Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.					X
(9)	Support research programs and activities that enhance the education programs of the State.					X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable				S	N/S	N/A
<p>Discussion: The Project includes plans for a charter school and community center to provide educational and communal spaces, enhancing access to education and serving as hubs for community activities. Located directly east of the Project site, Hāna High and Elementary School is currently the only school in the district. The Project will complement this existing institution by offering additional resources and accommodating increased student enrollment resulting from the new housing development. However, beneficiaries are expected to come from Hāna and its surrounding communities primarily. DHHL will coordinate with Hāna High and Elementary School and the State DOE regarding enrollment and opportunities for collaboration. In addition to educational and community facilities, the Project will provide commercial and industrial spaces supporting subsistence farming, fishing, and small businesses and economic development for the community. By offering educational opportunities focused on agriculture and community services, the Project aims to benefit the broader community while deepening connections to the land.</p>						
<p>§226-22 Objective and policies for socio-cultural advancement--social services.</p> <p>(a) Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.</p> <p>(b) To achieve the social service objective, it shall be the policy of the State to:</p>						
(1) Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.	X					
(2) Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.						X
(3) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities.						X
(4) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.						X
(5) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.						X
(6) Promote programs which assist people in need of family planning services to enable them to meet their needs.						X

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
<p>Discussion: The Project aims to enhance social services and promote community well-being by including a charter school, a community center, and a 30-unit kūpuna housing development. These facilities will serve as hubs for social interaction and support, providing residents with access to programs and services that improve their quality of life. By situating housing near community services, parks, schools, walkways, and cemetery, the Project will improve connectivity and accessibility for families. The development includes residential and subsistence agricultural homesteads that promote sustainable agriculture, resource management, and community engagement. This intentionally built environment empowers individuals and families to become self-reliant while improving overall well-being. Integrating educational components further supports personal and family health, environmental awareness, and responsible land stewardship. Focused on addressing the needs of native Hawaiian beneficiaries in Hāna, the Project seeks to reduce social inequities by increasing housing opportunities and access to healthy foods and social services. Communal spaces and facilities are expected to enhance social cohesion by providing venues for gatherings, events, and programs. These spaces will encourage interaction, foster a sense of belonging, and strengthen community.</p>			
<p>§226-23 Objective and policies for socio-cultural advancement--leisure.</p> <p>(a) Planning for the State's socio- cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.</p> <p>(b) To achieve the leisure objective, it shall be the policy of this State to:</p>			
(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			X
(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.			X
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			X
(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.			X
(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.	X		
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.	X		
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.			X
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			X
(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.			X
(10) Assure adequate access to significant natural and cultural resources in public ownership.			X

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
<p>Discussion: The communal spaces and facilities within the Project are designed to promote social cohesion by creating venues for gatherings, events, and programs that foster a sense of belonging and encourage interaction. These spaces, including approximately 18.29 acres of park space and 11.63 acres of greenway and community areas, will enhance recreational opportunities on the mauka side of Hāna Highway. Greenways and linear parks will provide residents access to outdoor recreational areas, encouraging physical activity, social interaction, and community engagement. These spaces will contribute to the community's overall well-being while promoting healthier lifestyles through outdoor activities and social connections. The emphasis on leisure and recreation is expected to improve residents' mental and physical health outcomes. Nearby recreational facilities, including Wai'ānapanapa State Park, Pā'ani Mai Park, Hāna Bay Beach Park, Hāna Community Center and District Complex, and Hāna Forest Reserve enhance leisure options for residents. The planned walkways throughout the Project site will promote a pedestrian-friendly environment and encourage active lifestyles. By providing spaces for leisure and recreation, the Project aims to foster long-term community engagement and participation, enhancing residents' overall quality of life.</p>			
<p>§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being.</p> <p>(a) Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.</p> <p>(b) To achieve the individual rights and personal well-being objective, it shall be the policy of this State to:</p>			
(1) Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.			X
(2) Uphold and protect the national and state constitutional rights of every individual.	X		
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			X
(4) Ensure equal opportunities for individual participation in society.	X		
<p>Discussion: The Project aims to address historical injustices by providing homestead leases that restore a sense of social and psychological security for families. Through tailored land uses informed by the beneficiaries of Hāna, it seeks to promote equal opportunities for beneficiaries, both individually and as a community, by fostering collaboration and advancing social justice. The Project's inclusive approach to managing and allocating resources, access, and opportunities for homesteading will support current and future growth, helping to rectify past disparities and build a more equitable and inclusive society.</p>			
<p>§226-25 Objective and policies for socio-cultural advancement--culture.</p> <p>(a) Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.</p> <p>(b) To achieve the culture objective, it shall be the policy of this State to:</p>			
(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.	X		
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.			X
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i.	X		

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.			X
Discussion: The Project aligns with the objectives and policies of §226-25 by supporting subsistence agricultural homestead living that reflects the character of the surrounding Hāna community. It incorporates access to a convenience (commercial) center, charter school, and parks while fostering multigenerational living, which upholds and supports Hawaiian cultural values and lifestyle.			
§226-26 Objectives and policies for socio-cultural advancement--public safety.			
(a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:			
(1) Assurance of public safety and adequate protection of life and property for all people.	X		
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.			X
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.			X
(b) To achieve the public safety objectives, it shall be the policy of this State to:			
(1) Ensure that public safety programs are effective and responsive to community needs.			X
(2) Encourage increased community awareness and participation in public safety programs.			X
(c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			X
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			X
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.			X
(d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to:			
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.			X
(2) Enhance the coordination between emergency management programs throughout the State.			X
Discussion: The Project incorporates comprehensive fire safety measures to protect residents and the community. Multiple access points to Hāna Highway will ensure efficient entry for emergency responders. Fire-resistant building materials and native landscaping will create defensible spaces around structures, reducing the risk of wildfire spread. Best management practices for vegetation management will be implemented to lower fuel loads, and beneficiary education programs will inform residents about maintaining defensible spaces, evacuation procedures, and safety practices, enhancing community resilience. DHHL will collaborate with local authorities and residents to ensure the effective implementation of safety measures, fostering community awareness and shared responsibility for emergency preparedness. During construction, all relevant State and County safety requirements will be followed to protect staff, construction crews, and community members. The Project is not anticipated to increase or exacerbate risks to public safety or property from natural or man-made hazards.			

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
§226-27 Objectives and policies for socio-cultural advancement--government.			
(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:			
(1) Efficient, effective, and responsive government services at all levels in the State.			X
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.			X
(b) To achieve the government objectives, it shall be the policy of this State to:			
(1) Provide for necessary public goods and services not assumed by the private sector.	X		
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.	X		
(3) Minimize the size of government to that necessary to be effective.			X
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i.			X
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.	X		
(6) Provide for a balanced fiscal budget.			X
(7) Improve the fiscal budgeting and management system of the State.			X
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.			X
Discussion: The objectives and policies specified in HRS §226-27 are not directly applicable to the Project.			
§226-101 Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.			
§226-102 Overall direction. The State shall strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.			
§226-103 Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:			
(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			
(A) Encourage investments which:			
(i) Reflect long term commitments to the State;			X
(ii) Rely on economic linkages within the local economy;			X
(iii) Diversify the economy;			X
(iv) Reinvest in the local economy;	X		
(v) Are sensitive to community needs and priorities; and	X		
(vi) Demonstrate a commitment to provide management opportunities to Hawai'i residents.	X		
(B) Encourage investments in innovative activities that have a nexus to the State, such as:			
(i) Present or former residents acting as entrepreneurs or principals;			X
(ii) Academic support from an institution of higher education in Hawai'i;			X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
(iii)	Investment interest from Hawai'i residents;			X
(iv)	Resources unique to Hawai'i that are required for innovative activity; and			X
(v)	Complementary or supportive industries or government programs or projects.			X
(2)	Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			X
(3)	Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.			X
(4)	Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			X
(5)	Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected.			X
(6)	Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributors.			X
(7)	Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States.			X
(8)	Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:			X
(A)	An industry that can take advantage of Hawai'i's unique location and available physical and human resources.			X
(B)	A clean industry that would have minimal adverse effects on Hawai'i's environment.			X
(C)	An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment.			X
(D)	An industry that would provide reasonable income and steady employment.			X
(9)	Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business.			X
(10)	Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions:			X
(A)	Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.			X
(B)	Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.			X
(C)	Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.			X
(D)	Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.			X
(E)	Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on- the-job training opportunities.			X
(F)	Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.			X
(b)	Priority guidelines to promote the economic health and quality of the visitor industry:			

Table 5-1: Hawai'i State Plan			S	N/S	N/A
Part 1. Overall Theme, Goals, Objectives, and Policies					
S = Supportive, N/S = Not Supportive, N/A = Not Applicable					
(1)	Promote visitor satisfaction by fostering an environment which enhances the aloha spirit and minimizes inconveniences to Hawai'i's residents and visitors.				X
(2)	Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.				X
(3)	Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.				X
(4)	Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources.				X
(5)	Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.				X
(6)	Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets.				X
(7)	Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.				X
(8)	Support law enforcement activities that provide a safer environment for both visitors and residents alike.				X
(9)	Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.				X
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:					
(1)	Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.				X
(2)	Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i.				X
(3)	Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.				X
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:					
(1)	Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.				X
(2)	Assist in providing adequate, reasonably priced water for agricultural activities.				X
(3)	Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.				X
(4)	Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.				X
(5)	Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community.				X
(6)	Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators.				X
(7)	Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.				X
(8)	Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.				X
(9)	Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.				X

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(10) Support the continuation of land currently in use for diversified agriculture.			X
(11) Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products.			X
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.	X		
(2) Encourage the improvement of irrigation technology and promote the use of non-potable water for agricultural and landscaping purposes.	X		
(3) Increase the support for research and development of economically feasible alternative water sources.			X
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			X
(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.	X		
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			X
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			X
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.	X		
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network that will serve as the catalyst for establishing a viable information industry in Hawai'i.			X
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			X
(3) Encourage the development of small businesses in the information field such as software development, the development of new information systems and peripherals, data conversion and data entry services, and home or cottage services such as computer programming, secretarial, and accounting services.			X
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			X
(5) Encourage research activities, including legal research in the information and telecommunications fields.			X
(6) Support promotional activities to market Hawai'i's information industry services.			X
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			X

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
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	S	N/S	N/A
<p>Discussion: The Project supports the policy and objectives of §226-103 (a) and (d) by promoting subsistence agriculture with the opportunity for small-scale businesses that promote agricultural products developed on the Project Site. Regarding §226-103 (f), approximately 32.29 acres of the Project site are designated for PV installations. The planned solar array is projected to produce about 242.8 gigawatt-hours (GWh) annually, with a daily output of approximately 665,325 kilowatt-hours (kWh). This capacity is sufficient to support the energy needs of multiple homesteads and non-homestead uses, where average household energy consumption is 500 to 600 kWh per month. Regarding §226-103 (e), Kuleana subsistence agricultural lots and pastoral lots will provide the opportunity to take advantage of non-potable water sources for agriculture and irrigation, such as water catchment systems. In addition, a water tank and pump currently exist on the Project site in the southeast area of the property. §226-103 (b),(c), and (g) do not apply to this Project.</p>			
§226-104 Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people.	X		
(2) Manage a growth rate for Hawai'i's economy that will parallel future employment needs for Hawai'i's people.			X
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.	X		
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.	X		
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			X
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			X
(7) Support the development of high technology parks on the neighbor islands.			X
(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.	X		
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			X
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.	X		
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			X
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.	X		
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(7) Pursue rehabilitation of appropriate urban areas.			X
(8) Support the redevelopment of Kaka'ako into a viable residential, industrial, and commercial community.			X
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.	X		
(10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			X
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			X
(12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.	X		
(13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.	X		
<p>Discussion: The Project emphasizes preserving scenic vistas along the Historic Hāna Highway, as well as open spaces, parks, and gardens, to maintain the rural character of the community while providing recreational opportunities and fostering a connection to nature. Landscaping will feature native, drought-resistant plants to support ecosystems, conserve water, and enhance the natural aesthetic. Catchment systems will be allowed, water reuse encouraged, and the existing hala groves within the Project site will be preserved. Design guidelines will ensure that new structures are in character with the surrounding rural community by carefully considering building heights, materials, and colors. Sustainable development practices, including low-impact construction and green infrastructure, will further reduce the ecological footprint and protect the environment. Community engagement has shaped the design and planning of this Project, ensuring that it aligns with local values and meets beneficiary preferences. Construction activities will minimize land disturbance and protect the surrounding landscape, while planning will safeguard native habitats and natural corridors.</p>			
<p>§226-105 Crime and criminal justice. Priority guidelines in the area of crime and criminal justice:</p>			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			X
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			X
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			X
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			X
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			X
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			X
<p>Discussion: The priority guidelines specified in HRS §226-105 are not directly applicable to the Project.</p>			
<p>§226-106 Affordable housing. Priority guidelines for the provision of affordable housing:</p>			

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Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
(1) Seek to use marginal or nonessential agricultural land, urban land, and public land to meet housing needs of extremely low-, very low-, lower-, moderate-, and above moderate-income households.	X		
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			X
(3) Improve information and analysis relative to land availability and suitability for housing.			X
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's extremely low-, very low-, lower-, and moderate-income households and residents with special needs.	X		
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner-occupied housing.	X		
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			X
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			X
(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.	X		
Discussion: The Project will develop up to 238 residential and subsistence agricultural homestead lots for DHHL beneficiaries, including 60 (turn-key) units for kūpuna housing, addressing the critical housing needs of native Hawaiians. By providing affordable housing in a region with historically high median prices, the Project offers vulnerable populations accessible living options. The Project responds to the high demand for DHHL housing, with 3,987 applicants on the Maui Island-wide Residential Waiting List as of 2025.			
§226-107 Quality education. Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;			X
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;			X
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education workforce;			X
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities;			X
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for:			
(A) The electronic exchange of information;			X
(B) Statewide electronic mail; and			X
(C) Access to the Internet.			X
(D) Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;			X
(6) Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific;			X
(7) Develop resources and programs for early childhood education;			X
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and			X
(9) Strengthen and expand educational programs and services for students with special needs.			X

Table 5-1: Hawai'i State Plan			
Part 1. Overall Theme, Goals, Objectives, and Policies			
S = Supportive, N/S = Not Supportive, N/A = Not Applicable			
	S	N/S	N/A
<p>Discussion: The Project includes a charter school to enhance access to education for native Hawaiian children and support families in Hāna. This initiative complements Hāna High and Elementary School by boosting educational opportunities emphasizing cultural and community values. The DHHL will collaborate with the Hawai'i DOE to align these facilities with community needs. The charter school is expected to increase student enrollment, bringing additional funding and resources to enhance educational programs.</p>			
<p>§226-108 Sustainability. Priority guidelines and principles to promote sustainability shall include:</p>			
(1) Encouraging balanced economic, social, community, and environmental priorities;	X		
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;	X		
(3) Promoting a diversified and dynamic economy;			X
(4) Encouraging respect for the host culture;	X		
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;	X		
(6) Considering the principles of the ahupua'a system; and			X
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i.			X
<p>Discussion: The Project supports the objectives and policies of §226-108 by balancing the State's economic, social, community, and environmental priorities. It involves developing a mixed-use, subsistence-based community in Hāna for DHHL beneficiaries. The Project minimizes impacts on natural resources through land stewardship and cultural sustainability practices, including preserving existing hala groves on-site. It supports small businesses by including commercial space for a convenience store and food trucks, as well as industrial space for boat storage and fishing-related maintenance.</p>			
<p>§226-109 Climate change adaptation priority guidelines. Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:</p>			
(1) Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities;			X
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;			X
(3) Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State;			X
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;			X
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;			X
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;			X
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;			X

Table 5-1: Hawai'i State Plan Part 1. Overall Theme, Goals, Objectives, and Policies S = Supportive, N/S = Not Supportive, N/A = Not Applicable		S	N/S	N/A
(8)	Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;			X
(9)	Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and			X
(10)	Encourage planning and management of the natural and built environments that effectively integrate climate change policy.	X		
Discussion: The Project is located outside natural hazard areas, including flood zones, tsunami evacuation zones, the SMA, and the projected SLR hazard area, to avoid impacts associated with climate change.				

5.4 State Housing Functional Plan

The 2017 State Housing Functional Plan (Housing Functional Plan) aims to implement the goals, objectives and policies of the Hawai'i State Plan and County General Plans, in accordance with HRS Chapter 226. The Housing Functional Plan provides specific and implementable strategies, policies and priority actions to address the current housing shortage in Hawai'i, based on joint public-private partnerships to finance, build, and maintain an adequate supply of affordable housing.

According to the Housing Functional Plan, approximately 44% of Maui households are cost-burdened, spending more than 30% of their income on housing—higher than the statewide average of 36%. In 2016, 20.2% of Maui households were crowded or doubled-up, meaning housing units were shared by multiple families or unrelated groups. To meet the needs of Maui's workforce and lower-income households (those earning 140% or less of the median family income), an estimated 12,648 additional housing units will be required. The following is a discussion of the Project's consistency with the pertinent Housing Functional Plan objectives, strategies, policies, and implementing actions:

OBJECTIVE C: ADDRESS BARRIERS TO RESIDENTIAL DEVELOPMENT.

***STRATEGY:** Coordinate and facilitate the production of housing by addressing development impediments including lack of land, infrastructure, and regulations that add to the cost of housing.*

***POLICY C (2):** Coordinate and share regional infrastructure investments between State, counties, and private developers.*

Discussion: The 656.3-acre Project in Wākiu, in Hāna integrates diverse land uses to support residential living, agricultural sustainability, and community services while preserving cultural and environmental resources. Residential lots (89.43 acres) will provide housing for beneficiaries, while 143.84 acres are allocated for subsistence agricultural lots and 138.67 acres for kūleana subsistence agriculture, encouraging both modern and traditional farming practices. Pastoral lots (41.88 acres) will support livestock grazing, and 6.46 acres are designated for kūpuna housing to meet the needs of elderly residents.

Non-homestead zones include 5.9 acres for industrial activities, 32.29 acres for renewable energy generation (solar), and 51.78 acres for community spaces, such as parks, gardens, a charter school, cemetery, and recreational facilities. Additionally, 138.8 acres will be preserved as conservation areas to protect the hala groves, which hold cultural, environmental, and historical significance for the greater Hāna community.

The Project will provide three access points to Hāna Highway, and the DHHL will coordinate with local medical, educational, and emergency services to ensure adequate support for residents. This carefully planned mix of uses aims to foster a vibrant, sustainable community that balances homesteading with environmental stewardship.

5.5 Hawai‘i 2050 Sustainability Plan

The *Hawai‘i 2050 Sustainability Plan (2050 Plan) – Decennial Update: Charting a Course for the Decade of Action (2020-2030)* was revised and published in June 2021. The 2050 Plan serves as the State’s climate and sustainability strategic action plan, pursuant to HRS 226-65. The 2050 Plan will guide the State through 2020-2030, which the United Nations declared the “Decade of Action,” to accelerate progress toward 17 Sustainable Development Goals (SDGs) worldwide. The 2050 Plan identifies Hawai‘i’s progress toward achieving the 17 SDGs (through State and County laws, policies, programs, plans and initiatives), gaps where SDGs are not being addressed, and recommends actions for how to enhance sustainability and climate change adaptation in Hawai‘i. The 2050 Plan identifies 8 focus areas, 38 strategies, and more than 250 recommended actions to undertake in the next decade.

The following is a discussion of the Project’s consistency with the pertinent SDGs identified in the 2050 Plan:

Sustainable Development Goal 1: No Poverty – End Poverty in All its Forms Everywhere.

- *Ensuring social protection systems are in place to cover poor and vulnerable populations.*
- *Ensuring equal rights to economic resources and access to basic services, property, natural resources, and technology.*

Discussion: The Project prioritizes providing residential lots specifically for native Hawaiian beneficiaries, addressing historical inequities in land access and ownership. By focusing on these beneficiaries, the Project seeks to rectify past injustices while enhancing economic opportunities and promoting greater equity.

With historically high median home prices in Maui, the Project also addresses the critical need for affordable housing. It ensures that low- and moderate-income families, particularly native Hawaiians, have access to housing options that would otherwise be out of reach, fostering economic equity and stability.

The construction and development phases are expected to create direct and indirect job opportunities for local residents, stimulating employment in construction, infrastructure development, and related industries. Plans for commercial spaces further support local businesses and entrepreneurs, fostering a more vibrant economy and enhancing opportunities for small business growth.

Educational and training opportunities will be bolstered by the establishment of a charter school and community center. These facilities will provide essential resources to equip residents with skills for meaningful participation in the economy while supporting the educational needs of children and families.

The integration of subsistence agricultural lots supports traditional farming practices, enhancing food security and providing economic opportunities for residents. This approach encourages self-sufficiency and strengthens community resilience, aligning with the cultural and economic values of the Hāna community.

Additional community services and infrastructure, including health services, recreational facilities, and industrial spaces for activities like boat storage and fishing maintenance, are designed to improve access to essential resources. These enhancements contribute to a higher quality of life and enable greater economic participation for all residents.

By addressing housing, employment, education, subsistence agriculture, and community services, the Project aims to foster long-term economic stability. This holistic approach ensures equitable access to opportunities and resources, creating a resilient and self-sufficient Hāna community.

Sustainable Development Goal 5: Gender Equality – Achieve Gender Equality and Empower All Women and Girls.

- *Ensuring equal access for women to property ownership, financial services, economic resources, and technological resources to promote empowerment of women.*

Discussion: Native Hawaiian beneficiaries of all genders will have increased access to property ownership.

Sustainable Development Goal 9: Industry, Innovation, and Infrastructure – Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization, and Foster Innovation.

- *Improving the sustainability and equity of all existing and future infrastructure.*

Discussion: The Project includes an infrastructure plan to support residential, agricultural, and industrial uses while promoting sustainability and community development. For the 238 residential lots, essential infrastructure such as roads, water systems, and sewage disposal facilities will ensure health, safety, and livability. Agricultural infrastructure, including irrigation systems and access roads, will sustain subsistence farming, supporting local food production and traditional practices. Community facilities, including a charter school and small commercial space, will enhance resident engagement and economic activity. A small industrial area for boat maintenance and fishing-related activities will create jobs, diversifying local employment opportunities. Transportation improvements, such as three access points to Hāna Highway, and safer sidewalks for students and pedestrians between the site and Hāna High and Elementary School, will improve connectivity and accessibility.

The Project will rely on groundwater from Maui's DWS for potable water, supported by pipelines, storage, and treatment systems to ensure safe drinking water. Irrigation systems will also support agricultural needs. Kūleana and pastoral lots will be able to use rainwater harvesting/catchment (non-potable) water, reducing groundwater reliance. Preserving hala groves and other significant environmental features is a priority, with conservation efforts integrated into the planning. Energy-efficient designs and renewable energy options, such as solar water heating and solar PV (32.9 acres), will reduce greenhouse gas emissions and promote energy self-sufficiency. The DHHL Ho'omalūō Energy Policy promotes energy self-sufficiency and sustainability among Native Hawaiian communities. This policy emphasizes the development of energy-efficient homes and communities, the use of diverse renewable energy resources, and the education of beneficiaries on sustainable living practices.

The Project's infrastructure development aligns with a long-term vision for the Hāna community, emphasizing sustainability, resilience, and economic diversification.

Sustainable Development Goal 11: Sustainable Cities and Communities – Make Cities and Human Settlements Inclusive, Safe, Resilient, and Sustainable.

- *Affordable housing.*
- *Access to public spaces.*
- *Sustainable transportation systems, including public transport.*
- *Safe cultural and natural heritage.*
- *Protected against losses related to natural disasters.*
- *Reduced adverse per capital environmental impact of cities (air quality, waste management).*

Discussion: The Project offers diverse homesteading opportunities, including residential, subsistence agricultural, kūleana subsistence, pastoral lots, and kūpuna housing. It also includes industrial and commercial spaces to provide convenient services and employment opportunities. Community features such as two community centers, a charter school, parks, gardens, and greenways are planned to enhance livability and engagement.

Located away from the shoreline, the Project is outside the SMA and SLR-XA. It is designed to reflect the scale and character of the Hāna community, with no anticipated impact on significant natural, cultural, or historic resources or on viewsheds, including those from the historic Hāna Highway. Additionally, 138.8 acres are designated for conservation to protect hala and kukui groves that support local ecosystems.

BMPs will be implemented to prevent adverse impacts on natural resources during construction, with mitigation measures in place for any endangered or threatened species found on-site. The Project emphasizes sustainable land use practices, fostering environmental awareness and responsible water stewardship while addressing air and water quality, nonpoint source pollution, and hazards like erosion and flooding.

Dust control methods, such as water application and dust suppressants, will minimize pollutants during construction. Regular air quality monitoring will ensure compliance and allow for timely mitigation of potential issues. BMPs will manage stormwater runoff and prevent pollutants from entering local sources to protect water quality. Erosion controls, including replanting native species, mulch, and erosion control mats, will stabilize the soil. Sustainable water management practices will safeguard groundwater, the primary potable water source, for long-term use.

These measures demonstrate the Project's commitment to environmental protection, regulatory compliance, and the well-being of beneficiaries and natural ecosystems in the Wākiu area.

5.6 Hawai'i State Land Use Districts

The Hawai'i SLUDs are codified under HRS Chapter 205-2, LUC – Districting and classification of lands. The Land Use Commission establishes the boundaries for each land use district. All lands in Hawai'i are classified into one of four land use districts: Conservation, Agricultural, Rural, and Urban.

The Site is situated within the Agricultural District. Jurisdiction of the Agricultural District lies primarily with each County. See *Figure 1-3, State Land Use District*.

Discussion: The Project involves the development of a new mixed-use subsistence agricultural homestead for DHHL beneficiaries. The HHCA gives the DHHL the authority to use its lands at its discretion; therefore, the DHHL has the authority to proceed with the Project without the lands being

fully entitled for residential use. Specifically, HHCA Section 204, states that “all available lands shall immediately assume the status of Hawaiian home lands and be under the control of the department to be used and disposed of in accordance with the provisions of this Act.”

5.7 Hawaiian Homes Commission Act of 1920

Enacted by Congress in 1920, the HHCA provides for the rehabilitation of the native Hawaiian people through a government-sponsored homesteading program. The act created the HHC to administer certain public lands, called Hawaiian home lands, for homesteads. This responsibility was transferred to the State in 1959, when the HHCA was incorporated as a provision in the State Constitution. Today, the State’s DHHL manages and administers the Hawaiian Home Lands trust, which provides homestead leases and loans for residential, agricultural, and pastoral purposes. The specific goals and objectives of the HHCA as administered through DHHL are laid out in the DHHL General Plan.

Discussion: The Project aligns with the objectives and policies of the HHCA by developing a beneficiary-informed, mixed-use master-planned agricultural community that offers diverse homesteading and agricultural opportunities for native Hawaiian beneficiaries.

5.8 Department of Hawaiian Home Lands (DHHL) Plans

5.8.1 DHHL General Plan Update

The *DHHL General Plan Update* (adopted on November 21, 2022), is an update of the *DHHL General Plan*, which was initially adopted in 2002. The *DHHL General Plan Update* sets the vision and establishes goals and policies to guide the decision-making of the HHC and the DHHL plans, programs, and policies for the next 20 years (until 2040). The *DHHL General Plan* provides guiding principles, goals, policies, and metrics that are organized into the following themes: Land Use and Water Resources, Infrastructure, Housing, Food Production, Healthy Communities, Natural and Cultural Resource Management, Revenue Generation and Economic Development.

The following is a discussion regarding the Project’s consistency with applicable objectives in the *DHHL General Plan Update*.

Land Use and Water Resources

Goal LU-1: Utilize Hawaiian home lands for uses most appropriate to meet the needs and desires of the beneficiary population

Policy

- *LU-1A: Increase beneficiary participation in the planning, development, and use of Hawaiian home lands and improve communications between DHHL and the beneficiary community.*
- *LU-1D: Incorporate Native Hawaiian mana‘o, traditional place names, historical uses, and cultural knowledge in land use planning to identify appropriate uses in appropriate places.*

Goal LU-2: Encourage a balanced pattern of contiguous growth into urban and rural centers.

Policy

- *LU-2A: Prioritize the development of homestead communities in areas with suitable development conditions that are close to jobs, transportation, infrastructure, and services.*

Goal LU-3: Protect life and property from the effects of natural hazards and climate change on Hawaiian home lands.

Policy

- *LU-3A: Assess vulnerability of populations, resources, and infrastructure across Hawaiian home lands to climate change and natural hazards and conduct climate resilience and adaptation planning in high vulnerability areas.*
- *LU-3D: Designate evacuation routes, shelters and refuge areas for homestead communities and ensure they are marked and advertised in Regional Plans or Special Area Plans.*

Discussion: The Project involves the development of 238 homestead lots to provide residential opportunities for Native Hawaiian beneficiaries. The design, driven by the intended beneficiaries, prioritizes cultural values and traditions, fostering a sense of community and connection to the land.

In addition to residential lots, the Project includes areas for subsistence agriculture to support traditional farming practices that enhance food security and cultural ties. Key community features include a rural commercial zone, a charter school, and greenways for recreation, all aimed at improving residents' quality of life and encouraging social interaction.

The plan emphasizes sustainable land use by combining traditional and modern agricultural practices to promote environmental conservation. A water management system will provide both potable and non-potable water for residential and agricultural uses.

Cultural preservation is a central focus, with measures to protect significant sites and integrate traditional practices into community activities. The Project also addresses natural hazards, such as flooding and wildfires, by implementing strategies to reduce risks and ensure durable infrastructure.

Engagement with the local community has been a priority to ensure that the plan reflects residents' needs and preferences, fostering a sense of ownership and collaboration.

Infrastructure

Goal IN-1: Provide and maintain infrastructure for homestead communities within resource limitations.

Policy

- *IN-1A Design infrastructure to County standards and transfer systems to the Counties whenever possible for development within Residential, Commercial, and Industrial areas.*

Goal IN-2: Promote innovative, cost-effective, and sustainable ways to meet infrastructure needs.

Policy

- *N-2C Promote energy self-sufficiency, climate change mitigation, and sustainability by implementing DHHL's Energy Policy.*

Discussion: The Project includes developing infrastructure to support residential and agricultural activities. This includes the construction of roads and drainage systems to ensure safe and efficient access throughout the community.

Water resource management strategies include utilizing and amending existing water sources while allowing for water catchment systems. These systems will provide non-potable and potable water options, supporting residential and agricultural uses. DHHL will dedicate new water sources and wells to Maui BWS to ensure a long-term and sustainable water supply. Wastewater management will be addressed through appropriate systems to handle sewage and greywater. This may involve individual septic systems depending on environmental considerations and community requirements.

The Project will connect to the existing MECO infrastructure to meet energy needs, incorporating an overhead distribution system for electrical power, streetlights, and other community requirements. A dedicated 32.29-acre PV solar system will be integrated to promote renewable energy generation, reduce reliance on fossil fuels, and enhance community energy resilience. Homes will feature energy-saving fixtures and appliances. Residents can install additional solar PV systems to encourage energy self-sufficiency and lower greenhouse gas emissions.

Telecommunications infrastructure will provide reliable access to internet and telephone services through the installation of fiber optic cables, coordinated with local service providers. Residents will be responsible for arranging their individual service connections.

The Project will include three driveways from Hāna Highway to ensure efficient connectivity and emergency response. Circulation roadways within the Project site will facilitate internal traffic flow. Nonresidential uses, such as small commercial areas, the industrial zone, the charter school, and kūpuna housing, will be located closer to Hāna Highway to provide better access for emergency services, residents, and visitors.

By integrating these essential infrastructure components with sustainable energy practices, water management systems, and modern utilities, the Project aims to create a resilient and well-equipped community. The design prioritizes the needs of residents while maintaining environmental stewardship and safety.

Housing

GOAL HS-1: Increase the number of housing opportunities awarded each year.

Policy

- *HS-1A Maintain a housing development pipeline in proportion to the number of applicants on the residential waiting list for each island.*

GOAL HS-2: Provide a mix of housing opportunities that reflect the needs and desires of native Hawaiian beneficiaries.

Policy

- *HS-2A Provide a variety of residential types that match beneficiary needs in terms of housing products (owner-builder, turnkey, self-help, etc.), types of housing units (single family, multi-family, kupuna housing, rental, etc.) and financing.*

GOAL HS-4: Develop integrated residential communities that are reflective of the diverse socio-economic profiles of the native Hawaiian community.

Policy

- *HS-4A: Ensure the availability of a range of housing types and affordability to accommodate persons and families of all income levels and in locations that are convenient to employment and public and private facilities.*

Discussion: This Project was envisioned in 2002 as part of the DHHL's efforts to identify and plan homestead opportunities in East Maui, particularly in Hāna. The Project fulfills DHHL's mandate by addressing the housing and agricultural needs of Native Hawaiians in Hāna while fostering cultural preservation, sustainability, and community development. The DHHL East Maui Project includes a variety of housing types and land uses to support native Hawaiian beneficiaries. These offerings aim to provide opportunities for residential living, agricultural sustainability, and cultural preservation. Residential lots span 89.43 acres and provide turn-key homes for beneficiaries. These lots support multigenerational living, fostering a sense of community and enhancing the well-being of residents. Additionally, kūleana subsistence agricultural lots cover 138.67 acres and are designed to promote traditional farming practices, allowing beneficiaries to reconnect with the land and cultivate self-sufficiency. Subsistence agricultural lots, allocated 143.84 acres, offer space for food production, enhancing food security and supporting sustainable living practices. Pastoral lots encompass 41.88 acres, providing land for livestock grazing and related activities. The Project also dedicates 6.46 acres to kūpuna housing, offering living spaces for elderly beneficiaries to meet their unique needs while ensuring they remain integrated within the community.

Food Production

Goal FP-4: Conserve the most productive agriculture lands for agricultural use.

Policy

- *FP-4A: Consult soil types and rating systems such as ALISH, LSB, and the Hawai'i soil atlas in the siting and design of homestead communities and prioritize these lands for land uses that support food production during DHHL Island Plan updates.*

Goal FP-5: Promote a diversity of food production on Hawaiian home lands.

Policy

- *FP-5B: Designate areas on Hawaiian home lands for communal growing and processing of food through the Community Agriculture land use designation.*

Discussion: The Project emphasizes agricultural self-sufficiency and economic development while preserving cultural traditions. Although the site is designated as ALISH Prime land, much of it is classified as LSB Class D lands, presenting some challenges due to its rocky soil and lack of surface water. It is not classified as IAL. Having been uncultivated for decades, the site presents a valuable opportunity to revitalize the land for productive and sustainable use. The Project will incorporate water catchment systems, low-impact irrigation, and other sustainable practices to maximize productivity while respecting the land's natural conditions. Infrastructure such as access roads, irrigation systems, and sustainable water management will enhance agricultural viability and resilience.

The Project will include 143.84 acres of subsistence agricultural lots for personal and family food production, 138.67 acres of kūleana subsistence agricultural lots to support traditional Hawaiian farming practices, and 41.88 acres of pastoral lots for livestock grazing. These areas promote self-sufficiency, sustainable living, and the preservation of cultural heritage. Farming activities will encompass both food and non-food crops, supporting subsistence agriculture and community-based

economic initiatives. To complement agricultural activities, a small commercial convenience center near the highway will facilitate the packaging and distribution of agricultural products, creating a market for locally grown crops and value-added goods. Additionally, a small industrial area will support fishing activities by providing facilities for boat storage and maintenance, bolstering community food security and economic resilience.

This integrated approach combines modern infrastructure with traditional Hawaiian agricultural practices, fostering a sustainable, self-reliant community while honoring the cultural heritage of Native Hawaiian beneficiaries.

Natural and Cultural Resource Management

Goal RM-1: Be responsible, long-term stewards of the Trust's lands and the natural, historic and community resources located on these lands.

Policy

- *RM-1B Identify, preserve, and protect significant natural, historic and cultural resources on Hawaiian home lands, using the Special District or Conservation land use designations to identify areas with resources requiring protection or management.*

Discussion: The Project will include parks, gardens, and greenways throughout, and preservation of approximately 138.8 of existing hala and kukui groves, which have environmental, cultural, and historic value to the greater Hāna community. A traditional cultural practices and land use study (see *Appendix D*), as well as a CIA (see *Appendix E*) were prepared to establish the context whereby the significance of the cultural-historical information collected can be assessed. The study also noted the likely potential of above-ground archaeological sites and features representing both pre-contact traditional Hawaiian architecture and historic era ranch and components of industrial sugar ventures within the DHHL Wākiu Master Plan area, and recommended a comprehensive Archaeological Inventory Survey Plan be conducted prior to initiating formal archaeological fieldwork.

In addition, a CIA was prepared to assess potential Project impacts on existing cultural resources and practices (see *Appendix E*). The CIA also noted portions of a historic railroad track still may be present near the Project area. The CIA also noted agricultural remnants from the ranching era may also still be present under the current vegetation. Furthermore and perhaps more importantly, lava tubes and caves, utilized since traditional times for war, refuse, or storage, may also be uncovered as a part of the Project development process. Farming was also done in the area, so traditional agricultural remnants could still be present. Besides the practices of farming and ranching, hunting and the harvesting of natural resources did occur in the mauka portions of Wākiu, and may occur in the Project area today. The CIA noted interviewees expressed their support for the DHHL project, adding that it is much needed in the community. The CIA also noted interviewees did not expect the project to have any adverse effects on specific cultural resources and traditional practices in Wākiu. The DHHL will comply with State rules and regulations regarding the preservation of traditional cultural practices, and archaeological and historic sites.

Healthy Communities Goals, Policies, and Metrics for 2040

Goal HC-1: Promote self-governance of homestead communities by beneficiaries and beneficiary organizations.

Policy

- *HC-1A Explore options to formalize relationships between homestead associations and the Department of Hawaiian Home Lands.*
- *HC-1B Provide Departmental guidance, capacity building, and technical assistance to support self-governance by beneficiary organizations.*
- *HC-1C Implement reporting requirements for recipients of DHHL grants to track use of awarded funds.*

Discussion: The Project has extensively involved the Wākiu Community Development Corporation (CDC) as the primary homestead association to generate the goals, objectives, and vision for the Wākiu Master Plan. The DHHL has and will continue to provide guidance to the beneficiaries to support their self-governance, and will continue to track grant funds as they are awarded to this and other DHHL Homestead projects.

Goal HC-2: Establish livable, sustainable, resilient, and healthy communities on Hawaiian home lands that provide space for or access to the amenities that serve the daily needs of its residents.

Policy

- *HC-2A Partner with homestead communities, non-profits, government agencies, and ali'i trusts to provide needed services to communities.*
- *HC-2B Balance the need for resources to place waitlist beneficiaries on the land while exploring the use of non-homesteading lands for beneficiary-serving uses that can managed through partnerships. Gather beneficiary input on desired community uses during the development planning process.*
- *HC-2C Incorporate community planning principles to design homestead communities that are welcoming, safe, and foster a sense of place and community.*
- *HC-2D Encourage homestead associations to build the resilience and emergency preparedness of their communities through preparing disaster preparedness plans, obtaining training and certifications, assembling emergency supplies, and other measures.*
- *HC-2E Incorporate green infrastructure and low impact development principles in future homestead communities to manage stormwater in a way that promotes green, open spaces within homestead communities to the extent possible.*
- *HC-2F Incorporate complete streets, Safe Routes to School, and other features to increase the safety and attractiveness of walking, biking, and transit in future homestead communities when possible.*
- *HC-2G Incorporate trees with canopy cover into homestead communities to increase comfort, offset urban heat island effect, and mitigate climate change impacts.*

Discussion: The Master Plan's mix of traditional homestead lots, kuleana lots, and community based uses was conceptualized with the help of the Wākiu CDC, a partnership with DHHL that involved their participation to identify the most needed services and uses desired by the beneficiaries. The Honuaiākea Process, along with multiple beneficiary master plan charrette sessions, gathered input on planning needs and design concepts that foster a welcoming, safe community with resilience and emergency preparedness, green design and sustainable practices, safe multi-modal transportation path options, and proper landscaping and greenway design to promote comfortable, climate sensitive homestead environments.

Economic Development and Revenue Generation Goals, Policies, and Metrics

Goal ED-1: Provide economic opportunities for beneficiaries on Hawaiian home lands.

Policy

- *ED-1A Partner with organizations that support Native Hawaiian entrepreneurs and community based economic development through business education, training, financing, planning, and leasing*
- *ED-1B Support partnerships with skilled trades education and training programs on Hawaiian home lands.*
- *ED-1C Allow limited types of low-intensity commercial activities that comply with lease requirements on Residential and Agricultural homesteads per the Island Plans and continue to offer the option of Mercantile licenses for qualifying activities.*
- *ED-1D Encourage commercial lessees to sublease to beneficiary-owned businesses, as allowed by law.*
- *ED-1E Encourage inclusion of community benefits packages in Development Agreements*
- *ED-1F Explore partnerships to utilize Hawaiian home lands to provide economic opportunities for beneficiaries.*
- *ED-1G Implement the Native Hawaiian Development Program Plan (NHDPP) to build capacity and opportunity within homestead communities.*
- *ED-1H Pursue and facilitate more partnerships to leverage DHHL NHDPP grants.*
- *ED-1I Explore opportunities to reinvest funds into homestead communities by hiring beneficiary businesses, as allowed by law.*

Discussion: The Project supports these goals by creating economic opportunities for beneficiaries through agricultural revitalization, homestead activities, and community-based initiatives. By fostering small-scale commercial ventures and partnering with organizations for business education and skilled trades training, the Project enhances economic development and supports beneficiary capacity-building. Additionally, it promotes low-intensity commercial activities on homesteads, encourages beneficiary-owned business opportunities, and integrates community benefit packages in development agreements. The Project also advances community growth through efforts aligned with the Native Hawaiian Development Program Plan, including capacity-building initiatives and reinvesting funds into homestead communities by hiring beneficiary businesses. By addressing housing needs and fostering diverse economic activities, the Project delivers long-term economic and community benefits for beneficiaries and the broader Hāna region.

Goal ED-2: Generate significant revenue to provide greater financial support towards fulfilling the Trust's mission.

Policy

- *ED-2A Designate areas for revenue generating Commercial and Industrial uses through the Island Planning process with beneficiary input.*
- *ED-2B Acquire land that expands opportunities for revenue generation.*
- *ED-2C Prioritize revenue generating activities that align with the General Plan Vision and Guiding Principles and the health of people and 'āina.*

- *ED-2D Maintain a professionally managed investment portfolio with a well-balanced mix of assets.*
- *ED-2E Ensure that impacts from industrial uses are adequately mitigated.*
- *ED-2F Ensure that DHHL's revenue generating assets are performing at or better than market levels.*
- *ED-2G Ensure that revenue generating uses are consistent with the underlying land use designations and planning documents.*

Discussion: The Project will integrate income-generating activities that support the Trust's mission while prioritizing the health of people and the 'āina. By designating areas for small-scale commercial and industrial uses, such as boat storage and repair, the Project contributes to economic activity and generates revenue consistent with the General Plan Vision and Guiding Principles. These activities have been thoughtfully planned to ensure alignment with underlying land use designations and beneficiary input. Through its focus on sustainable agricultural practices, low-intensity commercial activities, and the integration of renewable energy, the Project mitigates potential industrial impacts while supporting the health of the land and community. Additionally, the Project leverages opportunities to enhance DHHL's revenue-generating potential by fostering commercial spaces designed to perform at or above market levels. These efforts contribute to a balanced approach that supports the Trust's mission while delivering long-term economic and environmental resilience for beneficiaries and the Hāna region.

5.8.2 DHHL Maui Island Plan

The DHHL MIP, adopted in 2004, serves as a comprehensive guide for planning and managing DHHL lands on Maui. It establishes land use designations to promote orderly social, physical, and economic development. The MIP assesses beneficiary needs and demands, evaluates infrastructure requirements and opportunities from an island-wide perspective, and proposes plans for homesteading and non-homesteading uses. It also provides cost estimates for on- and off-site infrastructure and identifies priority areas for homestead development. Additionally, the MIP facilitates coordination between DHHL developments and State, County, and private sector Projects on Maui.

Part A: Residential Goals for the Maui Island Plan

- *Objective (1): Deliver an average of 500 new residential housing opportunities per year in proportion to the number of applicants on the residential waiting list for each island.*

Discussion: The Project will support DHHL's goal of delivering an average of 500 new residential housing opportunities annually by developing 238 residential and subsistence homestead lots for DHHL beneficiaries on Maui.

Part B: Socio-Economic

- *Objective (1): Using Hawaiian Home Lands for uses most appropriate to meet the needs and desires of the beneficiary population.*
- *Objective (2): Directing urban growth to priority development areas based on infrastructure availability, feasible site condition, beneficiary preferences, and job opportunities.*

Discussion: The Project addresses the needs of Native Hawaiian beneficiaries by offering 238 homestead lots, including residential, subsistence agricultural, kūleana subsistence, pastoral lots, and

kūpuna housing for elders. These opportunities support affordable housing, self-sufficiency, and cultural preservation while fostering multigenerational connections, prioritizing beneficiaries from the Hāna area.

The community's mixed-homestead design includes 78 "turn-key" residential housing units and 60 "turn-key" kūpuna units, developed with complete infrastructure typical of housing developments. Additionally, the Project features 31 three-acre kūleana subsistence lots, which will include road access but no utility connections, allowing beneficiaries to develop off-grid, unimproved homes.

Agricultural opportunities include subsistence and kūleana lots for food production, traditional farming practices, and pastoral lots for livestock grazing. Small commercial and industrial spaces near the highway will support agricultural and fishing-related activities, creating jobs and boosting the local economy through packaging, distribution, and boat maintenance facilities.

The Project integrates mixed-use residential development with MECO electricity and telecommunications services. Three access driveways to Hāna Highway and internal roadways enhance mobility and provide emergency access. Wastewater systems are planned to address public health and environmental needs.

Part D: Environmental Characteristics

- *Objective (1): Preserving Cultural resources and archaeological sites and attempting to reforest DHHL lands using Native Hawaiian plants.*

Discussion: The Project has designated 138.8 acres to conservation to preserve and protect existing groves of indigenous hala and kukui which are important to the greater community of Hāna. These groves support natural land and water ecosystems in the Project and surrounding areas.

A traditional cultural practices and land use study and a CIA were conducted for the Project to ensure protection of cultural and historic resources. The DHHL will comply with Federal and State rules and regulations regarding the preservation of archaeological and historic sites.

5.9 Maui County General Plan 2030

5.9.1 Countywide Policy Plan

The *Countywide Policy Plan* was adopted in March 2010 and is a comprehensive policy plan for the County. The *Countywide Policy Plan* is the first component of the *General Plan 2030* update and acts as an over-arching values statement providing a policy framework for the *County Maui Island Plan* and Community Plans. The *Countywide Policy Plan* provides broad goals, objectives, policies, and implementing actions that portray the desired direction of the County's future.

The goals, objectives and policies are organized into the following 11 strategies: protect the natural environment; preserve the local cultures and traditions; improve education; strengthen social and healthcare services; expand housing opportunities for residents; strengthen the local economy; improve parks and public facilities; diversify transportation options; improve physical infrastructure; promote sustainable land use and growth management; and strive for good governance. The following is a discussion regarding the Project's consistency with applicable goals, objectives, and policies of the *Countywide Policy Plan*.

PART A: Protect the Natural Environment

Discussion: The Project is not anticipated to have an impact on environmentally sensitive, locally valued natural resources, native ecology, or native biodiversity. For further discussion, see **Section 3.5, Flora and Fauna**.

PART B: Preserve Local Cultures and Traditions

Discussion: The purpose of the Project is to provide homesteading opportunities to DHHL beneficiaries and decrease the number of beneficiaries on the Maui Islandwide Residential Waiting List, thereby fulfilling the purpose of the HHCA and the 2022 *DHHL General Plan Update*. Homesteading opportunities for Native Hawaiian families are critical to the perpetuation and preservation of native Hawaiian culture and traditions. A traditional cultural practices and land use study and a CIA were conducted for the Project to ensure protection of cultural and historic resources. The DHHL will comply with Federal and State rules and regulations regarding the preservation of archaeological and historic sites.

PART E: Expand Housing Opportunities for Residents

Discussion: This Project includes 238 residential and subsistence agricultural, and pastoral homestead lots, and a 60-unit kūpuna housing Project aimed to keep families close, and in proximity to community services, parks, schools, and natural resource ecosystems. The Project is located across the highway from Hāna High and Elementary School.

PART H: Diversify Transportation Options

Discussion: The Project will include greenways and walkways to promote walking and biking to and through the Site, and thus supports State and County goals to promote multi-modal transportation and to reduce the use of fossil fuels.

PART I: Improve Physical Infrastructure

Discussion: The Project includes homestead lots and community uses designed to minimize development while enhancing the management of natural and culturally sensitive areas. Under Kuleana Homesteading rules, infrastructure and development costs for DHHL are reduced, as future lessees are responsible for developing and managing their own infrastructure needs, including water, electricity, telecommunications, and wastewater. This approach decreases reliance on public infrastructure, particularly in areas where traditional systems may not be appropriate or necessary.

To support renewable energy, the Project includes a 32.29-acre photovoltaic system, and individual homeowners will have the option to install solar PV systems in their homes. Additionally, the Project encourages walking and biking within and around the site, aligning with State and County goals to promote multi-modal transportation and reduce fossil fuel use.

PART J: Promote Sustainable Land Use and Growth Management

Discussion: The Project includes Kuleana homestead lots and community uses designed to minimize development and enhance the management of natural and culturally sensitive areas. It is not expected to impact significant natural, cultural, or historic resources, including view sheds and vistas, such as those from Hāna Highway. The Project's design will reflect the scale and character of the surrounding Hāna community.

Additionally, 137.26 acres have been designated for conservation to preserve and protect existing groves of indigenous hala and kukui, which support natural land and water ecosystems within the Project area and its surroundings.

PART K: Strive for Good Governance

Discussion: The DHHL has and will continue coordinating with State and County agencies and engaging stakeholders including the Wākiu CDC and neighboring landowners throughout the EA process. Additional coordination will be required as the Master Plan design progresses including the Maui County DWS, Department of Transportation, and other agencies the Project team has reached out to as a part of early consultation and the Draft EA process.

5.9.2 County Maui Island Plan

The County's *Maui Island Plan* assesses the existing conditions, trends, and issues specific to the island of Maui; provides policy direction for the use and development of land, extension and improvement of transportation services and infrastructure, development of community facilities, expansion of the island's economic base, provision of housing, and protection of natural and culture resources; establishes policies to manage change and to direct decisions about future land use and development; and provides the foundation to set capital improvement priorities, precise zoning ordinances, and develop other implementation tools.

The Site is within the directed growth plan limits and Urban and Rural districts of the County's *Maui Island Plan*. See *Figure 1-6, County Maui Island Plan*. The following is a discussion of the Project's consistency with applicable objectives and policies of the *Maui Island Plan*.

Chapter 1: Population

Goal 1.1: *Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.*

Discussion: The Project includes both residential and subsistence agricultural types, including a 30-unit kūpuna housing Project aimed to keep families close, and in proximity to community services, parks, a charter school, and natural resource ecosystems. The Project is located across the highway from Hāna High and Elementary School. The proposed built environment is intentional and aimed to promote sustainable agriculture, resource management, and community engagement practices, to foster the capacity of individuals and families to become self-reliant and improve their overall well-being. Additionally, the educational components within the Project will further enhance personal and family health, environmental awareness and responsible land stewardship.

Goal 4.1: *Maui will have a balanced economy composed of a variety of industries that offer employment opportunities and well-paying jobs and a business environment that is sensitive to resident needs and the island's unique natural and cultural resources.*

Discussion: Project area will comprise of industrial and commercial uses that aim to provide retail, community services, and employment; as well as a charter school, and renewable (solar) energy Project. Hāna High and Elementary School is located across Hāna Highway (makai) from the Project site. Moreover, development of greenways will encourage walking and biking and improve connectivity throughout the Project site. The Project will include subsistence agricultural, kuleana subsistence agricultural, and pastoral lots. These lots aim to preserve, maintain, and provide opportunities for small-scale subsistence to support a self-sustaining community. Commercial, industrial, and

educational uses, which are envisioned for the Project area, will encourage and expand new economic opportunities for beneficiaries and their families.

Chapter 5: Housing

Goal 5.1: *Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.*

Discussion: This Project includes 238 residential and subsistence agricultural, and pastoral homestead lots, and a 30-unit kūpuna housing Project aimed to keep families close, and in proximity to community services, parks, schools, and natural resource ecosystems. The Project is located across the highway from Hāna High and Elementary School. The Project will also include greenways and walkways to promote walking and biking to and through the Site, and thus supports State and County goals to promote multi-modal transportation and to reduce the use of fossil fuels.

Chapter 6: Infrastructure and Public Facilities

Public Facilities

Goal: *Maui will have adequate public facilities that meet the diverse needs of residents.*

Discussion: The Project requires basic infrastructure such as potable water, wastewater service, power, and telecommunication; however, the Project will be developed within service capacities and will not overcommit resources.

Chapter 7: Land Use

Urban Areas

Goal: *Maui will have livable human-scale urban communities, an efficient and sustainable land use pattern, and sufficient housing and services for Maui residents.*

Discussion: The Project will offer housing, agricultural, educational, and economic opportunities tailored to DHHL beneficiaries and their families. It will also provide access to education, employment, and shared open spaces promoting health and recreation, benefiting immediate Project beneficiaries and neighboring communities in Hāna. Additionally, Hāna High and Elementary Schools are conveniently located directly across Hāna Highway from the Project site.

5.9.3 Hāna Community Plan

The Hāna Community Plan (1994), one of nine (9) community plans for Maui County, reflects current and anticipated conditions in the Hāna region, and advances planning goals, objectives, policies and implementation considerations to guide decision making in the region through the year 2010. The Hāna Community Plan provides specific recommendations to address the goals, objectives and policies contained in the General Plan, while recognizing the values and unique attributes of Hāna, in order to enhance the region's overall living environment. The Maui County General Plan, first adopted in 1980 and updated in 1991, sets forth goals, directions and strategies for meeting the long-term social, economic, environmental and land use needs of the County. The Site is within the Community Plan's Agriculture District.

The following is a discussion regarding the Project's consistency with the applicable goals of the Community Plan.

Environment

***Goal:** Protection and management of Hāna's land, water and ocean resources to ensure that future generations can enjoy the region's exceptional environmental qualities.*

Discussion: The Project is located away from the shoreline, outside the SMA and the SLR-XA. The site is currently undeveloped, except for an existing water tank and pump. It is not situated in a Flood Zone or near any streams, and existing hala groves on the site will be preserved.

The Project will utilize both potable and non-potable water supplies. An existing DWS water tank, pump station, and well are located on-site. New water lines will connect these facilities to the existing DWS infrastructure along Hāna Highway, providing water service to residential homestead lots, a charter school, a main community center and park, and a small commercial and industrial area situated between the tank/pump station and the highway. Best Management Practices will be implemented during construction to prevent adverse impacts on natural resources.

By promoting sustainable land use practices, fostering environmental awareness within the community, and encouraging responsible stewardship of water resources, the Project aims to enhance environmental quality in Wākiu. Additionally, it addresses potential development impacts on air and water quality, including nonpoint source pollution, while mitigating hazards such as erosion and flooding. Through these measures, the Project reflects a strong commitment to protecting the health and well-being of its beneficiaries and the area's unique ecosystems.

Cultural Resources

***Goal:** Identification, preservation, protection, and where appropriate, restoration of significant cultural resources and practices, that provide a sense of history and identity for the Hāna region.*

Discussion: A traditional cultural practices and land use study was prepared to establish the context whereby the significance of the cultural-historical information collected can be assessed (see *Appendix D*). The study noted the likely potential of above-ground archaeological sites and features representing both pre-contact traditional Hawaiian architecture and historic era ranch and components of industrial sugar ventures within the DHHL Wākiu Master Plan area. The study recommended a comprehensive Archaeological Inventory Survey Plan be conducted prior to initiating formal archaeological fieldwork.

In addition, a CIA was prepared to assess potential Project impacts on existing cultural resources and practices (see *Appendix E*). The CIA also noted portions of a historic railroad track still may be present near the Project area. The CIA also noted agricultural remnants from the ranching era may also still be present under the current vegetation. Lava tubes and caves, utilized since traditional times for war, refuse, or storage, may also be uncovered as a part of the Project. Besides the practices of farming and ranching, hunting and the harvesting of natural flora resources did occur in the mauka portions of Wākiu, and may occur in the Project area today. The CIA noted interviewees expressed their support for the DHHL project, adding that it is much needed in the community. The CIA also noted interviewees did not expect the project to have any adverse effects on specific cultural resources and traditional practices in Wākiu. The DHHL will comply with State rules and regulations regarding the preservation of traditional cultural practices, and archaeological and historic sites.

As a part of the Honuiaiākea process, one of the beneficiary identified Kapu relates to the sacredness of genealogy and the passing down of knowledge as sacred. As a part of the beneficiary driven vision of the community, a Hawaiian charter school is included as a part of the master plan to promote Hawaiian language and cultural heritage, which includes land stewardship. The beneficiaries also

incorporated preservation of existing groves of indigenous kukui and hala on the Project property as an essential component of the master plan.

Housing

Goal: The provision of housing opportunities to the residents of Hāna, for all income and age groups, which are affordable, safe, and environmentally and culturally compatible.

Discussion: The Kuleana Homesteading rules limit the amount of investment needed by DHHL in terms of infrastructure and development costs. Kuleana homesteads require its lessees to develop and manage the cost of their own means of infrastructure including water, electricity, telecommunication, and wastewater, lessening demand for public infrastructure, particularly in areas where traditional infrastructure may not be appropriate or needed.

Government:

Goal: The provision of accessible, cost effective, and responsive government services and programs which meet the unique needs of residents and the cultural, geographic and socio-economic characteristics of the Hāna region.

Discussion: The Project includes Kuleana homestead lots and community uses that will involve minimal development of the area and in a manner that will improve the management of natural and culturally sensitive areas.

Land Use

Goal: An efficient distribution of urban, rural and agricultural land uses in order to provide for the social and economic well-being of residents in the Hāna Community Plan region. Preservation and enhancement of the current land use patterns which establish and enrich the Hāna Community Plan region's unique and diverse qualities.

Discussion: The Project involves the development of residential homestead and agricultural subsistence-based community in Hāna for DHHL beneficiaries. Beneficiaries were engaged in envisioning the design of the Project through a series of community meetings during the DHHL *Wākiu Master Plan* process (September 2023 to April 2024). The Project will minimize impacts to the natural resources by preserving existing groves of hala on the Project site, which are important to the greater Hāna community.

Agricultural opportunities are central to the Project. Subsistence agricultural lots encourage food production and self-sufficiency for families, while kuleana subsistence lots promote traditional Hawaiian farming practices, connecting beneficiaries to ancestral land-use methods. Pastoral lots provide space for livestock grazing, supporting diversified agricultural activities. These agricultural uses promote cultural preservation and sustainable living.

The Project also provides critical economic opportunities. Small commercial and industrial spaces will create jobs and support entrepreneurship, particularly through agriculture-related businesses and fishing activities facilitated by boat maintenance facilities. Facilities for packaging and distributing agricultural products will enhance local economic activity, providing a platform for beneficiaries to market and sell their goods.

Social Infrastructure:

Goal: An efficient and responsive system of people-oriented public services which enable residents to live a safe, healthy and enjoyable lifestyle, and offer the youth and adults of the region opportunities and choices for self and community improvement.

Discussion: A Hawaiian charter school is intended on the Project site, to promote Hawaiian language, and cultural heritage, which includes land stewardship. Two community parks and a garden are planned for the Site as well. The Project will also include greenways and walkways to promote walking and biking to and through the Site.

Urban Design:

Goal: Harmony between the natural and man-made environments through building, infrastructure and landscaping design which ensures that the natural beauty and character of the Hāna region is preserved.

Discussion: The Project includes Kuleana homestead lots and community uses designed to involve minimal development, preserving and complementing the rural character of the surrounding Hāna community. Roadways within the Project will be thoughtfully designed to support efficient circulation, utilize the natural contours of the land, and incorporate vegetation for effective drainage.

The Project is not anticipated to impact significant natural, cultural, or historic resources, nor will it obstruct important view sheds or vistas, particularly those visible from Hāna Highway. Its design will reflect the scale and character of the Hāna community, ensuring harmony with the existing environment and cultural landscape.

The layout of homestead lots and roadways is designed to support a self-sustaining agricultural community within Hāna. Subsistence agricultural and pastoral homestead lots will be located behind residential homesteads, community centers, and shared open spaces. Small-scale commercial and industrial areas located along Hāna Highway will provide support for agricultural activities.

5.10 Maui County Zoning Code, MCC Title 19

The purpose of MCC Title 19, *Zoning*, is to regulate land use, conserve property values, prevent activities detrimental to existing land uses, and promote health, safety, and welfare within each County district. The standards outlined in the MCC establish districts and development criteria for land use zoning, addressing permitted uses, special uses, lot area, building height, yard setbacks, and off-street parking and loading requirements.

The Project site is located within the "Agriculture" County Zoning District (see *Figure 1-4, County Zoning*). According to MCC § 19.30A.010, the purpose of the Agriculture District is to promote agricultural development, preserve and protect agricultural resources, and support the agricultural character and contributions to the County's economy and lifestyle.

Discussion: The Project will feature Kuleana subsistence agricultural and pastoral homestead lots, designed to revitalize agricultural use on the currently overgrown and underutilized parcel. These lots will provide native Hawaiian families with opportunities for family-owned, small-scale subsistence agriculture and business ventures, fostering a self-sustaining community.

Findings Supporting the Anticipated Determination



Chapter 6

Findings Supporting the Anticipated Determination

6.1 Anticipated Determination

In considering the significance of potential environmental effects, DHHL considered and evaluated the sum of effects of the Wākiu Master Plan Project on the quality of the environment, as per HAR §11-200.1-13. Based on a review of every phase of the proposed action, the expected impacts, and the proposed mitigation measures, DHHL has determined that the Project will not result in a significant effect or impact on the quality of the environment. Therefore, per HAR §11-200.1-14, DHHL has issued a determination of Anticipated Finding of No Significant Impact (AFNSI) for the Project and does not require the preparation of an Environmental Impact Statement (EIS).

The potential impacts of the Project have been fully examined and discussed in this Draft EA. According to §11-200.1-13(b), an action shall be determined to have a significant effect on the environment if it meets any one of the listed 13 criteria. To explain the rationale and justification for the AFNSI determination, the Project was assessed alongside the significance criteria and is summarized below.

6.2 Reasons Supporting the Anticipated Determination

(1) *The Project will not irrevocably commit a natural, cultural or historic resource.*

The Project is not anticipated to adversely impact any natural, cultural, or historic resources, and in some cases, may result in benefits to these resources. Technical studies were conducted to assess the potential impact of the proposed Project on flora and fauna, archaeological and historical, and cultural resources.

The proposed Project is anticipated to result in the minor disturbance or removal of natural resources during the construction phase of the Project, such as the removal of minimal vegetative material for homestead sites. Mitigation measures discussed in *Chapter 3.5 Biological Resources*, will be employed to minimize potential impacts to endangered flora and fauna native to the area. However, the Project is anticipated to have a positive impact on floral resources and overall ecosystem health and is not anticipated to have any short- or long-term adverse impacts to fauna species on or near the Project area.

This Project is not anticipated to result in the loss or destruction of any cultural or archaeological resources. As presented in *Chapter 3.6 Archaeological and Historical Resources*, a traditional cultural practices and land use study was prepared to establish the context whereby the significance of the cultural-historical information collected can be assessed within the Project area. A comprehensive Archaeological Inventory Survey Plan will be developed per the study's recommendation. In addition, a CIA was prepared to assess potential Project impacts on existing cultural resources and practices,

and interviews with community members noted the potential for cultural resources and practices within the Project area that may be present under the current vegetation. It is recommended that DHHL and the lessees work in consultation with the Hawai'i Island State Historic Preservation Division (SHPD) office to determine the extent of archaeological work needed for these sites. The future Homestead Association will be responsible for developing a management plan for historical and cultural resources, whether they are located within a lessee's parcel or within the Community Use or Conservation areas.

Further, since DHHL lands are defined as tribal lands under the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, if iwi kūpuna, funerary objects, sacred objects, or objects of cultural patrimony are encountered, its statutory requirements and rules for notification, inventory, consultation, and resolution will apply. With prescribed mitigation measures, the Project will not involve a known loss of existing cultural, archaeological, or historical resources. As developed in the Honuiaiākea Process, the Project aims to incorporate cultural practices and education about those practices into the long-term programming of the Master Plan community.

(2) The Project will not curtail the range of beneficial uses of the environment.

The Project will not curtail the range of beneficial uses of the environment. According to HAR § 11-200-1-2, "environment" refers to humanity's surroundings, inclusive of all the physical, economic, cultural, and social conditions that exist within the area affected by a proposed action, including land, human, and animal communities, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. The Project involves the construction of residences for DHHL beneficiaries on underutilized property and will provide residential housing that will assist in addressing the demand of the DHHL waiting list.

The master plan concept layout configuration was carefully and thoughtfully developed through beneficiary consultation and charrette work sessions to be sensitive and place appropriate to the surrounding community and the Hāna region. Development of the Project will utilize BMPs to minimize any construction-related impacts. A State NPDES permit and County grading permit will be obtained to ensure that construction activity does not adversely impact water quality. For further discussion, see *Chapter 3.1, Geology, Topography, Soils, and Agricultural Productivity*.

(3) The Project will not conflict with the State's environmental policies or long-term environmental goals established by law.

The Project does not conflict with the State's long-term environmental policies or goals and guidelines as expressed under HRS Chapter 344, State Environmental Policy. Potential adverse impacts associated with short-term construction activities will be mitigated through compliance with applicable regulatory guidelines and through the use of best management practices. The Wākiu Master Plan will define and plan beneficiary community uses to reinforce a sense of identity, support wise uses of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian; which in turn establishes a commitment on the part of each lessee to protect and enhance Hawai'i's environment and reduce the drain on nonrenewable resources. In the long term, the Project will positively impact the area through appropriate DHHL land use designations and the community's strategies for the management of natural, cultural, and historic resources.

- (4) *The Project will not have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.*

The Project is expected to have long-term positive socio-economic impacts, as it will increase housing opportunities for native Hawaiian beneficiaries and generate direct, indirect, and cumulative benefits in terms of jobs, earnings, and tax revenues. The portion of the master plan designated for kuleana homestead lots offers a unique opportunity for individuals who aspire to live off the land but lack the means to obtain conventional homestead lots. The Project's emphasis on subsistence agriculture practices opens avenues for homesteaders to engage in subsistence living and small-scale farming, thereby supporting their immediate subsistence needs along with opportunities to create surplus. This surplus can be used to support other community members in need and/or augment homesteader's incomes. Income-generating opportunities such as selling food crops, flowers, livestock products, and eco-tourism ventures could further contribute to the economic well-being of beneficiaries.

Moreover, the Project enhances social welfare by addressing homesteading needs and fostering community resilience. The Project enables beneficiaries to establish roots in the community, fostering a sense of belonging and stability.

Lastly, the Project's support for cultural practices ensures the preservation and continuation of traditional practices within the community. The Project enables DHHL to support the Wākiu community in upholding their cultural heritage by engaging in activities such as subsistence farming and gathering practices. These cultural practices not only enrich the fabric of the community but also contribute to the rehabilitation and well-being of lessees who derive sustenance and connection from the land.

In summary, the Project will provide economic opportunity, social empowerment, and cultural preservation, thereby significantly benefiting both the community and the State as a whole.

- (5) *The Project will not have a substantial adverse effect on public health.*

The Project is not anticipated to have a substantial adverse effect on public health. The Project will comply with relevant State and County regulations during the construction and will implement BMPs to minimize and mitigate potential temporary air quality and noise impacts and secure NPDES permit(s), as necessary. The Project is not anticipated to create a significant amount of GHG emissions and does not fall within the threshold of mandatory Federal GHG reporting. The Project is expected to continue to provide a space for the community and continue to rehabilitate DHHL beneficiaries through 'āina based practices and subsistence living. For further discussion, see *Chapter 3.2, Climate, Climate Change, and Sea Level Rise, Chapter 3.6, Air Quality, Chapter 3.7, Noise Conditions, Chapter 3.8.4, Solid and Hazardous Waste, and Chapter 3.9, Transportation System.*

- (6) *The Project will not involve adverse secondary impacts, such as population changes or effects on public facilities.*

The Project is not anticipated to involve adverse secondary impacts, such as significant population changes or effects on public facilities. The Project will provide needed housing in Wākiu for DHHL beneficiaries and their families. While some beneficiaries may move to Maui from neighboring islands to reside at this subdivision, most are expected to relocate from other areas in East Maui and the island of Maui as a whole. As such, the Project is not anticipated to involve substantial secondary impacts due to population/demographic changes. The DHHL will provide the necessary onsite and offsite infrastructure to support the Project, which is within service capacities and will not overcommit resources. No substantial changes or effects on public facilities are expected with the Project implementation.

(7) *The Project will not involve a substantial degradation of environmental quality.*

The Project will not involve a substantial degradation of environmental quality on-site or in the surrounding area. During the construction phase, measures outlined in the EA include the implementation of BMPs to mitigate potential adverse impacts to the environment.

Furthermore, the Wākiu Master Plan incorporates long-term sustainability goals and activities to prevent degradation of environmental quality. Through the adoption of eco-friendly practices and adherence to environmental regulations, the Project aims to safeguard air and water quality and protect natural resources. By prioritizing responsible land management practices, the Master Plan will ensure that the Project's ongoing operations will not result in adverse environmental effects.

(8) *The Project will not create cumulative impacts that would have substantial adverse effects upon the environment and does not involve a commitment for larger actions.*

The implementation of the Project is anticipated to have minimal impact on both the natural and cultural environment. The Master Plan designates Conservation Use areas aimed at preserving the integrity of the natural hala forest while protecting historical and cultural resources within the vicinity.

The cumulative effects of the Master Plan are expected to yield positive outcomes for ecosystem resources and local communities alike. The establishment of the Master Plan's land use areas will necessitate the removal of invasive species, resulting in a tangible improvement to the surrounding environment. Identification and removal of invasive species is also a core value that was identified in the beneficiary's Honuiaiākea Process, which will continue into the future as a part of the homestead community's on-going operations and maintenance practices.

Furthermore, the proposal to construct a community center and associated commercial and community uses offers potential benefits to Hawaiian Homes beneficiaries and their families. These facilities could serve as a hub for community resources, providing educational opportunities and fostering community cohesion and engagement.

(9) *The Project will not have a substantial adverse effect on a rare, threatened or endangered species, or its habitat.*

A natural resources assessment was conducted by Hawaiian Ecosystems LLC in July 2023. The assessment identified hala (*Pandanus tectorius*), and other indigenous species such as mamaki (*Pipturus albidus*), 'ōhi'a lehua (*Metrosideros Polynesianymorpha*), pōpolo (*Solanum americanum*), and ka'e'e'e (*Mucuna gigantea sub. Gigantea*), and one species of indigenous fungi, pepeiao or the Hawaiian wood ear (*Auricularia cornea*) in the Project area. The survey also recorded indigenous fauna species observed in the Project area, including the kolea or Pacific golden plover (*Pluvialis fulva*) and aukū'u or the black-crowned night heron (*Nycticorax nycticorax hoactli*). Although the survey did not report sightings of the 'ōpe'ape'a or Hawaiian hoary bat (*Aeorestes semiotics*), or the pueo, the short-eared Hawaiian owl (*Asio flammeus sandwichensis*), the habitat conditions present in Wākiu are conducive to supporting both species. See Appendix A for a full list of species identified during the assessment, with associated USFWS recommended mitigation measures.

The Project is not expected to have a substantial effect on rare, threatened or endangered species, or their habitat, and will implement mitigation measures to reduce potential impacts. The kapu and kōnāwai identified during the Project's Honuiaiākea Process speak of the protection of water and land resources and will be used to guide natural resource management by future lessees. The Project will

also implement BMPs and follow guidelines as recommended by DOFAW. See *Chapter 3.5 Flora and Fauna*, for further discussion on anticipated impacts and proposed mitigation measures.

(10) *The Project will not have a substantial adverse effect on air or water quality or ambient noise levels.*

The Project is not anticipated to have a substantial adverse effect on air or water quality or ambient noise levels. Potential short-term adverse effects from construction activities will be mitigated through adherence with State and County regulations and mitigation measures as discussed in *Chapter 3*. In the long term, the Project is not anticipated to generate substantial adverse effects. For further discussion, see *Chapter 3.4, Water Resources, Chapter 3.6 Air Quality, and Chapter 3.7 Noise Conditions*.

(11) *The Project will not have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.*

The Project area is located in Flood Zone X, an area classified as having minimal flood risk and outside the 0.2% annual chance (500-year) floodplain, is at minimal risk from the threat of earthquakes, is located in the Safe Zone of NOAA's tsunami evacuation zones, is located outside of SLR-XA exposure areas. The Project is not anticipated to have a substantial adverse effect on or is likely to suffer damage by being in an environmentally sensitive area such as flood plain, tsunami zone, SLR-XA, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

The Project will implement BMPs to prevent soil loss, storm water runoff, and sediment discharges from the Project area, and the Project's Honuiaiākea Process identified kapu and kānāwai that support the management of critical resources. Following these management strategies will mitigate the adverse effects of the Project on environmentally sensitive areas. For further discussion, see *Chapter 3.2, Climate, Climate Change, and Sea Level Rise and Chapter 3.3, Natural Hazards*.

For further discussion, see *Chapter 3.3 Natural Hazards and Chapter 3.4 Water Resources*.

(12) *The Project will not have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies.*

The Project is not anticipated to have a substantial adverse effect on scenic vistas and view planes, during day or night, as identified in State or County plans. For further discussion, see *Chapter 3.13 Visual and Scenic Resources*.

(13) *The Project will not require substantial energy consumption or emit substantial greenhouse gases.*

The construction of the Project is not anticipated to require substantial energy consumption compared to similar-sized projects or other commercial activities in the area. For the portion of lots designated under the Kuleana Homestead Program, off-grid living is required, emphasizing the use of renewable energy sources. Awardees will be responsible for creating their own energy sources, along with managing water resources, waste, and communication connections.

The Project will adhere to DHHL's Ho'omalū Energy Policy, which encourages the design of energy-efficient homes using "Hawai'i BuiltGreen" and "ENERGY STAR" standards. Energy-efficient fixtures, appliances, and solar water heating systems will be incorporated, where feasible, to reduce GHG emissions. Additionally, native landscaping, farming of traditional food, and preservation of the established hala groves will help absorb local GHG emissions.

The Project is not anticipated to require substantial energy consumption or emit substantial greenhouse gases. The Project's impact on climate and aligns with the goal of reducing energy consumption and emissions. For further discussion, see *Chapter 3.2 Climate, Climate Change, and Sea Level Rise*, and *Chapter 3.8 Utilities and Infrastructure*.

6.3 Summary

Based on the information and findings in this EA and coordination with local, state, and federal regulatory agencies, beneficiaries, and the public, it is determined that, with the incorporation of mitigation measures, this Project will have no significant impact on the natural or human environment. Further evaluation of the Project's impacts through the preparation of an EIS is not warranted. The EA recommends mitigation measures to alleviate impacts when such impacts are identified. An AFNSI has been issued for this project.

The Project will aid DHHL by awarding DHHL beneficiaries land and alleviating the current waiting list, including a portion of lots through the Kuleana Homestead lots alternative development model. This Project will promote the rehabilitation and healing of Native Hawaiians by preserving and expanding traditional cultural practices and values identified by DHHL beneficiaries in the honuiaiākea process, and by allowing them to live on homestead land with the option of working and living off the 'āina. This homestead will also address issues of public safety, and succession through 99-year homestead leases. The Project is consistent with DHHL, Federal, State and County plans and policies as discussed in *Chapter 5*. Overall, the Project will provide a public benefit while resulting in minimal impacts to the surrounding environment.

Agencies, Organizations and Individuals Consulted in the EA Process

Chapter 7

Agencies, Organizations and Individuals Consulted in the EA Process

Early consultation on the Project was carried out with various agencies and stakeholders as part of the scoping process for the Wākiu Master Plan Environmental Assessment. Parties contacted in preparation of the Draft EA process, early consultation comments received, parties that were provided an opportunity to review the Draft EA, and Draft EA comments received are identified in *Table 7.1* below.

Table 7.1: Consultation with Agencies, Organizations, and Individuals				
Respondents and Distribution	Early Consultation	Received Early Consultation Comments	Draft EA	Received Draft EA Comments
Federal Agencies				
U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office	X	X	X	
U.S. Army Corps of Engineers, Honolulu District	X	X	X	
U.S. Department of Agriculture, National Resources Conservation Service	X		X	
State of Hawai'i Agencies				
Department of Accounting and General Services	X	X	X	
Department of Agriculture	X		X	
Department of Business, Economic Development & Tourism (DBEDT)	X		X	
Department of Education (DOE), Maui District	X	X	X	
Department of Health (DOH) – Clean Air Branch	X	X	X	
DOH – Disability and Communication Access Board	X	X	X	
DOH – Indoor Radiological Health Branch	X		X	
DOH – Maui Sanitation Branch	X		X	
DOH – Clean Water Branch			X	
DOH – Environmental Health Administration			X	
DOH – Wastewater Branch			X	
Department of Land and Natural Resources (DLNR) – Commission of Water Resource Management	X	X	X	

Table 7.1: Consultation with Agencies, Organizations, and Individuals

Respondents and Distribution	Early Consultation	Received Early Consultation Comments	Draft EA	Received Draft EA Comments
DLNR - Division of Forestry and Wildlife	X			
DLNR - Division of State Parks	X		X	
DLNR - Engineering Division	X	X	X	
DLNR - Land Division	X		X	
DLNR - Land Division, Hawai'i District	X		X	
DLNR - State Historic Preservation Division	X		X	
Department of Transportation, Highways Division,	X	X	X	
Department of Transportation - Airports Division	X	X	X	
Hawai State Library - Hawai'i Document Center	X	X		
Office of Hawaiian Affairs	X		X	
Office of Planning and Sustainable Development	X	X	X	
County of Maui Agencies				
Department of Environmental Management	X		X	
Department of Fire and Public Safety	X		X	
Department of Housing			X	
Department of Human Concerns	X	X	X	
Department of Management	X		X	
Department of Parks and Recreation (DPR)	X	X	X	
Department of Public Works (DPW)	X		X	
DOT, Highways Division, Maui District	X		X	
Department of Water Supply	X		X	
Emergency Management Agency	X		X	
Planning Department	X		X	
Maui Police Department	X		X	
Elected Officials				
State Senator Lynn Decoite (District 7)- Assistant Majority Floor Leader	X		X	
State Representative Mahina Poepoe (District 13)	X		X	
Mayor Richard Bissen, Maui County Office of the Mayor	X		X	
Maui County Councilmember Alice L. Lee, Council Chair	X		X	
Maui County Councilmember Tasha Kama, Presiding Officer Pro Tempore	X		X	

Table 7.1: Consultation with Agencies, Organizations, and Individuals

Respondents and Distribution	Early Consultation	Received Early Consultation Comments	Draft EA	Received Draft EA Comments
Maui County Councilmember Keani Rawlins-Fernandez,	X		X	
Maui County Councilmember Tom Cook	X		X	
Maui County Councilmember Gabe Johnson	X		X	
Maui County Councilmember Nohe U' u-Hodgins	X		X	
Maui County Councilmember Tamara Paltin	X		X	
Maui County Councilmember Shane Sinenci	X		X	
Maui County Councilmember Yuki Lei Sugimura, Council Vice-chair	X		X	
Utility Companies				
Hawaiian Electric (Maui Electric Company, Ltd.)	X		X	
Hawaiian Telcom	X		X	
Spectrum	X		X	
Organization				
Aha Moku O Hāna: Sam Akoi	X		X	
Council for Native Hawaiian Advancement – Kūhiō Lewis; Chief Executive Officer	X		X	
Maui Mokupuni Council	X		X	
Hāna Business Council, Hāna Community and Hāna Ready – Heidi Lea	X		X	
The Nature Conservancy Scott-Crawford	X		X	
Kipahulu O HānaO Kamalei Pico	X		X	
Kaupo Community Association- Makalapua Kanuha	X		X	
Hāna High & Elementary School	X		X	
Hale Holani- Kauwila Hanchett	X		X	
Hāna Health- Cheryl Vasconcellos	X		X	
Ala Kuikui- Kau'i Kanaka'ole	X		X	
Hāna Cultural Center & Museum	X		X	
Hāna Public Library	X		X	
Hāna Ranch	X		X	
Neighboring Property Owners				
Timothy D Everett	X	X	X	
Hyland Wah Mee Chang	X		X	

Table 7.1: Consultation with Agencies, Organizations, and Individuals

Respondents and Distribution	Early Consultation	Received Early Consultation Comments	Draft EA	Received Draft EA Comments
Lucinda H Trust- Stanton Estrella & Amber Estrella	X		X	
Cheryla A Maysels Trust	X	X	X	
Richard Lynn Griffith, Janet Holmes Crosby, William J Schueller	X	X	X	
Hanauekahioikalani Hoopai-Waikoloa & Anjoleen Emma Kuuipo Hoopai-Waikoloa	X		X	
Malia Ann Collins Fuhrmann & William Kamuela Fuhrmann	X		X	
Mahealani Farms	X		X	
Susan E O'Connor Trust	X		X	
Gary K Chow & Alesiamae Marcinkeviciute Kerr Trust	X		X	
Marcus W Sanders & Maureen M Sanders	X		X	
Douglas Ward Mardfin Trust	X		X	
Frank Redo Sr., Samuel Kawaiola Aina Jr., Valei Lori Ann Manrique	X		X	
Guy Aina & Rolene Aina	X	X	X	
Craig K Castaneda & Felicia K Sinenci	X		X	
Bruno R West Trust	X		X	
Robert and Crancine Frost Trust	X		X	
Michael Farina & Nancy Farina	X		X	
Tormod Isetorp	X		X	
Margaret A Mathieson, Andrew F Mathieson & Peter F. Mathieson	X		X	
Johnathan Tolentino & Ruth Ann Tolentino	X		X	
Mary Kaikala-Sinenci & Kawehi Kaikala-Sinenci	X		X	
Kathleen L Street Trust	X		X	
Kuuipo Kanakaole Family Trust	X		X	
Matthew Kalanikai Kahuhu & Mary Liz K Smith	X		X	
Robert J & Sheryl L Fillipi Trust	X		X	
William H Chang	X		X	
Barry Wah Kwock Chang Trust	X		X	
Isles Enterprises, LLC	X		X	
Frank Joseph Cabral	X		X	
Roland Torres & Liberata Family Trust	X		X	

Table 7.1: Consultation with Agencies, Organizations, and Individuals

Respondents and Distribution	Early Consultation	Received Early Consultation Comments	Draft EA	Received Draft EA Comments
Ella Oliveira, Christina Browne, Helen Kaipolani Cosma, & Vivian Nalani Craycraft	X		X	
Louis A Hoopai Jr., Christina Browne, Wilhelmina Peetz Butts EST, & Angeline Graces	X		X	
Tanya L Teig & Tara Kanekoa	X	X	X	
Beverly Ann, Victorine-Dymont & Francis P Kealoha Jr. Trust	X		X	
Leialoha Kahanu Uaiwa Trust	X		X	
DHHL Homestead Leaders				
Hawaiian Homes Commission- Archie Kalepa; Maui Commissioner	X		X	
‘Ahahui ‘Āina Ho‘opulapula o Waiohuli – Harry Rodriguez, Jr.	X		X	
Ka ‘OHāna o Kahikinui – Elama Farm, President	X		X	
Kēōkea Agriculture Hawaiian Homestead Association – Robin Newhouse	X		X	
Leiali‘i Homestead Association – Rod Pa‘ahana	X		X	
Paukukalo Community Association- Kalani Tassill	X		X	
Pa‘upena Community Development- Andrew A.M. Hatchie; Kekoa Enomoto	X		X	
Pa‘upena Community Development – Andrew A.M. Hatchie; Kekoa Enomoto	X		X	
Sovereign Council of Hawaiian Homestead Associations	X		X	
Sovereign Council of Hawaiian Homestead Associations- Kipukai Kualī‘i; SCHHA Chairman	X		X	
Sovereign Council of Hawaiian Homestead Associations- Kekoa Enomoto; Maui Liason	X		X	
Wai‘ehu Kou 3 – Roy Oliveira	X		X	
Waiohuli Hawaiian Homestead Association – Perry Artate	X		X	
Pu‘uhona Hawaiian Homestead Association Attn: President Debbie Mahuna	X		X	
Wākiu Community Development Corporation Jade Alohalani Smith	X		X	
Blossom Feiteira	X		X	

7.1 Response to Comments Received During Early Consultation

A summary of comments received during early consultation arranged by major topics and associated responses is provided in *Table 7.2* below. Refer to comment letters located in

Table 7.2: Responses to Comments Received During Early Consultation		
Stakeholder	Comment	Reponse
Comment Related to Airports Proximity		
Department of Transportation	<p>3. The proposed development project is approximately 0.8 miles from the property boundary of Hana Airport (HNM). All projects within 5 miles from Hawai'i State airports are advised to read the Technical Assistance Memorandum (TAM) for guidance with development and activities that may require further review and permits. The TAM can be viewed at this link: http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOTAirports_08-01-2016.pdf.</p> <p>4. The project site is approximately 4,750 feet from the end of Runway 26 at HNM. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9, if the construction or alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. Construction equipment and staging area heights, including heights of temporary construction cranes, shall be included in the submittal. The form and criteria for submittal can be found at the following website: https://oeaaa.faa.gov/oeaaa/external/portal.jsp.</p> <p>Please provide a copy of the FAA response to the Part 77 analysis to the HDOT Airport Planning Section.</p> <p>5. Due to the project's proximity to HNM, the applicant and future residents should be aware of potential single event noise from aircraft operations. There is also a potential for fumes, smoke, vibrations, odors, etc., resulting from occasional aircraft flight operations over or near the project. These incidences may increase or decrease over time and are dependent on airport operations.</p> <p>6. If a solar energy photovoltaic (PV) system is going to be installed, be aware that PV systems located in or near the approach path of aircrafts can create a hazardous condition for pilots due to possible glint and glare reflected from the PV panel array. If glint or glare from the PV array creates a hazardous condition for pilots, the owner of the PV system shall be prepared to immediately mitigate the hazard upon notification by the HDOT and/or FAA.</p>	<p>The Wākiu Master Plan adheres to FAA Order 5190.6B. Although the Project site is within 20,000 feet of the Hāna Airport (HNM), no structures or construction equipment will exceed the 100:1 surface slope from any point on the current runway. Coordination with the FAA will continue throughout the Project to ensure compliance with all regulations. Future assessments for solar installations will include required studies during later design stages, as necessary.</p> <p>In compliance with HRS Chapter 262 (Airport Zoning Act), potential airport hazards, including wildlife attractants, have been evaluated in this EA, with mitigation measures outlined in <i>Chapter 3.5</i>. DHHL will notify future residents of the proximity to HNM and potential impacts such as noise, fumes, or vibrations. DHHL and the homestead association will also consult with USFWS, DOFAW, and other agencies to address potential wildlife hazards and implement agency-recommended measures to minimize impacts.</p> <p>Comments and responses are detailed in <i>Chapter 3.10.6 (Airports)</i>.</p>

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
	<p>The FAA requires a glint and glare analysis for all solar energy PV systems near airports. The www.sandia.gov/glare website has information and guidance with the preparation of a glint and glare analysis. A separate FAA Form 7460-1 will be necessary for the solar energy PV system. After the FAA determination of the Form 7460-1 glint and glare analysis, a copy shall be provided to the HDOT Airport Planning Section by the owner of the solar energy PV system.</p> <p>Solar energy PV systems have also been known to emit radio frequency interference (RFI) to aviation-dedicated radio signals, thereby disrupting the reliability of air-to-ground communications. Again, the owner of the solar energy PV system shall be prepared to immediately mitigate the RFI hazard upon notification by the HDOT and/or FAA.</p> <p>7. The proposed project shall not provide landscape and vegetation that will create a wildlife attractant, which can potentially become a hazard to aircraft operations. Please review the FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants On Or Near Airports for guidance. If the project's landscaping creates a wildlife attractant, the developer shall immediately mitigate the hazard upon notification by the HDOT and/or FAA.</p>	
Comment Related to Biological Resources		
Cheryl Maysels	<p>I am a neighboring property of this land and am so pleased that there are plans regarding this beautiful property. I have owned and loved my little farm for fifty years and have managed to keep Miconia and other invasives off my land and have tried hard with the help of the MISC to keep Miconia off the State Land when I would see it moving forward. I bring up this because it affects the land to be developed and also all the land downwind of the State Land. Also, there are waterways on that Land - some active, and some not so active. I would like to meet up on site and show and discuss some of these problem areas. I know that you are very capable in what your tasks are, but I feel that it is a duty to tell you what I know from all those years of observation.</p> <p>Therefore, I am requesting a meeting on site, if possible, to discuss the invasives, the egress on my property - an easement - access to my farm, and my land on the Hana side of that easement, which is vague to say the least on the maps you sent.</p>	<p>Mahalo for your comment and support of DHHL and its beneficiary land uses. We appreciate your outreach and will continue coordinating with you as the Project progresses.</p> <p><i>Miconia calvescens</i> (miconia), is a <i>naturalized</i> species in the Wākiu area, as listed in Table 3-1 of the EA, which catalogs flora observed in the region. Miconia poses significant challenges due to its aggressive growth and ability to outcompete native plants. Its presence underscores the importance of addressing invasive species to conserve native flora and fauna in the Wākiu area. Further details on this topic are provided in <i>Chapter 3.5, Flora and Fauna</i>.</p> <p>To address the impacts of invasive species like miconia, the Project will implement several key measures. During construction, non-native grasses, shrubs, and trees, including miconia, will be removed to prepare the site for residential and community development. Cleared areas will then be replanted with native vegetation to promote soil stabilization and support</p>

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
		<p>the restoration of local ecosystems, reducing the dominance of invasive plants.</p> <p>Additionally, Best Management Practices (BMPs) will be employed to manage stormwater runoff and prevent the spread of invasive species during construction. These practices will include erosion and sediment control measures to limit opportunities for invasive plants to establish or spread.</p> <p>To ensure the long-term success of these efforts, a maintenance plan will be developed. This plan will monitor the effectiveness of mitigation measures, maintain the functionality of the drainage system, and manage the ongoing control of invasive species. Through these actions, the Project aims to support ecological balance, protect native biodiversity, and promote sustainable land use in the Wākiu area.</p>
Guy Aina	FOREST RESERVE, LAUHALA GROVE	<p>Mahalo for your comment regarding the existing lauhala grove within the Project parcel. The EA emphasizes the cultural and environmental significance of hala (<i>Pandanus tectorius</i>) in the Wākiu area. Approximately 138 acres of the Project site have been designated for the preservation of existing the hala groves. This preservation effort aims to protect these vital ecosystems, which are integral to the cultural heritage of the greater Hāna region and provide habitat for various species. Hala trees hold deep cultural significance in Hawaiian tradition, serving diverse purposes such as crafting materials and food sources. By preserving the hala groves, the Project supports continuing these cultural practices. Additionally, the Project incorporates landscaping with native plants across approximately 30 acres of park, greenway, and community garden spaces. This landscaping will feature drought-tolerant species to enhance ecological value while promoting community engagement with native flora.</p> <p>The hala groves also contribute to the area’s biodiversity and play a role in mitigating greenhouse gas emissions. DHHL recognizes the importance of preserving these groves as part of its environmental stewardship for the Wākiu subdivision.</p>

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
Comments Related to Clean Air		
Department of Health Clean Air Branch	Please find CAB website including our standard comments for Land Use Reviews below: https://health.hawaii.gov/cab/clean-air-branch/standard-comments-for-land-use-reviews/	Thank you for your comment. Construction and other activities associated with the Project shall follow applicable sections of HAR § 11-60.1-33 to mitigate fugitive dust impacts and shall adhere to DOH-Clean air Branch’s standard comments.
Comment Related to Education		
Hawai'i Department of Education	Based on the proposed location, the Department has determined that the schools affected by the Project include Hana High and Elementary. As residential and potential school proposals are further developed, the Department would appreciate timely consultation to better determine the impacts upon the existing campuses.	<p>The DHHL recognizes Hāna High and Elementary School, located directly east of the Project site across Hāna Highway, is the primary educational facility in the Hāna District, serving grades Pre-Kindergarten through 12. Sharing its campus with the Hāna Public and School Library, it serves as a central hub for education and community resources in the area.</p> <p>The construction phase of the Project may lead to temporary traffic congestion and detours, potentially affecting public access to the school and nearby recreational facilities within a 1.0-mile radius. To address these concerns, the Project proposes specific traffic management measures outlined in <i>Chapter 3.9.1</i> of the EA. These measures aim to minimize disruptions and ensure safe and reliable access for students and the community throughout the construction period.</p> <p>Additionally, approximately 12.56 acres of the Project site will be dedicated to a new charter school and community center, providing expanded educational and communal spaces for residents. However, the potential for increased enrollment at Hāna High and Elementary School, as new residents move into the Project area, necessitates careful coordination. The relationship between enrollment at the new charter school and its potential impact on the existing school also emphasizes the importance of coordination. Ongoing consultation with the Department of Education is essential to address this. This coordination will help identify and mitigate potential impacts on schools, students, and educational resources as the Project progresses. Overall, the Project is committed to minimizing disruptions to Hāna High and Elementary School while</p>

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
		enhancing the educational infrastructure and opportunities available to the Hāna community.
Comment Related to Environmental Review Process		
County of Maui Department of Human Concerns	<p>Please be advised that the Department of Housing & Human Concerns (DHHC) no longer exists as the DHHC has bifurcated into two separate departments effective 7/1/24: Dept. of Housing and Dept. of Human Concerns. I know it will take some time for everyone to get used to this, myself included. Mr. Richard Mitchell is currently the acting Director of Housing and Ms. Lori Tshako is the Director of Human Concerns.</p> <p>As such, I wanted to inform you that our office will not be responding to this early consultation request as Housing is no longer under this department's purview. That said, may I kindly suggest that you resend a letter to the Department of Housing's Acting Director, which can be addressed to him at 2065 Main Street, Ste. 108, Wailuku, HI 96793.</p>	Mahalo for informing us about the two new departments, the Department of Housing and the Department of Human Concerns. We have provided a copy of our draft EA to the acting director of the Department of Housing.
Hawai'i Documents Center at Hawai'i State Library	This comment is in regard to the regulatory requirements outlined in the Hawai'i Administrative Rules (HAR) §11-200.1-5 Filing Requirements for Publication and Withdrawal. It has been our experience that many agencies and applicants are unaware that the HAR directs that a paper copy of a draft environmental assessment be deposited with both the library nearest the project location and the Hawai'i Documents Center, concurrent with filing the document with the Office of Environmental Quality Control for publication in The Environmental Notice.	Mahalo for your comment. The Draft EA will be made available at the Hāna Public and School Library, the library closest to the Project location, as well as the Hawai'i Document Center. References to the library and the filing of the EA can be found in <i>Chapter 3.10.2, Educational Facilities</i> .
Hawai'i Land Use Group	<p>We request your clarifications and answers to the following questions about the Project and its permitting and processing:</p> <p>1. EA Process a. Do you have an anticipated publication date for the Project's Draft EA?</p>	The draft EA has been submitted to ERP for publication in the Environmental Notice.
David Rojek - US Army Corps of engineers	We respectfully request that the landowners become a consulted party in your compliance with Hawai'i's environmental review process. Similarly, we request that the landowners be notified of any new developments, meetings, and publications advancing the Homestead Project.	Mahalo for your comment. The USACE and adjacent landowners have been invited to become consulted parties in the environmental review process. A copy of the draft EA has been provided to the USACE and adjacent landowners.
Office of Planning and Sustainable Development	The OPSD has reviewed the subject request, and has the following comments to offer:	The Hawai'i CZM Program seeks to protect coastal resources, reduce hazards, and streamline the review process for activities in the coastal zone. Objectives include safeguarding ecosystems, scenic values, and recreational opportunities, as

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
	<p>1. The EA shall discuss all triggers of the subject EA set forth in Hawai‘i Revised Statutes (HRS) Chapter 343, and list all required permits and approvals for the proposed shoreline stabilization project.</p> <p>The Hawai‘i Coastal Zone Management (CZM) Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The subject EA should include an assessment with mitigation measures as to how the proposed action conforms to each of the CZM objectives and supporting policies set forth in HRS Chapter 205A-2, as amended.</p> <p>Pursuant to Hawai‘i Administrative Rules (HAR) § 11-200.1-18, the EA needs to consider alternatives to the proposed action, and assess their potential impacts respectively.</p> <p>2. The OPSD recommends that the subject EA discuss whether the proposed Wākiu Master Plan will involve any lands that are located within the county designated Special Management Area (SMA).</p> <p>According to Attorney General Opinion No. 72-21 and the legal memorandum dated October 23, 1987, the OPSD acknowledges that the SMA Permit requirements do not apply to Hawaiian Home Lands that are deemed required for the purpose of the Hawaiian Homes Commission Act (HHCA) of 1920. However, if the DHHL through its Commission deems that Hawaiian Home Lands are not required for the purpose of the HHCA of 1920, then such lands may be subject to SMA permit requirements.</p> <p>3. To assess potential impacts of sea level rise on the property area, the OPSD suggests the EA refer to the findings of the Hawai‘i Sea Level Rise Vulnerability and Adaptation Report 2017 and its 2022 update, accepted by the Hawai‘i Climate Change Mitigation and Adaptation Commission. The Report, and Hawai‘i Sea Level Rise Viewer at https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/ particularly identifies a 3.2-foot sea level rise exposure area across the main Hawaiian Islands which may occur in the mid to latter half of the 21st century. The OPSD suggests that the EA provide a map of the 3.2-foot sea level rise exposure area in relation to the properties and assess whether there will be potential impacts of 3.2-foot sea level rise on the areas under the Master Plan.</p> <p>4. The EA shall provide and discuss the site-specific Best Management Practices (BMPs) in detail to prevent any runoff, sediment, soil and debris potentially resulting from associated construction activities from adversely impacting the coastal ecosystems and the State waters as specified in HAR Chapter 11-54.</p>	<p>detailed in <i>Chapter 5.4</i> of the EA. The Project is located approximately 2 miles mauka of the shoreline, is outside the SMA and SLRXA, and does not interfere with public access to coastal resources.</p> <p>To manage stormwater runoff, the Project includes a detention basin at the northeast corner of the site. This basin is designed to mitigate peak flow increases, reduce water pollution by removing sediments, and protect the recreational value of coastal waters. Sustainable development practices, including low-impact development (LID) techniques, are integrated into the Project to minimize its ecological footprint. LID strategies include managing stormwater at its source, preserving natural features, and utilizing native, drought-resistant plants for landscaping. The DHHL incorporates LID techniques where applicable, which align with sustainable land management and Hawaiian values. LID strategies reflect cultural practices like mālama ‘āina and ahupua‘a management by reducing flooding, erosion, and water pollution, while recharging aquifers. Key LID applications for DHHL include rainwater harvesting, permeable surfaces, native landscaping, and green infrastructure such as bioswales to filter runoff. These measures promote environmental stewardship, cost savings, and improved living conditions. Best Management Practices will address additional environmental concerns, such as managing light pollution, ensuring the Project aligns with sustainable and culturally rooted principles. Exterior lights will comply with HRS §201-8.5, Night Sky Protection Strategy, and MCC, Chapter 20.35, Outdoor Lighting, as amended.</p>

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
	<p>The OPSD has developed a Low Impact Development (LID) Practitioner’s Guide for Hawai’i. This LIP Guide includes discussions of new and updated LID site design strategies and BMPs and provides guidance for selecting the most appropriate LID for a development or redevelopment project.</p> <p>OPSD recommends the subject EA refer to the following LID Guide when developing mitigation approaches for runoff control at https://files.hawaii.gov/dbedt/op/czm/ormp/omp_implementation/2023LIDPractitionersGuide.pdf.</p> <p>5. In enacting Act 224, Session Laws of Hawai’i 2005, the legislature found that light pollution in Hawai’i’s coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. Pursuant to HRS § 205A-30.5 and 205A-71, exterior lighting and lamp posts associated with the proposed action shall be cut-off luminaries to provide the necessary shielding to mitigate potential light pollution in the coastal areas and lessen possible seabird strikes. No artificial light from the proposed action shall be directed to travel across the property boundary toward the shoreline and ocean waters.</p>	
Comment Related to Fire Safety		
Hawai’i Land Use Group	<p>We request your clarifications and answers to the following questions about the Project and its permitting and processing:</p> <p>Fire Infrastructure</p> <p>a. Per the “Infrastructure” slide in the PDF, we note the location of a new 8” waterline on contour with the lower portion of the Project. How will the various uses (Agricultural Homesteads, Pastoral, etc.) proposed in the mauka portions of the Project provide for individual Fire Protection needs?</p> <p>b. Will the dwellings and structures in the Project need to undergo County Building Permits or another means of review by Maui County’s Fire Prevention Bureau?</p>	<p>The Project's water infrastructure will adhere to National Fire Protection Association (NFPA) standards, local fire safety codes, and Department of Water Supply (DWS) requirements. A new 8-inch water main will connect residential and subsistence agricultural homesteads to the DWS system, providing adequate distribution and fire protection. Fire hydrants will be spaced at intervals of no more than 350 feet, delivering a minimum flow rate of 1,000 gpm at 20 psi residual pressure. For elevated areas where municipal connections are not feasible, onsite pumps and storage systems will ensure water supply for both daily use and firefighting. The Project will also explore rainwater harvesting and reuse systems for irrigation to conserve potable water for fire suppression.</p> <p>Internal roadways will meet width and slope standards for emergency access, while kuleana lands will follow DHHL land use requirements, potentially including unpaved roads as part of settlement planning. Emergency water and fire risk management for mauka areas will require active participation from the homestead association to develop and enforce</p>

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Stakeholder	Comment	Reponse
		<p>community-based practices, such as vegetation maintenance, illegal dumping prevention, and buffer zone creation. Provisions for staging areas, dipping pools, or temporary tanks will be incorporated to support firefighting efforts. Consultation with the Maui Fire Department (MFD) will guide site design to align with fire safety needs.</p> <p>For detailed information, refer to <i>Chapters 3.4 (Water Resources), 3.8 (Utilities and Infrastructure), 3.3.5 (Wildfire), and 3.10.4 (Fire)</i> in the Environmental Assessment. Additionally, any construction and design must align with DHHL rules unless otherwise updated.</p>
<p>County of Maui Planning Department</p>	<p>Since the August 2023, wildfires, the Department is being more cautious about any potential fire concerns. We recommend coordinating with the Department of Fire & Public Safety's Fire Prevention Bureau on project development, specifically access to water source, roadway configuration to enable adequate vehicle turnaround throughout the region, and possible fire breaks between proposed uses. In addition, because the photovoltaic areas are shown in close proximity to housing and pasture, the Department is concerned that this could pose a greater fire concern due to any reflecting light on dry land.</p>	<p>The Project incorporates wildfire mitigation strategies to ensure fire safety and resilience. A defensible space of at least 100 feet will be established around all structures, incorporating designated fuel reduction zones to serve as protective buffers against wildfires. Coordination with the Maui Fire Department and County Planning will integrate fire safety considerations, including establishing water supply standards for firefighting and backup power systems for emergencies. Residences will utilize flame-resistant construction materials, and landscaping will feature native, fire-resistant plant species to minimize ignition risks and improve community resilience.</p> <p>An emergency evacuation route plan will be developed to support emergency response operations. The Project design includes multiple access points to Hāna Highway, which will improve evacuation if there is a wildfire threat. Vegetation management plans for parks, gardens, open spaces, and hala grove preservation areas will reduce fire hazards. Public outreach will include programs like “Ready, Set, GO!” and participation in Hawai‘i’s Firewise Communities Program to educate residents on wildfire risks and risk reduction practices.</p> <p>During construction, fire safety protocols will mitigate risks associated with high-ignition activities such as welding. These protocols will include wetting down work areas, providing readily accessible fire extinguishers, and ensuring materials are stored safely away from ignition sources. Updated hazard</p>

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Stakeholder	Comment	Reponse
		mapping at the parcel level will enhance wildfire risk assessments and targeted mitigation measures.
Comment Related to Flooding		
DLNR- Engineering Division	<p>The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR, Chapter 1, Subchapter B, part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards. The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fhat.hawaii.gov) could also be used to research flood hazard information. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below: o Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7139.</p>	<p>The project site is classified as Flood Zone X according to FEMA's FIRMs, indicating minimal flood risk and no requirement for flood insurance. During construction, the flood risk remains low. However, in the unlikely event of flooding, activities will cease, and equipment and materials will be secured to prevent damage or pollution. Temporary shelters, coordinated by the Maui County Emergency Management Agency, will be available during emergencies, with updates shared through local news outlets.</p> <p>Residences and infrastructure will comply with Maui County Code Chapter 19.62, which governs development in flood-prone areas, as applicable. DHHL will adhere to HAR Chapters 11-54 and 11-55, including obtaining a NPDES General Permit for stormwater runoff discharges. A Stormwater Pollution Prevention Plan (SWPPP) will outline measures to prevent pollution during construction, including identifying potential sources, implementing Best Management Practices (BMPs), and monitoring effectiveness such as temporary sedimentation basins, silt fences, and inlet protection devices.</p> <p>Regular monitoring and reporting will ensure compliance with the NPDES General Permit, with detailed records and reports submitted as required. Contractors and personnel will receive training on stormwater management practices and SWPPP protocols to ensure adherence to environmental standards.</p> <p>DHHL will coordinate with the Hawai'i Department of Health (DOH) and other relevant agencies to meet federal, state, and local regulations. Additional permits, such as for dewatering or hydrotesting, will be obtained as needed. Details are provided in <i>Chapter 3.8.3: Drainage</i> and <i>Chapter 3.3.1: Flooding of the Draft EA</i>. DHHL remains committed to sustainable and compliant project development. Mahalo for your comments.</p>
Comment Related to Master Plan Concept and Alternatives		

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Stakeholder	Comment	Reponse
Guy Aina	I DO NOT SUPPORT YOUR PLANS FOR HANA. THIS IS A FULL ON COMMERCIAL OPERATION YOU HAVE IN YOUR SCAM FOR HANA. ITS ALL PRESERVATION IN HANA OPEN SPACE. AG LOTS, YOU LIERS THIS IS A FULL ON HOUSING COMMERCIAL AREA ON OUR WATER TABLE. WE RURAL. YOUR G70 PLAN IS VERY DISRESPECTFUL TO OUR RURAL COMMUNITY	Mahalo for your comments on the Wākiu Master Plan. This beneficiary-driven residential land use plan incorporates a mix of community uses with limited potential for commercial development. DHHL recognizes and values the rural history and lifestyle of Wākiu and Hāna, and the plan includes subsistence agricultural land uses and kuleana lots to support and preserve these rural traditions. The master plan aligns with the DHHL General Plan and the DHHL Maui Island Plan, and adheres to applicable State and County land use regulations. For additional details, please refer to <i>Chapter 3.12: Socio-Economic Characteristics</i> .
Comment Related to Photovoltaic Energy		
County of Maui Planning Department	In the Draft EA, Department would like to see more information about the proposed photovoltaic areas, such as any collaboration with a public utility. Please address whether the system will serve the entire Hana region and if farm animal grazing will be allowed amongst the panel areas. Also, please provide information on a decommissioning plan, if there will be one. It would be helpful to see a photo simulation of the panels amidst the project area. Will they be shielded by a landscape buffer from other surrounding areas?	Mahalo for your comment regarding photovoltaic (PV) areas. As the master plan is still in the conceptual stage, specific details about PV systems have not yet been finalized. DHHL, in collaboration with the homestead, will explore partnerships with public utilities during the PV design and development phase. Considerations will include options such as integrating farm animal grazing beneath the panels and establishing decommissioning plans if necessary. At that time, a photo simulation of the PV panels within the Project area, including any landscape buffers, will be shared with the department.
Comment Related to Roadways/Traffic		
Hawai'i Land Use Group	We request your clarifications and answers to the following questions about the Project and its permitting and processing: 2. New Roadways a. Can you clarify when and/or at what stage DHHL will be selecting a future roadway plan from the various options presented b. Does DHHL intend to retain ownership of the roadways or convey them to Maui County? c. The PDF from the Share-Out shows two forms of Maui County Code compatible streets. Is the implication that the roadways within the Homestead Project will comply with either the Residential Minor Street (rural) or Agricultural Minor Street specifications? d. Is there any information you can provide at this time that would address how the subject landowners will retain access to their property as the Wākiu Homestead Project is constructed. e. With the understanding that timelines will change, what is the current outlook for the construction dates of the various project stages?	Mahalo for your comment. DHHL will collaborate with beneficiaries and the Hawaiian Homes Commission to review master plan alternatives throughout the draft and final EA stages, as well as during the bidding and construction phases. DHHL will continue consulting with HDOT regarding the final roadway plan, although a specific timeline for selecting the preferred option has not been established. The decision on whether DHHL will retain roadway ownership or convey it to Maui County will depend on ongoing discussions and agreements. Roadways will adhere to Maui County Code specifications for either Residential Minor Streets (rural) or Agricultural Minor

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Stakeholder	Comment	Reponse
		<p>Streets to ensure compliance with safety and functionality standards. Access to private residences, including those mauka of the Project site via Olopawa Road, will be preserved as part of the master planning process. DHHL will maintain communication with affected homeowners to ensure uninterrupted access during construction. Construction timelines for the various Project stages will be refined as site planning advances through the permitting phase.</p>
<p>Tanya Tieg</p>	<p>The first issue in this section of the plan is Regional Infrastructure. Hana Hwy is specifically mentioned and discussed. However, there is no mention of improvements to Hana Hwy to handle the traffic impacts of future plans. There are NO proposed updates to Hana Hwy anywhere in this section. The only points discussed are closure impacts and project access impact onto Hana Hwy. Due to the age of this analysis, it is most important that Hana Hwy be a large focus of all projects proposed in the Hana community. Maui County has already forced bus tours be used to take tourists to Hana to ease the negative impact of individual automobiles.</p> <p>The largest impact to our ancestral land is the unbelievable, unacceptable problem with the traffic and lack of consideration of owner rights by the State of Hawai'i and foreigners who are visitors there. Hana Hwy has long had traffic issues that have never been addressed by the State of Hawai'i. The impact of foreigners who disrespect the laws, nature, and private property is so extreme yet nothing has been done to address it. Now, a new project will only increase and exacerbate the already fragile roadway and access issues. [...]</p> <p>[...] The level of traffic and automobiles that access this road is offensive, destructive and encourages foreigners to break the law all the time. True to an uncaring Hawai'i government agency, historically any maintenance actually destroyed owner property and was never fully or correctly addressed. [...] The historical experience in Hana is that the State of Hawai'i will NOT keep their word. Also, during this meeting with the Hana Advisory Committee, the traffic impact on Hana Hwy was brought up as a concern. [...] All of this is proof, with only one project, that the State of Hawai'i has no concerns over traffic, private property, or local impact to any project they bring to Hana. [...]</p> <p>[...] Given the history of the State of Hawai'i keeping their word, backing their promises, respecting local rights, and preferring tourists over Native Hawaiians, it is doubtful that the traffic impact will really be addressed in an honest way. We are</p>	<p>Mahalo for your comments regarding traffic management for the proposed Wākiu Master Plan. Community input is vital to shaping the conceptual design of roadways and multimodal amenities.</p> <p>A traffic assessment included in this EA (Appendix C) estimates the capacity of Hāna Highway at approximately 6,000 vehicles per day (VPD). Traffic models for the most lot-intensive project alternatives predict an additional 3,233 net daily vehicle trips, with no highway segment exceeding 4,000 VPD. These volumes remain well within the highway's capacity while maintaining an acceptable Level of Service (LOS). Existing traffic volumes in Wākiu are considered relatively low, and the Project is not expected to interfere with pedestrian or bicycle infrastructure. However, enhancements may be needed to address multimodal circulation and safety. Recommended improvements include constructing intersections as standard three-way or four-way configurations controlled by stop signs, aligning access points at 90-degree angles to Hāna Highway to discourage speeding and improve visibility, and installing warning signs to inform drivers of intersections and pedestrian activity. The inclusion of roundabouts at new public street intersections is also being considered to moderate travel speeds and enhance pedestrian safety.</p> <p>The proposed roadway designs will reflect the rural character of Wākiu and Hāna, which currently lack sidewalks and curbs. DHHL is considering wider paved roadways to accommodate additional modes of transportation and improve overall circulation. Construction-related traffic may temporarily impact</p>

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Stakeholder	Comment	Reponse
	<p>concerned that property owners will NOT be considered and their rights will be violated regarding any changes the Wākiu Project brings to the table. Our concerns regarding the Wākiu Project are as follows and the request on how to address them:</p> <ol style="list-style-type: none"> 1. Infrastructure on Hana Hwy: <ol style="list-style-type: none"> a. Widen lanes as possible with sidewalks on both sides to allow foot traffic. b. Resurface Hana Hwy. c. High-reflective identifiers marking center and sides of Hana Hwy. d. Maintain side edges as necessary to keep pedestrians safe. e. Build support structures to protect private property along Hana Hwy that are significantly impacted by traffic patterns, i.e. blind corners, sharp curves, large dips or high edges that can result in accidents destroying private property. f. Commitment from the State of Hawai'i to property maintain the road with no cost to property owners for replacement due to destruction to private property caused by increased public traffic access from tourism and housing projects. 2. Traffic Management: <ol style="list-style-type: none"> a. Large signs identifying NO PARKING, NO STOPPING, and NO TRESSPASSING areas. b. speed bumps along potential high speed sections to slow traffic to protect lives. c. Police monitoring and traffic citations for violations to speed limits to protect lives. d. Police commitment to fairly apply the traffic laws to all who travel the Hana Hwy and not discriminate against locals. e. Create a daily limit on tourist access to a flat amount each day by implementing a day pass to the Hana area that must be displayed openly on each vehicle. Owners of vehicles violating the day pass limit will be charged large fines that benefit Maui County. f. State employee (police, parks and rec, etc.) monitor vehicles passing a specified point on Hana Hwy to observe any marker violations to the day pass limits: identifying and charging violators. 	<p>public access to recreational facilities within a one-mile radius of the site. To minimize these disruptions, measures such as scheduling truck deliveries during non-peak hours (9:00 AM to 3:00 PM) are proposed. Continued consultation with the Hawai'i Department of Transportation (HDOT) will ensure that ingress and egress designs for the Project site avoid significant traffic impacts during peak hours. These plans include ensuring adequate sight distances and creating safe access points.</p> <p>While the Project anticipates short, temporary delays for turning movements on and off Hāna Highway during peak hours, these delays are not expected to warrant separate turn lanes or two-way left-turn lanes. Traffic management measures will continue to be refined throughout the Project's development to ensure safe and efficient operations.</p>
Department of Transportation	HDOT has the following comments:	Mahalo for your comment. A Traffic Assessment Report (TAR) was prepared by Fehr and Peers, licensed transportation

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	<p>1. A Traffic Assessment Report is proposed for the Draft EA; however, we recommend a Traffic Impact Assessment Report and a Multimodal Transportation Assessment, prepared by a licensed transportation engineer, be included in the Draft EA.</p> <p>2. Describe strategies to reduce carbon emissions from the project, if any. Suggestions include:</p> <ul style="list-style-type: none"> a. Alternative modes of transportation: Incorporate elements that encourage and enhance the use of multiple types of transportation to reduce carbon emissions. b. Energy Efficiency: Implement energy-efficient technologies and practices, such as LED lighting. c. Sustainable Materials: Use sustainable, recycled, or low-emission materials in construction and manufacturing. 	<p>engineers, and is included in the Draft EA as Appendix C. This report presents the results of the mobility study that evaluates the Project’s potential transportation impacts and proposes mitigation strategies to ensure safe and efficient mobility.</p> <p>As part of the Wākiu Master Plan, greenways and bike paths are proposed to encourage walking and biking as alternative transportation methods, reducing carbon emissions and supporting sustainable living. The Project will also incorporate energy-efficient practices, technology, and fixtures where feasible, along with the use of sustainable, recyclable, and low-emission materials during construction and manufacturing to minimize environmental impact.</p> <p>For additional information, please refer to <i>Chapters 3.2 (Climate, Climate Change, and Sea Level Rise)</i> and <i>3.9.2 (Mass Transit, Pedestrian, and Bicycle Facilities)</i> in the Draft EA. Mahalo for your input.</p>
County of Maui Planning Department	We recommend that sidewalks be installed on both sides of roadways to enable multi-modal access throughout the site. Additional multi-modal paths incorporated throughout the project area is preferable.	Mahalo for your comment. The roadway designs will align with the existing rural character of the surrounding neighborhoods where appropriate. As part of the Wākiu Master Plan, greenways and bike paths are proposed to promote walking and biking as alternative transportation methods, supporting efforts to reduce carbon emissions and enhance sustainability.
Comment related to Police		
Tanya Tieg	Next, the police response and legal rights they have in the Hana area are also a concern. We have had to school local officers that violating private property access must follow the laws set forth in the US Constitution. If the Maui police departments can’t even educate the police officers who are designated to uphold the law, what chance do locals have when it comes to foreigners violating the laws. Trespassing by police occurs regularly. How can local land owners or residents trust that they will uphold traffic laws or laws keeping private property private from trespassing foreigners? It is currently absolutely necessary for owners and residents to put up multiple No Trespassing signs and still, foreigners visiting Maui abuse land owners’ rights taking their entitled, selfish bodies onto private and protected land. They have no respect for Hawai’i, the land, nature, or anything because no one stops them and the police bow down to them.	Mahalo for sharing your concerns regarding police enforcement and protecting private property in the Hāna area. The DHHL empathizes with the frustration that can arise when property rights are not upheld, and we recognize the importance of maintaining trust between law enforcement, residents, and landowners. <p>The DHHL will continue to prioritize community engagement and collaboration with local agencies, including the Maui Police Department, which has been consulted as part of this EA process, to ensure that concerns like these are addressed as part of the Wākiu Master Plan. We will also explore opportunities to include signage, community education, and</p>

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Stakeholder	Comment	Reponse
		enforcement strategies that align with local values and protect the rights of landowners. Your feedback is invaluable in shaping a plan that supports and safeguards the community, and we appreciate your commitment to voicing these issues.
Comment related to Water Resources		
DLNR- Engineering Division	<p>The applicant should include water demands and infrastructure required to meet project needs. Please note that all State projects requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.</p> <p>The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.</p>	<p>Mahalo for your comment. Water demands and infrastructure calculations are included in this Draft EA as Appendix B – the preliminary engineering assessment (PEA) prepared by G70 Civil Engineers. We have noted State projects requiring water from DWS will be required to pay a resource development charge and water facilities charges.</p> <p>Formal water demands and calculations will be provided to the DLNR Engineering Division at the time of permitting to be included in the State Water Project Plans update projections.</p> <p>Refer to <i>3.4 Water Resources and 3.8 Utilities and Infrastructure</i>.</p>
Guy Aina	<p>WE HAVE OUR WATER TABLE, OUR PEACE OF LIVING AND YOU COME TO US LIKE THIS. AG LOTS, YOU LIERS THIS IS A FULL ON HOUSING COMMERCIAL AREA ON OUR WATER TABLE</p>	<p>Mahalo for sharing your concerns regarding the Wākiu Project and its potential impacts on the water table and the surrounding community. DHHL understands and deeply respects the Hāna community’s strong connection to its environment, resources, and way of life. We take these matters very seriously and are committed to addressing them with care, transparency, and accountability.</p> <p>The Wākiu Master Plan was developed with input from beneficiaries and aligns with DHHL’s mission to provide land for Native Hawaiian use. The plan includes residential and subsistence agricultural lots and is not intended to support large-scale commercial development. We recognize the importance of protecting the water table and have incorporated measures to safeguard natural resources. These include stormwater management systems, sustainable design practices, and compliance with applicable regulations to minimize environmental impact.</p> <p>Water demand for the Project was calculated in the Draft PEA (Appendix B) and submitted to the Maui Department of Water</p>

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		<p>Supply (DWS) for review. Early consultation with DWS confirmed that sufficient water capacity exists to support the proposed uses in the concept master plan if a phased approach is taken in coordination with DWS.</p> <p>Your feedback is invaluable, and we remain committed to an open dialogue to address your specific concerns and provide any needed clarifications. Our goal is to work collaboratively with the Hāna community to ensure that the plan supports the needs of beneficiaries while preserving the unique character and natural resources of Hāna.</p>
<p>DLNR- Commission of Water Resource Management</p>	<p>We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.</p> <p>We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.</p> <p>We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed.</p> <p>A listing of fixtures certified by the EAP as having high water efficiency can be found at http://www.epa.gov/watersense.</p> <p>We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://planning.hawaii.gov/czm/initiatives/low-impact-development/</p> <p>We recommend the use of alternative water sources, wherever practicable.</p> <p>We recommend participating in the Hawai'i Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program.</p>	<p>Mahalo for your comment. The Project team has actively engaged with the County of Maui Department of Water Supply (DWS) during the early consultation process and continues to coordinate with them to address the Project's projected water demands. Similarly, DHHL has initiated early consultation with the Department of Land and Natural Resources (DLNR) Engineering Division to incorporate the Project into the State Water Projects Plan as it moves forward.</p> <p>As part of the Wākiu Master Plan's commitment to sustainability, water-efficient fixtures and practices will be implemented wherever feasible, in compliance with applicable State and County codes. Best Management Practices (BMPs) for stormwater management, including low-impact development (LID) techniques, will be used during construction and operational phases to minimize the risk of polluted runoff during storm events.</p> <p>Commercial enterprises relating to this Project will be encouraged to participate in the Hawai'i Green Business Program to promote sustainable practices. Additionally, landscape irrigation BMPs will be integrated into the landscape design, and DHHL will coordinate with the design team to ensure compliance with applicable requirements during the building permit submittal process.</p> <p>To ensure groundwater supply development adheres to regulatory standards, Well Construction Permits and Pump Installation Permits will be obtained prior to commencing well</p>

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	<p>We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf.</p> <p>There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.</p> <p>A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.</p> <p>A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.</p> <p>The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.</p>	<p>construction. This ensures compliance with State and County requirements and promotes sustainable water use.</p> <p>These water resource-related commitments are detailed in <i>Chapter 3.4</i> of the Environmental Assessment. DHHL remains committed to addressing water resource concerns responsibly and sustainably as the Wākiu Master Plan progresses. Mahalo for your input.</p>
<p>David Rojek - US Army Corps of engineers</p>	<p>The Corps' regulatory authorities are based on Section 10 of the Rivers and Harbors Act (RHA) of 1899 and Section 404 of the Clean Water Act. Section 10 of the RHA of 1899 prohibits the obstruction or alteration of any navigable water of the U.S. (WOTUS) without a Department of the Army (DA) permit. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into WOTUS without a DA permit. For projects that are being developed, we ask that you identify areas that may fall within the Corps jurisdiction as WOTUS such as streams, rivers, and wetlands. If you determine that your project would need a permit from the Corps, then we would require an application to be provided. We must also evaluate the project for any impacts to resources such as threatened or endangered species, historic properties, and/or essential fish habitat, and consult if necessary. If applying for a permit, include detailed plans/drawings of the proposed project where streams or wetlands are present. Include a clear line indicating the ordinary high-water mark (OHWM) in your plans and also include the amount and type of fill that would be placed below the OHWM. A permit is not required if all work being done is located in uplands. Please visit: https://www.poh.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits/ to find more information about our program and to apply for a permit.</p>	<p>Mahalo for your comment. No navigable waters of the US or areas within the Corps jurisdiction are anticipated to be significantly impacted by the Project.</p>

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Stakeholder	Comment	Reponse
	Email permit applications to CEPOH-RO@usace.army.mil, as we have gone paperless.	
Comment related to the Subdivision Process		
Tim Everett	Morning, Kawika. My name's Tim. I'm a property owner out here in Hāna and I just got a letter showing the project you folks have set up or lined up for quiet homelands. I happen to have a piece of land that cuts right through that project, so I'd like to talk to you about things whenever you can.	Mahalo for your comment. DHHL recognizes the importance of collaboration and will continue working with you as a landowner to ensure the master plan program aligns effectively with your adjacent lands. Ongoing discussions will help determine the best that supports mutual goals. We appreciate your input and look forward to continuing our coordination efforts.
Hawai'i Land Use Group	We request your clarifications and answers to the following questions about the Project and its permitting and processing: Will DHHL be processing the ultimate layout of Homestead roadways and developable lots through Maui County's Subdivision Process?	Mahalo for your question regarding the processing of roadway layouts and developable lots. Under the Hawaiian Homes Commission Act, DHHL is exempt from the Maui County subdivision process. However, DHHL is committed to working closely with Maui County agencies to ensure that the final layout of homestead roadways and lots meets applicable standards for safety, functionality, and integration with the surrounding infrastructure. The proposed roadway designs will reflect the rural character of Wākiu and Hāna, where sidewalks and curbs are not typical. To enhance circulation and accommodate additional modes of transportation, DHHL is considering wider paved roadways.
County of Maui Planning Department	1) The subsistence agricultural homestead areas are all proposed to be one-acre in size, which we note would be considered "substandard," according to Maui County Code, Chapter 19.30A.030. We acknowledge that DHHL is exempt from various land use controls, so one-acre lots are acceptable. Because the lots proposed will be smaller than the two-acre lots typically on Agricultural land, please address how many farm dwellings will be allowed per lot and the prospective dwelling sizes. 2) The Department would like to see more information on the proposed kilpuna housing. Will there be a property manager and will there be an affordable housing agreement in place? Please provide qualification and income requirements, if any. 6) Please provide more information about the proposed commercial and industrial uses. The Department understands that DHHL often leases space to people who are not necessarily beneficiaries. Will there be a property manager and will there	Subsistence Agricultural Lots: The DHHL does not have a fixed standard for the number of farm dwellings allowed per lot for subsistence agricultural lots. Instead, this is determined on a project-by-project basis and specified in lease agreements, considering factors such as lot size, intended use, and infrastructure capacity. For the Wākiu Master Plan, the proposed one-acre subsistence agricultural lots are primarily intended for residential and subsistence farming use, with a typical allowance of one primary dwelling. In some cases, a secondary dwelling, such as a farm dwelling or 'ohana unit, may be permitted, provided adequate space and infrastructure to support it.

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
	<p>be any specific types of industrial businesses such as light industrial vs. heavy industrial, and any proposed mitigation, as the area will be located adjacent to residential homestead lots?</p>	<p>Kūpuna Housing: DHHL has previously developed kūpuna housing projects to address the needs of Native Hawaiian elders. Notable examples include the Ho’olimalima Kūpuna Rental Housing Project and the Ka’uluokaha’i Master-Planned Community in Kapolei. These projects feature income-based rental agreements, accessible designs with single-story layouts and wheelchair-accessible entrances, and communal spaces to foster a supportive environment. Partnerships with service providers often ensure access to health care, transportation, and social programs. For the kūpuna housing proposed in the Wākiu Master Plan, the design and services will be tailored to meet the specific needs of kūpuna, with input from the community. The Wākiu plan also includes other amenities, such as a community center, greenways, walking paths, and a small commercial center, to support kūpuna and the broader community's livability.</p> <p>Commercial and Industrial uses: The proposed commercial and industrial spaces within the Wākiu Master Plan encompasses approximately 5.9 acres. Its purpose is to provide convenient services, provide an area for maintenance and storage of fishing boats, and create employment opportunities for the community while maintaining the rural character of Wākiu. The integration of commercial/light industrial, residential, agricultural, and community spaces is intended to enhance the overall functionality and livability of the area. While specific details about the commercial/industrial spaces are still being developed, the Anahola Marketplace on Kaua’i serves as an example of a successful project on DHHL land. Developed by the Anahola Hawaiian Homes Association in collaboration with Kaua’i Community College, the marketplace provides commercial opportunities alongside community-focused services. Similarly, the Wākiu commercial space will prioritize community needs, with further details refined as the Project progresses.</p>
<p>No Comment at this Time</p>		

Table 7.2: Responses to Comments Received During Early Consultation

Stakeholder	Comment	Reponse
David Rojek - US Army Corps of engineers	At this time there are no objections or concerns about Wākiu Project, but the owners have some requests for information in general, and to determine how the project may affect their plans to construct a second dwelling on the property and divide their respective interests through subdivision.	Mahalo for your comment and for participating in the Early Consultation comment period of the HRS 343 Environmental Assessment process. Your comment has been recorded.
State of Hawai'i Disability and Communications Access Board	Thank you for your consideration, however, DCAB does not review environmental issues and therefore has no comments regarding this project proposal. DCAB does provide accessibility-related technical assistance and would welcome the opportunity to provide informal assistance prior to the official submittal for the above- referenced project.	Mahalo for your comment and for participating in the Early Consultation comment period of the HRS 343 Environmental Assessment process. Your comment has been recorded.
County of Maui Department of Parks and Recreation	Thank you for the opportunity to review and comment on the subject project. The Department of Parks and Recreation has no comment at this time.	Mahalo for your comment and for participating in the Early Consultation comment period of the HRS 343 Environmental Assessment process. Your comment has been recorded. See also <i>3.10.1 Recreational Facilities and Amenities</i> for discussing recreational facilities and amenities within the Project and surrounding areas.
Department of Accounting and General Services	Thank you for the opportunity to comment on the subject Project. We have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities.	Mahalo for your comment and for participating in the Early Consultation comment period of the HRS 343 Environmental Assessment process. Your comment has been recorded.

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Chapter 8

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8.1 Geographical Information Systems Data

Aerial Imagery

Google Earth Aerial Imagery, 2024.

Tax Map Key

County of Maui, February 2024.

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Appendices

Appendix A

Biological Resources Study

Biological Survey for
DHHL East Maui

Ke'anae, Wailua, and Wākiu, Maui
TMKs: 1-1-001: 033; 1-1-003: 060, 069;
1-1-004: 007, 008, 033, 034, 041;
1-1-005: 001, 008, 022, 035, 038, 047;
1-1-008: 008, 014; 1-1-006: 013, 031, 069, 073;
1-3-004: 011, 012, 017, 023

July 2023

Report Prepared for:



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HAWAIIAN HOMES COMMISSION · DEPARTMENT OF HAWAIIAN HOME LANDS

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Executive Summary

This report was prepared for the proposed DHHL subsistence agricultural housing lots project. A field survey was requested to:

- 1) Identify the flora and terrestrial/avifauna and characterize their composition and distribution in the project area;
- 2) Identify significant species, such as those recognized as threatened and endangered, and document their locations within the parcel boundaries using a Global Positioning System (GPS);
- 3) Identify any areas federally designated as critical habitat.

Field surveys took place over the course of two days, on April 4 and April 5, 2023. Surveys of each project area were conducted using a combination of walk-through and windshield surveys. Due to the density of the vegetation and the complicated terrain, surveyors were unable to explore the full extent of all parcel interiors on foot. A combination of field observations and aerial maps produced by Resource Mapping Hawaii (RMH) were used to infer the character of interior vegetation and determine approximate coverage. Terrestrial and avifauna surveys were conducted in conjunction with botanical surveys.

A total of 150 plant taxa were identified from all three project areas (Ke‘anae, Wailuanui, and Wākiu), approximately 15% of which may be considered native (indigenous or of Polynesian introduction) to the Hawaiian Islands. The primary landcover across all project areas can be characterized as mixed alien forest although the species blend and levels of dominance in the plant community varies within and between each project parcel.

No plants which are proposed or listed as threatened or endangered species under state or federal regulations were observed during these surveys and there is no federally designated Critical Habitat for any species located either within or directly adjacent to any of the project areas.

Surveyors detected evidence of pig presence and spotted mongooses in all three project areas. No other mammals were observed during the field surveys. Six species of avifauna considered naturalized in the Hawaiian Islands were commonly observed in all three project areas and individuals of two native species were identified in Wailuanui and Wākiu.

Based on the proposed use of these areas for homes and community subsistence agriculture, existing fruit trees may be considered for preservation. Landscaping in developed areas should utilize native species wherever possible, particularly those which are indigenous to the area as they are best suited to the soil and climate conditions of the region. Existing native plant communities, particularly the remnant coastal hala and ‘ōhi‘a-hala forests, are also recommended for preservation in each project area to maintain the health and ecological integrity of these native ecosystems.

Management plans identifying target invasive species and establishing control strategies and processes should be created, especially for areas that are not slated for development or cultivation. Removal and/or control of the feral pig population as well as plant species recognized as invasive and those which may be locally invasive is recommended to prevent further spread.

Introduction

Setting

The project encompasses three areas on the windward side of Maui: Ke'anae, Wailuanui, and Wākiu. The communities of Ke'anae and Wailuanui are located adjacent to one another on the northeast coast. Wākiu is located approximately 15 miles east of these communities, along Hāna Highway.

The project area spans a total of 986 acres of agricultural land on the northeastern slopes of Haleakalā crater: 151 acres in Ke'anae, 92 acres in Wailuanui, and 743 acres in Wākiu. The terrain varies by location with moderate sloping lands in the mauka parcels (Ke'anae mauka and Wākiu), and generally flat terrain for those parcels in the lower elevations (Ke'anae makai, Wailuanui). Elevations range from approximately 160-680 feet above Mean Sea Level (MSL) in the Ke'anae mauka parcel, approximately 40-160 feet above MSL parcels in the Wailuanui parcels, and approximately 140-960 feet above MSL in the Wākiu parcels.

The region's climate is typical of Hawai'i's windward areas which receive trade winds from the northeast year round. According to the Rainfall Atlas of Hawai'i, mean annual rainfall in the Ke'anae/Wailuanui areas varies from approximately 104 inches on the coast and peninsula to approximately 208 inches in the upland areas with the greatest amount of rainfall tending to occur in March and April. The Wākiu area receives a mean annual rainfall of approximately 68 inches on the coast (Waiānapapa State Park) to 153 inches in the uppermost elevations of the parcel. Average annual temperatures in both regions range from the mid-60s to the mid-70s.

Soils were identified using the USDA Natural Resources Conservation Service's Web Soil Survey. Brief descriptions of the soil types in each of the three project locations are provided below.

Ke'anae Soils

Soils found in the three Ke'anae parcels consist of majority Honolulu silty clay (HwC). Stony alluvial land (rSM), Rough mountainous land (rRT) and Rock outcrop (rRO) are also present. The character of each soil type is briefly described below. Of these, only the HwC soil type is classified as prime farmland.

- HwC soils are characterized as well-drained with medium rates of runoff and are found on slopes of 7-15%. The soil layer composition is purely silty clay to a depth of 70 inches.
- The rRT soil type is characterized as well-drained with very high rates of runoff. This soil type is found on slopes of 50-99%, on landforms such as gulches and mountain flanks. The compositional layers of rRT soils consist of silty clay loam in the top layer (0-5 inches) followed by very cobbly clay loam (5-25 inches).
- The rSM soil type is characterized as well-drained with medium rates of runoff and is found on slopes of 3-15%. This alluvial soil is composed of a top layer of extremely stony clay loam (0-10 inches) followed by a layer of boulder silty clay loam (10-60 inches). This soil type is prone to frequent flooding.
- The rRO soil type consists solely of bedrock. It is found on slopes of 5-99%.

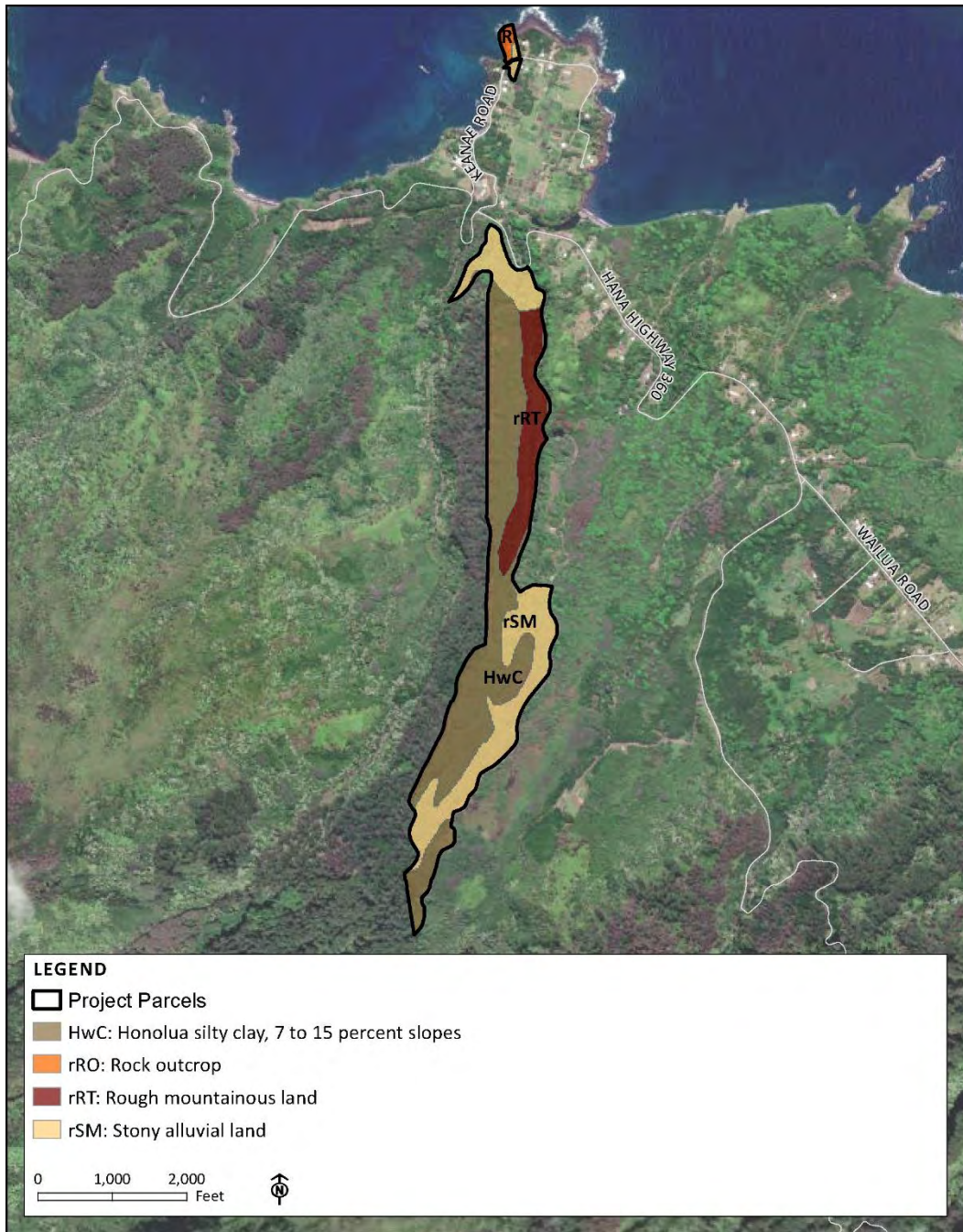


Figure 1 Soil types in the Ke'anae project site parcels.

Wailuanui Soils

Soils in the Wailuanui parcels consist of Honolua silty clay (HwC), Stony alluvial land (rSM), Rough mountainous land (rRT), and Typic Endoaquepts mucky silt loam (TR). The character of each soil type is briefly described below. Of these, only the HwC soil type is classified as prime farmland.

- HwC soils are characterized as well-drained with medium rates of runoff and are found on slopes of 7-15%. The soil layer composition is purely silty clay to a depth of 70 inches.

- The rSM soil type is characterized as well-drained with medium rates of runoff and is found on slopes of 3-15%. This alluvial soil is composed of a top layer of extremely stony clay loam (0-10 inches) followed by a layer of boulder silty clay loam (10-60 inches). This soil type is prone to frequent flooding.
- The rRT soil type is characterized as well-drained with very high rates of runoff. This soil type is found on slopes of 50-99%, on landforms such as gulches and mountain flanks. The compositional layers of rRT soils consist of silty clay loam in the top layer (0-5 inches) followed by very cobbly clay loam (5-25 inches).
- The TR soil type is characterized as a poorly drained soil, typically found in valley floors, coastal plains, and flood plains. The compositional layers of TR soils consist of mucky silt loam in the top layer (0-10 inches) followed by silty clay loam (10-18 inches), and silty clay (18-60 inches).

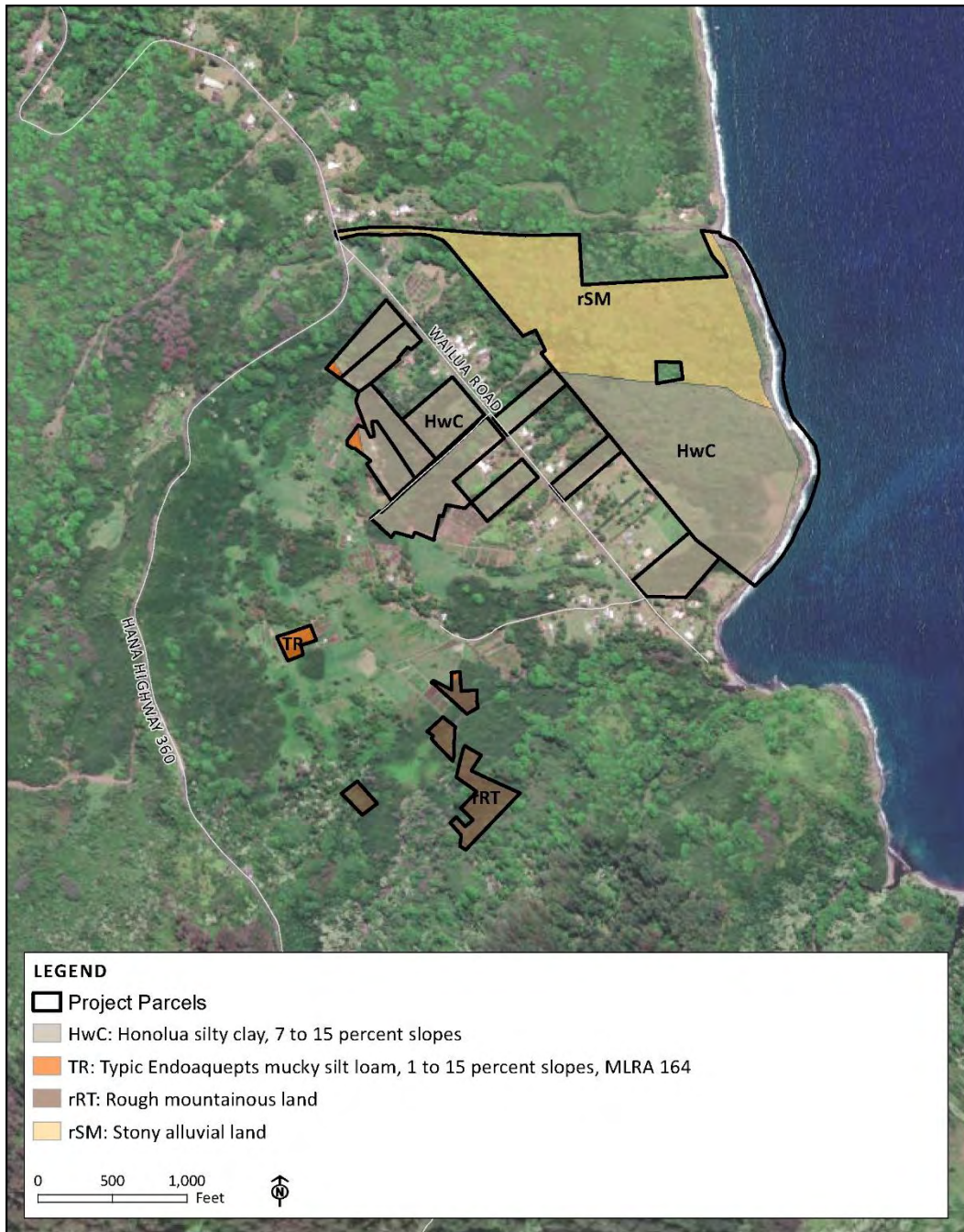


Figure 1 Soil types in the Wailuanui project site parcels.

Wākiu Soils

The Wākiu parcel soils consist of majority Malama extremely stony highly decomposed plant material (MYD), as well as Hana very stony silty clay loam (HKLD), and Hana silty clay loam (HKNC). The character of each soil type is briefly described below. None of the soil types are classified as prime farmland.

- MYD soils are characterized as organic material over ‘a’a lava flows. The top layer of soil (0-3 inches) is composed of extremely stony highly decomposed plant material with the layer

underneath (3-50 inches) consisting of cobbles. The MYD soil type is found on slopes of 3-20% and are well-drained with very low rates of runoff.

- HKLD soils are well-drained with medium rates of runoff and are found on slopes ranging from 3-25%. The first 12 inches of HKLD soils are very stony silty clay loam.
- HKNC soils are also well-drained with medium rates of runoff and are found on slopes ranging from 3-15%. The compositional layers of HKNC soils consists of silty clay loam in the top layer (0-7 inches) followed by a layer of cobbly silty clay loam (7-20 inches).

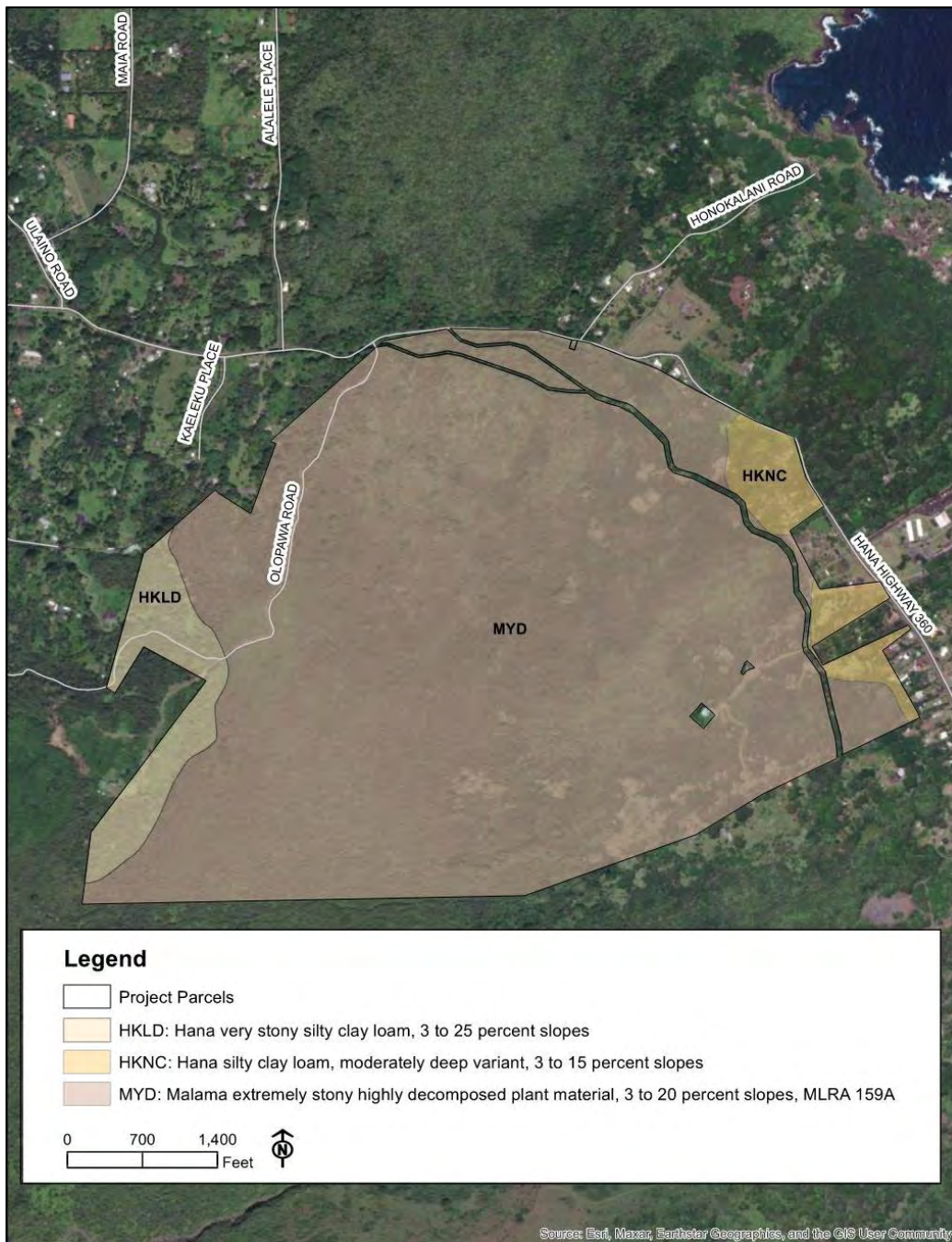


Figure 3 Soil types in the Wākiu project site parcels.

Prehistorical and Historical Land Use Patterns

The Keʻanae and Wailuanui project areas lie within the moku of Koʻolau, spanning the ahupuaʻa of Keʻanae, Pauwalu and Wailuanui.

Historically, native Hawaiian settlement patterns occurred mostly in the flat lowland areas of Keʻanae and Wailuanui where the deepest and richest soils were located. The landscapes of both regions had already been extensively modified by the time of Western contact. Native wet forest species such as ʻōhiʻa lehua (*Metrosideros polymorpha*), kopiko (*Psychotria* sp.) and hame (*Antidesma platyphyllum*) which previously covering the lowland regions had been cut back to make way for cultivation.

Keʻanae and Wailuanui share a network of abundant streams, creating the wettest conditions in the Hāna region. Both areas were known to the larger Hāna region for the cultivation of kalo in an extensive complex of loʻi which reached across Wailua Valley and down the Keʻanae peninsula. The Koʻolau Ditch, constructed over the last quarter of the 19th century, cuts across several streams to export water to central Maui for the irrigation of sugar cane and pineapple fields and for urban use.

A cultural landscape study of Keʻanae and Wailuanui prepared by the County of Maui Planning Department in 1995 described the existing system of loʻi as having changed very little since it was first built by early Hawaiians. Although taro cultivation showed patterns of expansion and contraction in the region over time (trending mostly toward contraction), these systems remained mostly unaltered, even with the advent of rice cultivation in the 1880s-1930s. The Keʻanae peninsula loʻi, which continues to exist today, are an extremely unique feature and may be the only example of wetland taro cultivation on an ʻaʻa lava flow in existence. Varieties of kalo cultivated in Keʻanae included the “moi black, moi white, light and dark Lehua, and mokohe (short one)” according to the study.

In Wailuanui, a previously dispersed native Hawaiian population became more concentrated when the Land Act of 1895 established Hawaiian homestead parcels in Keʻanae and Wailuanui, leaving open spaces for the recolonization of plant communities.

Clearings and open spaces left uncultivated saw a succession of grassland followed by Java plum (*Syzygium cumini*), guava (*Psidium cattleianum*) in drier areas or Christmasberry (*Schinus terebinthifolius*), hau (*Hibiscus tileaceus*) and kukui (*Aleurites moluccana*) in wetter areas.

In the 1930s the Civilian Conservation Corps planted grasslands in Keʻanae and Wailuanui with introduced species, which eventually came to dominate the region’s forest cover. These included varieties of eucalyptus, paperbark (*Melaleuca leucadendra*), and Formosan koa (*Acacia formosa*).

After the Māhele in 1848, Land Commission Award (LCA) claims were made in Keʻanae and Wailuanui for parcels used in the cultivation of wetland taro, dryland taro and sweet potatoes, as well as parcels located further mauka and containing wooded or forested areas and groves of hala (*Pandanus tectorius*). Several LCA claims in Keʻanae and Wailuanui also mentioned olonā (*Touchardia latifolia*) planting areas which suggests that the region contains habitat conditions preferable to the species. Olonā was noted in the County of Maui study as one of only two indigenous or endemic plant species identified from the area, the other being ʻieʻie which grew in the treetops along the roadside.

The cultural landscape study also recorded the flora found in the Keʻanae-Wailuanui community. Ornamental plants were grown interspersed with the loʻi. These included croton (*Codiaeum variegatum*), plumeria (*Plumeria acuminata* sp.), gingers (*Zingiber* sp.), and heliconia, and varieties of tī (*Cordyline*

fruticosa), especially the red tī which was the “signature ornamental” of the community. Native hapuʻu ferns (*Cibotium menziesii* and *Cibotium chamissoi*) were also common. Hala, banana (*Musa* sp.), guava (*Psidium guajava*), strawberry guava (*Psidium catteianum*), and noni (*Morinda citrifolia*) were other common, useful plants frequently found in gardens and along taro loʻi. Residential areas were planted with coconut (*Cocos nucifera*), mango (*Mangifera indica*), avocado (*Persea americana*), and various citrus plant such as tangerines and oranges. Popular landscaping plants included Manila palm (*Veitchia merrillii*), African tulip (*Spathodea campanulata*), and gardenia (*Gardenia jasminoides*).

Other plants of important cultural value known to grow in the Keʻanae-Wailuanui region were the native pōhole fern, which was picked and eaten in a salad, the native black banana, ʻieʻie, and a variety of Hawaiian bamboo—the fibers of the which were used to weave mats and hats.

The Wākiu project area is located in the moku of Hāna and overlaps the ahupuaʻa of Kaeleku and Wākiu. The landscape in the Wākiu region contained rich soils, but with large areas covered by lava and no continuously flowing streams, the area lacked the abundance of water found in neighboring Keʻanae-Wailuanui. Early Hawaiians settled the lands below Wākiu in an area called Honokalani and there had planted dry taro. During the dry seasons this crop was also cultivated in a small valley in the forest below Olopawa peak.

Current Land Use Patterns

The parcels comprising all three of the project areas currently contain no development and are largely forested areas containing the plant communities, as described in the Results section of this report.

According to local guide, Junior Kekiwi, the Keʻanae mauka parcel and lands further upslope are popular with recreational pig hunters, who access the via the gated Piʻinaʻau Road.

The makai parcels on the Keʻanae peninsula are bisected by Keʻanae Road. The coastal parcel has a small pullout where visitors park to access the point for activities such as fishing and sightseeing. Majority of the parcel opposite is overgrown with hau. A portion of its boundaries also overlap into the road shoulder and patrons of the banana bread shop next door frequently park there. An ʻauwai originating from further inland cuts through the parcel and daylight to the coast at the edge of the road.

The Wailuanui parcels are each overgrown with mainly introduced species, many of which are locally invasive. Evidence of active pig presence was found in the largest parcel located on the coastal pali, suggesting this area may also be utilized by local hunters.

The County of Maui Board of Water Supply holds two small parcels of land in the eastern interior of the largest Wākiu parcel and has two wells which are serviced regularly. The landscape surrounding the wells is maintained by a grounds crew for County access. Private residences border the upper slopes of on the outskirts of the project area on the west as well as occasionally in areas along Hāna Highway. The Ala Kukui Retreat Center is located on the edge of the project area to the southeast.

The Keʻanae and Wākiu project areas are adjacent to important forest lands that are managed as part of the of the State’s Forest Reserve System. The purpose of the system is to protect and enhance these lands for the abundance of public health benefits and other values they provide. The Keʻanae mauka parcel shares its borders with the Koʻolau Forest Reserve while the Wākiu parcel is situated on the slopes below the Hāna Forest Reserve.

Critical Habitat

No federally designated Critical Habitat for any species overlaps with any of the three project areas, therefore proposed modifications to parcels in any of the sites will not impact Critical Habitat.

The nearest designated Critical Habitat is for the endangered pua‘ala (*Brighamia rockii*), a plant in the bellflower family. This federally-designated habitat is located on the Pauwalu Peninsula east of Ke‘anae and on the sea cliffs east of the Wailuanui project area (Figure 4).



Figure 4 Pua‘ala Critical Habitat along the coast near Ke‘anae and Wailuanui.

Methods

Field surveys of flora and fauna were conducted using a combination of windshield and walk-through surveys. Surveys of the DHHL parcels located in Ke‘anae and Wailuanui took place on April 4, 2023 while surveys of the DHHL parcels in Wākiu took place on April 5, 2023. All field surveys were performed by Rick Barboza (Hui Kū Maoli Ola, LLC) and Janice Jensen (G70).

A Trimble TDC100 handheld Global Positioning System (GPS) unit and Trimble R1 GNSS receiver were used to navigate the parcels and to make note of sites and plants of interest. Survey patterns varied according to the character of the vegetation and the degree of access to the area. Surveyors used existing roads and trails within the parcel interiors. Where possible, surveyors attempted to hike through the larger parcels where the interior could not be easily observed from adjacent access points such as trails and roads to confirm the density and composition of the forest community. Areas with a greater likelihood of containing native species, such as marshy wetlands and rocky outcrops, were

examined more closely. Field survey observations were paired with assessments of the aerial vegetation maps provided by Resource Mapping Hawaii (RMH) to identify plant communities and approximate vegetation coverage in all parcels.

Plant species were identified and inventoried as they were encountered during the field surveys. Surveyors took photos of and recorded observations on the vegetation communities. Plants that could not be identified in the field were photographed and noted for later identification. The type and abundance of plants recorded during these surveys may reflect the season and environmental conditions for the time of year. Minor variations in plant communities could be observed if additional surveys were conducted at a different time of year.

Fauna surveys took place concurrent with flora surveys. All species of birds and mammals seen or heard and any sign thereof (i.e., pig wallows) were recorded.

Results

Communities of alien and invasive plant species comprise the majority of the forest vegetation in the Keʻanae and Wailuanui project areas and cover a significant expanse of the project area in Wākiu. Shoebutton ardisia was universally present throughout the project areas, as well as the broader Hāna region. Several other alien and/or invasive species such as the African tulip, gunpowder tree, strawberry guava, miconia, and paca or vegetable fern, have achieved a localized dominance in certain parcels.

Vegetation Zones and Plant Communities

Vegetation zones and plant communities for each of the three project areas are described below. Thick vegetation, primarily alien and invasive species, comprised the majority of the landcover in all three locations. Species composition varied across all locations with different species competing for local dominance. Estimated coverage of the dominant plant communities in each project area are illustrated in the figures, below. The area of vegetation cover is approximated based on a combination of field observations and comparison with aerial maps produced by RMH.

No plants which are proposed or listed as threatened or endangered species under state or federal regulations were observed within any of the project areas. Based on the combination of field observations and aerial mapping imagery, the likelihood that threatened or endangered species are present in areas that surveyors were unable to explore on foot is expected to be low.

A complete inventory of species observed in each location is provided in Appendix II.

Keʻanae

The project area in Keʻanae consists of three parcels stretching from the peninsula on the coast up the mauka slopes. The mauka parcel is the largest of the three and abuts Palauhulu Stream on the west. Dominant plant communities are illustrated in Figure 5, below.

In total 87 plant taxa were identified from the three Keʻanae parcels, approximately 18 (20%) of which may be considered native (either indigenous to Hawaiʻi or of Polynesian introduction).

Vegetation in the heavily forested Keʻanae mauka parcel consisted of majority introduced species and can be characterized as mixed alien forest. The forest, likely once populated with native hala (*Pandanus tectorius*) and ʻōhiʻa lehua (*Metrosideros polymorpha*), appears to have undergone significant

disturbance and has become heavily invaded with shoebutton ardisia or inkberry (*Ardisia elliptica*), as well as strawberry guava (*Psidium cattleianum*) and paperbark (*Melaleuca quinquenervia*). Shoebutton ardisia was particularly dominant in the mauka parcel and was ubiquitous throughout.

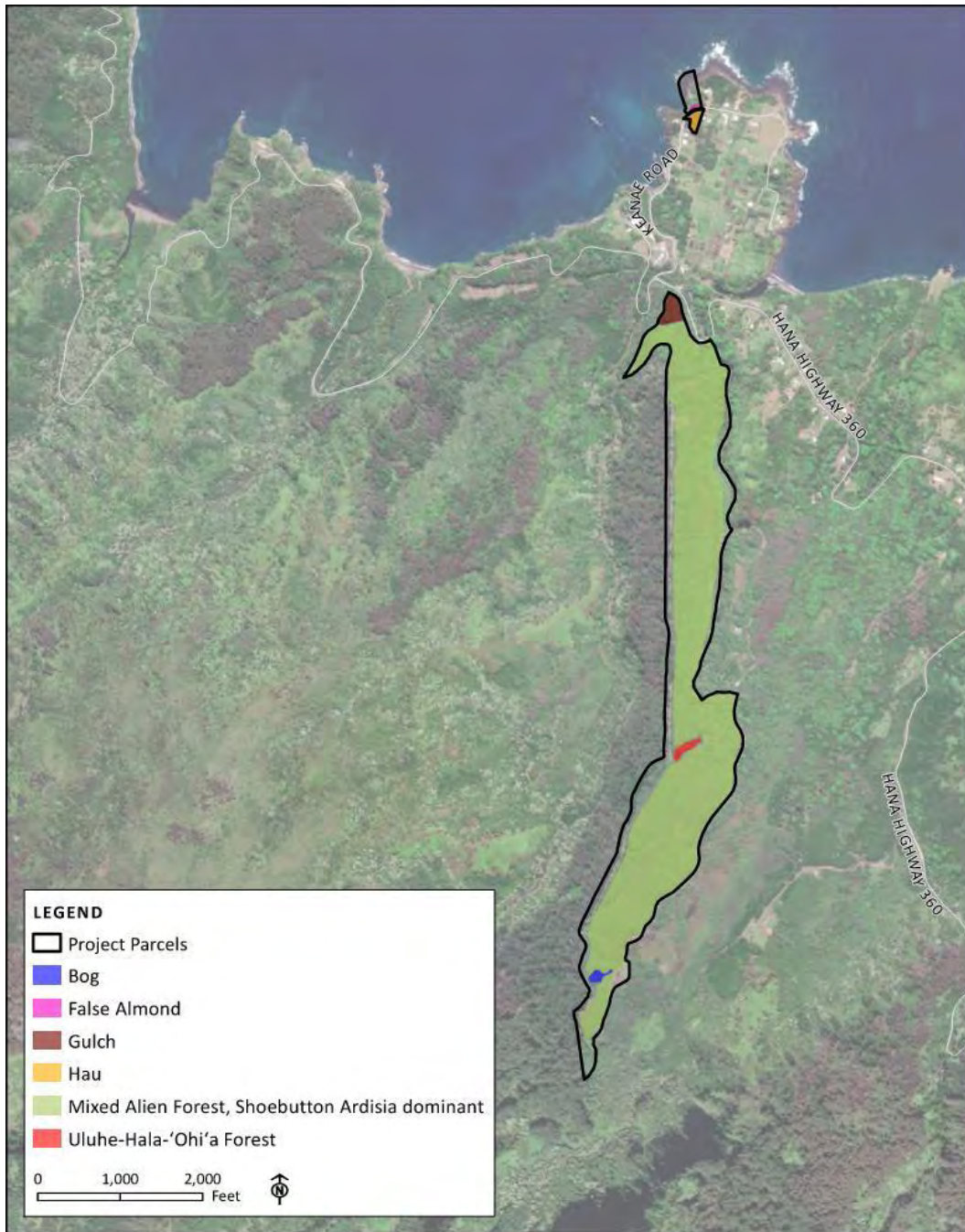


Figure 5 Dominant plant communities and significant sites in the Ke'anae parcels. Area of coverage is approximated based on survey observations, aerial vegetation maps, and GPS data.

Dominant species shifted within each canopy layer. The overstory consisted of paperbark (*Melaleuca quinquenervia*), African tulip (*Spathodea campanulata*), and mango (*Mangifera indica*). Epiphytic laua'e haole (*Phlebodium aureum*) and 'ekaha ferns were observed growing in the crooks of these taller trees.

The mid-story consisted primarily of shoebutton ardisia or inkberry, strawberry guava and occasionally regular guava (*Psidium guajava*), while the understory was thick with young shoebutton ardisia. Tropical vines such as pothos (*Epipremnum pinnatum*), arrowhead plant (*Syngonium podophyllum*), and Jamaican lilikoi (*Passiflora laurifolia*) were occasionally observed.

Groundcover was largely absent from thickets of strawberry guava and shoebutton ardisia; however a mixture of herbaceous vegetation such as yellow wood sorrel (*Oxalis corniculata*), blue vervain (*Stachytarpetia dichotoma*), sensitive plant (*Mimosa pudica*), and Spanish clover (*Desmodium incanum*), among others, was commonly observed in the Pi'ina'au Road corridor. Vegetable fern or paca (*Diplazium esculentum*) was abundant in open areas while white rabbit's foot (*Davallia tyermannii*), downy wood fern (*Cyclosorus dentatus*), and sword fern (*Nephrolepis multiflora*) were common in the understory.

Small pockets of distinct plant communities occurred where significant differences appeared in the terrain. A side road leading northeast off the main trail revealed the remnants of the 'ōhi'a lehua-hala forest in a bed of native uluhe ferns (*Dicranopteris linearis*) growing along a streambank. A marshy bog area near the southern tip of the parcel contained thick grassy overgrowth and two species of Cyperus—the white kyllinga (*Kyllinga nemoralis*) and the indigenous neke (*Cyclosorus interruptus*). In the northeastern tip of the parcel, the terrain inclined to a steep gulch. Several species that had not been encountered elsewhere in the parcel were observed to be growing here, including Australian tree fern (*Sphaeropteris cooperi*), black bamboo (*Phyllostachys nigra*), 'ōhi'a 'ai (*Syzygium malaccense*), mai'a or banana (*Musa spp.*) and miconia (*Miconia calvescens*).

Vegetation in the two makai parcels was typical of that found in Hawai'i's lowland and coastal areas. A grove of tropical almond trees (*Terminalia catappa*) grew on the roadside of the parcel bordering the coastline. A small field of grasses including honohono grass (*Commelina diffusa*), Hilo grass (*Paspalum conjugatum*), and California grass (*Urchloa mutica*) constituted the parcel's interior, as well as Christmas berry (*Schinus terebinthifolius*), shoebutton ardisia (*Ardisia elliptica*), and lead tree or koa haole (*Leucaena leucocephala*). A fringe of ironwood (*Casuarina equisetifolia*) grew along the coastline near a small stand of Cook pine (*Araucaria columnaris*). Native plants in the parcel included coconut tree/niu (*Cocos nucifera*), a small noni (*Morinda citrifolia*) and a patch of mau'u 'aki'aki or button sedge (*Fimbristylis cymosa*) growing on an outcrop of lava rock. Hala was also once present in the parcel, as evidenced by the stump in the middle of the field.

The parcel opposite was covered in a thicket of hau (*Hibiscus tiliaceua*). A grove of mai'a or banana trees and a Mexican fan palm (*Washingtonia robusta*) were visible on the outskirts of the thicket in a patch of guinea grass (*Megathyrsus maximus*). Paca or vegetable fern, arrowhead vine, and elephant ear (*Xanthosoma sagittifolium*) were also observed under the hau canopy from the roadside.

Wailuanui

The Wailuanui project area consists of twenty parcels, in various clusters and configurations. The largest of these parcels, located on the cliffside coast, touches parts of the Waiokamilo Stream to the east and Wailuanui Bay to the west. Surveyors visited 10 of the 15 parcels comprising the DHHL lands in Wailuanui. The remaining parcels were not surveyed.

Of the 83 plant taxa identified in the Wailuanui survey, 15 (18%) may be considered native. Dominant plant communities are illustrated in Figure 6, below.

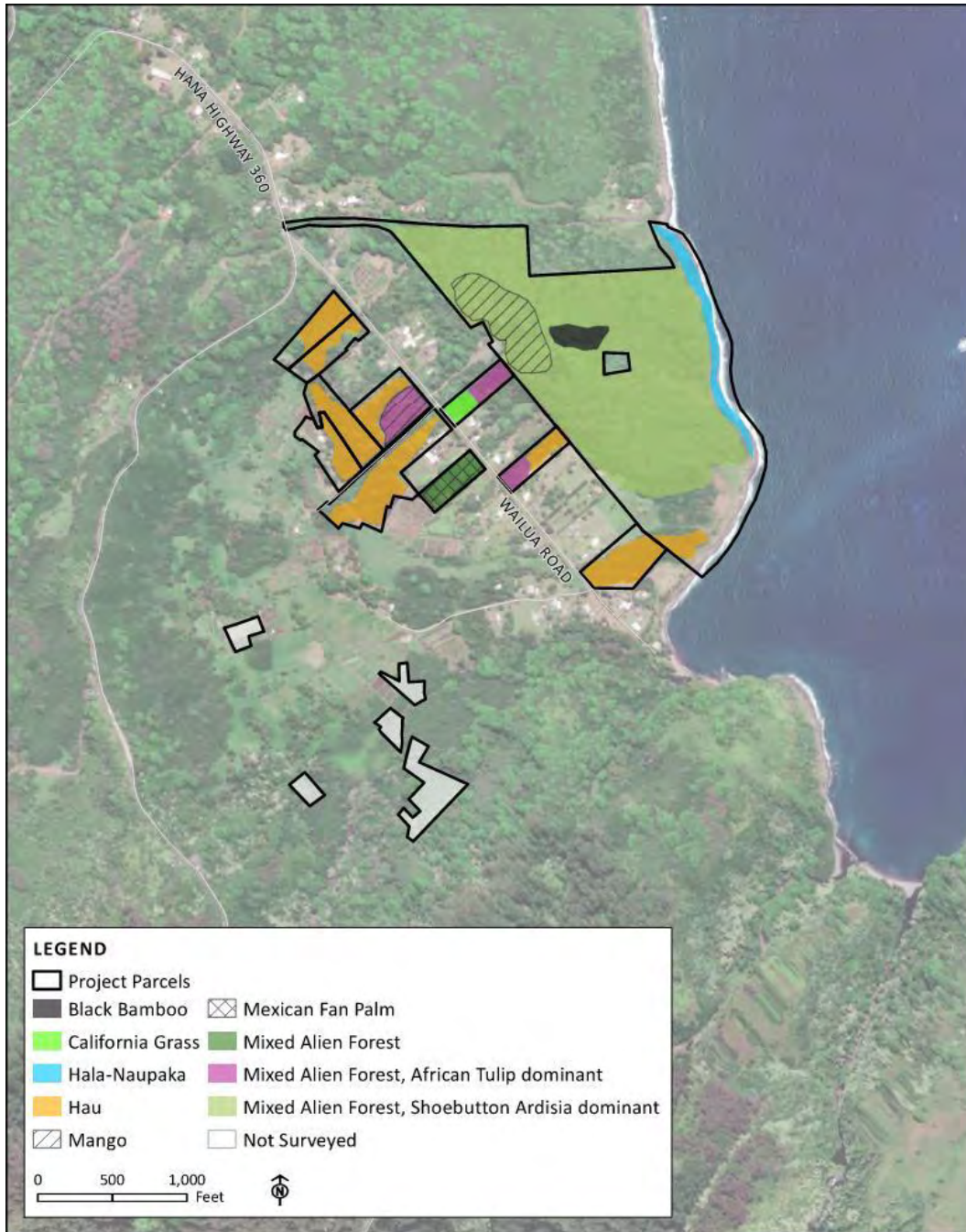


Figure 6 Dominant plant communities in the Wailuanui parcels. Area of coverage is approximated based on survey observations, aerial vegetation maps, and GPS data.

Surveyors traversed the largest parcel on foot to assess the vegetation in the interior. The parcel consisted of mixed alien forest dominated by shoebuttan ardisia. Other species occasionally appeared in monotypic stands. The largest of these was a patch of black bamboo (*Phyllostachys nigra*). The parcel also contained patches of strawberry guava (*Psidium cattleianum*) and Indian head ginger (*Costus*

woodsonii) and small clearings with herbaceous groundcover. Several large mango trees (*Mangifera indica*) formed the uppermost canopy in the western part of the forest. Scans of the plants on the coastal cliffs to the west and northeast revealed hala trees and shrubs of naupaka kahakai (*Scaevola taccada*) and shoebutton ardisia.

Windshield surveys were used to assess the character of the vegetation in the smaller parcels in Wailuanui. Hau (*Hibiscus tiliaceus*) was the dominant vegetation cover in majority of the smaller parcels. A few of the parcels also contained mixed alien forest with African tulip trees observed dominating the canopy. One parcel with a mixed alien forest cover also contained several Mexican Fan Palms (*Washingtonia robusta*) which were not observed in the same concentrations elsewhere in the area.

Wākiu

The project area in Wākiu consists of four adjacent parcels on the mauka side of Hāna Highway, to the southwest of Waiʻānapanapa State Park.

Of the 79 plant taxa and one fungi taxa identified in the survey, 12 (15%) may be considered native. Dominant plant communities for the Wākiu parcels are illustrated in Figure 7, below.

Wākiu was likely once covered in a forest of native hala and hala appeared to dominate the canopy in large patches throughout the project area. Hala plants that the surveyors were able to examine up close were affected by the hala scale (*Thysanococcus pandani*) which is known to cause leaves to become yellow and stunted. Some leaves were also punctured with several holes, indicating the presence of another, unknown pest.

Vegetation cover in the lower elevations of the project area along the highway corridor and developed areas consisted of highly dense mixed alien forest. The African tulip was the most dominant species in this plant community and was also ubiquitous throughout the project area. Parts of the parcel located nearest to the highway were observed to contain extremely dense monotypic stands of African tulip in various growth stages. Gunpowder tree (*Trema orientalis*) was also in abundance in this area. Other commonly observed species included shoebuttan ardisia, and miconia as well as guava, honohono pikake (*Clerodendrum chinense*), and Christmas berry (*Schinus terebinthifolius*), among others.

Hau was present in the project area with the thickest growth occurring on a strip of land adjacent to the highway. Small pockets of kukui were common across the project area in all parcels with the densest growth occurring in the southern part of the largest parcel bordering the boundary. The kukui canopy was accompanied by an understory of shoebuttan ardisia in this location.

A variety of plant species were observed on the western side of the parcel along Olopawa Road. The road shoulders contained a mix of groundcover species typical for disturbed areas such as Spanish clover, tick clover, partridge pea, wedelia, blue vervain, Koster's curse, and various grasses. Notable plant communities growing along the road included a large stand of black bamboo (*Phyllostachys nigra*), a thick field of paca/vegetable fern, and a patch of flowering banana trees (*Musa ornata*) which was observed to be spreading into the higher elevations and may be an emerging local invasive.

Areas of the parcel labeled as "Mixed Forest" in Figure 7 were approximated based on the aerial imagery supplied by RMH. Species composition in these interior areas, particularly in the highest elevations, is likely predominantly alien with occasional patches of native forest species, however

surveyors were unable to verify the character of the plant communities due to the density of the vegetation.

Indigenous and endemic species were more readily encountered in Wākiu than either the Ke'anae or Wailuanui project areas. 'Ōhi'a lehua, mamaki (*Pipturus albidus*), kakalaioa (*Caesalpinia bonduc*), ka'e'e'e (*Mucuna gigantea sub. gigantea*) and pōpōlo (*Solanum americanum*) were all observed in the largest of the three parcels.

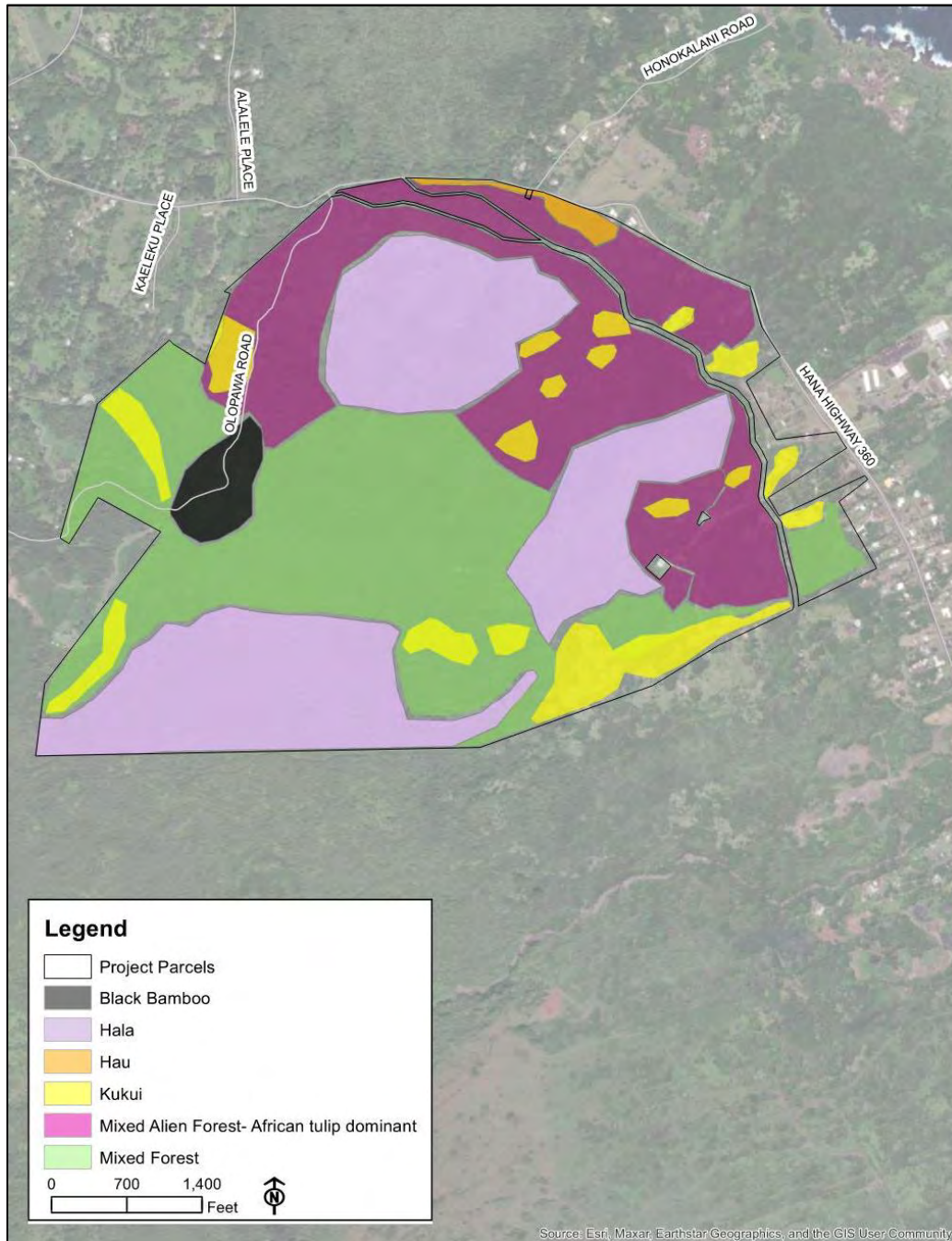


Figure 7 Dominant plant communities in the Wākiu parcels. Area of coverage is approximated based on survey observations, aerial vegetation maps, and GPS data.

Terrestrial and Avifauna

Feral pig (*Sus scrofa*) wallows were encountered periodically in all three project areas however no pigs were observed during field surveys.

Mongoose (*Herpestes javanicus*) and common species of avifauna were occasionally observed in the parcel. Eight species of birds were observed or heard during the walk-through surveys in all three locations. Four species, the chestnut-breasted mannikin (*Lonchura castaneotorax*), mejiro or warbling white-eye (*Zosterops japonicus*), and the common myna (*Acridotheres tristis*) were observed most frequently. Two species of native birds were observed during the timing of these surveys including the aukū'u or black-crowned night heron (*Nycticorax nycticorax hoatit*) in Wailuanui and the kōlea or Pacific golden plover (*Pluvialis fulva*) in Wākiu.

A technical report prepared for The Nature Conservancy in 2008 noted the presence of native birds such as the 'apapane (*Himatione sanguinea*), Maui 'amakihi (*Hemignathus virens wilsonii*), and 'i'iwi (*Vestiaria coccinea*) in the Ko'olau Forest Reserve neighboring the Ke'anae mauka parcel, however these species were not observed at any time during the surveys. Time of day, seasonality, and the availability of fruits or other preferred foods were likely factors in species sightings.

In the Ke'anae-Wailuanui region seabirds are known to nest or roost on the offshore islets of Moku Hala and Moku Mana (both state-designated seabird sanctuaries) as well as the Pauwala Point Wildlife Sanctuary and the Ko'olau Gap (the gulch located above the peninsula). Seabird species known to inhabit these locations include two species of 'ā, the brown booby (*Sula leucogaster*) and a recently established colony of red-footed booby (*Sula sula*), as well as 'ua'u or Hawaiian petrel (*Pterodroma sandwichensis*), 'ua'u kani or wedge-tailed shearwaters (*Puffinus pacificus*), noio or black noddies (*Anous minutus melanogenys*), 'ūlili or wandering tattler (*Tringa incana*), and the 'iwa or great frigatebird (*Fregata minor*). Moku Pipi, an offshore islet in the vicinity of the Wākiu parcels, is home to nesting 'ua'u kani or wedge-tailed shearwaters (*Puffinus pacificus*), and may serve as a roost for noio or black noddies (*Anous minutus melanogenys*) and kōlea or Pacific golden plovers (*Pluvalis fulva*).

The 'ōpe'ape'a or Hawaiian hoary bat (*Lasiurus cinereus semotus*) was not observed during the survey of any parcels, however, this species is known to be extremely cryptic and accurate estimates of population sizes continue to elude researchers. The tall, woody vegetation covering the majority of the parcels in all three locations is the preferred habitat type for the 'ōpe'ape'a, suggesting that a population could exist in these areas.

An inventory of the terrestrial and avifauna species encountered during the walk-through surveys is provided in Appendix III. This table is organized in alphabetical order by family name and lists each species by its scientific and common names as well as the species status in the islands.

Weedy Plants of Concern

In the absence of active management, a variety of fast-growing alien plant species have proliferated in all three project areas. Many of these species are capable of forming vast, dense thickets or thick canopies that aggressively prohibit the growth of other species, including natives.

Approximately 127 non-native plant species were identified during the field surveys. A total of 13 non-native species and one Polynesian-introduced species appears on the list below as "plants of concern." Five of these species—shoebuttan ardisia or inkberry, miconia, Koster's curse, turkeyberry, and pearl

flower— are found on the List of Plant Species Designated as Noxious Weeds for Eradication or Control Purposes by the Hawaii Department of Agriculture (HAR, Title 4 Chap 68; last updated June 18, 1992). This list was developed to better regulate those species identified under the five designated criteria for traits such as reproduction, growth, detrimental effects, control, and distribution and spread.

Taxa that do not appear on the state's noxious weed list may still be considered invasive if they possess characteristics which make them a threat to the watershed. Another tool for determining the invasiveness of a plant species is the Hawai'i-Pacific Weed Risk Assessment (HPWRA). This system was devised by UH researchers to evaluate introduced plant species for their potential invasiveness in Hawai'i. Each plant is scored using 49 questions based on its life history and known invasive qualities. Plants scoring greater than 6 on the scale are considered "High Risk" for invasiveness.

A short discussion of the qualities of each plant contributing to their invasiveness, their relative abundance and presence in the project site, as well as their Weed Risk Assessment (WRA) scores are presented below. Species with an asterisk (*) next to their name appear to be locally invasive.

African tulip tree (*Spathodea campanulata*)*- WRA Score: 14. This tree can reach heights up to 25 meters and is recognized by the large, orange horn-like flowers it produces. Its seeds are winged and wind-dispersed, but it can also be propagated from cuttings. The African tulip tree can spread rapidly in its favored climate of moist, wet areas. Its canopy of large leaves shades out other trees, reducing the species richness of the area. Its large limbs have a tendency to drop when the tree becomes old.

African tulip was observed in all three project areas however, it was one of the most dominant species observed in the Wākiu parcels. Young trees were observed over vast areas along the Hāna Highway corridor and more mature trees were visible above the canopy throughout the areas surveyed. In aerial maps of the Wākiu parcels, patches of mature trees were distinguishable by their light-colored leaves, illustrating their prevalence throughout the parcel interior.

Black Bamboo (*Phyllostachys nigra*)*- WRA Score: 12. This bamboo is dubbed a running bamboo as it spreads via underground rhizomes. Black bamboo gets its name from its dark colored stems and is known to grow up to 25 feet tall in solid monotypic stands. It occurs in moist to wet areas, crowding out native and introduced vegetation alike. Black bamboo poses challenges to control as it is capable of damaging heavy equipment and the application of herbicides to tall plants is difficult.

Black bamboo was observed in all three project areas, but its presence was most notable in the largest Wākiu parcel. A large grove of bamboo was observed along part of Olopawa Road on the parcel's west side. Aerial maps of this location suggest the stand extends over a significant area.

Fiddlewood (*Citharexylum spinosum*)- WRA Score: 7. Fiddlewood is an evergreen shrub/tree that can grow to heights of 15 to 20 meters. These plants are prolific seeders, bearing fruit that is consumed and spread by birds. *C. spinosum* was extensively planted in Hawai'i as an ornamental. Both species can form thickets with dense canopies and their seedlings are capable of sprouting in low light conditions.

Fiddlewood was found to be occasionally present in the Ke'anae and Wailuanui project areas, making up part of the alien mixed forest in both locations.

Gunpowder tree (*Trema orientalis*)*- WRA Score: 10. This evergreen tree can grow on poor soils and prefers disturbed habitats in moist to wet mesic forests. It can reach heights up to 36 meters and has

been used for forest rehabilitation due to its extremely fast growth. Gunpowder tree is primarily spread via birds which feed on its seeds.

Gunpowder trees were not observed in Ke'anae. The species was noted in Wailuanui and was most abundant in the canopy of mixed alien forest in Wākiu.

Hairy piper (*Macropiper puberulum*)*- WRA Score: N/A. This shrub from the pepper family is native to the wet forests of Samoa. Little information could be located on the proliferation of this species outside of its natural habitat. At another site in nearby Hāna, surveyors observed that this species was capable of taking over a significant area with its large leaves and dense growth pattern and determined it to be locally invasive.

Small patches of hairy piper were discovered in the Wailuanui and Wākiu project areas.

Hau (*Hibiscus tiliaceus*)* - WRA Score: N/A. This shrub/tree can reach heights of up to 30 feet and the twisting growth pattern of its trunk and branches is notorious for creating impenetrable thickets. Hau prefers coastal areas and lowland area with wet conditions such as streambanks and lands containing fallow lo'i. Hau is considered a canoe plant of Polynesian introduction, however it has also been noted as a weed in pastures, rangelands, and waste areas.

Hau was observed to be the main vegetative cover of one of the Ke'anae makai parcels and covered a large sliver of land in Wākiu along the Hāna Highway corridor. Hau appeared to be dominant in one location among the Wailuanui parcels, and comparison of aerial maps and field observations suggest that it may be a significant part of the vegetative cover in several others that were inaccessible to the surveyors.

Jamaican lilikoi/Passion fruit (*Passiflora laurifolia*)- WRA Score: 6. A climbing vine found in mesic to wet forests and down to sea level, and capable of covering vegetation. This plant is commonly found in disturbed areas and its seeds are easily spread via birds.

Lilikoi was common in the mixed alien forest canopies in both Ke'anae and Wailuanui project areas, but was not among the species of *Passiflora* noted from Wākiu.

Koster's curse (*Clidemia hirta*)- WRA Score: 28. This shrub is extremely fast-growing and may reach heights up to 3 meters. It is a pioneer shrub, growing aggressively in steep and disturbed areas in mesic and wet forests, sometimes forming impenetrable thickets. It is tolerant of both full sunlight and deep shade and its large leaves can shade out native vegetation. Koster's curse produces flowers and dark-colored berries throughout the year; these fruits are consumed by birds which are the main method of dispersal.

This plant was encountered in all three project areas and typically grew along travel path corridors where the vegetation has been highly disturbed.

Miconia (*Miconia calvescens*)- WRA Score: 14. Miconia is a woody shrub native to Central and South America. Miconia prefers moist habitats, typically tropical montane forest environments. Miconia spreads easily as mature plants produce millions of seeds per year which can remain viable for upwards of a decade. It can grow up to 15 meters in height and form monotypic stands. Its large oval-shaped leaves shade out plants with its roots are shallow and are known to cause severe erosion leading to

landslides. It was first introduced on Maui in the 1970s at botanical gardens and private nurseries near Hāna.

A few large miconia plants were observed on the valley slopes of the Ke'anae mauka parcel, however miconia was most prevalent in the upper slopes of the Wākiu project area. No plants were encountered in the Wailuanui parcels.

Octopus tree (*Schefflera actinophylla*)- WRA Score: 13. This tree grows rapidly and can reach 6-9 meters in height. It is shade-tolerant, thriving in moist environments, and forming dense thickets. Its seeds are bird-dispersed and can germinate in the nooks of larger trees where it may grow as an epiphyte. These traits enable it to easily invade undisturbed forests.

Octopus tree was present in all three project areas as part of the mixed alien forest but did not make up a significant portion of the canopy.

Flowering/Ornamental banana (*Musa ornata*)*- WRA Score: N/A. This species of banana is an evergreen shrub with large paddle-shaped leaves typical of banana plants. The plant's preferred habitat contains soils that are consistently moist. It produces an edible fruit with numerous seeds that makes it unappetizing to humans.

While it does not currently appear on any list of recognized invasives, numerous plants were observed to be spreading throughout a portion of the western mauka the Wākiu parcel, suggesting it may be becoming locally invasive.

Paca/Vegetable fern (*Diplazium esculentum*)*- WRA Score: 8. Paca is an herbaceous fern, used as a food source in some Pacific and Asian countries. It was popular as an ornamental and escaped cultivation in the early 1900s to become invasive in Hawai'i. Paca's preferred habitat is in wet valleys and forests, in moist to wet soils including marsh areas and waterways. Plants produce a large number of spores which spread rapidly via air or water.

Paca was ubiquitous throughout the region and populations were found in open fields in all three project areas.

Pearl flower (*Melastoma subtriplinervium*)- WRA Score: N/A. Pearl flower is a small, semi-woody shrub with stems that grow up to 6 feet long. Flowers vary in color from white to pink to magenta. A member of the melastome family, the pearl flower is a prolific seeder and seeds are often spread by birds.

Pearl flower was only observed in the Ke'anae mauka parcel.

Strawberry guava (*Psidium cattleianum*)- WRA Score: 18. This evergreen tree, imported from Brazil, can grow from 30-40 feet tall. It creates dense monotypic stands which crowd out native species and destroy habitat for native plants. It has invaded forests across Hawai'i, spreading rapidly through its appealing fruit which is consumed by animals such as feral pigs.

Stands of strawberry guava were present in all three project areas. The interior of the Ke'anae mauka parcel contained large thickets and occasional stands were encountered in the Wailuanui parcels. Several stands were also observed along Olopawa Road in Wākiu.

Other Concerns

Feral pigs have played a role in the degradation of Hawai‘i’s native forests. In their search for food feral pigs consume a significant amount of the understory, uproot native vegetation, and create disturbed areas which are then colonized by non-native species. Their rooting habits also cause soil erosion in the landscape, exacerbating the loss of habitat for native plants.

Feral pig populations can be difficult to control as their breeding cycles occur year-round and sows can average seven piglets per litter and attain breeding age within the first year.

Conclusions and Recommendations

The present character of the vegetation in the Ke‘anae, Wailuanui and Wākiu project areas reflects a pattern of human disturbance followed by long periods of inactivity where areas were left to recover on their own.

The following recommendations are made based on a general understanding of the proposed use of the project areas, but with an emphasis on the restoration of important native forest communities where such activities make sense in overall project development.

Project Area Development

With the possible existence of an ‘ōpe‘ape‘a or Hawaiian hoary bat population in all three project areas and the proximity of native seabird habitat along the coastline, it is recommended that all US Fish and Wildlife guidance pertaining to these species be observed for any construction activities that may take place. This guidance will likely include avoiding the removal of trees and tall woody vegetation (generally <15ft) during certain times of the year as well as the use of construction lighting during nighttime hours.

Plant Communities Compatible with Proposed Use

The proposed future use of these areas is the development of mostly subsistence agricultural lots for Department of Hawaiian Home Lands beneficiaries. Other proposed uses include community gathering spaces, general agriculture, ranching, and commercial and industrial uses.

The focus of the development will be on maintaining the subsistence lifestyle and the care of cultural/natural resources, specifically in Ke‘anae where the intent is to replicate established traditional land use patterns within the valley, i.e., distributed house lots with detached lots for taro cultivation. Plans for the settlement of the Wailuanui and Wākiu project areas are currently less clearly defined.

Based on the proposed use of these areas for homes and community subsistence agriculture, existing fruit trees such as banana, mango, avocado, and ‘ulu may be considered for preservation.

Landscaping in developed areas should utilize native species wherever possible, particularly those which are indigenous to the area as they are best suited to the soil and climate conditions of the region. Certain non-native and ornamental plants could also be considered, particularly those which are not invasive and are known to historically grow in the area such as the signature red tī of Ke‘anae-Wailuanui.

Existing native plant communities recommended for preservation include the remaining uluhe-‘ōhi‘a-hala native forest in the Ke‘anae mauka parcel (Figure 5), the population of hala and naupaka along the coastal cliffs in Wailuanui (Figure 6), and the hala forests in Wākiu (Figure 7). Coastal hala and ‘ōhi‘a-hala forests were likely once prolific in the Ko‘olau region and were of great cultural importance. The health

and ecological integrity of these native ecosystems are under threat from the compounded pressures of invasive plants and, particularly in the case of hala, introduced pests. Preserving the integrity of remaining native plant communities is essential if native forest ecosystems are to be perpetuated in these areas.

Reintroducing species that once existed in the region could help to revive previously decimated populations. For example, the endemic olonā (*Touchardia latifolia*) was identified as an important cultural resource in the Ke'anae region during the LCA claims period following the Māhele, however no plants were encountered during the field surveys.

Invasive Species Management

All three project areas are dominated by alien vegetation including species which are either officially recognized as invasive or those displaying the characteristics typical of an invasive species. Particular attention should be paid to the species highlighted in the Weedy Plants of Concern section (above).

Management plans identifying target invasive species and establishing control strategies and processes should be created, especially for areas that are not slated for development or cultivation. Fast-growing species and those which may be locally invasive should be removed to the extent possible to prevent further spread and replaced with compatible plant species. Effective control methods may vary depending on the species and may include a combination of manual and chemical approaches.

Mass clearing of large tracts of land may reduce the population of one type of introduced species while enabling other, possibly more destructive species, to take its place. To prevent long-term problems with these types of deleterious trade-offs, mass clearing of the landscape should be avoided.

Feral pigs are one of the main vectors for the spread of invasive and alien species in native forests. Control measures are recommended to keep these populations low and/or eradicate them in those areas being restored with native species or which are under cultivation.

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Appendix I: Photos

Figure A1. View of one of the Ke'anae makai parcels with a canopy of tropical almond (*Terminalia catappa*) trees surrounding an informal parking area. In the background is a grassy area with Christmas berry (*Schinus terebinthifolius*) bushes, koa haole (*Leucaena leucocephala*), coconut trees (*Cocos nucifera*) to the right. Ironwood trees (*Casuarina equisetifolia*) grows along the rocky coastline.



Figure A2. Example of Wailuanui vegetation in the coastline parcel featuring a canopy of shoebuttan ardisia (*Ardisia elliptica*) and a bare, muddy understory.

Figure A3. Vegetation growing on the cliffside of the Wailuanui coastline parcel. A) View facing west with naupaka kahakai (*Scaevola taccada*) and hala (*Pandanus tectorius*) in the foreground and background. B) View facing east with shoebuttan ardisia (*Ardisia elliptica*), hala, and a canopy of Java plum (*Syzygium cuminii*) in the foreground. Hala, shoebuttan ardisia, and naupaka kahakai continue along the cliffside to the east.



Figure A4. Examples of vegetation driving mauka (southwest) on Olopawa Road near the western edge of the largest Wākiu parcel. A) Mixed alien forest with a canopy dominated by African tulip trees (*Spathodea campanulata*), and occasional hala trees (*Pandanus tectorius*), and various understory and groundcover species. B) Mixed alien forest of similar canopy and a large patch of elephant grass (*Pennisetum purpureum*). C) Continuation of mixed alien forest with increasingly dense canopy on both sides of the road. D) Road leading through a grove of black bamboo (*Phyllostachys nigra*). E) Black bamboo with red tower ginger (*Costus comosus*) in the foreground.







Figure A5. View facing mauka (approximately southeast) at the highest elevation of the Wākiu parcel from the Griffith property (adjacent on the southwest). Papaya (*Carica papaya*) and a patch of red tower ginger (*Costus comosus*) are in the foreground. The mid-story canopy includes shoebutton ardisia (*Ardisia elliptica*) covered in blue trumpet vine (*Thunbergia laurifolia*), and large miconia (*Miconia calvescens*). African tulip trees (*Spathodea campanulata*) with sparse foliage dot the canopy.



Figure A6. A) View from the Griffith property facing east into the Wākiu project area with a patch of the potentially locally invasive flowering banana (*Musa ornata*) in the foreground and a field of California grass (*Urchaloea mutica*) in the distance. Gunpowder trees (*Trema orientalis*) and African tulip trees form the canopy in the background. B) and C) Deeper views into the mixed alien forest of Wākiu illustrating the dense growth of the vegetation and the dominance of alien and invasive species. One native plant—a small mamaki bush (*Pipturus albidus*)—is visible under the canopy of the flowering miconia in photo C).





Appendix II: Plant Checklists

The following checklists were prepared after the conclusion of field surveys conducted in the proposed project areas of Keʻanae, Wailuanui, and Wākiu of east Maui on April 4 and April 5, 2023. A total of 145 taxa were identified including 13 indigenous (including Ind? species), 9 Polynesian-introduced (including Pol? species), and 123 naturalized species.

Each list is split into four groups: pteridophytes (ferns and fern allies), flowering plants (divided into monocots and dicots), and gymnosperms. Each group is organized alphabetically by family, then by scientific name (e.g., genus, species). Common and Hawaiian names for each plant are also included. The Keʻanae checklist notes which species were found either only in the makai parcels or in both the mauka and makai parcels.

A key with explanations of the abbreviations used in the checklist is provided below.

PLANT CHECKLIST KEY

Biogeographic Status

- Nat Naturalized: Introduced to Hawaiʻi by humans, either directly or indirectly, since Western contact. Includes ornamentals and plants that may have formerly been cultivated.
- Pol Polynesian introduction: Introduced to Hawaiʻi by the original Polynesian settlers.
- Pol? Possible Polynesian introduction: May have been introduced to Hawaiʻi by the original Polynesian settlers; or may have been introduced post-Western contact.
- Ind Indigenous species: Occurs naturally both within and outside of the Hawaiian Islands.
- Ind? Possible indigenous species: May occur naturally in Hawaiʻi; or may have been introduced post-Western contact.

Table 1. Ke‘anae Plant Checklist

Scientific Name	Common/Hawaiian Names	Status	Location
PTERIDOPHYTES - FERNS & FERN ALLIES			
ASPLENIACEAE			
<i>Asplenium nidus</i>	‘ekaha	Ind	
ATHYRIACEAE			
<i>Diplazium esculentum</i>	paca/vegetable fern, ho‘i‘o	Nat	
CYATHEACEAE			
<i>Sphaeropteris cooperi</i>	Australian tree fern	Nat	
DAVALLIACEAE			
<i>Davallia tyermannii</i>	white rabbit's foot fern	Nat	
GLEICHENIACEAE			
<i>Dicranopteris linearis</i>	uluhe	Ind	
LINDSAEACEAE			
<i>Lindsaea ensifolia</i>	graceful necklace fern	Nat	
<i>Sphenomeris chinensis</i>	pala‘a	Ind	
NEPHROLEPIDACEAE			
<i>Nephrolepis multiflora</i>	sword fern	Nat	
POLYPODIACEAE			
<i>Phlebodium aureum</i>	laua‘e haole	Nat	makai and mauka
RHIZOGONIACEAE			
<i>Pyrrhobryum spiniforme</i>	Pyrrhobryum moss	Ind	
THELYPTERIDACEAE			
<i>Cyclosorus dentatus</i>	downy wood fern	Nat	
<i>Cyclosorus interruptus</i>	neke	Ind	
<i>Cyclosorus parasiticus</i>	christella fern	Nat	
FLOWERING PLANTS - DICOTS			
ANACARDIACEAE			
<i>Mangifera indica</i>	mango	Nat	
<i>Schinus terebinthifolius</i>	Christmas berry	Nat	makai and mauka
ARALIACEAE			
<i>Schefflera actinophylla</i>	octopus tree	Nat	
ASTERACEAE			
<i>Sphagneticola trilobata</i>	wedelia	Nat	
<i>Pluchea carolinensis</i>	sourbush	Nat	
BEGONIACEAE			
<i>Begonia vitifolia</i>	begonia	Nat	makai and mauka

Biological Survey for DHHL East Maui: Keʻanae, Wailuanui, and Wākiu

BIGONACEAE			
<i>Spathodea campanulata</i>	African tulip tree	Nat	
CARICACEAE			
<i>Carica papaya</i>	papaya	Nat	
CASUARINACEAE			
<i>Casuarina equisetifolia</i>	ironwood	Nat	makai only
COMBRETACEAE			
<i>Terminalia catappa</i>	tropical almond	Nat	makai only
CUCURBITACEAE			
<i>Momordica charantia</i>	bitter melon	Nat	makai only
EUPHORBIACEAE			
<i>Aleurites moluccana</i>	<i>kukui</i>	Pol	makai and mauka
FABACEAE			
<i>Canavalia cathartica</i>	<i>maunaloa</i>	Nat	mauka and makai
<i>Chamaecrista nictitans</i>	partidge pea	Nat	
<i>Dalbergia retusa</i>	cocobolo	Nat	
<i>Desmodium incanum</i>	Spanish clover	Nat	
<i>Desmodium intortum</i>	tick clover	Nat	
<i>Leucaena leucocephala</i>	lead tree/ <i>koa haole</i>	Nat	makai only
<i>Mimosa pudica</i>	sensitive plant	Nat	
<i>Mucuna gigantea sub. gigantea</i>	<i>kaʻeʻeʻe</i>	Ind	makai only
LAURACEAE			
<i>Cinnamomum verum</i>	cinnamon	Nat	
LAMIACEAE			
<i>Clerodendrum chinense</i>	Chinese glory bower, <i>honohono pikake</i>	Nat	
MELIACEAE			
<i>Melia azedarach</i>	chinaberry	Nat	
MALVACEAE			
<i>Hibiscus tiliaceua</i>	<i>hau</i>	Pol?	makai and mauka
<i>Sida rhombifolia</i>	Cuban jute	Nat	
MELASTOMATACEAE			
<i>Clidemia hirta</i>	Koster's curse	Nat	
<i>Melastoma subtriplinervium</i>	pearl flower	Nat	
<i>Miconia calvescens</i>	miconia	Nat	
MYRSINACEAE			
<i>Ardisia elliptica</i>	shoebuttton ardisia, inkberry	Nat	makai and mauka
MYRTACEAE			
<i>Melaleuca quinquenervia</i>	paperbark	Nat	

Biological Survey for DHHL East Maui: Ke‘ānae, Wailuanui, and Wākiu

<i>Metrosideros polymorpha</i>	‘ōhi‘a lehua	Ind	
<i>Psidium cattleianum</i>	strawberry guava	Nat	
<i>Psidium guajava</i>	guava	Nat	
<i>Syzygium cumini</i>	Java plum	Nat	
<i>Syzygium jambos</i>	rose apple	Nat	
<i>Syzygium malaccense</i>	mountain apple; ‘ohi‘a ‘ai	Pol	
ONAGRACEAE			
<i>Ludwigia octovalvis</i>	kāmole	Pol?	
<i>Ludwigia palustris</i>	marsh purslane	Nat	
OXALIDACEAE			
<i>Oxalis corniculata</i>	yellow wood sorrel	Nat	makai only
PASSIFLORACEAE			
<i>Passiflora laurifolia</i>	Jamaican lilikoi, passion fruit	Nat	
ROSACEAE			
<i>Rubus rosifolius</i>	thimbleberry	Nat	
RUBIACEAE			
<i>Morinda citrifolia</i>	noni	Pol	makai only
SAPINDACEAE			
<i>Filicium decipiens</i>	fern tree	Nat	
VERBENACEAE			
<i>Citharexylum spinosum</i>	fiddlewood	Nat	
<i>Stachytarpheta dichotoma</i>	blue vervain	Nat	
FLOWERING PLANTS - MONOCOTS			
ARACEAE			
<i>Dieffenbachia sp.</i>	dumb cane	Nat	makai only
<i>Epipremnum pinnatum</i>	pothos	Nat	makai and mauka
<i>Syngonium podophyllum</i>	arrowhead plant	Nat	makai and mauka
<i>Xanthosoma sagittifolium</i>	elephant ear	Nat	makai only
ARECACEAE			
<i>Cocos nucifera</i>	coconut tree, niu	Ind	makai only
<i>Washingtonia robusta</i>	Mexican fan palm	Nat	makai only
ASPARAGACEAE			
<i>Cordyline fruticosa</i>	ti, la‘i	Pol	makai and mauka
CANNACEAE			
<i>Canna indica</i>	red canna lily	Nat	makai only
COMMELINACEAE			
<i>Commelina diffusa</i>	honohono	Nat	makai and mauka
CYPERACEAE			

Biological Survey for DHHL East Maui: Ke'anae, Wailuanui, and Wākiu

<i>Cyperus haspan</i>	sharp edge sedge	Nat	
<i>Cyperus polystachyos</i>	manyspike flatsedge	Nat	makai and mauka
<i>Fimbristylis cymosa</i>	<i>mau'u 'aki'aki</i> , button sedge	Ind	makai only
<i>Kyllinga nemoralis</i>	white kyllinga	Nat	
DIOSCOREACEAE			
<i>Dioscorea bulbifera</i>	<i>hoi</i> , bitter yam	Pol	
HYPOXIDACEAE			
<i>Molinera/Curculigo capitulata</i>	palm grass	Nat	
MUSACEAE			
<i>Musa sp.</i>	apple banana	Pol	makai and mauka
PANDANACEAE			
<i>Pandanus tectorius</i>	hala	Pol	makai and mauka
ORCHIDACEAE			
<i>Spathoglottis plicata</i>	Malayan ground orchid	Nat	
POACEAE			
<i>Coix lachryma-jobi</i>	Job's tears	Nat	
<i>Digitaria sp.</i>	crab grass	Nat	
<i>Megathyrsus maximus</i>	guinea grass	Nat	makai only
<i>Oplismenus hirtellus</i>	basketgrass	Nat	
<i>Paspalum conjugatum</i>	Hilo grass	Nat	makai and mauka
<i>Phyllostachys nigra</i>	black bamboo	Nat	
<i>Stenotaphrum secundatum</i>	St. Augustine grass	Nat	
<i>Urchloa/Brachiaria mutica</i>	California grass	Nat	makai only
ZINGIBERACEAE			
<i>Hedychium flavescens</i>	yellow ginger	Nat	
GYMNOSPERMS			
ARAUCARIACEAE			
<i>Araucaria columnaris</i>	Cook pine	Nat	makai only

Table 2. Wailuanui Plant Checklist

Scientific Name	Common/Hawaiian Names	Status
PTERIDOPHYTES - FERNS & FERN ALLIES		
ASPLENIACEAE		
<i>Asplenium nidus</i>	‘ekaha	Ind
ATHYRIACEAE		
<i>Diplazium esculentum</i>	paca/vegetable fern, ho‘i‘o	Nat
DAVALLIACEAE		
<i>Davallia tyermannii</i>	white rabbit's foot fern	Nat
NEPHROLEPIDEACEAE		
<i>Nephrolepis multiflora</i>	sword fern	Nat
POLYPODIACEAE		
<i>Phlebodium aureum</i>	laua‘e haole	Nat
PSILOTACEAE		
<i>Psilotum nudum</i>	moa, whisk fern	Ind
THELYPTERIDACEAE		
<i>Christella dentata</i>	downy wood fern	Nat
FLOWERING PLANTS - DICOTS		
ACANTHACEAE		
<i>Thunbergia laurifolia</i>	blue trumpet vine	Nat
ANACARDIACEAE		
<i>Mangifera indica</i>	mango	Nat
<i>Schinus terebinthifolius</i>	Christmas berry	Nat
ARALIACEAE		
<i>Schefflera actinophylla</i>	octopus tree	Nat
ASTERACEAE		
<i>Ageratum conyzoides</i>	billygoat weed	Nat
<i>Bidens pilosa</i>	black jack	Nat
<i>Sphagneticola trilobata</i>	wedelia	Nat
BIGONACEAE		
<i>Spathodea campanulata</i>	African tulip tree	Nat
CASUARINACEAE		
<i>Casuarina equisetifolia</i>	ironwood	Nat
CLUSIACEAE		
<i>Clusia rosea</i>	autograph tree	Nat
CONVOLVULACEAE		
<i>Ipomoea triloba</i>	little bell	Nat
EUPHORBIACEAE		
<i>Aleurites moluccana</i>	kukui	Pol
<i>Manihot esculenta</i>	cassava, tapioca	Nat

Biological Survey for DHHL East Maui: Ke‘anae, Wailuanui, and Wākiu

FABACEAE		
<i>Canavalia cathartica</i>	<i>maunaloa</i>	Nat
<i>Desmodium intortum</i>	tick clover	Nat
<i>Glycine wightii</i>	tinaroo, glycine	Nat
<i>Macroptilium atropurpureum</i>	vining cow pea	Nat
<i>Mimosa pudica</i>	sensitive plant	Nat
<i>Mucuna gigantea sub. gigantea</i>	<i>ka‘e‘e‘e</i>	Ind
<i>Phaseolus vulgaris</i>	bush bean	Nat
<i>Tamarindus indica</i>	tamarind	Nat
GOODENIACEAE		
<i>Scaevola taccada</i>	beach naupaka/ naupaka kahakai	Ind
LAURACEAE		
<i>Persea americana</i>	avocado	Nat
MALVACEAE		
<i>Hibiscus rosa-sinensis</i>	red hibiscus	Nat
<i>Hibiscus tiliacea</i>	<i>hau</i>	Pol?
MELASTOMATACEAE		
<i>Clidemia hirta</i>	Koster's curse	Nat
MELIACEAE		
<i>Melia azedarach</i>	chinaberry	Nat
MORACEAE		
<i>Artocarpus altilis</i>	<i>‘ulu</i>	Pol
<i>Syzygium malaccense</i>	mountain apple; <i>‘ohi‘a ‘ai</i>	Pol
MYRSINACEAE		
<i>Ardisia elliptica</i>	shoebuttan ardisia, inkberry	Nat
MYRTACEAE		
<i>Eucalyptus robusta</i>	swamp mahogany	Nat
<i>Metrosideros polymorpha</i>	<i>‘ōhi‘a lehua</i>	Ind
<i>Psidium cattleianum</i>	strawberry guava	Nat
<i>Psidium guajava</i>	guava	Nat
<i>Syzygium cuminii</i>	Java plum	Nat
<i>Syzygium jambos</i>	rose apple	Nat
ONAGRACEAE		
<i>Ludwigia octovalvis</i>	<i>kāmole</i>	Pol?
<i>Ludwigia palustris</i>	marsh purslane	Nat
PASSIFLORACEAE		
<i>Passiflora laurifolia</i>	Jamaican lilikoi, passion fruit	Nat
PHYLLANTHACEAE		
<i>Breynia nivosa (Breynia disticha) var. rosea picta</i>	snowbush	
PLANTAGINACEAE		
<i>Plantago major</i>	broad-leaved plantain	Nat

POLYGONACEAE		
<i>Antigonon leptopus</i>	Mexican creeper	Nat
RUBIACEAE		
<i>Paederia foetida</i>	<i>maile pilau</i>	Nat
ULMACEAE		
<i>Trema orientalis</i>	gunpowder tree	Nat
VERBENACEAE		
<i>Citharexylum spinosum</i>	fiddlewood	Nat
<i>Stachytarpheta dichotoma</i>	blue vervain	Nat
FLOWERING PLANTS - MONOCOTS		
ARACEAE		
<i>Dieffenbachia sp.</i>	dumb cane	Nat
<i>Epipremnum pinnatum</i>	pothos	Nat
<i>Monstera deliciosa</i>	swiss cheese plant	Nat
<i>Philodendron sp.</i>	philodendron	Nat
<i>Syngonium podophyllum</i>	arrowhead plant	Nat
<i>Xanthosoma robustum</i>	<i>ape</i>	Nat
<i>Xanthosoma sagittifolium</i>	elephant ear	Nat
ARECACEAE		
<i>Archontophoenix alexandrae</i>	Alexander palm	Nat
<i>Areca triandra</i>	areca palm	Nat
<i>Cocos nucifera</i>	coconut tree, <i>niu</i>	Ind
<i>Washingtonia robusta</i>	Mexican fan palm	Nat
ASPARAGACEAE		
<i>Cordyline fruticosa</i>	<i>ti, la‘i</i>	Pol
<i>Dracaena marginata</i>	money tree	Nat
COMMELINACEAE		
<i>Commelina diffusa</i>	<i>honohono</i>	Nat
COSTACEAE		
<i>Costus woodsonii</i>	indian head ginger	Nat
CYPERACEAE		
<i>Cyperus polystachyos</i>	manyspike flatsedge	Nat
<i>Kyllinga nemoralis</i>	white kyllinga	Nat
DIOSCOREACEAE		
<i>Dioscorea bulbifera</i>	<i>hoi, bitter yam</i>	Pol
HELICONIACEAE		
<i>Heliconia sp.</i>	heliconia	Nat
<i>Heliconia psittacorum</i>	parakeet heliconia	Nat
MUSACEAE		
<i>Musa sp.</i>	banana	Pol

PANDANACEAE		
<i>Pandanus tectorius</i>	<i>hala</i>	Pol
POACEAE		
<i>Phyllostachys nigra</i>	black bamboo	Nat
<i>Coix lachryma-jobi</i>	Job's tears	Nat
<i>Digitaria sp.</i>	crab grass	Nat
<i>Megathyrsus maximus</i>	guinea grass	Nat
<i>Oplismenus hirtellus</i>	basketgrass	Nat
<i>Urchloa/Brachiaria mutica</i>	California grass	Nat
ZINGIBERACEAE		
<i>Etlingera elatior</i>	torch ginger	Nat
<i>Hedychium flavescens</i>	yellow ginger	Nat

Table 3. Wākiu Plant Checklist

Scientific Name	Common/Hawaiian Names	Status
PTERIDOPHYTES - FERNS & FERN ALLIES		
ATHYRIACEAE		
<i>Diplazium esculentum</i>	paca/vegetable fern, <i>ho‘i‘o</i>	Nat
CYATHEACEAE		
<i>Sphaeropteris cooperi</i>	Australian tree fern	Nat
DAVALLIACEAE		
<i>Davallia tyermannii</i>	white rabbit's foot fern	Nat
MARATTIACEAE		
<i>Angiopteris evecta</i>	mule's foot fern	Nat
NEPHROLEPIDACEAE		
<i>Nephrolepis multiflora</i>	sword fern	Nat
POLYPODIACEAE		
<i>Phlebodium aureum</i>	<i>laua‘e haole</i>	Nat
THELYPTERIDACEAE		
<i>Cyclosorus dentatus</i>	downy wood fern	Nat
<i>Cyclosorus parasiticus</i>	christella fern	Nat
FLOWERING PLANTS - DICOTS		
ACANTHACEAE		
<i>Thunbergia fragrans</i>	sweet clock-vine	Nat
<i>Thunbergia laurifolia</i>	blue trumpet vine	Nat
ANACARDIACEAE		
<i>Mangifera indica</i>	mango	Nat
<i>Schinus terebinthifolius</i>	Christmas berry	Nat

APOCYNACEAE		
<i>Alstonia macrophylla</i>	deviltree	Nat
ARACAEAE		
<i>Archontophoenix alexandrae</i>	Alexander palm	Nat
<i>Washingtonia robusta</i>	Mexican fan palm	Nat
ARACEAE		
<i>Dieffenbachia sp.</i>	dumb cane	Nat
<i>Epipremnum pinnatum</i>	pothos	Nat
<i>Philodendron sp.</i>	philodendron	Nat
ARALIACEAE		
<i>Schefflera actinophylla</i>	octopus tree	Nat
ASTERACEAE		
<i>Ageratum conyzoides</i>	billygoat weed	Nat
<i>Conyza bonariensis</i>	flax-leaved fleabane	Nat
<i>Sphagneticola trilobata</i>	wedelia	Nat
<i>Taraxacum officinale</i>	dandelion	Nat
BIGONACEAE		
<i>Spathodea campanulata</i>	African tulip tree	Nat
BUDDLIACEAE		
<i>Buddleia asiatica</i>	dogtail	Nat
CACTACEAE		
<i>Hylocereus undatus</i>	night blooming cereus	Nat
CARICACEAE		
<i>Carica papaya</i>	papaya	Nat
CONVOLVULACEAE		
<i>Ipomoea alba</i>	moonflower	Nat
CLUSIACEAE		
<i>Clusia rosea</i>	autograph tree	Nat
CUCURBITACEAE		
<i>Momordica charantia</i>	bitter melon	Nat
EUPHORBIACEAE		
<i>Aleurites moluccana</i>	<i>kukui</i>	Pol
<i>Manihot glaziovii</i>	ceara rubber tree	Nat
<i>Ricinus communis</i>	castor bean	Nat
FABACEAE		
<i>Acacia formosa</i>	Formosan koa	Nat
<i>Caesalpinia bonduc</i>	gray nickers, <i>kakalaioa</i>	Ind
<i>Canavalia cathartica</i>	<i>maunaloa</i>	Nat
<i>Chamaecrista nictitans</i>	partidge pea	Nat
<i>Desmodium incanum</i>	Spanish clover	Nat
<i>Desmodium intortum</i>	tick clover	Nat

Biological Survey for DHHL East Maui: Ke‘anae, Wailuanui, and Wākiu

<i>Falcataria moluccana</i>	Moluccan albizia	Nat
<i>Indigofera suffruticosa</i>	upright indigo	Nat
<i>Mimosa pudica</i>	sensitive plant	Nat
<i>Mucuna gigantea sub. gigantea</i>	ka‘e‘e‘e	Ind
LAMIACEAE		
<i>Clerodendrum chinense</i>	Chinese glory bower, <i>honohono pikake</i>	Nat
LAURACEAE		
<i>Cinnamomum verum</i>	cinnamon	Nat
<i>Persea americana</i>	avocado	Nat
MALVACEAE		
<i>Hibiscus tiliaceus</i>	<i>hau</i>	Pol
MELASTOMATAACEAE		
<i>Clidemia hirta</i>	Koster's curse	Nat
<i>Medinilla magnifica</i>	medinilla	Nat
<i>Miconia calvescens</i>	miconia	Nat
MORACEAE		
<i>Artocarpus altilis</i>	‘ulu	Pol
<i>Ficus microcarpa</i>	Chinese banyan tree	Nat
MYRSINACEAE		
<i>Ardisia elliptica</i>	shoebuttan ardisia, inkberry	Nat
MYRTACEAE		
<i>Metrosideros polymorpha</i>	‘ōhi‘a lehua	Ind
<i>Psidium cattleianum</i>	strawberry guava	Nat
<i>Psidium guajava</i>	guava	Nat
NYCTAGINACEAE		
<i>Bougainvillea spectabilis</i>	bougainvillea	Nat
PASSIFLORACEAE		
<i>Passiflora edulis</i>	Jamaican lilikoi, passion fruit	Nat
<i>Passiflora subpeltata</i>	white passionflower	Nat
PLANTAGINACEAE		
<i>Plantago major</i>	broad-leaved plantain	Nat
PIPERACEAE		
<i>Macropiper puberulum</i>	hairy piper	Nat
RUBIACEAE		
<i>Coffea arabica</i>	coffee	Nat
<i>Morinda citrifolia</i>	<i>noni</i>	Pol
<i>Paederia foetida</i>	<i>maile pilau</i>	Nat
SOLANACEAE		
<i>Solanum americanum</i>	<i>pōpolo</i>	Ind
<i>Solanum torvum</i>	turkeyberry	Nat

Biological Survey for DHHL East Maui: Ke'anae, Wailuanui, and Wākiu

ULMACEAE		
<i>Trema orientalis</i>	gunpowder tree	Nat
URTICACEAE		
<i>Pipturus albidus</i>	<i>mamaki</i>	Ind
VERBENACEAE		
<i>Stachytarpheta dichotoma</i>	blue vervain	Nat
FLOWERING PLANTS - MONOCOTS		
ASPARAGACEAE		
<i>Cordyline fruticosa</i>	<i>ti, la'i</i>	Pol
COMMELINACEAE		
<i>Commelina diffusa</i>	<i>honohono</i>	Nat
COSTACEAE		
<i>Costus comosus</i>	red tower	Nat
DIOSCOREACEAE		
<i>Dioscorea bulbifera</i>	<i>hoi, bitter yam</i>	Pol
HELICONIACEAE		
<i>Heliconia spp.</i>	heliconia	Nat
MUSACEAE		
<i>Musa ornata</i>	flowering banana	Nat
PANDANACEAE		
<i>Pandanus tectorius</i>	<i>hala</i>	Pol
POACEAE		
<i>Pennisetum purpureum</i>	elephant grass	Nat
<i>Phyllostachys nigra</i>	black bamboo	Nat
<i>Urchloa/Brachiaria mutica</i>	California grass	Nat
GYMNOSPERMS		
PODOCARPACEAE		
<i>Podocarpus gracilior</i>	fern pine	Nat
FUNGI		
Scientific Name	Common/Hawaiian Names	Status
AURICULARIACEAE		
<i>Auricularia cornea</i>	<i>pepeiao</i> , Hawaiian wood ear	Ind

Appendix III: Terrestrial and Avifauna Species Checklist

The following checklists were prepared after the conclusion of field surveys conducted in the proposed project areas of Ke‘anae, Wailuanui, and Wākiu of east Maui on April 4 and April 5, 2023. A total of 8 taxa of avifauna were identified across all project areas including 6 introduced taxa (considered naturalized) and 2 native taxa. Only 2 taxa of terrestrial fauna were identified as being present in the project areas. No native faunal species were observed.

Each group on this list is organized alphabetically by family, then by scientific name (e.g., genus, species). The common names are also included. A key with explanations of the abbreviations used in the checklist is provided below.

CHECKLIST KEY

Biogeographic Status

- Nat Naturalized: Introduced to Hawai‘i by humans, either directly or indirectly, since Western contact.
- Ind Indigenous species: Occurs naturally both within and outside of the Hawaiian Islands.
- Inv Invasive species: An alien species which has been introduced by human assistance and is recognized to have deleterious effects on the native species or environment.
- Pol? Possible Polynesian introduction: May have been introduced to Hawai‘i by the original Polynesian settlers; or may have been introduced post-Western contact.
- Unk Unknown: Species could not be identified.

Table 4. Ke‘anae Terrestrial and Avifauna Checklist

BIRDS		
Scientific Name	Common/Hawaiian Names	Status
ESTRILDIDAE		
<i>Lonchura castaneotorax</i>	chestnut-breasted mannikin	Nat
ZOSTEROPS JAPONICUS		
<i>Zosterops japonicus</i>	mejiro, warbling white-eye	Nat
TERRESTRIAL FAUNA		
Scientific Name	Common/Hawaiian Names	Status
HYAENIDAE		
<i>Herpestes javanicus</i>	mongoose	Nat/Inv
SUIDAE		
<i>Sus scrofa</i> *	feral pig	Nat/Inv

*Presence in the area indicated through sign. No animals observed.

Table 5. Wailuanui Terrestrial and Avifauna Checklist

BIRDS		
Scientific Name	Common/Hawaiian Names	Status
ANATIDAE		
<i>Anas platyrhynchos</i>	mallard duck	
ARDEIDAE		
<i>Nycticorax nycticorax hoatit</i>	black-crowned night-heron/ ‘auku‘u	Ind
ESTRILDIDAE		
<i>Lonchura castaneotorax</i>	chestnut-breasted mannikin	Nat
MUSCICAPIDAE		
<i>Copsychus malabaricus</i>	white-rumped shama thrush	Nat
STURNIDAE		
<i>Acridotheres tristis</i>	common myna	Nat
ZOSTEROPS JAPONICUS		
<i>Zosterops japonicus</i>	mejiro, warbling white-eye	Nat

TERRESTRIAL FAUNA		
Scientific Name	Common/Hawaiian Names	Status
HYAENIDAE		
<i>Herpestes javanicus</i>	mongoose	Nat/Inv
SUIDAE		
<i>Sus scrofa</i> *	feral pig	Nat/Inv

*Presence in the area indicated through sign. No animals observed.

Table 6. Wākiu Terrestrial and Avifauna Checklist

BIRDS		
Scientific Name	Common/Hawaiian Names	Status
CHARADRIIDAE		
<i>Pluvialis fulva</i>	Pacific golden plover/ kōlea	Ind
COLUMBIDAE		
<i>Geopelia striata</i>	zebra dove	Nat
ESTRILDIDAE		
<i>Lonchura castaneotorax</i>	chestnut-breasted mannikin	Nat
STURNIDAE		
<i>Acridotheres tristis</i>	common myna	Nat
ZOSTEROPS JAPONICUS		
<i>Zosterops japonicus</i>	mejiro, warbling white-eye	Nat

TERRESTRIAL FAUNA

Scientific Name	Common/Hawaiian Names	Status
HYAENIDAE		
<i>Herpestes javanicus</i>	mongoose	Nat/Inv
SUIDAE		
<i>Sus scrofa</i> *	feral pig	Nat/Inv

*Presence in the area indicated through sign. No animals observed.

Appendix B

Preliminary Engineering Assessment

DRAFT
**PRELIMINARY ENGINEERING
ASSESSMENT**

of Department of Hawaiian Home Lands at

Wākiu, East Maui

TMKs (2) 1-3-004:011, 012 & 017

January 2025

Prepared for:

Department of Hawaiian Home Lands
91-5420 Kapolei Pkwy, Kapolei, HI 96707

Prepared by:



Architecture • Civil Engineering • Planning • Interior Design • Environmental Services
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- Appendix A – Existing and Proposed Hydrology Maps
- Appendix B – Concept Road Profiles
- Appendix C – Domestic Water and Wastewater Demand

1. INTRODUCTION AND BACKGROUND

The purpose of this infrastructure assessment is to evaluate existing site and infrastructure conditions, and potential improvements to support the placement of qualified wait-listed applicants on residential and rural agricultural homestead lots on DHHL lands in Waiuku, Maui. The DHHL land is predominantly characterized by rural and undeveloped landscape with portions of the land used for agricultural and pastoral purposes. The proposed development includes areas that require infrastructure improvements typical of residential subdivision development, such as roads, water, sewer, storm drainage and electrical utilities. Mauka portions of the project will be designated rural agricultural and pastoral use and will require less stringent infrastructure improvements.

This report covers the basic elements of land use planning and standards which could be imposed on a subsistence level homesteading program in marginal lands as well as applicability to lands which are closely adjacent to areas provided with County standard amenities (paved roads, water, sewer, electrical services).

2. SITE DESCRIPTION & TOPOGRAPHY

2.1 Existing Conditions

The project site is located mauka of Hana Highway in Waiuku, Maui. It consists of Tax Map Keys (TMKs) (2) 1-3-004:011, 012 & 017 for a total of 656 acres while Parcel 12 (TMK 1-3-004:012) alone comprises 590 acres (see Figure 1). Elevation across the parcels ranges from approximately 200 to 800 feet, with an average slope of 10% descending toward Hana Highway with some areas as steep as 20-25%.

Kawaiupapa Gulch is located south of the project site and serves as a natural drainage channel for this region. Kawaiupapa stream flows under a bridge on Hana Highway and discharges into Waikoloa Beach at Hana Bay. The mauka side of the project site was historically located within the forest reserve boundary. Portions of land have been utilized for small scale agricultural practices although most of the area remains as undisturbed forest. Remnants of quarry activity are also present to the west of the project site.

Two landlocked properties (TMK 1-3-004:027 & 028) are owned by Maui Department of Water Supply (DWS) and situated within the project site. Parcels 27 and 28 cover 0.65 and 0.16 acres respectively. Additionally, a narrow, privately owned property (TMK 1-3-004:018) extends from Hana Highway to the adjacent parcel to the south, bisecting the large DHHL lands into a mauka portion and a makai portion. This property is often referred to as the old railroad right-of-way and was originally built to transport sugarcane.

According to USDA Natural Resources Conservation Services (NRCS), the site is comprised of three soil groups: Hana very stony silty clay loam (HKLD), Malama extremely stony highly decomposed plant material (MYD), and Hana silty clay loam, moderately deep variant (HKNC). These soil types consist of well drained soils that are formed in volcanic ash (see Figure 2).

The parcel is zoned for Agricultural Use by the State and Maui County. County improvements (paved roads, sewer, water, electrical) are entirely lacking across the parcel except for an access road to a DWS-owned water tank near the southeast corner, which connects to Hana Highway along its northern border.

The DHHL Maui Island Plan (2004) referenced a preliminary plan for the property that included a variety of proposed land uses. These uses consisted of 80 half-acre residential lots, 22 three-acre subsistence agricultural lots, 5 acres allocated for community purposes, 3 acres designated for commercial uses, 5 acres planned for industrial development, and 522 acres for general agricultural use.

2.2 Proposed Project

Since 2004, the community has advocated modifications to the island plan proposed land uses for this area. Conceptual site plan and land use plan was developed based on the community master plan.

The project includes 178 homestead lots, consisting of:

- 78 one-acre residential lots
- 65 three-acre subsistence agricultural lots
- 32 one-acre subsistence agricultural lots
- 4 pastoral lots

Parcels 11 and 17, located on the makai side of the project site along Hana Highway, will be subdivided to accommodate commercial uses, a school, gardens, a community center and some of the residential homesteads lots.

Community and commercial spaces will primarily be located on the makai side of the project site, providing direct access to Hana Highway. Pastoral and agricultural lots will be situated on the mauka side, where land disturbance will be minimal, limited to clearing and grubbing for roadways.

The current plan includes a total of 234 acres of non-homestead lots designated for various types of uses, as follows:

- Kupuna Housing - 6.5 acres
- Commercial – 2.75 acres
- Convenience Retail – 1 acre
- Food Trucks – 0.5 acre
- Industrial – 5 acres
- Community Center/School – 12.5 acres
- Conservation – 138 acres
- Open Space/Community Garden – 10 acres
- Park – 20 acres
- PV – 30 acres
- Cemetery – 7.75 acres

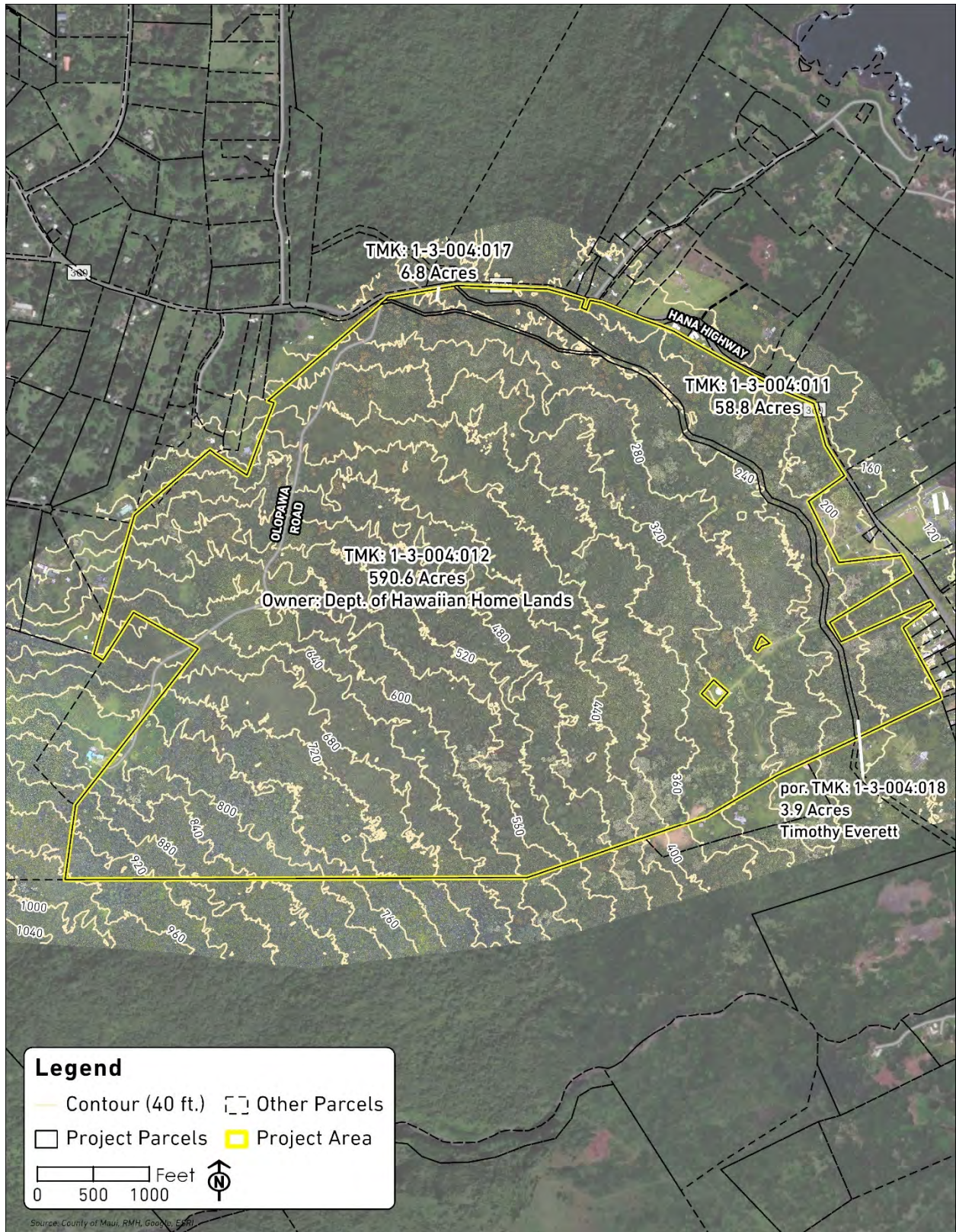


Figure 1: Location Map

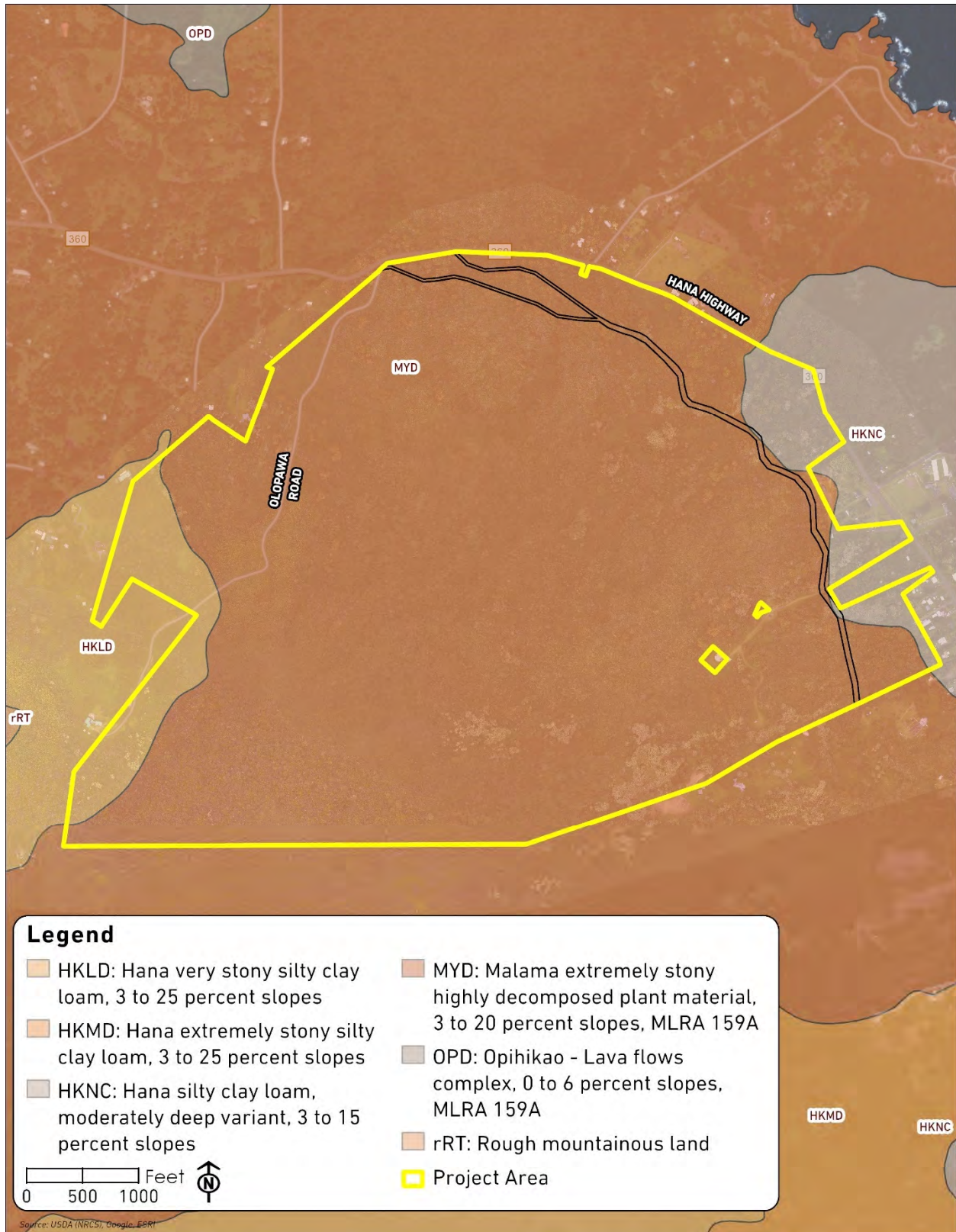


Figure 2: Soils Map

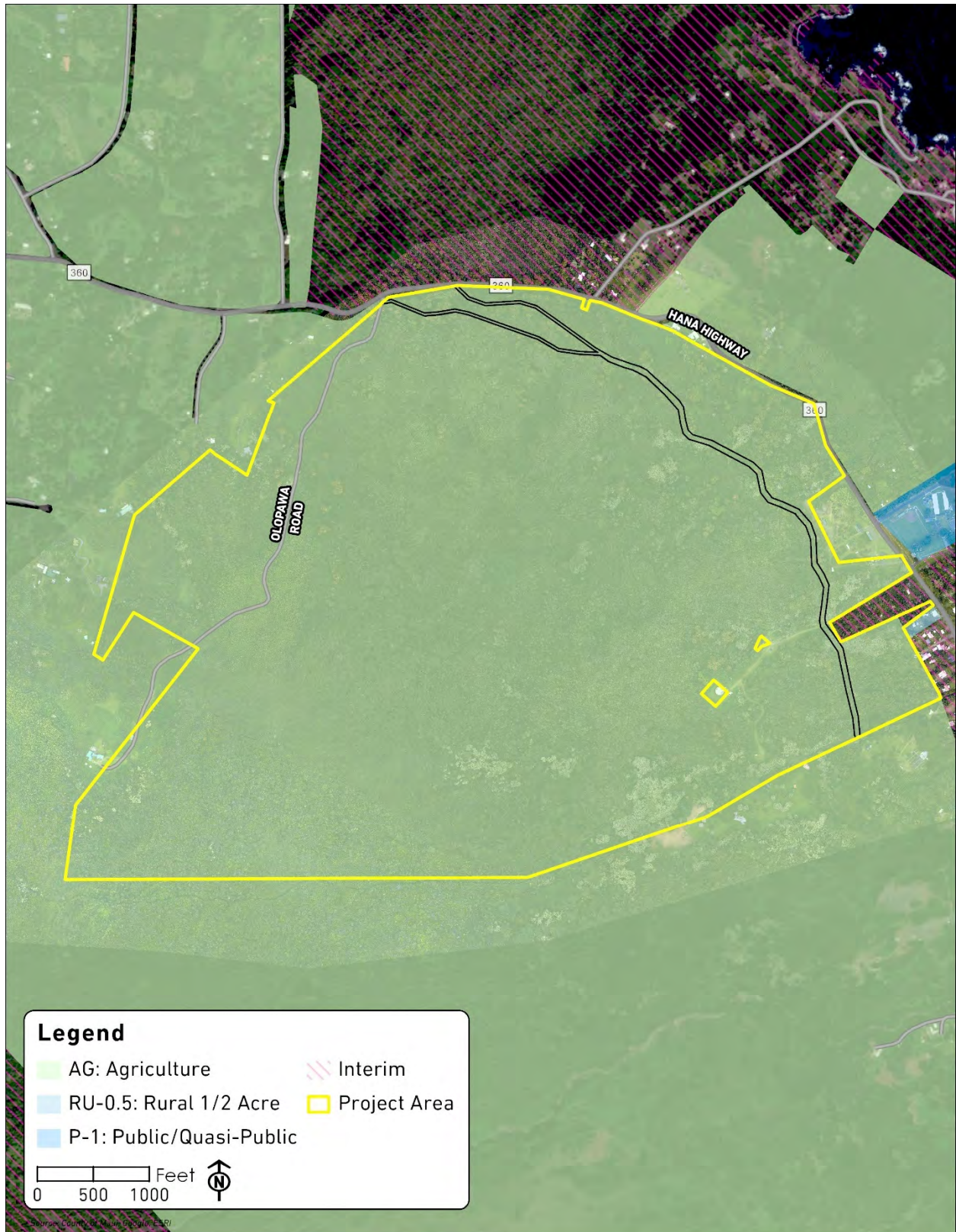


Figure 3: State Land Use District Map

3. ACCESS & ROADWAYS

3.1 Existing Access & Roadways

Access to the project site is available via Hana Highway (public) and Olopawa Road (private). Hana Highway Route 360 is a narrow and winding portion of Hana Highway, which is owned and maintained by the Hawaii Department of Transportation (HDOT). The highway is a two-lane asphalt concrete road, 28-foot-wide in total, with 10-foot-wide travel lanes in each direction and 4-foot-wide shoulders on each side. Most segments of the highway lack curbs, sidewalks, and turning lanes.

Olopawa Road serves as the main entrance to the project site and also provides access to a few neighboring residential dwellings located mauka of the project site. Olopawa Road is a dirt road which ends at quarry sites which appear to have stopped. A swing gated entrance provides access to Parcel 18, which bisects the project site. This road is approximately 10 foot-wide and paved with asphalt concrete, though its condition is poor and partially deteriorated. Both existing roads are partially obstructed by overgrown vegetation but remain accessible.

Further east of the Olopawa Road entry, a dirt road provides access from the highway to Maui Department Water Supply (DWS) owned wells and a tank within the project site.

3.2 Proposed Access & Roadways

Three access points will serve as the main entryways to the project site. There will be new intersections provided for those access points, which will require a permit to work within the public right-of-way. There may be smaller driveway aprons for individual property along the highway for commercial, school, park, kupuna housing, and industrial lots.

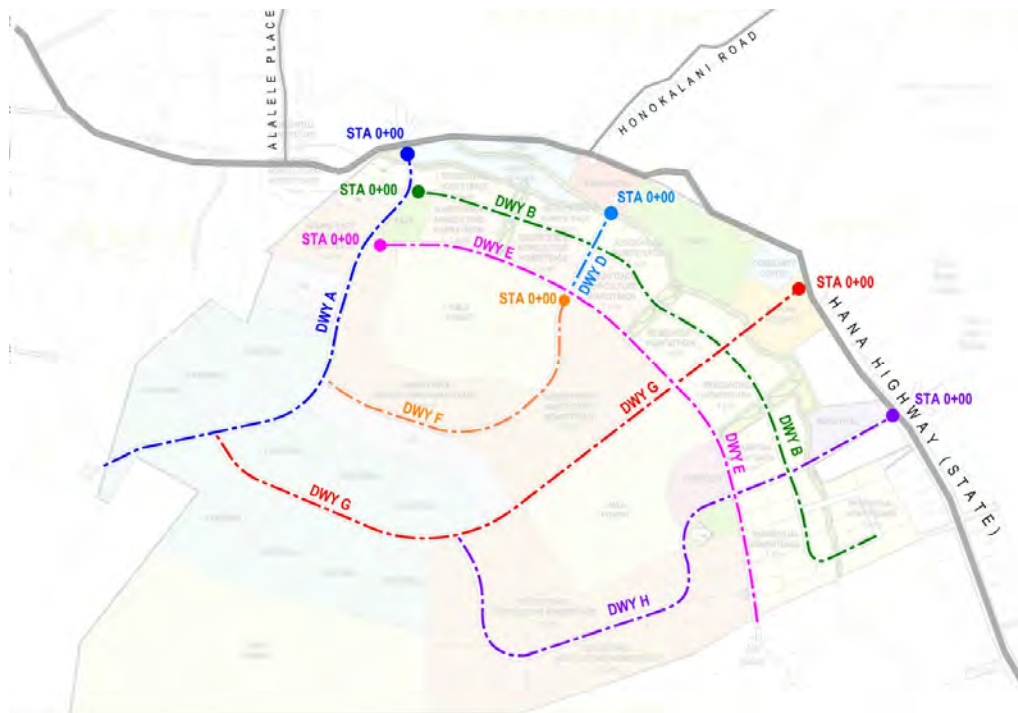


Figure 4: Concept Roadways (see Appendix B for roadway profiles)

The roads connecting to the public right-of-way will need to comply with the Land Use Ordinance (LUO), County Subdivision Ordinance, and Maui County Fire Department (MFD) requirements outlined in ASSHTO Green Book guidelines for road design, layout dimension, and provisions for a turnaround area. Concept roadway profiles are provided in Appendix B to evaluate topography and roadway slopes.

Makai roads will meet the county standards for subdivision roads to provide accessibility and proper design for residential and other land uses. Mauka of the proposed residential land use, roadways will be constructed specifically for fire access as required by the MFD standards. The following criteria must be met to ensure adequate fire access:

Road width	Unobstructed 20 feet
Road vertical clearance	Unobstructed 13.5 feet
Surface	Capable of supporting 73,000 lbs and constructed with all-weather material
Turning Radius	42 feet minimum on outside front wheel. 28.4 feet minimum on inside rear wheel (unless otherwise specified MFD)
Dead Ends	Provide adequate turnaround (cul-de-sac or hammerhead)
Maximum access driveway slope	19%

The site will feature rural roadways consisting of two-laned paved roads with roadside swales without curbs, gutters or sidewalks. In accordance with the County Standard Detail for rural areas, the pavement width will range from 20 to 22 feet with a right-of-way width of 40 feet. Typical roadway cross-sections for makai and mauka conditions are shown below.

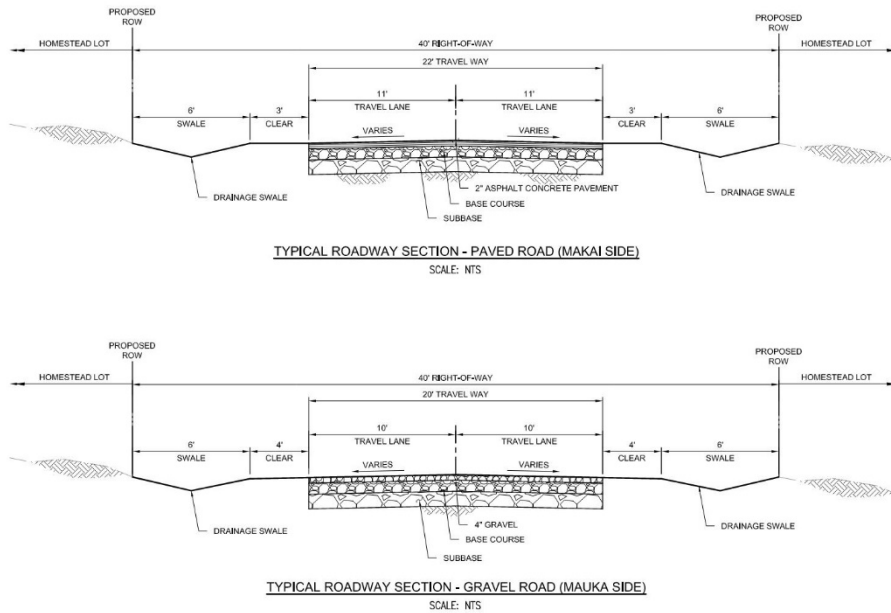


Figure 5: Typical Roadway Sections

3.3 Recommended Improvements

A Transportation Assessment Report was developed by Fehr & Peers in November 2024 which included estimated project traffic estimates, potential impacts and recommended improvements. A summary of the recommended improvements include:

- New shared use path** Construct a shared use path along the entire project frontage along Hana Highway within DOT ROW
- Onsite ADA-compliant pedestrian space** Interior streets should have a dedicated and ADA-compliant space for pedestrians on at least one side of the roadway shared by bicyclists
- New intersections** New intersections are recommended at the connection of the project parcel to Hana Highway that is shared with the Hana High and Elementary School driveway, and another intersection that aligns the proposed charter school with Honokalani Street. All new project public street intersections should be considered as roundabouts.

4. WATER INFRASTRUCTURE

4.1 Existing Domestic Water System

Maui DWS infrastructure serving Hana consists of three wells, well pumps and a 0.5 MG storage tank. They are located at an elevation of 325 feet southeast of the property. A 12-inch ductile iron water line runs from the pump station to a 12-inch water main located along Hana Highway. The main supplies a fire hydrant located near Hana high school and transitions to a 6-inch water main near the high school as it continues to the west along the highway and terminates near the intersection with Honokalani Road (see figure 6). There is no existing meter or lateral connection serving the project site as there is no current land use.

According to the Department of Land and Natural Resources (DLNR) Commission on Water Resource Management (CWRM), three county-owned wells (No. 6-4600-002, 003 and 004) are near each other within the project stie. The following table provides a summary of the three county-owned wells.

Well Number	6-4600-002	6-4600-003	6-4600-004
Name	Waiuku A	Waiuku B	Waiuku C
Location	1-3-004:007 (east from well 003)	1-3-004:007 (pump station)	1-3-004:012
Owner	Maui DWS	Maui DWS	Maui DWS
Year Drilled	1972	1976	2013
Use	UNU	MUNCO	MUNCO
Ground Elevation	266 ft	306 ft	291 ft
Well Depth	288 ft	323 ft	308 ft
Pump Capacity	None	250 gpm	350 gpm

The water needs of DHHL are given high priority under the Hawai'i State Constitution and the Water Code, with CWRM establishing water reservations in accordance with HRS 174C-40(d). These reservations are deducted from the available sustainable yields and designated for DHHL use. The project site falls within

the Kawaipapa aquifer system, which was allocated 0.118 MGD in DHHL water reservations as of September 2018.



Figure 6: Water Resources Map

As of December 2022, the pumping allocation for the Kawaipapa aquifer system was 0.52 MGD, resulting in a combined pumpage and reservation total of 0.638 MGD. Considering that the CWRM-established sustainable yield for the Kawaipapa aquifer system is 31 MGD, this combined usage has minimal impact on overall water availability within the region.

Recognizing the need to protect drinking water sources, Maui County has created a zoning overlay district known as the well head protection overlay district (County Ordinance 19.61). This district is intended to protect the public’s health and safety to minimize risks of contamination of aquifers. The wellhead protection overlay district zones are designated as follows:

Zone A	50-ft direct chemical contamination zone. Defined as a fixed 50-ft radius around each well. The purpose of this zone is to provide protection from vandalism, tampering, or other threats to a well site
Zone B	Indirect microbial contamination zone. Zone B consists of the surface and subsurface area overlying the portion of an aquifer that contributes water to the well within two years.
Zone C	Indirect chemical contamination zone. Zone C consists of the surface and subsurface area overlying the portion of an aquifer that contributes water to the well within 10 years.

For each zone Maui County has laid out regulations which include certain land uses that would be prohibited or require a wellhead protection permit, as well as best management practices for uses in Zones B and C.

	Permitted Uses	Prohibited Uses
Zone A¹	Public utilities & facilities	--
Zone B	Commercial auto body and repair shops; car washes; cement or concrete plants; fueling stations; fleet, trucking or bus terminals; use of pesticides; commercial machine shops; commercial wood treatment facilities; animal feeding operations; commercial equipment maintenance areas; hospitals; paved or unpaved parking lots with more than 20 spaces; waste or recycling stations; collection, handling, manufacture, use, storage, or disposal of more than 55 gallons of petroleum products; subdivisions that create four or more developable lots	Commercial electrical or manufacturing facilities that utilize a regulated substances; mortuaries or graveyards; golf courses; commercial metal plating; commercial chemical processing; commercial plastics; commercial junk, scrap or salvage yards; landfills or dumps; injection wells, dry wells, or sumps on non-residential properties; irrigation with reclaimed wastewater classes R-2 and R-3; sewage sludge land applications; commercial slaughterhouses; wastewater percolation ponds
Zone C	Commercial auto body and repair shops; fueling stations; fleet, trucking or bus terminals; dry cleaners; golf courses; commercial machine shops; commercial wood treatment facilities; animal feeding operations; commercial equipment maintenance areas; handling, manufacture, use, storage, or disposal of more than 55 gallons of petroleum products; subdivisions that create four or more developable lots	Commercial electrical or manufacturing facilities that utilize a regulated substances; commercial metal plating; commercial chemical processing; commercial plastics; commercial junk, scrap or salvage yards; landfills or dumps; injection wells, dry wells, or sumps on non-residential properties; wastewater percolation ponds

¹ No wellhead protection permits may be issued for parcels within Zone A (19.61.050)

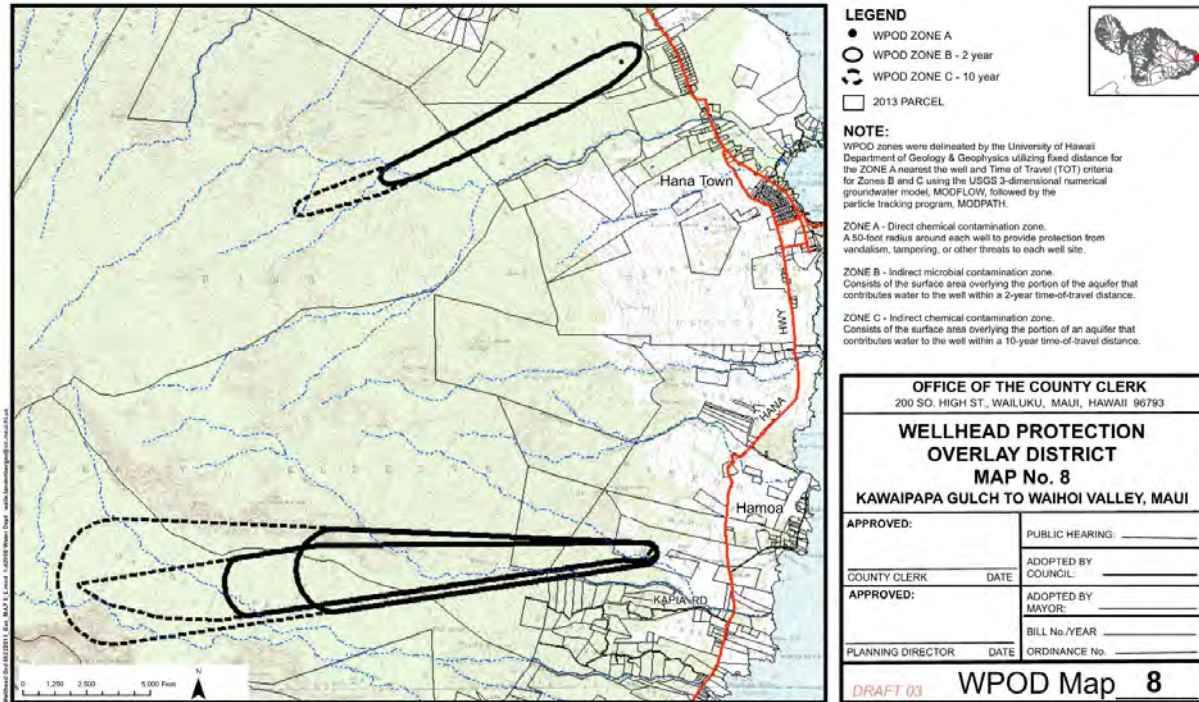


Figure 7: Wellhead Protection Map with Project Area Identified (Markings Added)

4.2 Proposed Domestic Water Systems

Water demand is typically estimated using the procedures outlines in Section 111 of the Maui DWS *Water System Standards* (2002). The project is under the jurisdiction of DHHL land use jurisdiction and adheres to the water rates established by the *State Water Projects Plan Update* by DHHL (May 2017), as shown in the table below.

Land Use	Potable	Non-Potable
Residential	600 gal/unit	None
Subsistence Ag	600 gal/unit	3,400 gal/acre
Pastoral	600 gal/unit	20 gal/acre
General Ag	None	3,400 gal/acre
Community Use	1,700 gal/acre or 60 gal/student	None
Conservation	None	None
Commercial	3,000 gal/acre or 140 gal/1,000 sf	None
Industrial	6,000 gal/acre	None

Potable water service for the new development will be required to serve both domestic and fire protection water demands, which requires a minimum fire flow of 1,000 gpm for 1 hour at a residual pressure of 20 psi. For larger land uses, DWS will identify additional fire flow requirements if needed.

Design of the site, structures, and fire water supply stems for the project will be compliant with the National Fire Protection Agency (NFPA) 1, Uniform Fire Code, dated 2018 and all additional amendments as a part of the HAR Title 12, Subtitle 7, Chapter 45.2 as well as City and County ROH. DWS standards further require that fire flow be provided via hydrants spaced no more than 350 feet apart along the residential roadways.

As part of HAR §10-3-30 – *Kuleana Homestead Leases*, the provision for potable water is not required for the issuance of a Kuleana homestead lease. For the proposed mauka lots indicated for subsistence agriculture homesteads, pastoral lots, forest, parks, alternative fire protection strategies will be considered. These strategies may include using potable water storage tanks or localized water sources and coordinating with local fire authorities to develop site-specific fire safety plans.

Parcel 11, 17, and a portion of 12 are situated at similar or lower elevation than the existing DWS water tank, allowing for a connection to the DWS system if water pressure and flow are sufficient for portions of these parcels at lower elevations allowing for elevation head to service these lots. A new onsite 8 or 12-inch water main will be installed along the street between the residential and subsistence agricultural homesteads for the makai water system. This main shall be connected to new laterals serving residential, community, commercial and industrial uses, as indicated in Figure 8.

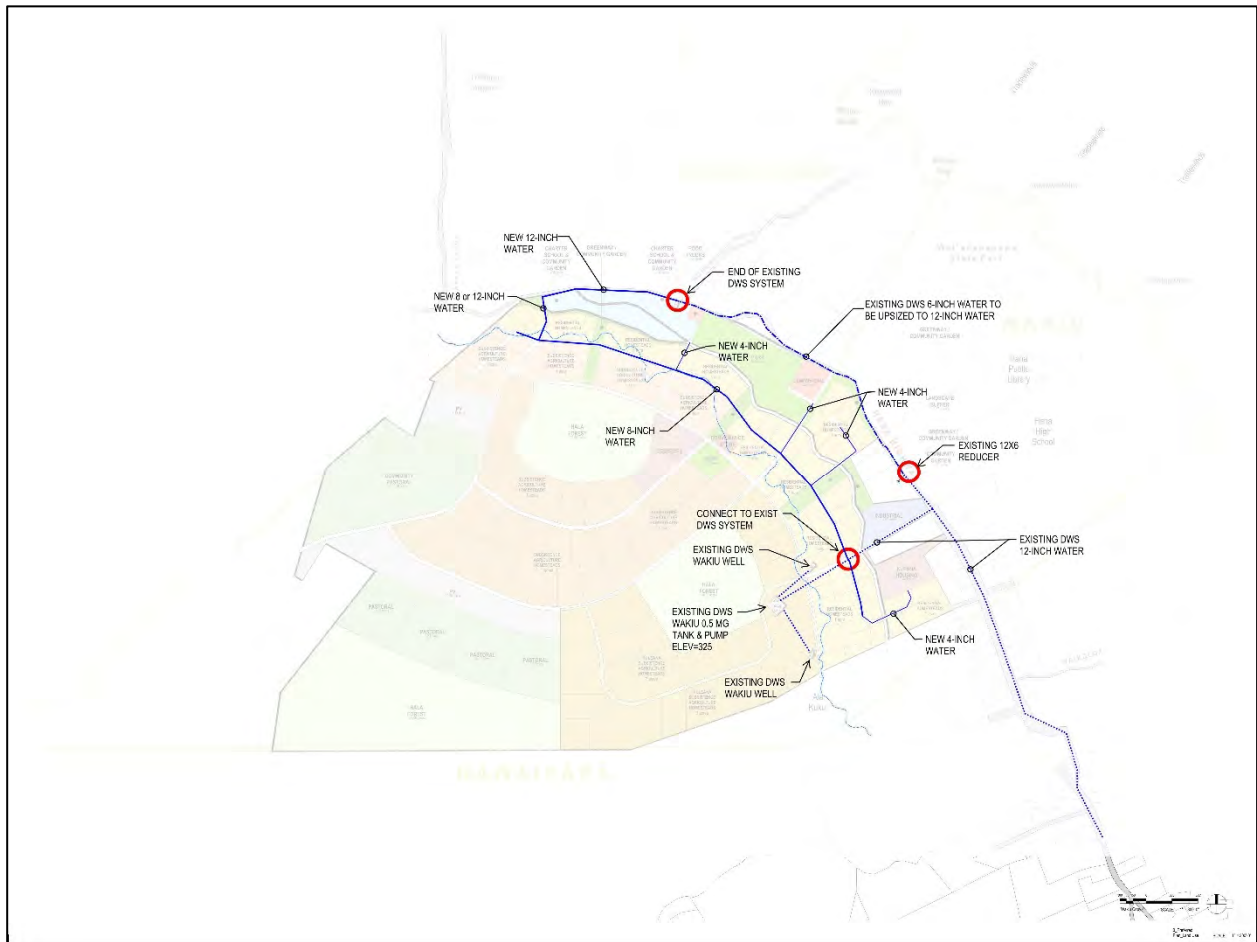


Figure 8: Concept Water Infrastructure Improvements

Assuming the new system serving the residential lots and development adjacent to Hana Highway will be dedicated to DWS as a public system, each lot would be equipped with a DWS-provided meter. Due to the implementation of the new dedicated water system, the department has noted the need for additional field operations personnel to address the increase in daily usage and the maintenance of new pipeline systems. A water master plan will likely be needed to dive into the details of how the new water infrastructure would function with the site and how it connects with the existing system.

The majority of Parcel 12 cannot be served by the existing DWS system due to the lower elevation of the water tank; therefore, water use on this parcel will require an additional onsite booster pump and storage provided at higher elevations.

Based on the current conceptual site plan and separate areas of the project that may or may not be supplied by the current water system, two water demand calculations were estimated for project site, as shown in Table 3 based on the location of the proposed land uses relative to the existing DWS water system. The full details and calculations for the proposed water demand are included in Appendix C.

Table 3: Proposed Potable Water Demand (Not Including Fire Flow)	
Makai Water System¹	
Average Daily Demand	174,000 gallons
Maximum Daily Demand	260,000 gallons
Mauka Land Uses²	
Average Daily Demand	155,000 gallons
Maximum Daily Demand	232,000 gallons

¹Below the existing anticipated workable DWS pressure zone

²Above the existing anticipated workable DWS pressure zone

Initial consultation with DWS confirms that while the existing Waiuku water tank can accommodate the proposed usage rates, the existing system lacks the pressure needed for higher elevations of the development. If future uses at higher elevations require water access, a new mauka storage tank and booster pump will be likely necessary.

5. WASTEWATER INFRASTRUCTURE

5.1 Existing Sanitary Wastewater

There is no existing municipal wastewater collection system serving the project site, and the County has no plans to develop a new regional system for the East Maui region. According to the Department of Health (DOH) records, there is no record of existing cesspool or Individual Wastewater Systems (IWS) within DHHL parcels in the project area as defined under the Hawaii Administrative Rules (HAR) Title 11, Chapter 62. Neighboring parcels are currently served by cesspools or septic tanks.

The majority of the project site is located on the mauka side of the State of Hawaii Underground Injection Control (UIC) line (see figure 7). As a result, there are stricter restrictions governing the use of injection wells and seepage pits for the disposal of treated wastewater effluent under the State of Hawaii UIC rules and regulations.

5.2 Proposed Wastewater

The average daily wastewater flow from both homestead and non-homestead lots is estimated to be approximately 480,000 gallons per day.

Table 4: Domestic Wastewater Flow Projection		
Land Use	Area	Projected Daily Flow
Residential (74 lots)	74 ac	74,000 gpd ¹
Sub-Ag (20 lots)	20	20,000 gpd ¹
Sub-Ag (48 lots)	192 ac	48,000 gpd ¹
Kupuna housing	6.5 ac	87,750 gpd ²
Commercial	2.75 ac	22,500 gpd ²
Convenience Retail	1 ac	7,300 gpd ²
Food Trucks	0.5 ac	--
Industrial	5 ac	81,000 gpd ²
Community Center/School	12.5 ac	57,600 gpd ²
Conservation	138 ac	--
Open Space/Community Garden	10 ac	--
Park	20 ac	81,000 gpd ²
PV	30 ac	--
Cemetery	7.75 ac	--

¹Total wastewater flow into one IWS shall not exceed 1,000 gpd [HAR 11-62-31.1 (a)(1)(D)]

²The total wastewater flow = 90% of Max. Daily Domestic Water Demand.

The treatment and disposal of wastewater are regulated by the State of Hawaii Department of Health under HAR 11-62, which allows IWS or a wastewater treatment plant (WWTP) if required due to flow demands or land use. Each IWS must have a maximum design flow of 1,000 gallons per day and a land area of 10,000 square feet. Multiple IWS may be allowed for large land areas, or a single IWS serve multiple structures if wastewater characteristics are similar. Each lot is 1 acre or greater allowing for the installation of an IWS without triggering the need for a WWTP.

Each IWS is prohibited from being located within 1,000 feet of a public drinking water source. The southeast portion of the project site is situated within the minimum distance from DWS-owned wells on the project site. The minimum horizontal spacing requirement from potable water sources, as per HAR 11-62-32, is outlined below. Lots that are located within 1,000 ft of the existing onsite DWS well will need to apply for a variance with the Department of Health which may require stricter treatment processes for each IWS such as an aerobic treatment unit (ATU).

Table 5: Minimum Horizontal Distance Requirements			
Cesspool	Treatment Unit	Seepage Pit	Soil Absorption System
1,000 ft	500 ft	1,000 ft	1,000 ft

If the DOH requires a WWTP for specific uses due to flow demands, land area, or land use, the effluent disposal system must be designed to accommodate peak flows and include a 100% backup component, as specified in HAR 11-62. The WWTP must be operated and maintained by a certified treatment plant operator, and effluent disposal must conform to monitoring, recordkeeping, and reporting of continuous flow measurements, and overflow requirements.

Treated effluent will meet a minimum of R-1 or R-2 standard, as outlined in the Guidelines for Treatment and Use of Recycled Water, dated January 2016, for potential reuse. R-1 recycled water is typically applied through spray irrigation, while R-2 recycled water is applied through drip irrigation. Recycled water systems cannot be constructed, used or modified without written approval by the Director of DOH.

6. STORM WATER, FLOOD & TSUNAMI HAZARDS

6.1 Existing Storm Drainage, Flood and Tsunami Hazards

The project site is situated between two watersheds: Honomaele Stream to the north and Kawaipapa stream to the south. No watershed or ditch runs across the project site.

Stormwater generally flows towards Hana Highway; however, there are no stormwater infrastructure on the property. Additionally, the portion of Hana Highway adjacent to the project boundary lacks a municipal drainage system, including culverts or bridges. Runoff from the project site sheet flows toward Hana Highway and continues as overland flow onto neighboring parcels and roads downstream. Hana High and Elementary School has a stormwater headwall inlet located along the highway to intercept mauka and roadway runoff, diverting it around the school to help mitigate flooding from runoff generated in the mauka areas.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project site is within Zone X described as “Areas determined to be outside of 0.2% annual chance floodplain.” The flood hazards in this area is designated as Zone X, but the localized flooding is unknown and the project site could be subject to regular flooding depending on the condition and capacity of the existing drainage system.

The project site is located outside of the tsunami evacuation zones.

6.2 Proposed Drainage Systems

The design of the site, roadways, pavements, and open areas should be designed to maximize percolation, reduce impervious surfaces, and mimic existing drainage patterns on site. Peak runoff rates should be managed to remain below pre-development rates by implementing permanent Best Management Practices (BMPs). Proposed improvements for managing peak flows across the site will likely include roadside swales, grassy swales and detention areas with drainage crossings beneath Hana Highway. These features will manage runoff from added impervious surfaces and mitigate any adverse downstream impact as runoff currently overland flows toward Hana Highway and neighboring parcels including Hana Elementary and High School.

As the site exceeds 1 acre, the project will be subject to Rules for the Design of Storm Water Treatment Best Management Practices in Title MC-15. Low Impact Development (LID) features will be required at individual lots to provide water quality treatment, reduce erosion, and remove pollutants from stormwater discharges. Grass swales will be constructed along roadways within the project site.

Drainage improvements will be required to comply with Rules for the Design of Storm Drainage Facilities in the County of Maui and to ensure proper runoff conveyance and mitigate potential flood hazards. Since the site is over 100 acres, hydrologic calculations will follow the Natural Resources Conservation Service (NRCS) Method. Additional hydraulic analysis to establish flood hazards including a floodplain analysis will be required to evaluate the existing runoff patterns within the project site and requirements for the proposed drainage system improvements. A summary of the projected runoff flow rates are provided in the table below.

Table 6: Projected Runoff Flows (NRCS SCS Method)			
Condition	CN	Area	Q100
Existing-Offsite	55	110 ac	473 CFS
Existing-Onsite	55	668 ac	2,714 CFS
Existing Sub-total	--	778 ac	3,187 CFS
Proposed-Onsite	66	668 ac	3,208 CFS
Proposed Sub-Total	--	778 ac	3,681 CFS

7. GAS

The project site does not have a piped gas service. If gas is required, especially for industrial or commercial uses, it will be provided by Hawaii Gas or other vendors via individual tanks.

8. ELECTRIC

The electrical service for the site will require coordination with Maui Electric Company (MECO). A service requirement must be submitted during the design phase to assess the available infrastructure along Hana Highway. Depending on the project's demands, the existing electrical capacity may need to be augmented to meet the needs of the development.

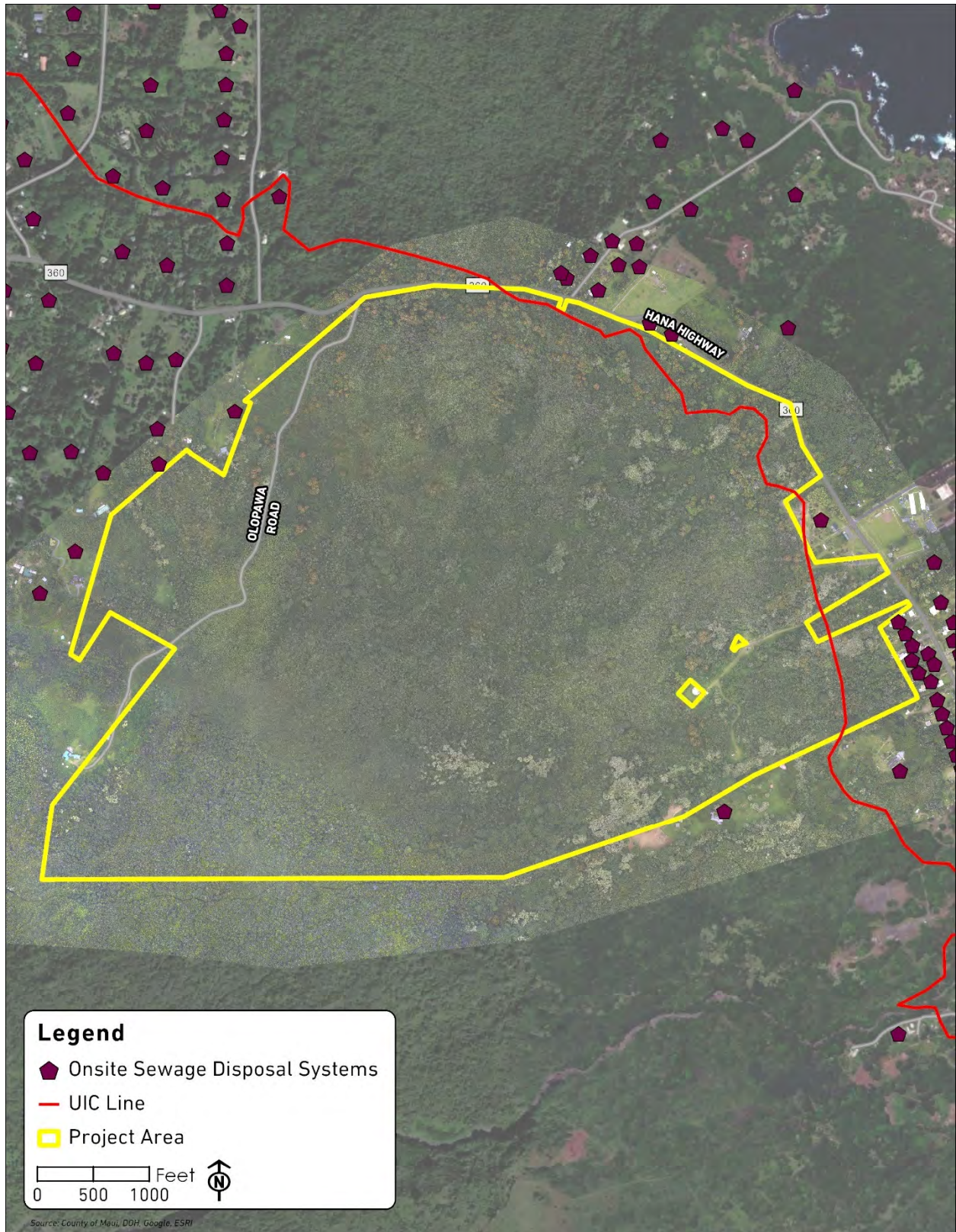


Figure 9: Onsite Wastewater Disposal Map

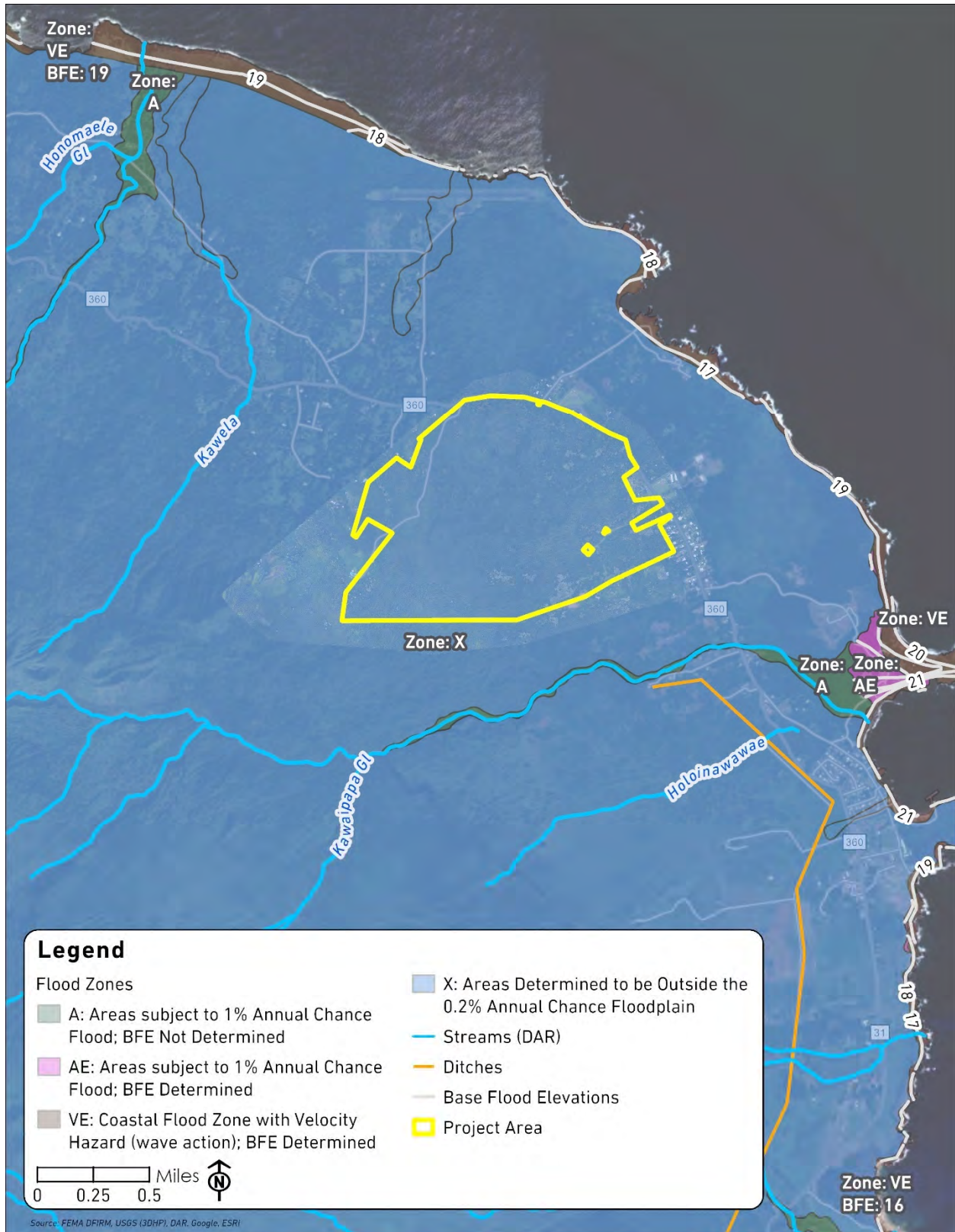
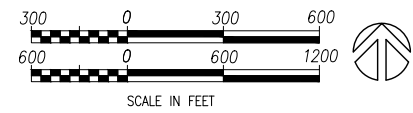
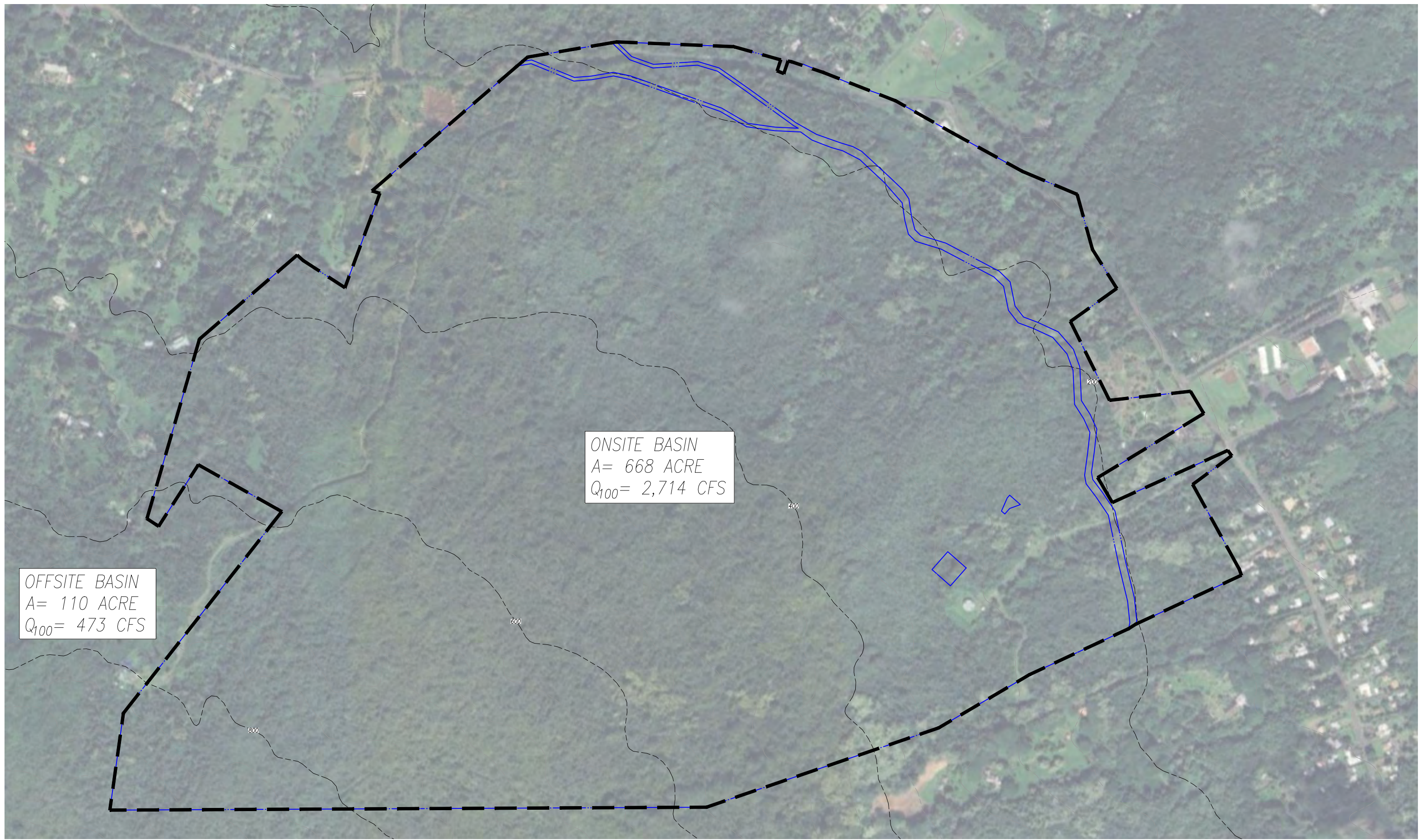
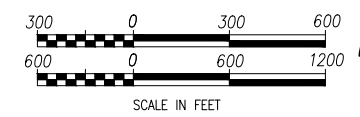
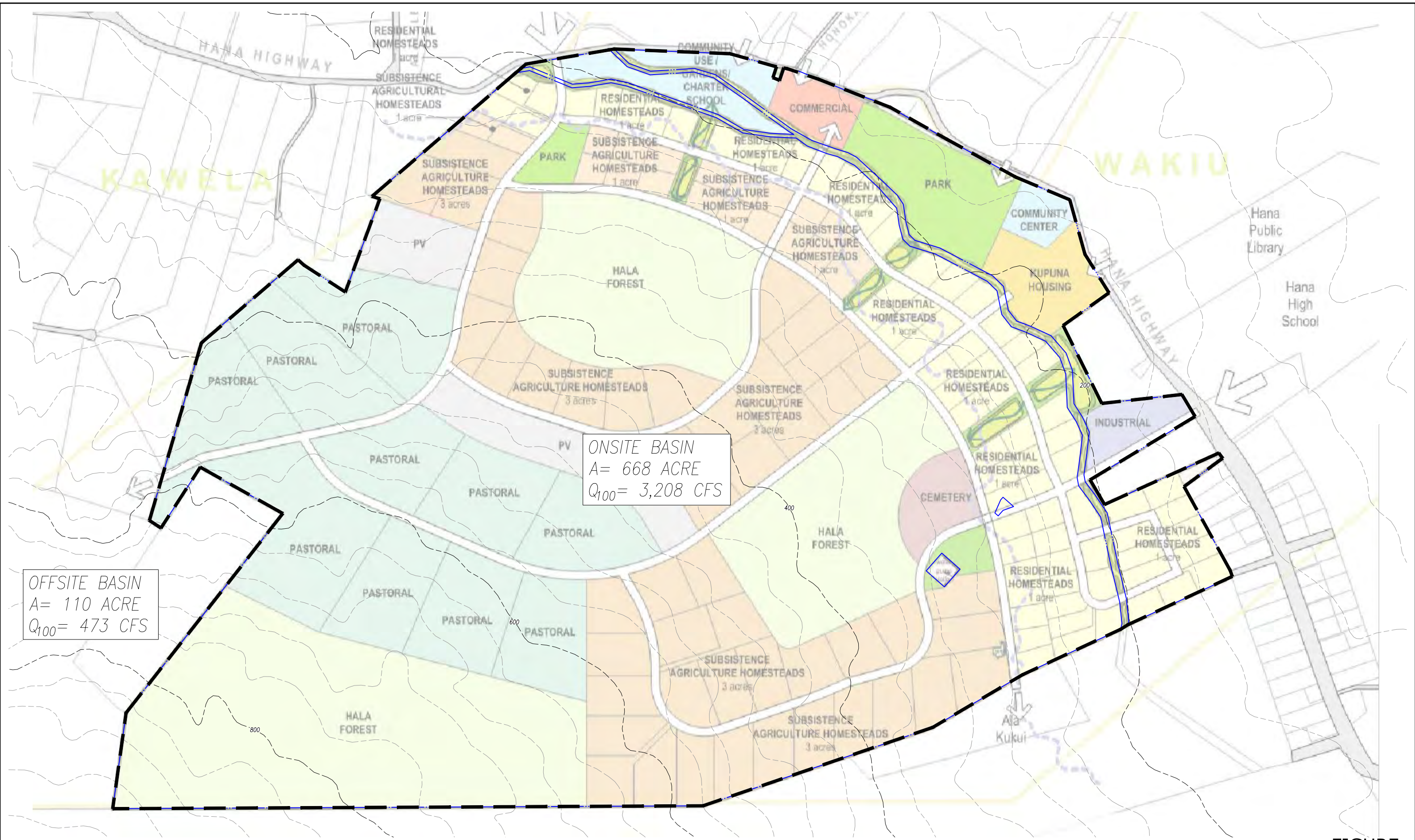


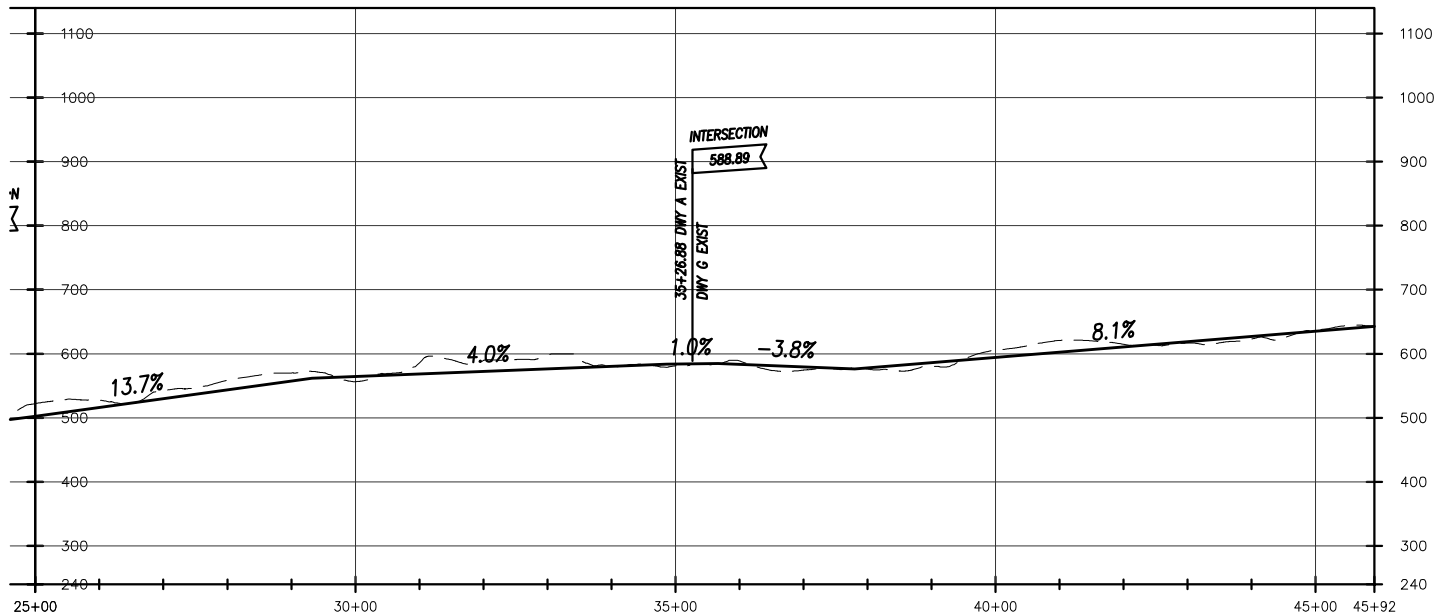
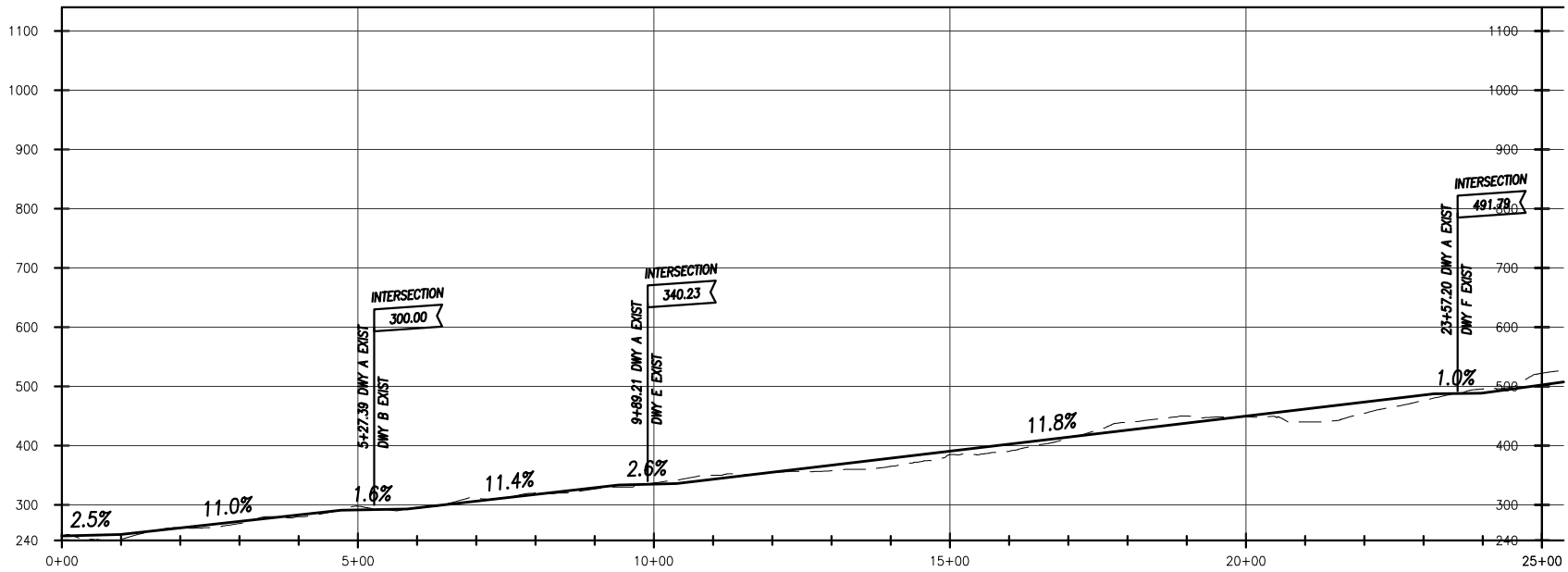
Figure 10: FEMA Flood Map

Appendix A





Appendix B



DWY A ROAD PROFILE

SCALE: 1" = 300'

CONCEPT ROAD PROFILES

FIGURE
FIG

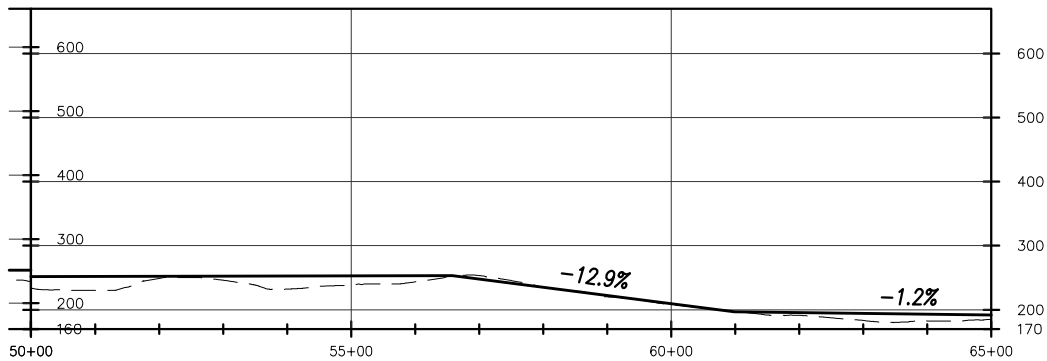
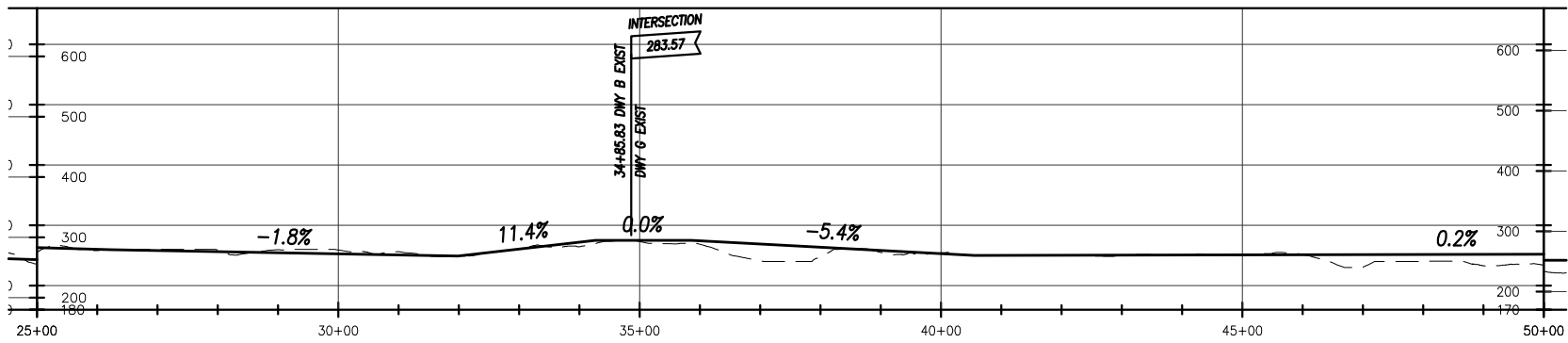
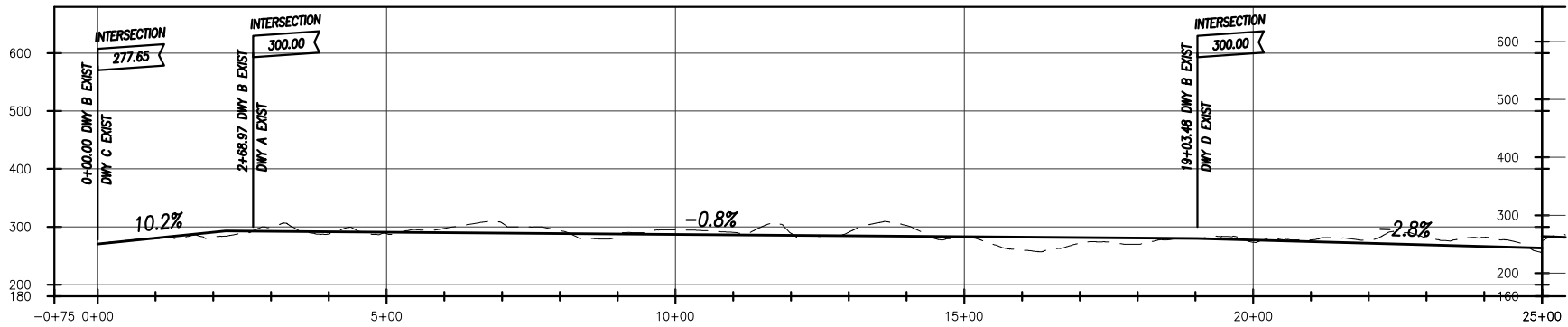


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HONOLULU, HAWAII 96813
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DWY B ROAD PROFILE

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FIGURE



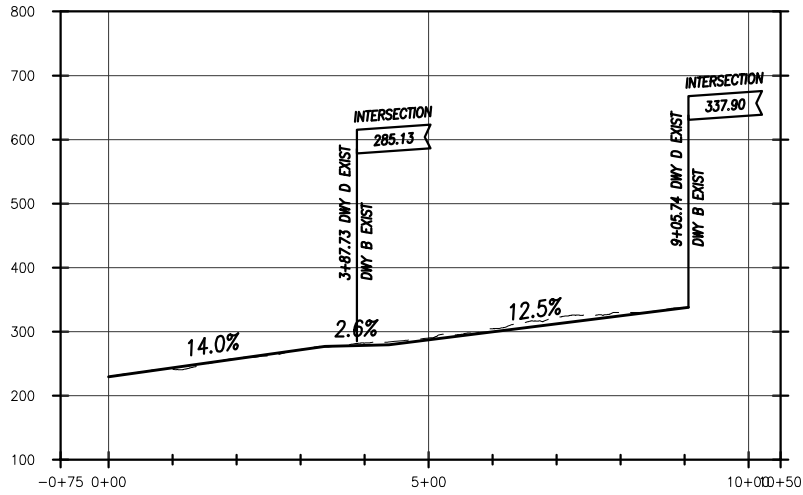
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DWY D ROAD PROFILE

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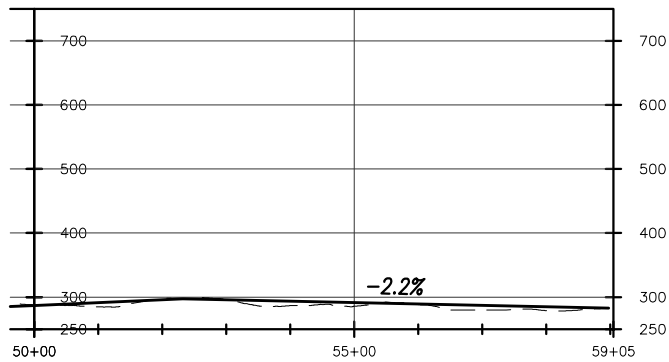
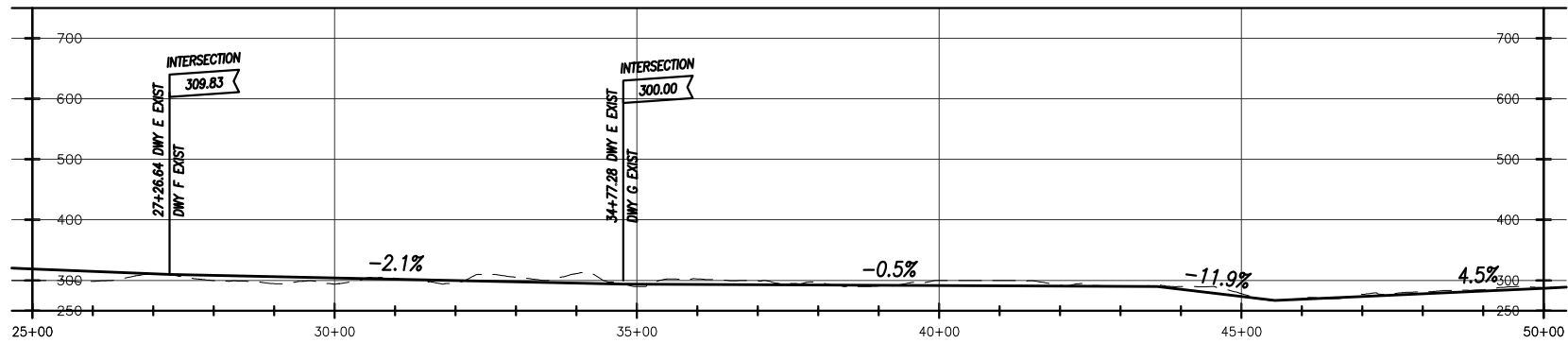
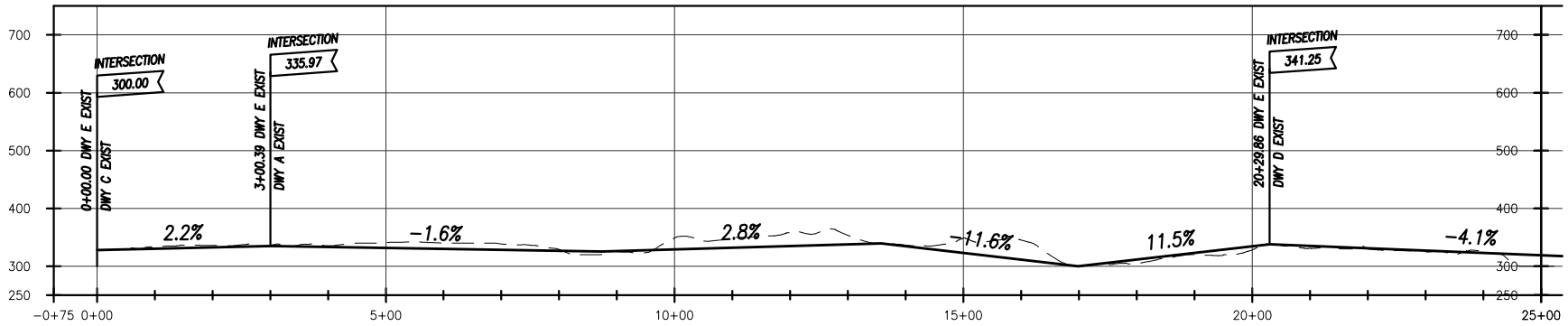
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FIGURE



111 S. KING STREET, SUITE 170
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DWY E ROAD PROFILE

SCALE: 1" = 300'

FIGURE



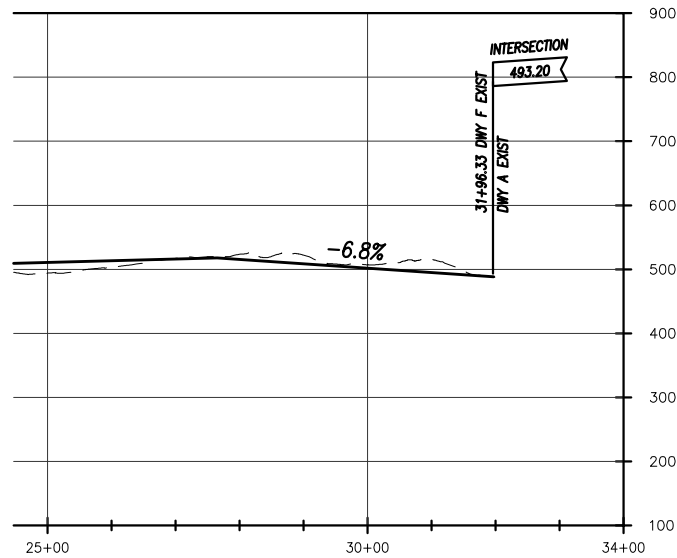
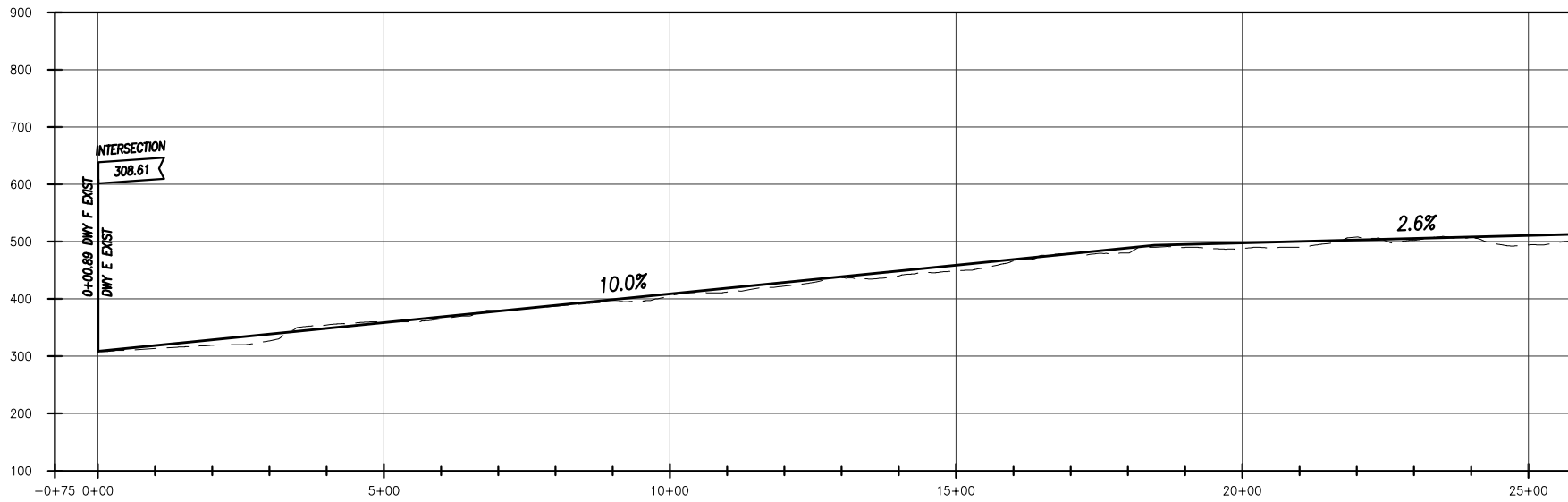
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DWY F ROAD PROFILE

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FIGURE



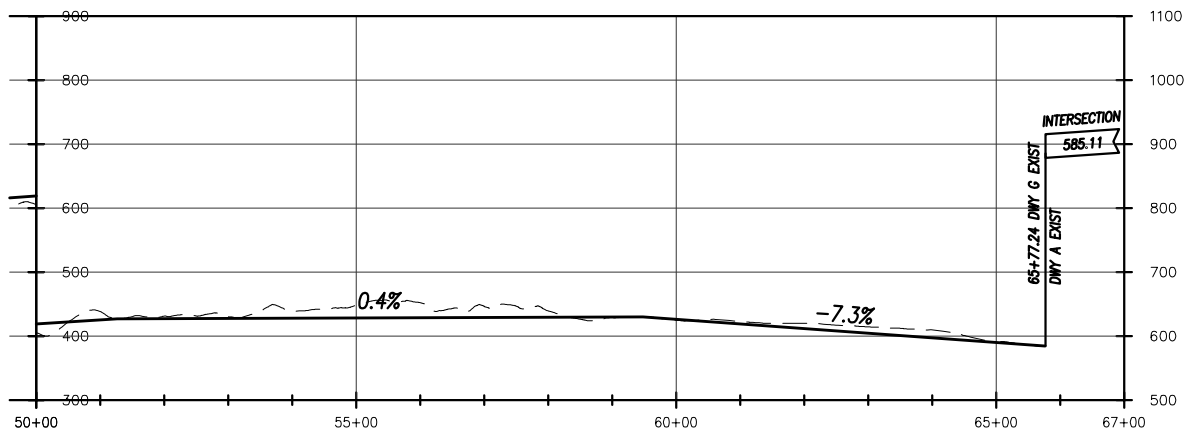
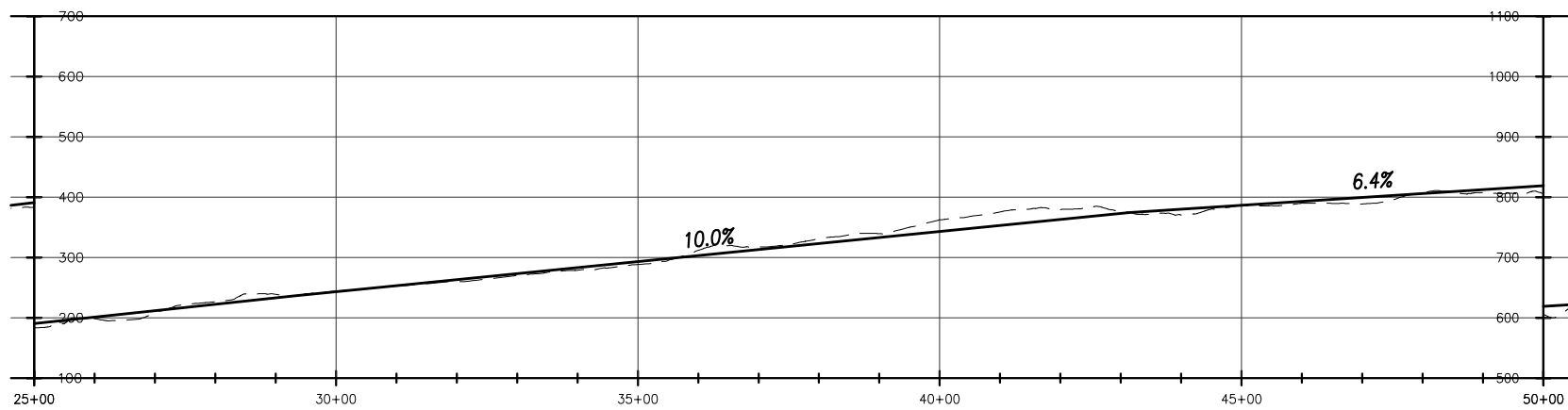
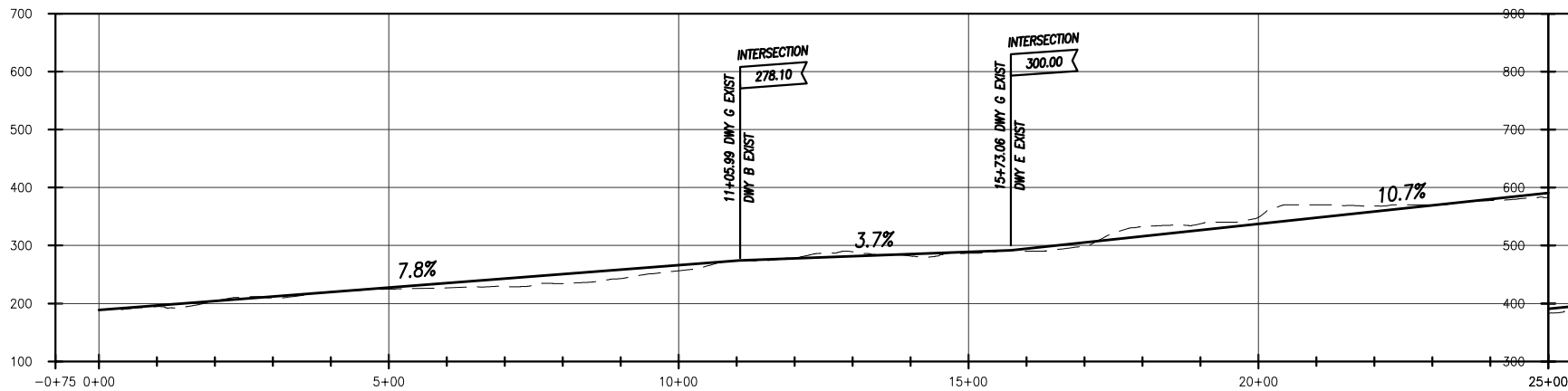
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DWY G ROAD PROFILE

SCALE: 1" = 300'

FIGURE



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HONOLULU, HAWAII 96813
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CONCEPT ROAD PROFILES

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Appendix C

Water Demand for DHHL East Maui Homestead - Within the DWS Zone and may connect to the DWS system

Land Use	Area	Potable											
		Rates		Average Daily Demand		Max Day		Fire Flow		Peak Day			
Residential (Single Family)	One Acre Lot (1 unit per acre)	78	acres	600	gal/unit	46,800	gallons	70,200	gallons	120,000	gallons	140,400	#REF!
	Kupuna Housing	6.5	acres	5,000	gal/day	32,500	gallons	48,750	gallons			97,500	gallons
Community Use (Schools, Neighborhood Businesses, Small Shopping Center)	Parks	17.6	acres	1,700	gal/acre	29,920	gallons	44,880	gallons	240,000	gallons	89,760	gallons
	Charter School & Community Garden	12.56	acres	1,700	gal/acre	21,352	gallons	32,028	gallons			64,056	gallons
Commercial (Small Shopping Center, Neighborhood Businesses)	Food Trucks	0.56	acres	3,000	gal/acre	1,680	gallons	2,520	gallons	240,000	gallons	5,040	gallons
	Commercial (Small Shopping Center)	2.78	acres	3,000	gal/acre	8,340	gallons	12,510	gallons			25,020	gallons
	Convenience Store (Neighborhood Businesses)	0.9	acres	3,000	gal/acre	2,700	gallons	4,050	gallons			8,100	gallons
Industrial (Heavy Industry, Hotels)		5	acres	6,000	gal/acre	30,000	gallons	45,000	gallons	300,000	gallons	90,000	gallons
Sub Total		123.9	acres			173,292	gallons	259,938	gallons			519,876	gallons
Max Day Demand [1]		259,938	gallons										
Maximum Fire Flow Volume [2]		300,000	gallons										
Reservoir Sizing (Max Day + Max Fire Flow) [3]		559,938	gallons										

Water Demand for DHHL East Maui Homestead - Outside the DWS Zone and may not connect to DWS or may need pump and storage

Land Use	Area	Potable										Non Potable							
		Rates		Average Daily Demand		Max Day		Fire Flow		Peak Day		Rates		Average Daily Demand					
Subsistence Agriculture (Agriculture)	Total Subsistence Ag Area	143.84	acres	-	-	-	-	-	-	60,000	gallons	-	-	3,400	gal/acre	489,056	gallons		
	Three Acre Lot (64 units)	64	units	600	gal/unit	38,400	gallons	57,600	gallons			115,200	gallons	-	-	-	-	-	-
	One Acre Lot	32	units	600	gal/unit	19,200	gallons	28,800	gallons			57,600	gallons	-	-	-	-	-	-
	Kuleana	100.53	acres	-	-	-	-	-	-			-	-	3,400	gal/acre	341,802	gallons	-	-
Pastoral (Agriculture)	Community Pastoral	41	acres	-	-	-	-	-	-	60,000	gallons	-	-	20	gal/acre	820	gallons		
	Pastoral Lots (10 acre)	4	units	600	gal/unit	2,400	gallons	3,600	gallons			7,200	gallons	-	-	-	-	-	-
Community Use (Schools, Neighborhood Businesses, Small Shopping)	Parks	2.46	acres	1700	gal/acre	4,182	gallons	6,273	gallons	120,000	gallons	12,546	gallons	-	-	-	-		
	Cementary	7.75	acres	1700	gal/acre	13,175	gallons	19,763	gallons			39,525	gallons	-	-	-	-	-	-
	PV	30	acres	1700	gal/acre	51,000	gallons	76,500	gallons			153,000	gallons	-	-	-	-	-	-
Sub Total		589.6	acres			128,357	gallons	192,536	gallons			385,071	gallons			831,678	gallons		
Max Day Demand [4]		192,536	gallons																
Maximum Fire Flow Volume [5]		120,000	gallons																
Reservoir Sizing (Max Day + Max Fire Flow) [6]		312,536	gallons																
GRAND TOTAL		713.5	acres																
Max Day Demand [1 + 4]		452,474	gallons																
Reservoir Sizing [3 + 6]		872,474	gallons																

Notes:

Calculations are based off of Table 17-21 DHHL Land Use, Water Standards for Maui from the Maui Island Water Use and Development Plan dated March 2019

Fire Flow Calculations are based off of Table 100-19 - Fire Flow Requirements

Appendix C

Transportation Assessment Report

Department of Hawaiian Home Lands (DHHL)

Wākiu Master Plan

Transportation Assessment Report

DRAFT

Prepared for:

Group 70 International Inc.

November 7, 2024

FEHR  PEERS

SD23-0465

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DRAFT

1. Executive Summary

This Transportation Assessment Report presents the results of the mobility study by Fehr & Peers for the proposed development of the Wākiu Master Plan, a mixed-use project proposed by the Department of Hawaiian Homelands (DHHL) located near the community of Hana on the east side of the island of Maui. This report guides project development by providing input on recommended transportation infrastructure (e.g., roadways) and multi-modal facilities to enhance access to the site. The report was prepared per the typical requirements and guidelines of the County of Maui and the State of Hawaii Department of Transportation Highways Division (HDOT), both of which have jurisdiction over intersections and street segments in the study area.

The proposed project site is a 656-acre development comprised of parcels: TMK (2) 1-3-004:011, 012, 017, all located on the mauka side of Hana Highway generally between Olopawa Road (east of Alaele Place) and the southern driveway serving Hana High and Elementary School. The project is anticipated to include a mix of residential, pastoral, and subsistence agriculture homesteads, as well as supporting amenities and uses that include a charter school, commercial, industrial, convenience store, food trucks, solar, community center, parks/greenway spaces, and a community garden.

Based on the trip generation analysis (Provided in Section 5.1), the project is estimated to generate approximately 3,233 net new daily trips, 518 net new AM peak hour trips (273 inbound/245 outbound), and 343 net new PM peak hour trips (160 inbound/183 outbound). The project site will be served by three main collector streets that connect to a number of internal/local roadways within the site. Based on the estimated trip distribution and analysis provided in Section 0, each new collector street is estimated to serve a combined total (i.e., inbound plus outbound) of between 65 to 147 trips during each peak hour. Overall, the new housing and employment opportunities, as well as the provision of new community-serving uses (e.g., playfields and stores/eating establishments), are expected to minimize the number of new external trips that would be made to the rest of the island.

Because of the existing relatively low volume of fewer than <2,000 vehicles per day on Hana Highway that will primarily serve the site, the addition of the project is not anticipated to result in any significant traffic capacity impacts in the East Maui area near the project site. While a greater number of vehicles will be turning onto and off the highway at select locations, capacity is available to accommodate this demand, and no significant traffic operations are anticipated. As such, this transportation assessment addresses the redevelopment of the proposed site in the master plan area by focusing on multimodal traffic, site access, and traffic safety near each collector street intersection. Section 6 of the report describes the recommended improvements.



2. Introduction

This Transportation Assessment Report presents the results of the mobility study by Fehr & Peers for the proposed development of the Wākiu Master Plan, a mixed-use project proposed by the Department of Hawaiian Homelands (DHHL) located near the community of Hana on the east side of the island of Maui. This report guides project development by providing input on recommended transportation infrastructure (e.g., roadways) and multi-modal facilities to enhance access to the site. The report was prepared per the typical requirements and guidelines of the County of Maui and the State of Hawaii Department of Transportation Highways Division (HDOT), both of which have jurisdiction over intersections and street segments in the study area.

The report was prepared per the requirements and guidelines of the County of Maui and the State of Hawaii Department of Transportation Highways Division (HDOT), both of which have jurisdiction over intersections and street segments in the study area.

Section 5 provides an estimated number of trips generated from each land use. Given the number of trips expected to be generated by these uses, as well as the existing low vehicle volume on Hana Highway that will primarily serve this new traffic, the project is not anticipated to result in any traffic capacity impacts in the East Maui area near the project site. As such, the transportation assessment assists with the redevelopment of the proposed parcel in the master plan area by focusing on multimodal activity, site access, and traffic safety along the project site frontage and at key existing and future intersections. This chapter includes a description of the proposed project and study locations reviewed in this report.

2.1 Project Description

The proposed project site is a 656-acre development comprised of parcels: TMK (2) 1-3-004:011, 012, 017, all located on the mauka side of Hana Highway generally between Olopawa Road (east of Alaele Place) and the southern driveway serving Hana High and Elementary School. The project is anticipated to include a mix of residential, pastoral, and subsistence agriculture homesteads, as well as supporting amenities and uses that include a charter school, commercial, industrial, convenience store, food trucks, solar, community center, parks/greenway spaces, and a community garden. The following provides the approximate size for each use:



Homestead Uses:

- Subsistence Agriculture Homestead (96 units)
- Residential Homestead (138 units)
- Pastoral Homesteads (4 units)

Non-Homestead Uses:

- Commercial (3 acres)
- Industrial (5 acres)
- Community Uses (52 acres)
 - Charter School (~300 students)
 - Convenience Store (~2ksf)
 - Food Trucks (~5 trucks)
 - Community Center, Park, Greenway, and Community Gardens
 - Solar (30 acres)
 - Stewardship – Community Pastoral (41 acres)
 - Conservation Lands (137 acres)

Figure 1 illustrates the overall Master Plan study area, and **Figure 2** presents the project site plan.



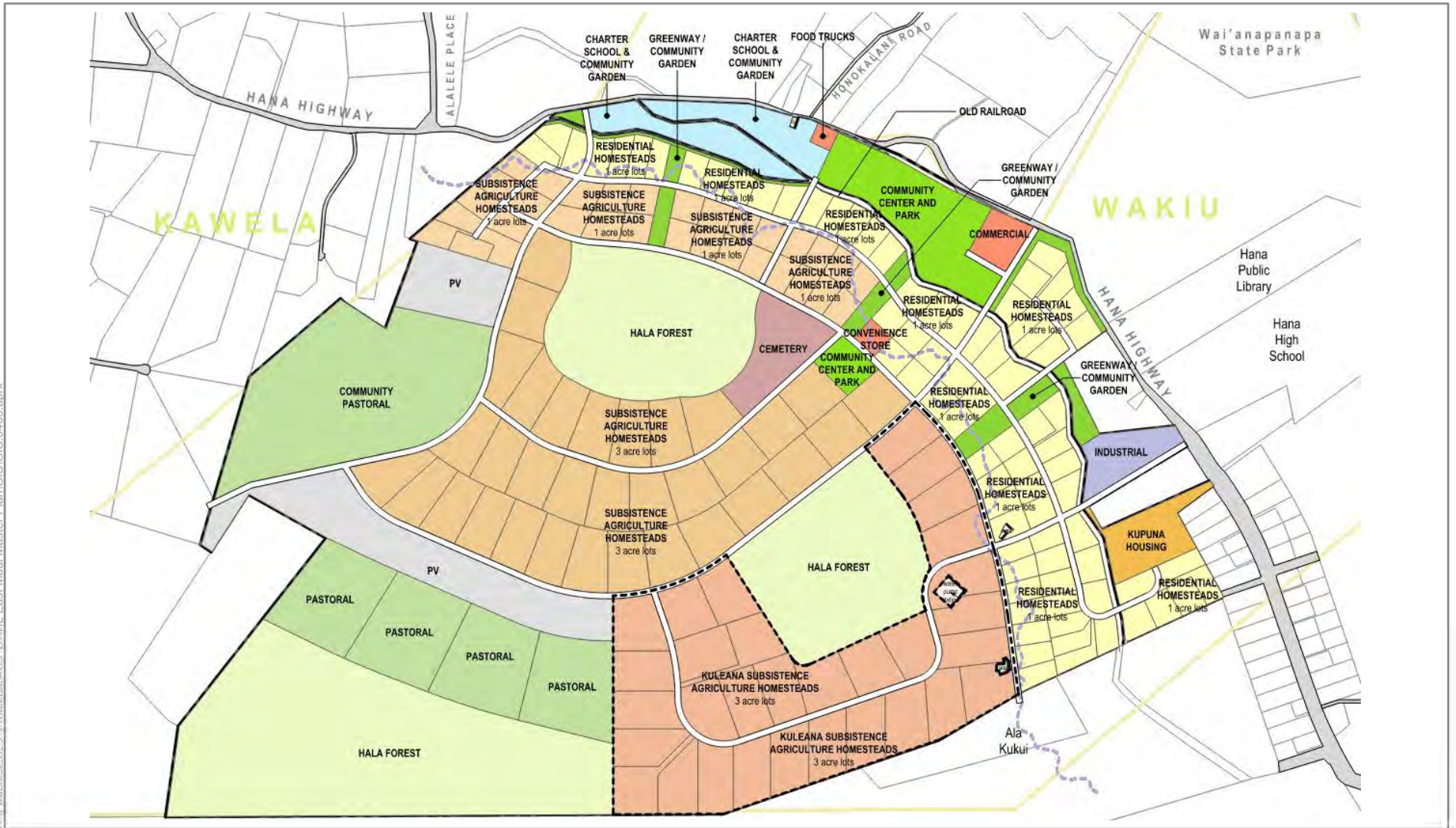


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Figure 1

Wākiu Master Plan Area





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Figure 3

Project Site Plan



2.2 Project Study Area

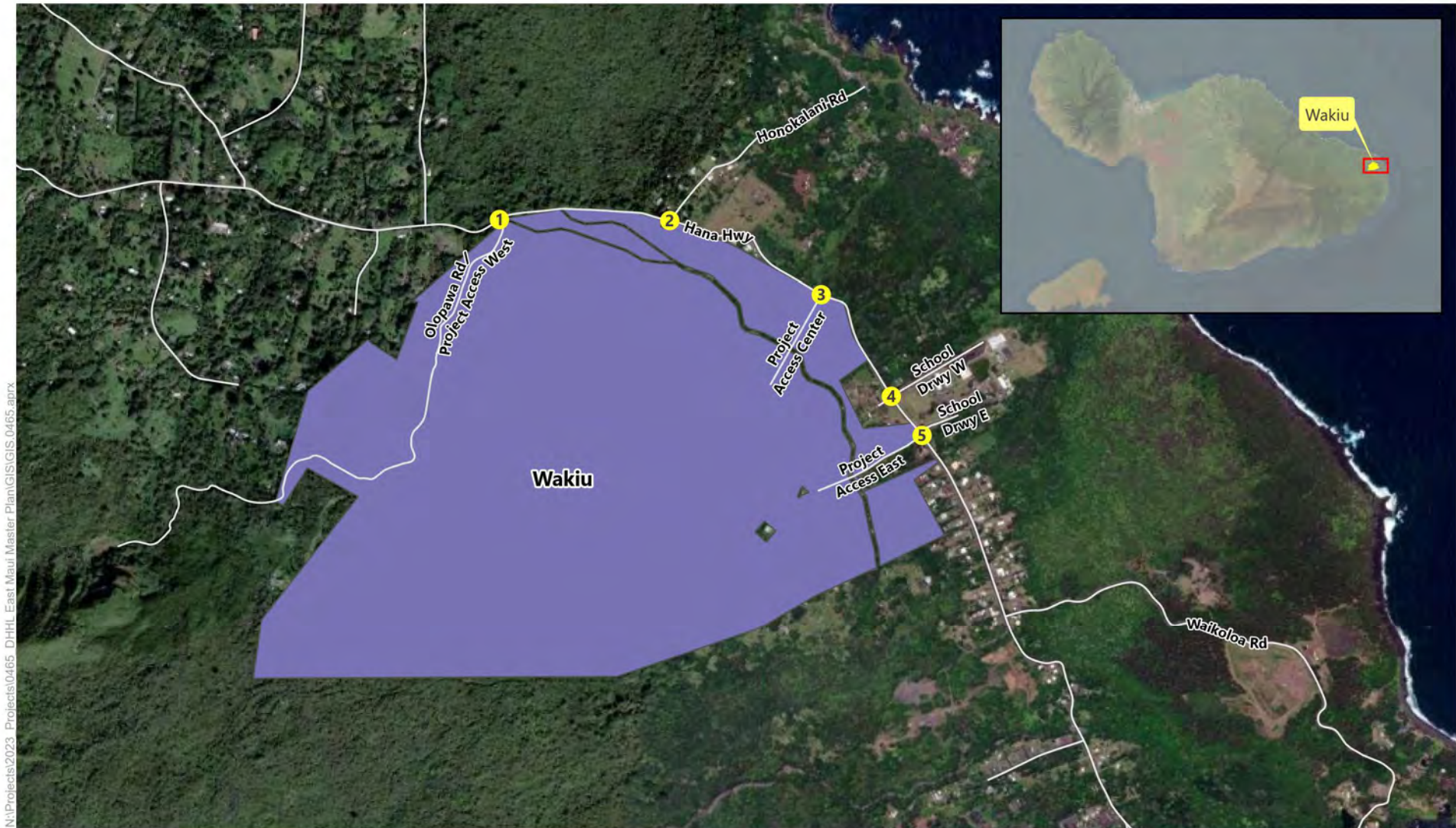
The transportation assessment starts with a review of the existing pedestrian, bicycle, and roadway network facilities. The review is followed by identifying planned improvements, identifying potential impacts, and recommending improvements for each travel mode.

The study area includes the following intersections near each site.

1. Hana Highway / Olopawa Road / Project Access (West)
2. Hana Highway / Honokalani Road
3. Hana Highway / Project Access (Center)
4. Hana Highway / School Driveway 1
5. Hana Highway / School Driveway 2 / Project Access (East)

Figure 3 illustrates the study intersections.





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Figure 3

Study Intersections



3. Existing Conditions

This chapter reviews the study area’s existing transportation network conditions. The assessment of existing conditions relevant to this study establishes the scenario against which the proposed project changes may be compared.

3.1 Existing Pedestrian Network

Pedestrian facilities consist of crosswalks, curb ramps, and pedestrian signals at signalized intersections, as well as sidewalks and walking paths near the study intersections. **Figure 4** illustrates the location of existing formal pedestrian facilities within the study area.

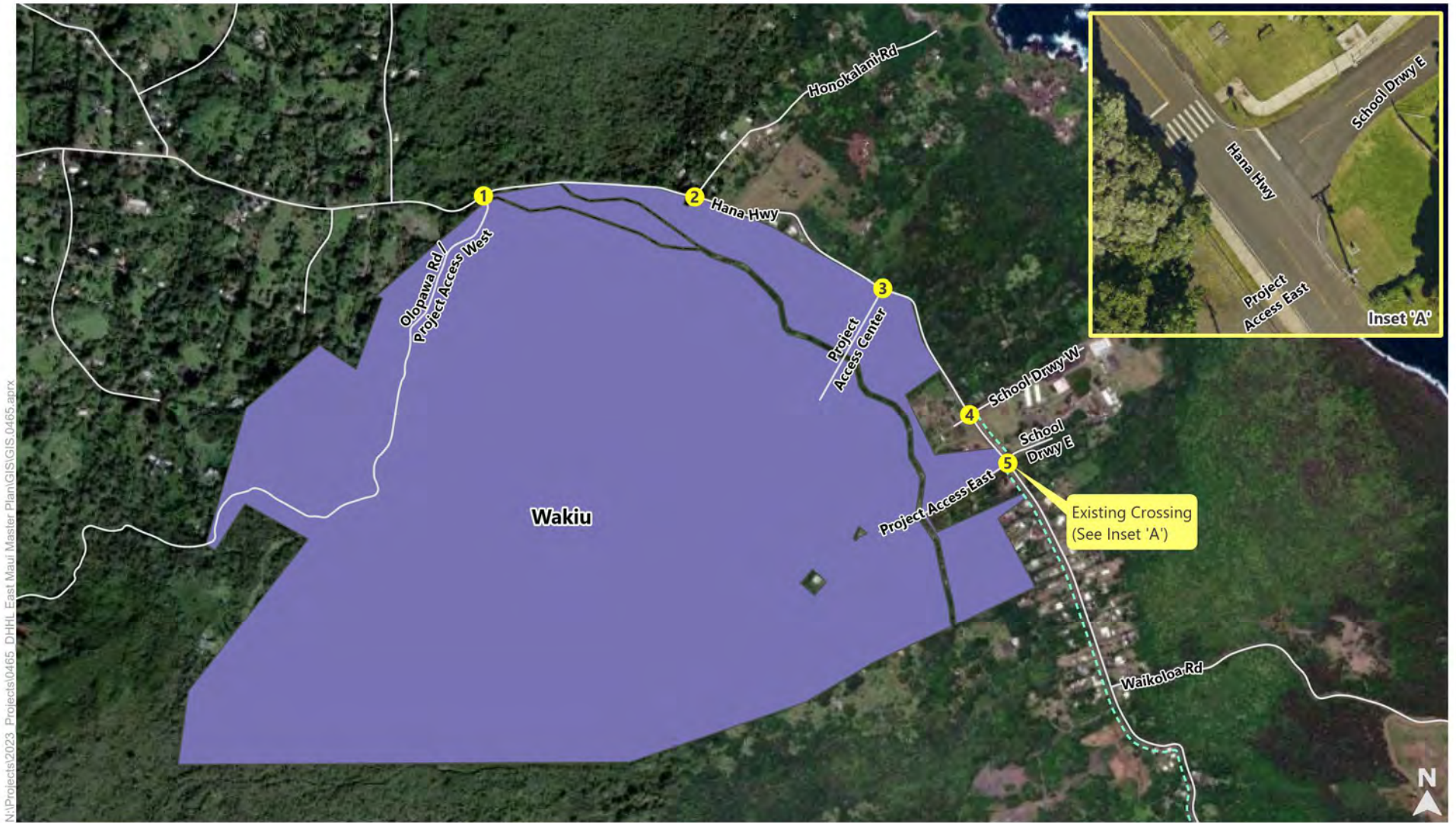
Most of the pedestrian traffic in or adjacent to the study area is associated with Hana High & Elementary School (HHES) students walking to/from the school or pedestrians walking or running along Hana Highway. The section of the road near the project site provides sidewalks on the east side of the road along the school frontage. Pedestrians are then redirected to the opposite side of the road by a crosswalk equipped with a Rectangular Rapid Flashing Beacon (RRFB). The sidewalk extends one (1) mile south to the Police Station. Based on input from community members and the crossing guard present at the school crosswalk, the majority of students are picked up or dropped off at the school site, and between 10 to 15 students use the crosswalk daily. Students have been instructed to use the push button before crossing the intersection.

School Crosswalk (Left) and Sidewalk Cross-Section Adjacent to School Property (Right)



In terms of pedestrian safety, relatively few crashes were reported near the site that involved pedestrians according to data from the Statewide Pedestrian Master Plan (2013) and the Maui Vision Zero Action Plan (March 2021). Based on the most recent data from the HDOT Highway Program Status: Fatal Crashes (as of October 31, 2024), no fatal crashes involving pedestrians were reported near the project study area between 2012 and 2023.





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- Wakiu
- Study Intersections
- Existing Sidewalks

Figure 4

Existing Pedestrian Facility



Community representatives and the crossing guard have reported occasional careless driving or speeding (mainly by non-residents) near the school frontage. More recently, Speed Tables with Advanced Speed Hump Markings were installed near the school zone to moderate vehicle speeds and enhance pedestrian safety.

North Driveway Speed Table (Left) and South Driveway Speed Table (Right)



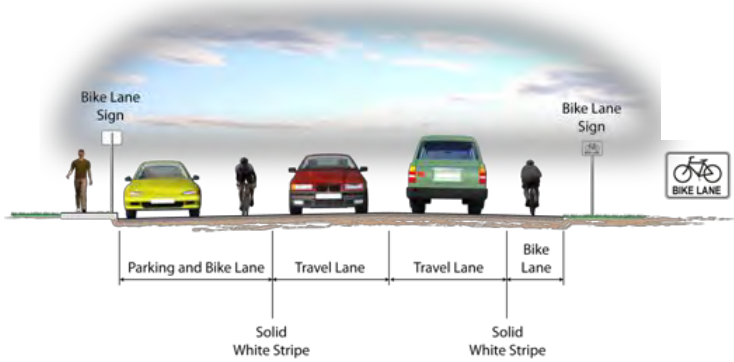
3.2 Existing Bicycle Network

Bicycle facilities generally consist of four types of facilities, which are outlined below:

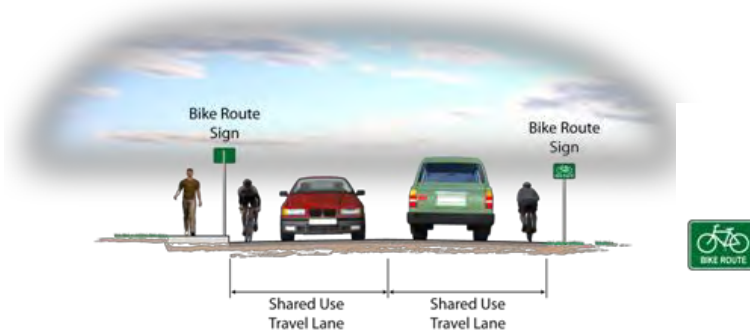
- *Bike or Shared Use Paths* provide a separate right-of-way and are designated for the exclusive use of bicycles and pedestrians (or exclusively bicycles) with the vehicle and pedestrian crossflow minimized. Generally, the recommended pavement width for a two-directional bike or multi-use path is ten (10) feet.



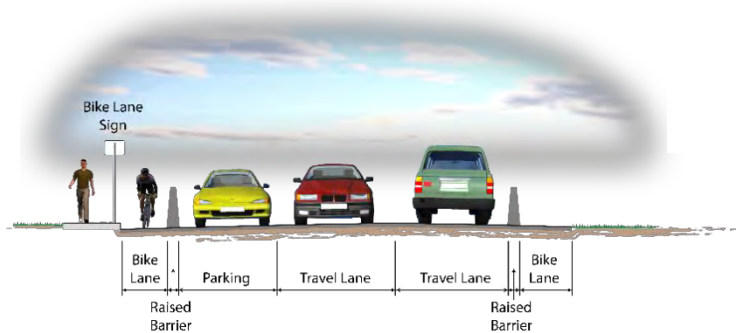
- Bike Lanes provide a restricted right-of-way and are designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five (5) feet wide. Adjacent vehicle parking and vehicle/pedestrian crossflow are permitted.



- Bike Route or Signed Shared Roadways provide for a right-of-way designated by signs or shared lane pavement markings, or "sharrows," for shared use with pedestrians or motor vehicles.



- Separated Bikeways of Cycle Tracks provide a restricted right-of-way with physical separation and are designated for the use of bicycles with a raised barrier such as curbs or bollards. Separated bikeways are generally five (5) feet wide with a three (3) foot minimum horizontal and vertical



- separation area. Adjacent vehicle parking is permitted, and vehicle/pedestrian crossflow is restricted to selected locations (e.g., driveways) indicated by breaks in the barrier and buffer.

Currently, no designated bike facilities are provided along Hana Highway within the study area. Bicycles must share the travel lane with other vehicles or ride on the shoulder where it exists. Based on community input, bicycle activity is negligible along the section of Hana Highway near the school site and along the project site frontage.

3.3 Existing Transit Network

Maui Bus is the main provider of public transportation in the County of Maui. However, no services are provided in East Maui along Hana Highway. Visitors mainly drive a rental car, ride on tour shuttles, or occasionally fly into and out of Hana Airport located northwest of the project site.

3.4 Existing Roadway Conditions

The key roadway serving the master plan area is Hana Highway (aka Route 360). Hana Highway is a two-lane rural highway designated with a major collector functional classification per HDOT's Straight Line Diagrams (as of January 2021). Hana Highway extends from Kahului to Hana with narrow or no shoulders along much of its length adjacent to the project site. Prior to the study area, Hana Highway narrows down to one lane in some locations due to physical constraints where vehicles in each direction must share the road and yield to vehicles traveling in the opposite direction.

Speed limits are at or below 35 mph on straight sections in most locations, and advisory speeds of 15 mph are posted along the curved sections near the site. The majority of traffic, including visitors and tour buses drive to Hana in the eastbound direction in the morning and drive out of Hana or westbound in the



afternoon. Based on the most recent data from the HDOT Highway Program Status: Fatal Crashes through 2023, no fatal crashes were reported near the project study area between 2012 and 2019.

Illegal parking along the only road to Hana has caused numerous safety concerns in the past (HDOT, 2021). In June 2021, HDOT installed “No Parking” signs, under Hawaii Revised Statute 291C-111, reflecting the parking violation fines at several locations on Hana Highway (Route 360) starting at the Waikamoi Stream Bridge at mile marker 10. The signs are installed to reduce the potential for drivers to illegally park on Hana Highway.



Based on our recent observations, compliance with the no parking along Hana Highway has been adequate, however, occasionally vehicles were observed violating the law by parking on the shoulder or the grass area. Additionally, HDOT has installed “Slower Traffic Pullover” signs in several locations to reduce dangerous maneuvers and situations resulting in aggressive driving.

According to HDOT traffic counts, the volume on Hana Highway near the project site varies from approximately 1,000 to less than 2,000 vehicles per day (vpd). While the capacity of a two-lane roadway can vary based on a range of factors such as lane widths, number of controlled intersections, presence of turn lanes, etc., the capacity of Hana Highway near the project site is estimated to be more than 6,000 vpd before delays would become more noticeable. Congestion is prevalent when volumes peak during one or more hours of the day and if larger volumes of traffic are turning on and off the highway.

During observations, occasional queue formations (5 to 7 vehicles) were observed at narrowed-down road sections during the peak hours, especially in the evening when visitors drove back toward Kahului. However, no capacity issues were observed along Hana Highway in the study area including at locations west of Wākiu.

3.5 Existing Intersections Conditions

The following section reviews the existing conditions at the study intersections:

Intersection #1 Hana Highway / Olopawa Road – is an unpaved gated access currently serving as the entrance to the agribusiness lot located on the mauka side of Hana Highway. No pedestrians or vehicles were observed entering/exiting the gate during the site visit.



Olopawa Road Access from Hana Highway



Intersection #2 Hana Highway / Honokalani Road – is a Side Street Stop Controlled (SSSC) intersection located across from the Project Site. The Road provides access to the Wai‘ānapanapa State Park. The road also provides access to a number of residences along Honokalani Road.

More recently, access to the state park has been modified to a reservation base only. The modification was put in place to resolve parking overflow issues reported in the past where overflow demand would occur along Hana Highway or the Honokalani Road shoulder resulting in safety concerns and interference with the operation of through traffic. Based on community input, the new system has been mostly successful in containing the park visitor’s vehicles inside the park area. No operational/capacity issues were observed at this location.



Intersection #4 Hana Highway / School Driveway West

– is an SSSC intersection serving Hana High School. Most of the traffic using the driveway enters by making a right-turn inbound and exits making a left-turn out to the highway.

Based on community input and the school crossing guard, the highest traffic volumes occur at this location occur during the AM peak hour when the inbound tourist traffic to Hana and school drop-off activities overlap.



Based on field observations, occasional queuing (4 to 6 vehicles) occurred along the School Driveway west during pick up/drop off time, however, queues clear out regularly. No significant operational or capacity issues were observed at this location during the field visit.

Intersection #5 Hana Highway / School Driveway East

– is a Side Street Stop Controlled (SSSC) intersection serving Hana Elementary School. Similar to the West Driveway, the majority of traffic using the driveway makes right-turn inbound and left-turn outbound movements from and to Hana Highway, respectively. Based on community input and the school crossing guard, similar to the West Driveway, the highest traffic volumes occur at this location during the AM peak hour when the inbound tourist traffic to Hana and school drop-off activities overlap.



Based on field observations, occasional queuing of two (2) to three (3) vehicles occurred on the East Driveway approach during pick up/drop off time, however, queues cleared out regularly. No significant operational or capacity issues were observed at this location.

It should also be noted that the school site is utilized as a shelter area for evacuations during hurricane season. As such, maintaining operations at the school driveways is of high importance.



4. Future Baseline

To assess the potential impacts of the proposed master plan on the surrounding street system, it was necessary to first review future baseline conditions in the area without the project. The following documents were reviewed to identify potential planned improvements in the vicinity of the study site.

The following documents were reviewed to identify planned improvements near the study area:

- County of Maui 2030 General Plan (2010) – County of Maui
- Hana Community Plan (1994) – County of Maui
- County of Maui 2030 General Plan (2010) – County of Maui
- Stateside Pedestrian Master Plan (2013) – DOT Hawai'i
- Hawaii Pedestrian Toolbox (2013) – DOT Hawai'i
- Maui Bike Plan Refresh (2022) – DOT Hawai'i
- Maui Vision Zero Action Plan (2021)
- Hawaii Department of Transportation Active Construction Projects (last visited March 2023)
- Maui Nui Destination Management Action Plan 2021-2023 (2020) – Hawaii Tourism Authority

4.1 Active Transportation and Transit Planned Improvements

Based on the review of the most recent planning documents in the area, no pedestrian, bicycle, or transit improvements are planned near any of the three study sites.

4.2 Roadway Network Planned Improvements

Based on the input from the Department of Land Natural Resources (DLNR), the state is in the early stages of identifying a new park access road from Hana Highway to the Wai'ānapanapa State Park. Approximately, 74 acres of State land at TMK: (2) 1-3-006:007 would be transferred to the Division of State Parks to provide new access to the park. The objective is to redirect the park from the current access on Honokalani Road to a new access point. At the time of preparation of this report, no studies or specific timelines had been provided for the proposed modifications.

Based on the review of the most recent planning documents in the area, no other intersection or roadway improvements are planned near the project site.



5. Project Traffic Estimates

This chapter describes the anticipated number of vehicle trips and the directionality of those trips that would result from the implementation of the proposed project. Future traffic added to the roadway system by the project is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of project-generated traffic which will be added to the roadway network. The second step identifies the direction of travel to and from the project site and the proportion of traffic on each potential travel path. The new trips are assigned to the intersection turning movements during the third step. This process is described in more detail in the following sections.

5.1 Trip Generation

The anticipated change in land use within the study area is based on input from DHHL and the project team including the density of future land uses for the study site. The number of net new daily and peak hour vehicle trips under each category are typically estimated using the *Trip Generation Manual* (11th edition) published by the Institute of Transportation Engineers (ITE). The manual does not have rates for some of the Land Uses proposed in the area, or in some cases, the rates are based on sites located in an urban/suburban context and do represent the more rural and isolated context on East Maui. Considering the project site's distance from the Kahului/Wailuku area and the unique characteristics of the proposed land uses, some of the trip rates were modified based on our understanding of the area, input from the community representatives, and engineering judgment. The following text summarizes the rationale used to identify the estimated rates for each land use, and the results of the trip generation estimates are presented in **Table 1**.



Table 1: Project Trip Generation

Land Use Size/Unit	Weekday Daily Trip Rate / Unit		PEAK AM Rate	PEAK PM Rate	Daily Trips	AM Peak					P.M. Peak				
						%		trips		Total	%		trips		Total
						in	out	in	out		in	out	in	out	
Wākiu															
138 Residential Units ¹	4.72	per lot	0.35	0.47	652	25%	75%	12	37	49	63%	37%	41	24	65
100 Subsistence Agriculture/Pastoral Homesteads ¹	4.72	per lot	0.35	0.47	472	25%	75%	9	26	35	63%	37%	30	17	47
3 acres Commercial Use (35% GFA) ^{2,8}	27.23	per ksf	1.18	3.3	1,246	60%	40%	32	22	54	50%	50%	76	75	151
<i>Primary (60%)</i>					748			19	13	32			46	45	91
<i>Pass-By (40%)</i>					498			13	9	22			30	30	60
5 acres Industrial (35% GFA) ^{3,8}	2.44	per ksf	0.37	0.33	187	88%	12%	26	3	29	14%	86%	4	22	26
300 students in Charter School/Garden ⁴	1.85	per student	1.04	0.16	555	52%	48%	162	150	312	35%	65%	17	31	48
Community Center, Park, Greenway, Community Garden ⁵	-	-	-	-	100	50%	50%	10	10	20	50%	50%	10	10	20
2,000 square foot Convenience Store ⁶	381	per ksf	31.27	24.56	762	88%	12%	55	8	63	14%	86%	7	43	50
<i>Primary (60%)</i>					457			33	5	38			4	26	30
<i>Pass-By (40%)</i>					305			22	3	25			3	17	20
5 Food Trucks ⁷	24.61	per truck			124	50%	50%	3	2	5	50%	50%	16	15	31
<i>Primary (50%)</i>					62	-	-	2	1	3	-	-	8	8	16
<i>Pass-By (50%)</i>					62	-	-	1	1	2	-	-	8	7	15
<i>Total Driveway Trips</i>					4,098			309	258	567			201	237	438
Net New Trips (Excluding Pass-By Trips)					3,233			273	245	518			160	183	343

1. Rate is based on the ITE Trip Generation Manual (11th edition), a Single-family detached Housing (Code 210). The rate is reduced by 50% to account for local context and area internalization.
2. Rate is based on the ITE Trip Generation Manual (11th edition), Strip Retail Plaza under 40 ksf (Code 822). The rate is reduced by 50% to account for local context and area internalization.
3. Rate is based on the ITE Trip Generation Manual (11th edition), General Light Industrial (Code 110). The rate is reduced by 50% to account for local context and area internalization.
4. Rate is based on the ITE Trip Generation Manual (11th edition), Elementary Charter School (Code 536).
5. ITE does not provide trip rates for this use. The trip generation assumes 100 daily trips (20 during each peak hour) based on our understanding of the population, local context, and area internalization.
6. Rate is based on the ITE Trip Generation Manual (11th edition), Convenience Store (Code 851). The rate is reduced by 50% to account for local context and area internalization.
7. Rate is based on the ITE Trip Generation Manual (11th edition), Food Cart Pod (Code 926).
8. The project trip estimates are calculated assuming a 35% Gross Floor Area (GFA)



5.1.1 Residential Lots

The *Trip Generation Manual* does not provide rates associated with the proposed project for residential uses in rural areas such as East Maui. Based on the input from the local community members, there are instances in the area where multi-generations of families or related people live in the same household due to insufficient housing in the area. The new residential lots could provide the opportunity for some existing households to relocate within the project site.

Also, considering the distance between the proposed sites and the Kahului/Wailuku town area, travel patterns are anticipated to be different from those of a typical residential development. For instance, residents are expected to consolidate their trips to “town” into a single trip to reduce their overall travel time throughout the week. Ride-sharing is also a common practice when multiple people may be visiting town for similar purposes. As such, trip rates per household are anticipated to be lower than the standard ITE rates.

5.1.2 Subsistence Agriculture Lots

No trip rates are provided in the *Trip Generation Manual* for uses similar to Subsistence Agriculture/Pastoral Homesteads. Such uses are assumed to include a single-family building and a one (1)- to three (3)-acre farm that serves mainly the residents of the house. Although commuting and peak hour travel is expected to be much less than typical residential lots described above, subsistence agriculture/pastoral homesteads are conservatively assumed to generate the same number of trips as a residential lot within the project site.

5.1.3 Commercial Use

Current commercial uses in Hana include services such as a grocery store that serves the locals and many smaller services such as food/fruit stands, food trucks, and restaurants, that serve the tourists in the area. A shopping center (typically greater than 40 ksf) is considered to attract trips from the outside neighborhood. A commercial retail plaza (typically less than 40 ksf) is considered to mainly serve a neighborhood. The proposed commercial uses, convenience store, and food truck proposed at the project site are anticipated to operate in a community-serving capacity by mainly serving local residents and tourists already visiting the area. Accordingly, the new commercial uses are expected to attract a negligible number of new trips from outside the East Maui/Hana community. Additionally, many of the trips are expected to consist of pass-by trips from the highway where residents and visitors are already passing by the site.



5.1.4 Industrial Use

The proposed industrial uses are anticipated to serve local businesses and provide a focused employment center. The Trip Generation Manual includes a General Light Industrial category, but vehicle trip rates for this use are from existing facilities in an urban/suburban context, very different from East Maui. Considering Hana Highway's geometry and limited width at multiple locations, minimal external traffic including trucks is expected to be attracted to or generated by these uses. To account for the unique characteristics of the project location and the East Maui rural context, a 50% reduction was applied to industrial trip rates.

5.1.5 Charter School

The proposed charter school is expected to serve up to 300 students and will again serve East Maui/Hana residents, including those in the new residential units proposed on site. Most of these units will allow students to walk or bike to the new school campus based on distance, provided adequate travel paths are provided on interior streets. Some levels of walking and biking is included in the ITE trip rates, and for purposes of this assessment, no reduction was applied to school-generated trips.

5.1.6 Community Center, Park, Greenway, and Community Gardens

The community amenities and public facilities such as the community center, parks, greenways, and community gardens are anticipated to be mainly used by residents within Hana and surrounding communities. Additionally, such uses are expected to be more active during weekends and off-peak hours. A nominal number of 20 vehicle trips are assumed during each peak hour. It is possible that the use of the ballfields and courts may be busier on select afternoons of the week, but the numbers will average less.



5.2 Trip Distribution and Assignment

The geographic distribution of trips generated by the proposed project depends on the surrounding street network and the accessibility of routes to and from each study location. Given that major destinations lie to the west and east of the site, trips from the residential uses are expected to use the eastern and western collector streets more frequently, while the center street will see most traffic destined for the proposed commercial uses and community center/park. Additionally, trips generated by the school and food trucks are expected to primarily access the highway directly, reducing the demand on internal routes. Industrial use traffic will also be focused on the eastern collector street.

Estimated peak-hour distribution patterns for project-generated traffic at each project access are as follows:

- Hana Highway & Project Access West (Intersection #1): 65 to 93 peak hour trips
- Hana Highway & Project Access Center (Intersection #3): 91 to 147 peak hour trips
- Hana Highway & Project Access East (Intersection #5): 94 to 119 peak hour trips



6. Potential Impacts and Recommended Improvements

This section reviews potential transportation impacts and provides recommendations at each study location.

6.1 Active Transportation

Active transportation impacts were evaluated based on whether a proposed project would: 1) conflict with the existing or planned pedestrian, bicycle, or transit facilities and services, or 2) create substantive walking, bicycling, or transit use demand without providing adequate and appropriate facilities for non-motorized mobility. If the proposed project is expected to conflict with existing or planned improvements to pedestrian and bicycle facilities, or if the project is expected to generate a substantial demand, recommendations are provided.

As discussed in Sections 3.1 and 3.2, no formal pathways, sidewalks, or dedicated bicycle facilities are provided or are planned near the study area. Accordingly, the development of the proposed project would not conflict with or preclude the implementation of any existing or planned enhancements to the area's walking or biking network.

The majority of the pedestrian and bicycle traffic near the project site will be associated with HHES activity. Implementation of the proposed project improvements is not expected to conflict with any existing pedestrian or bicycle facilities, and it should not preclude the implementation of any other potential enhancements to walking or biking in the area.

Currently, there is a walking path on the east side of Hana Highway along the school frontage. Considering the width of the walking path and the lack of standard separation between the walking path and the main road, the pathway is not considered to be ideal for pedestrian comfort. The following improvements are recommended for implementation by the project:



- Construct a continuously shared use path along the entire project frontage between the West Collector and East Collector Streets. This facility will encourage the use of walking and biking between the various project uses, as well as provide community benefits for existing residents in homes on both sides of the highway.
 - To complete this link, coordinate with the property owners of the parcels opposite the Hana Public Library and Hana High and Elementary School sites
- All interior streets should have a dedicated and ADA-compliant space for pedestrians to walk on at least one side of the roadway, and ideally shared by bicyclists who are not comfortable sharing the street with vehicles.
- For the interior street that intersects the border between the community center/park and the school sites, a safe and convenient pedestrian and bicycle connection should be provided to encourage site resident students and their guardians, as well as community park visitors, to walk or bike to these areas.
- Design and construct the East Collector Street alignment to be directly opposite the southern driveway serving Hana High and Elementary School to create a consolidated intersection. A single intersection enhances pedestrian safety by increasing the visibility of pedestrians and bicyclists crossing the highway. The existing site access centerline is offset from the school driveway centerline by roughly 45 feet. This improvement is also listed in the next section.
- Design and construct any Charter School site driveway alignment on the highway near Honokalani Street to be directly opposite this existing public roadway to create a consolidated intersection. A single intersection enhances pedestrian safety by increasing the visibility of pedestrians and bicyclists crossing the highway. In addition, an enhanced crosswalk with an RRFB should be installed at this location to facilitate crossings and enhance safety. This crossing will encourage existing residents to access the community amenities and commercial uses by walking or biking. Similarly, an RRFB would encourage project site residents to walk or bike to the State Park and its amenities.
- Consider constructing all new project public street intersections on Hana Highway as roundabouts, as well as modifying the existing Honokalani Street intersection as a roundabout if a Charter School or other driveway is added as a fourth/mauka leg. This improvement is also listed in the next section.



6.2 Roadway Segments and Intersections

As noted in Section 5.1, the proposed project is anticipated to generate 3,233 net new daily vehicle trips along this roadway including 518 trips during the AM peak hour and 343 trips during the PM peak hour. The vast majority of these trips are anticipated to stay within the greater East Maui area, and they will be distributed in both directions on the highway. As a result, no segment is expected to serve more than approximately 4,000 vpd.

While the project is expected to generate a substantial number of new vehicle trips on the highway compared to the existing volume of up to 2,000 vehicles per day, Hana Highway has adequate capacity to accommodate this volume. As such, no significant traffic impacts are anticipated with the implementation of the proposed project. Even during the peak hours, the turning volumes on and off the highway are anticipated to experience short but temporary delays with stop sign control on the side street approaches. The volumes are not expected to warrant the need for separate turn lanes or refuge/two-way left-turn lanes. However, some enhancement will be needed to address or minimize the potential for multimodal circulation and safety issues. Error! Reference source not found. provides recommended roadway and intersection improvements with a focus on enhancing operations and safety:

- If the project intersections are proposed to be constructed as standard Three-Way or Four-Way intersections, the proposed project access approaches are recommended to be controlled by a stop sign.
- Align the proposed access at 90 degrees to Hana Highway to discourage inbound/outbound traffic from speeding and to maximize driver visibility of approaching traffic.
- The proposed project access should provide adequate sight distance in both directions. Landscaping should be pruned to maintain adequate sight distance. If necessary, install traffic calming devices (e.g., speed humps) to moderate speeds to provide minimum stopping sight distance.
- Install appropriate warning signs to inform highway drivers of upcoming intersections, turning vehicles, and multimodal activity.
- As mentioned in Section 6.1, consider constructing all new project public street intersections on Hana Highway as roundabouts, as well as modifying the existing Honokalani Street intersection as a roundabout if a Charter School or other driveway is added as a fourth/mauka leg. Roundabouts help moderate travel speeds and minimize pedestrian exposure to moving vehicles at crossing locations.



Appendix D

Archaeological Resources

AA PROJECT NO. 2217

DRAFT

CULTURAL GENEALOGY FOR THE
DHHL WĀKIU MASTER PLAN AREA

CULTURAL GENEALOGY FOR THE DHHL WĀKIU MASTER PLAN AREA

5/23/2024

Draft

Prepared For:

Department of Hawaiian Home Lands

Under Contract To:

G70

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1.0 INTRODUCTION

At the request of Group 70, Āina Archaeology has prepared a review of traditional cultural practices and land use within the ahupuaʻa (land section) of Wākiu which may be impacted by the planned development of the homesteads and associated expansion on the Department of Hawaiian Home Lands (DHHL) designated parcels. The proposed project is located in Maui Hikina, East Maui, encompassing approximately 656.3 acres, designated as TMK (2) 1-3-004:012, mauka of the Hāna Highway, Hwy 360.

1.1 PROJECT DESCRIPTION AND BACKGROUND

Across the islands, traditional lands and their associated agricultural uses have slowly disappeared, eroding the ability of the native population to remain in the Pae Āina (Hawaiian Islands). In continued efforts to remedy the subjugation of the Hawaiian people, the DHHL received Federal assistance to expand their program. In 1992, the Federal Government reallocated money and additional lands to the Hawaiian Home Lands program “as compensation for the state’s improper or unauthorized use or transfer of 30,000 acres of Hawaiian home lands since statehood in 1959” (Dunford 1992). This process resulted in \$13.8 million “set aside for DHHL to develop more homes and agricultural lots for native Hawaiians” (Dunford 1992). Act 14 of 1995 by the Legislature of the State of Hawaiʻi allowed the inclusion of lands in East Maui into the Trust, thereby creating an opportunity that had not been set aside in the original Hawaiian Homes Commission Act.

The Department of Hawaiian Home Lands (DHHL) East Maui Master Plan project purpose is to develop a master plan per the DHHL Maui Island Plan (MIP) which proposes homestead residential, subsistence agricultural, general agriculture, community, commercial, and industrial use on primarily subsistence agricultural lots. The Wākiu planning area is close to Hāna town (Figure 1-1), located along Hāna Highway, across from the Hāna School complex. The associated proposed commercial/industrial use potentially provides space for economic development opportunities for Maui Hikina. Currently, a revocable permit for five acres is issued to Kūkulu Kumu Hāna, a non-profit, student-based agricultural center, located within the project and along the highway, that will remain.

1.2 STUDY AREA

For this cultural-historical genealogy, the ahupuaʻa of Wākiu is considered the “project area” while Wākiu and adjacent areas within Hāna moku (district) are considered the overall “study areas.” The purpose of this document is to establish a context whereby the significance of the cultural-historical information collected can be assessed. The document should also assist in identifying the traditional cultural practices within the study area to distinguish any potential effects on these practices that may occur during, or as a result of, the implementation of the proposed project.

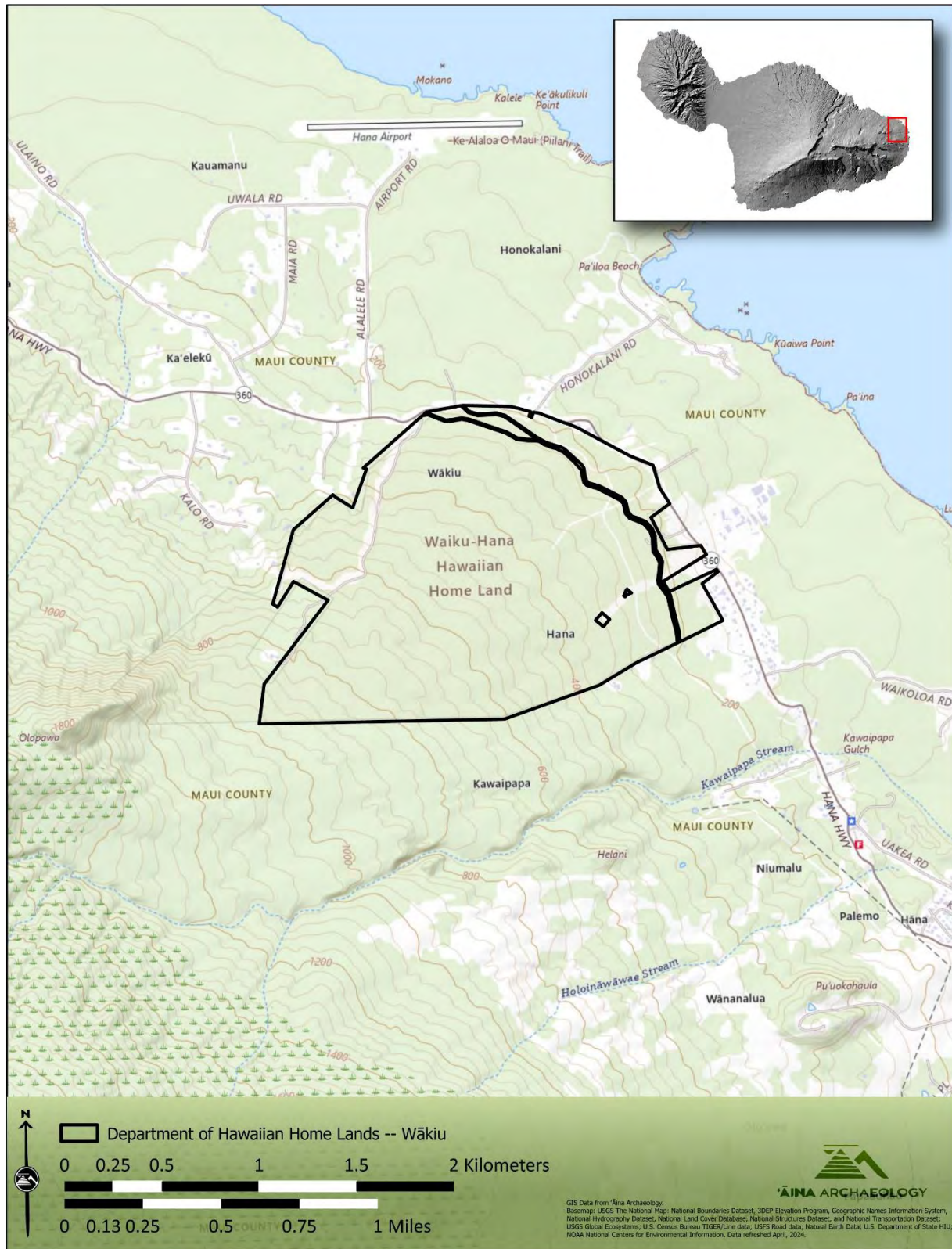


Figure 1-1. A portion of the National Map (United States Geological Survey 2024), Hāna Quadrangle section, showing the Wākiu¹ lands of the Department of Hawaiian Home Lands outlined in black.

¹ Misspelling of Wākiu as Waiku is a USGS error.

2.0 ENVIRONMENTAL SETTING

At approximately 728 square miles, Maui is the second largest island within the Hawaiian Island chain (Stearns and MacDonald 1942). The island consists of two major shield volcanoes, the older West Maui Volcano, referenced throughout the historical and research literature as the West Maui Mountains, Mauna Kahalawai, and Mauna ʻĒʻeka, which rises to 5,788 feet at Puʻu Kukui, and the younger East Maui Volcano, referred to as Haleakalā which rises to an altitude of 10,023 feet (Juvik 1998:308). The DHHL Master Plan proposed project area for Wākiu ahupuaʻa is located within Hāna moku which is on the eastern, rocky slopes of the dormant volcano of Haleakalā. This stretch of land includes a famous hala (pandanus) grove, portions of Waiʻānapanapa State Park, and traditionally and commercially cultivated lands.

2.1 NATURAL ENVIRONMENT

The climate of Maui is uniformly mild in temperature with a cool Northeasterly wind, referred to as tradewinds, persisting. Climate specific to the project area is characterized as mild sub-tropical with low annual variation in temperature averaging an annual temperature of 72 degrees F (Giambelluca et al. 2013). Low cloud development in East Maui results in high annual rainfall on the east slopes of Haleakalā. The proposed Wākiu development site gets approximately 80 – 120 inches of annual rainfall (Giambelluca et al. 2013).

Hāna moku is dominated by its extensive natural forests and farmlands. Most soils on East Maui are andisols developed from volcanic ash and ejecta, however, in the project area, the broad class of soil is primarily histosols that have developed from organic materials. The soil classification within the majority of the project area is Malama Extremely Stony Muck (MYD) of the Malama series which are typically extremely stony, very shallow, excessively drained, organic uplands (Foote et al. 1972:93). More specifically, MYD has 3 to 25 percent slopes and is found on aʻa lava flows. The profile presents as a black muck surface layer of approximately 8 inches in thickness followed by a substratum of fragmental aʻa with traces of organic material located within voids (ibid). Due to rapid permeability and slow runoff, the erosion hazard is only slight with roots in areas reaching a depth of 2 feet (ibid). According to Foote and others (1972:93), MYD is used primarily for water supply, however, some acreage is used for orchard crops and pasture.

Along with MYD, minimal Hana Silty Clay Loam, moderately deep variant, 3 to 15 percent slopes (HKNC) can be found along the highway in the northeastern part of the project area (Foote et al. 1972:37). HKNC is nonstony and moderately deep with a dark-brown silty clay loam surface layer that has 10 to 15 percent gravel and cobblestone (ibid). Beneath the surface, the subsoil, which is 6 to 14 inches in thickness, is reddish-brown and is considered very friable silty clay loam with 20 to 30 percent gravel and cobblestone, underlaid by the substratum of fragmental aʻa up to 30 inches in depth (ibid). Similar to MYD, the runoff is slow but can be medium, resulting in a slight to moderate erosion hazard in these types of HKNC soils used for pastures and homesites (ibid).

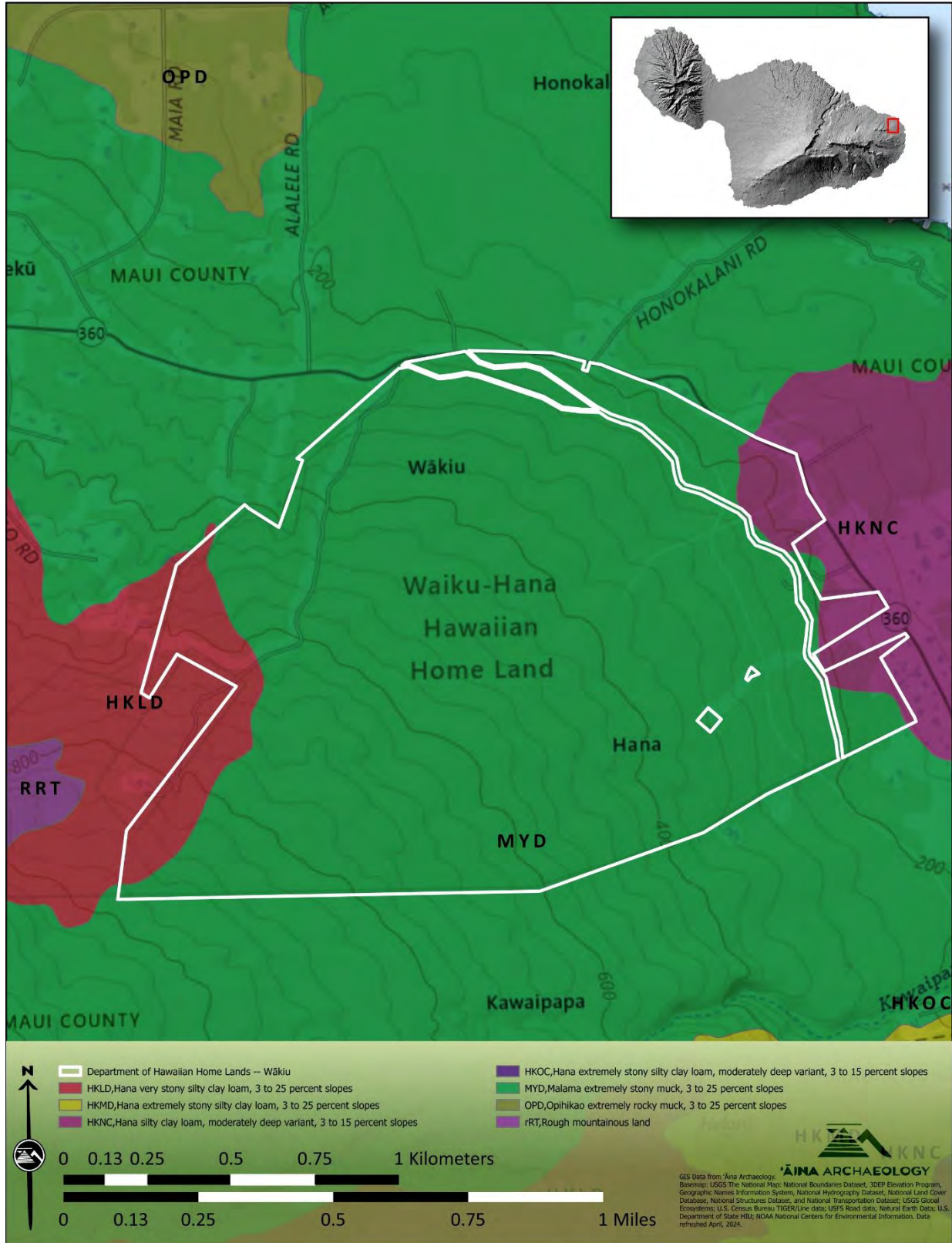


Figure 2-1. A portion of the National Map (United States Geological Survey 2024), Hāna Quadrangle section, showing the Wākiu¹ lands of the Department of Hawaiian Home Lands (outlined in white) in relation to the underlying soil types (U.S. Department of Agriculture Natural Resources Conservation Service 2019).

Once a densely populated natural environment with extensive dryland agriculture, fishing, and harvesting of available resources, the Hāna area was converted to sugar production in the mid-1800s (Hobdy 2014:2). With the terrain unsuitable for this type of commercial cultivation, the sugar plantations struggled on, ultimately shutting down in the mid-1900s. The clearing of the land, however futile, allowed for the forest and native plants to be overrun by non-native species, which, according to the late Robert Hobdy, “changed its character and species makeup” (2014:2). Regarding the vegetation in the project area, it appears that hala, kukui, and hau are still present. In his 2014 survey of the adjacent ahupua‘a of Kawaipapa, Hobdy did detect the endangered ‘ōpe‘ape‘a (Hawaiian hoary bat, *Lasiurus semotus*) (2014:10), which indicated at least a temporary use of the surrounding area that may include nearby Wākiu.

The project area is located in the Kawaipapa Aquifer system within the Hāna Aquifer sector that contains groundwater as basal and high-level (Townscape 2019:102). Groundwater is drawn from a County of Maui Department of Water Supply system well (Wākiu B) from the basal zone (ibid). There is a second well at Wākiu (Wakiu A), however, it has not been in use since 1997 (Wilson Okamoto & Associates 2003:8). In 2019, the Kawaipapa Aquifer had a projected sustainable yield (SY) of 48 million gallons per day (MGD) (Townscape 2019:76).

2.2 BUILT ENVIRONMENT

The main features of the modern built environment in the ahupua‘a of Wākiu are compromised of the Hāna Highway and the Hāna School complex. Other elements are Kūkulu Kumu Hāna agricultural learning center, two Maui County water wells, a water tank, the old sugar plantation railroad, Olopawa Road, an unpaved access road, and some residential homes and their related infrastructure.

3.0 CULTURAL HISTORICAL GENEALOGY AND CONTEXTS FOR WĀKIU AHUPUA‘A

3.1 HE MO‘OLELO NO WĀKIU I KA WA KAHIKO - TRADITIONS OF THE WĀKIU REGION PRIOR TO WESTERN ARRIVAL

The island of Maui has been known by several names throughout history and across the pae ‘āina. The ancient name of Ihipapalaumaewa, after the child of Wakea and Papa who is the ancestral origin of the people of Maui, was once attributed to the island of Maui. Maui has also been referred to Kulua for the two prominent volcanoes that comprise the island, Nā Hono-a-Pi‘ilani for Pi‘ilani, the great 16th Century chief of Maui, and Maui Nui a Kama for Kamalalawalu the grandson of Pi‘ilani (Kapiikauinamoku 1956a; Sterling 1998:126). An origin story of the Hawaiian people speaks to the creation of their islands as being born to the gods Papa and Wakea. In the ancient oli (chant) that tells this origin story, Hawai‘i Island is first to be born, followed by Maui, and then the rest:

*Hanau o Maui he moku, he
aina,
Na kama o Kamalawalu e
noho.*

Maui was born an island, a land,
A dwelling place for the children of
Kamalalawalu.

(Fornander 1916:2-3)

In this chant, Maui is called “a dwelling place for the children of Kamalalawalu,” who was the grandson of Pi‘ilani, a 16th-century Mō‘ī (paramount ruler) of Maui and founder of one of its greatest dynasties (Barrere 1975:1). Thus, the traditional poetic name for Maui as Maui-a-Kama, named after Kamalalawalu, whose children are the people of Maui. Maui-a-Kama or the “Great Land of Kama”, is a term given to the island in loving remembrance of the monarch himself (Kapiikauinamoku 1956b:A6). Through mo‘olelo and ‘oli such as this one, cultural practitioners, students, and the people of Maui continue to connect to the historical names and cultural practices that took place in Maui-a-Kama.

During the rule of Kaka‘alaneo, another major Mō‘ī of Maui, the first major delineation of land boundaries was overseen by a kahuna (leader) named Kalaihaohi‘a (Beckwith 1970:383). The mukupuni (island district) of Maui was divided into twelve moku o loko or moku, meaning to literally “cut across, divide, separate” (Lucas 1995:77). These twelve moku are similar to a modern political district: Hāmākuapoko, Hāmākualoa, Ko‘olau, Hāna, Kīpahulu, Kaupō, Kahikinui, Honua‘ula, Kula, Wailuku, Kā‘anapali, and Lāhaina (Sterling 1998:2). These moku were further divided into subdistricts and smaller land portions, termed ahupua‘a and ‘ili respectively. Both the ahupua‘a and ‘ili were managed by agents of the ruling chief, sometimes referred to as konohiki (Beckwith 1970:383).

The ahupua‘a was not only a land subdivision, but also a socioeconomic structure of organizing and cultivating land resources for native Hawaiians. The long narrow strips of land extend from makai (sea) to mauka (mountain), allowing the maka‘āinana (native tenants) and ali‘i to cultivate and harvest multiple different environments (Alexander 1882:4). The five major biological resource zones in an ahupua‘a are the wao nahele (upland forested region), the wao

kanaka (agricultural land), the kahawai (freshwater ecosystems and streams), the kahakai (coastal regions), and the the near-shore kai (ocean) (Alexander 1882:4; Mueller-Dombois 2007). This “vertical arrangement” (Alexander 1882:4; Mueller-Dombois 2007) of land use has sustained through centuries of Hawaiian Island agronomy and still influences the way Hawaiians today understand and connect with the landscape .

The term ahupua‘a, derived from the Hawaiian words for altar (ahu) and pig (pua‘a), describes rocky altars adorned with kukui wood slabs. On these wood slabs were images of pigs painted in red ochre. These altars were located at the edge of the ahupua‘a boundary as it intersected the alaloa, the ancient road encircling the entire island of Maui (Alexander 1890:105). The boundaries either followed prominent landforms (ravines, perennial creeks, ridge lines, etc.) or trees and grasses, or were constructed with a stones or a corner rock (Alexander 1890:105-106). The altars served as a pay station where tenants of the ahupua‘a would place their annual tax of food items for the land unit upon the ahu which was then collected by the ali‘i (chief) during the makahiki progression (Alexander 1882:4).

Based on the Hawaiian Government Survey map for the District of Hāna (Dodge 1878), the moku of Hāna is comprised of some 37 known ahupua‘a, which, from north to south, include: Ulaino, Makapu‘u, Honomā‘ele (West and East), Kawela, Kauamanu, Ka‘elekū, Honokalani, Wākiu, Kawaipapa, Palemo, Wānanalua, Oloewa, Papaauhau, Aleamai, Haneo‘o, Hāmoa, Mokae, Kakio, Makaalae, Waiohonu, Pohue, Pukuilua, Haou, Hulihana, Kaukuhalahala, Piapia, Koakapuna, Kiwaloa, Pueokauiki, Pohakanele, Ahuakeio, Kihapuhala, Papahawahawa, Muolea, Koali, Wailua, and Puuhaoa. The current project area is located situated in the ahupua‘a of Wākiu, within the moku of Hāna (Figure 3-1). While an early survey map of Hāna Moku shows the sole ahupua‘a of Honokalani sharing the primary northern boundary with Wākiu (Figure 3-2), the final Hawaiian Government Survey title map for Hāna depicts the boundary of Wākiu Ahupua‘a as beginning at the pu‘u of Olopawa (Figure 3-3). From this apex, the boundary extends makai, sharing borders with both Ka‘elekū and Honokalani Ahupua‘a to the north, reaching Kuaiwa at the shoreline. It then continues along the coast to a kahuahale (house site) at the shared boundary with Kawaipapa Ahupua‘a to the south, before returning to Olopawa.

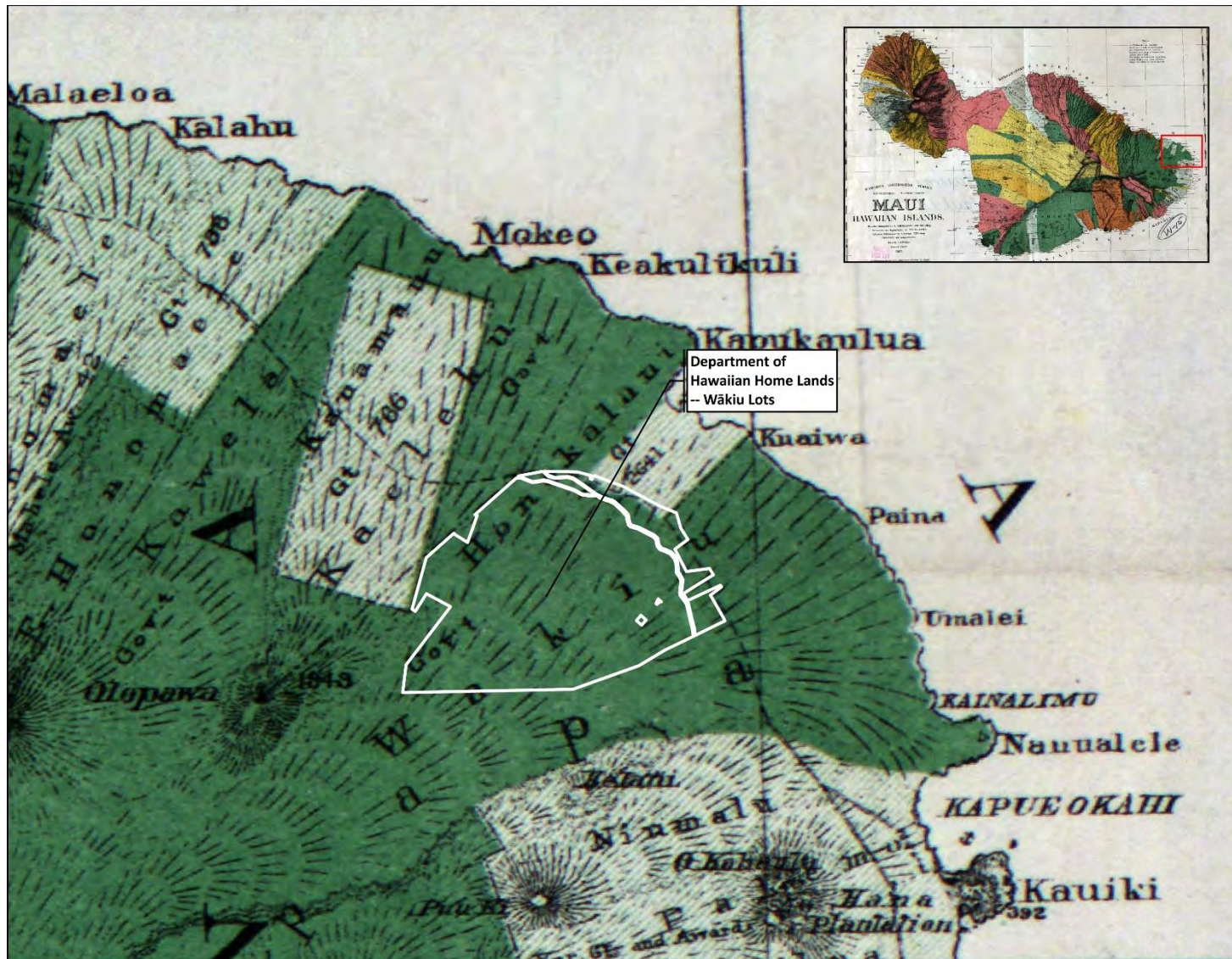


Figure 3-1. A portion of Hawaiian Government Survey Map of Maui showing the location of the DHHL Wākiu Lots (outlined in white) in relation to the overall traditional land divisions of Maui (Crown lands in yellow and Government lands in green).

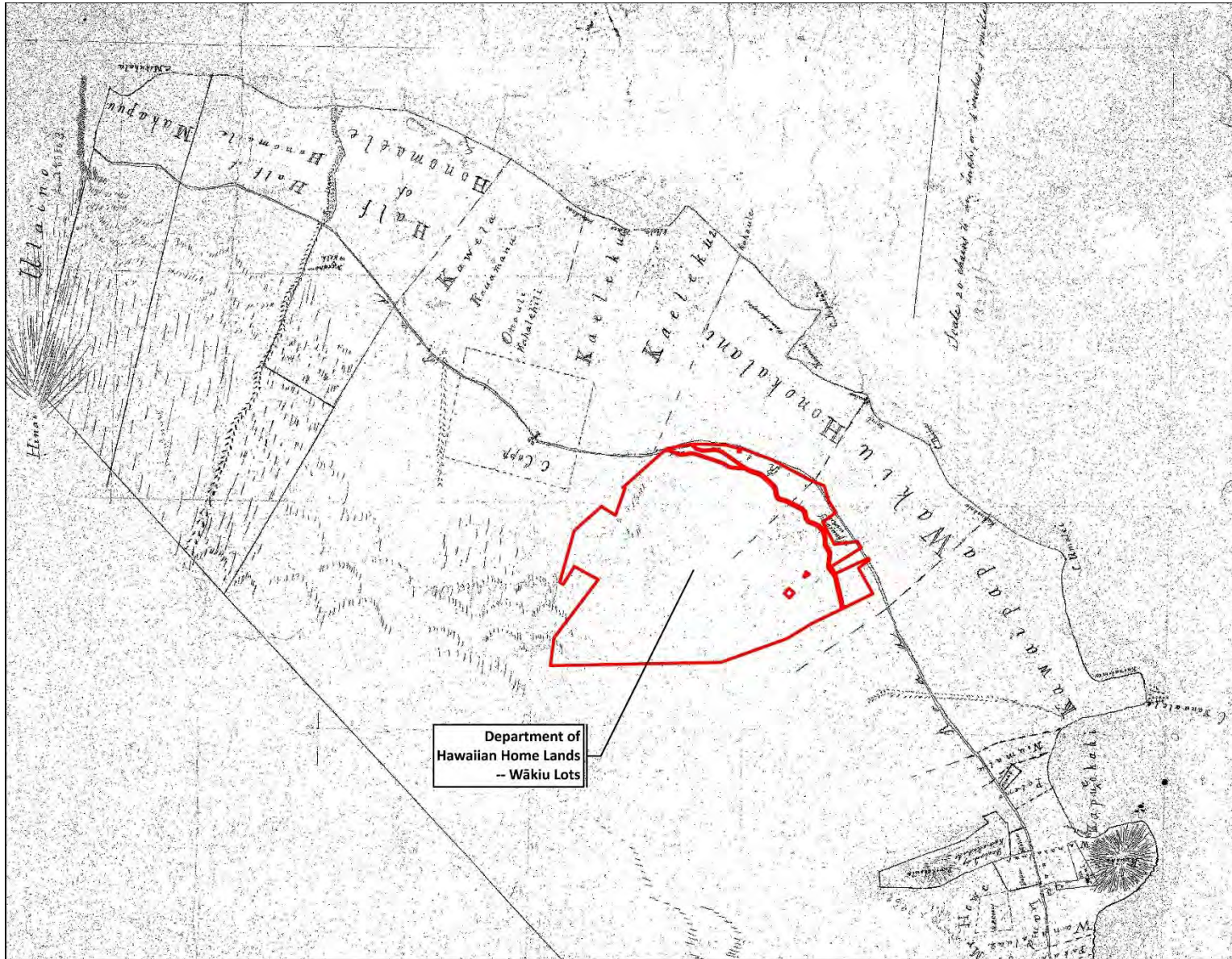


Figure 3-2. A portion of an undated survey map of Hāna (Alexander N.D.) showing the DHHL Wākiu Lots (outlined in red) in relation to early sketches of adjacent ahupuaʻa boundaries.

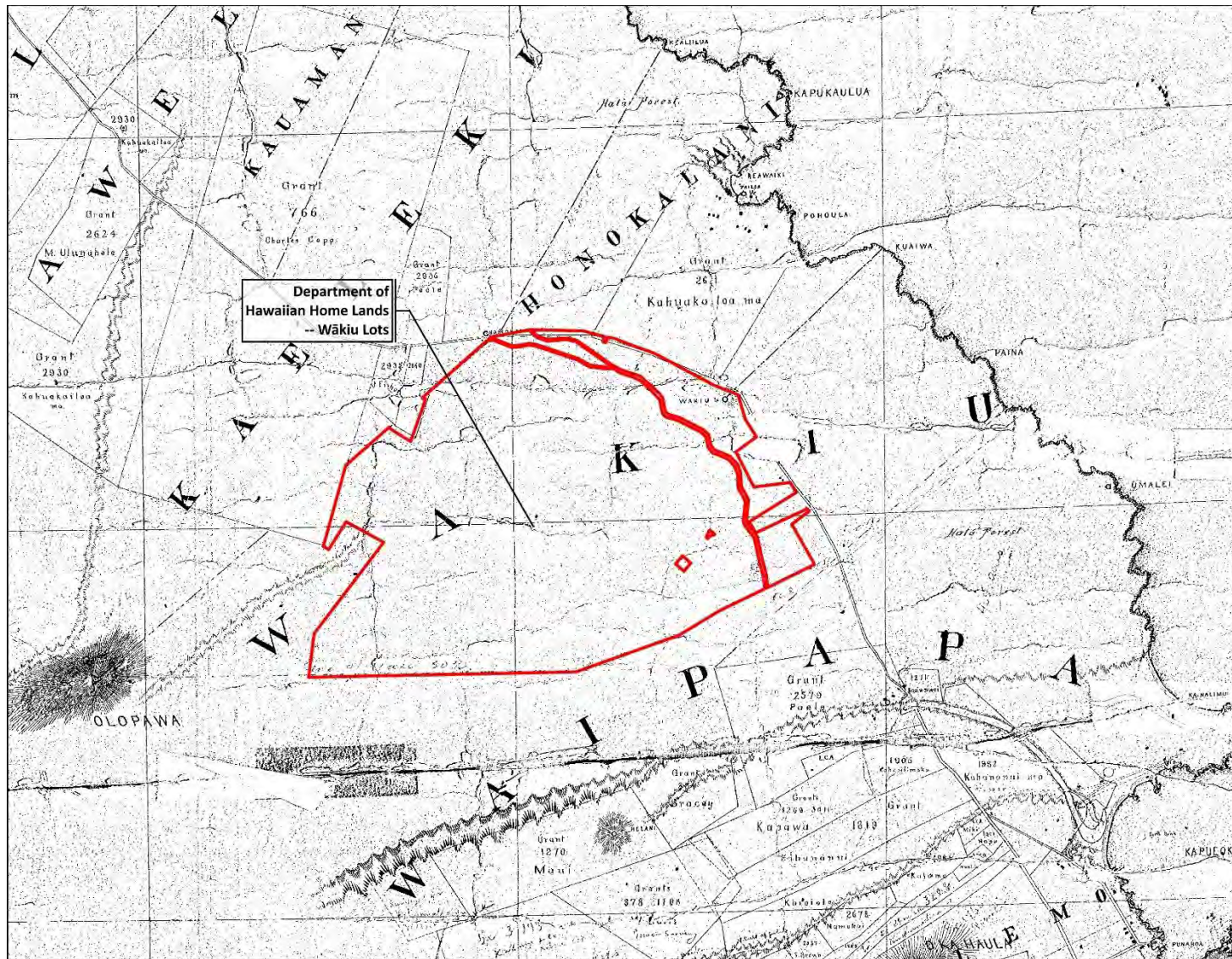


Figure 3-3. A portion of the final Hawaiian Government Survey title map for Hāna Moku (Dodge 1878) showing the DHHL Wākiu Lots (outlined in red) in relation to adjacent ahupua‘a boundaries and additional landmarks at the time of the Mahele.

3.1.1 Wahi Inoa

In Hawai‘i, names were given to virtually everything. In the preface of *Place Names of Hawaii*, Samuel Elbert states that:

Hawaiians named taro patches, rocks and trees that represented deities and ancestors, sites of houses and heiau, canoe landings, fishing stations in the sea, resting places in the forests, and the tiniest spots where miraculous or interesting events are believed to have taken place.

Place names are far from static ... names are constantly being given to new houses and buildings, land holdings, airstrips, streets, and towns and old names are replaced by new ones ... it is all the more essential, then to record the names and the lore associated with them (the ancient names) now (Pukui et al. 1974:x).

Lyons also notes that as a consequence of the long tenancy of the people on land, “every piece of land had its name, as individual and characteristic as that of its cultivation” (C. J. Lyons 1903:23). Intrinsic to our knowledge of place names is their ability to tell the story or keep the record of an area’s resources or characteristics prior to European contact. Consideration of the place name meanings for the study area may yield some insight into the stories, patterns of life, and land use within the ahupua‘a of Wākiu. The place names listed below are for areas, divisions, and features of the land and sea that comprise this ahupua‘a and areas of interest around it, as identified through research of the historic and modern maps of Wākiu and Hāna moku, Mahele ‘Āina documents, Hawaiian language newspapers, and other available historic literary resources. Unless indicated otherwise, the spelling and orthography presented below are taken from Pukui and others (1974).

Table 3-1. Place Names of the Project Area and Associated Areas

Alaloa (trail)	Lit., long road; also known as Ke Alaloa o Maui, Pi‘ilani Trail, and Hoapili Trail; according to Ashdown, “paved with smooth sea-stones to a width of four to six feet and it followed the coastline of all East Maui” (1971:5)..
Helele‘ike‘ohā (Lele‘ikeoho) (boundary)	Probably lit., the taro sprout falls; stream, Hāna qd., Maui. Boundary between Keaa and Ulaino (Ulukau 2006).
Honokalani (ahupua‘a and beach)	Lit., the royal chief bay (Pukui et al. 1974:49); land division; black sand beach located within Wai‘ānapanapa State Park at Keawaiki Bay in moku Hāna, Maui, sharing the northeast border of Wākiu.
Ka‘elekū (ahupua‘a)	Lit., the basaltic rock; located in moku Hāna, Maui, sharing the northwest border of Wākiu.
Kapueokahi (bay)	Lit., the single owl; port and harbor of Hāna located in Wananalua ahupua‘a.
Kapukaulua (Pukaulua)	Lit., the ulua (fish) opening [Carangus sp.]. Point, Hana, Maui.

Ka‘uiki (pu‘u, lae)	Lit., the glimmer.
Kaumakani (pu‘u, boundary)	Lit., place [in] wind; mauka corner of Wailua, Puu Haoa, Paehala on the Hana/Kipahulu boundary. Elevation 4576 feet (Ulukau 2006).
Kawaipapa (ahupua‘a, gulch, stream, heiau)	Lit., the stratum stream; Land section and gulch near Hāna, Maui, where the chief Kiha-a-Pi‘ilani built a path paved with stones [For. 5:176] (Pukui et al. 1974:99). Stream rises at 4500 ft. Elevation, flows to Hana Bay. Walker Site 106 was a heiau located near the point where the road crosses the gulch of the same name. It was destroyed by building the road, also a freshet washed out the remainder (Sterling 1998:126).
Keawaiki Bay	Lit., the small passage. Cove, beach, Hāna, Maui. Small ‘ili‘ili beach in a vove on the north side of Pa‘iloa Bay in Wai‘ānapanapa State Park.
Kuaiwa Point	No definition available. Point in Wākiu on USGS 1957, Hāna qd.
Kuakealii (heiau)	No definition available. Walker Site 103. About three-quarters of a mile north of Waianapanapa Cave near the shore. A large open platform not more than 4 feet high. It measures 90 feet on two sides, the other two being 85 and 110. The top is entirely paved with small pieces of lava and pebbles. There is no coral. The edge of the platform is not terraced, but on the east side is a raised terrace 18 inches above the level of the main platform. It is 20 feet wide and extends the whole distance of 90 feet along the east side. There are two pits in it possibly serving the purpose of refuse pits for the sacrificial altar. Around the edge of the heiau platform are small pits in several places. These look like image holes. Part of the old Kihapiilani paved trail runs close by the heiau (Sterling 1998:126)
Ma‘ino	Lit., defacement; land section, Hāna, Maui. [A nearby cliff was called Pali-pilo (stinking cliff) because of deposits there of human excrement.] (Pukui et al. 1974:139) Unknown ahupua‘a (Ulukau 2006).
Makapu‘u	Lit., bulging eyes; pool and land division, Hāna qd., Maui [li 172] (Pukui et al. 1974:142).
‘Ōhala (heiau)	Lit., green, immature, as fruit; Walker Site 104. Heiau in Honokalani a quarter of a mile east of the road on the southside of the trail. A low platform of rough construction 4 feet high. It is 110 feet long and 75 feet wide at the widest part. There is no coral or pebbles in the pavement, which has been disturbed to form pits in many places. Drums are said to be heard from this heiau on certain nights (Sterling 1998:126).
‘Ohea (pali)	Not marked on current maps. In the mo‘olelo of ‘Ai‘ai, the great fisherman of Hāna, placed a fishing stone to attract kala to the Ko‘olau coast and the fish are taken by nets at the pali of Ohea (Maly and Maly 2001:41)

Olopawa (cone)	Translation: loud sound at dawn; hill, Hāna, Maui (Andrews 1922). Cinder cone in the Hana Volcanic Series, elevation 1846 ft; in the ahupua'a of Kaeleku (Ulukau 2006).
Pa'iloa (bay)	No definition available. Beach, Hāna, Maui. Pebble beach in Wai'ānapanapa State Park (Clark 2002:279).
Paina Point	Paina: to lift; lifting, swelling or breaking, as waves; pa'ina: to crackle, snap, click; pā'ina: meal, dinner, small party with dinner (Pukui and Elbert 1986). In ahupua'a Wākiu on USGS 1957.
Palipilo (cliff)	Lit.; stinking cliff; a cliff near Ma'ino called Pali-pilo because of the deposits there of human excrement (Pukui et al. 1974:177).
Paliuli (heiau, cave)	Lit., green cliff; heiau in Ke'anae with no particulars learned of it (Thomas G. Thrum 1908:39); a cave near Hāna, Maui, where Ka'ahu-manu was born in 1768 [RC 309] (Pukui et al. 1974:178).
Piiakamali'i ('ili)	Lit., ascent of the children; 'ili of Wākiu in LCAw 4666 to Puhake, 5.14 acres (Ulukau 2006).
Pōhaku'oki'āina (boundary)	Lit., stone dividing land; corner of present Makawao/Hana districts; also the corner of old Hamakualoa, Koolau, Hana, Kipahulu, Kaupo, Kahikinui, Honuaula and Kula Districts. Elevation 8105 ft. Also known as Pohaku Palaha (q.v.). (Ulukau 2006)
Puhiai (pali)	Not marked on current maps. In the mo'olelo of 'Ai'ai, the great fisherman of Hāna, the pali of Puhiai is the place where 'Ai'ai watched his friend defeat the great he'e kupua in the ocean outside of Wailuanui (Maly and Maly 2001:41)
Pukaulua Point	Lit., ulua fish opening; point in Honokalani ahupua'a.
Wai'ānapanapa	Lit., glistening water; Lakes [6,800 feet elevation], Hāna Forest Reserve, Nāhiku qd.; State park and caves, Hāna qd., Maui. A cruel chief, Ka'akea, suspected his wife, Pōpō-'alaea [ball of ochreous earth], of having an affair with her younger brother. The wife hid in a cave, but the shadow of the kāhili waved by the attendant betrayed their hiding place, and Ka'akea killed them both. On the night of Kū, the water in the pool is said to run red. [HM 381] (Pukui et al. 1974:220-221). The shore located within the ahupua'a of Honokalani, renowned for sea caves and black sand beach.
Wai'eli	Lit., water dug for; land section, Hāna, Maui (Andrews 1922).
Wākiu (ahupua'a)	Lit., northwest wind sound. Ahupua'a in Hāna, Maui.
Wananalua	

‘Ula’ino (ahupua’a)	Lit., stormy red; land section near Hāna, Maui (Pukui et al. 1974:214). Small pebble beach in Hāna, site of the largest heiau (temple) in the Hawaiian islands, Pi’ilani Heiau (Clark 2002:365).
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Handy and others (1991) summarize the relationship between Hawaiians and the natural environment best in the following passage:

The sky, sea, and earth, and all in and on them are alive with meaning indelibly impressed upon every fiber of the unconscious as well as the conscious psyche. Hawaiian poetry and folklore reveal this intimate rapport with the elements, (E. S. C. Handy et al. 1991:23-24)

(T)he relationship which existed from very early times between the Hawaiian people ... is abundantly exemplified in traditional mele (songs), in pule (prayer chants), and in genealogical records which associate the ancestors, primordial and more recent, with their individual homelands, celebrating always the outstanding qualities and features of those lands. (E. S. C. Handy et al. 1991:42)

This relationship of Hawaiians to the natural environment is especially prevalent in the mo’olelo (traditional knowledge) of the wider moku of Ko’olau and Hāna, a large part of which revolves around the lyrical descriptions of the elemental characteristics of the ‘āina (land) where the names of the ahupua’a are noted in name chants and the winds and rains of the region are recounted in legends and poems. MacCaughey highlights in “Nature Themes in Ancient Hawaiian Poetry” that most indigenous people source their songs and myths from nature themes and “find[s] them plentiful in old Hawaiian verse, which was rich in nature-imagery and local allusion” (1917:205).

One of the most valuable repositories of Hawaiian wind names is a book called *The Wind Gourd of La’amaomao*, which is a translation of a traditional legend, compiled by Moses Kuaea Nakuina in 1902 from various references including Fornander (1918a). The titular wind gourd was believed to contain all the winds of Hawai’i, which could be summoned by chanting their names. Winds on different islands could share the same name because they had shared attributes or were located at similar places on the various islands, such as the famous Kona winds of the leeward sides of the islands. Although there are no winds mentioned specifically for Ke’anae, Wailuanui, or Wākiu, the winds of Hāna are plentiful as the excerpt below illustrates:

Hāna’s winds are ‘Ai-manu,
Kaomi, Kāpae,
Ho’olua, Lauawaawa,
Paiolopaowa, Halemauu,
Kui, Kona;
(M. Nakuina 1992:54)

The various rains of Hawai’i were also given names. Some were named after people, others after their particular traits or the way they interacted with the area and local vegetation.

Different rains from different parts of the islands often share the same name. The book *Hānau Ka Ua Hawaiian Rain Names* contains many of the rain names that were recorded in newspapers from the 1800s and other primary source materials. There is one rain that speaks directly to the project area of Wākiu and others attributed to the moku of Hāna.

‘Āpuakea is a rain associated with Hāna, Maui in the project area of Wākiu. The sweet fragrance of this rain is described in the serial mo’olelo, “*He Moolelo Kaaō Hawaii no Laukaieie*”, printed in *Nupepa Ka Leo o Lahui*:

*Pūia i ke ‘ala ka uka o Wākiu
Ka nae ‘a‘ala o Kahalaowaka
Paoa i ke ‘ala ka ua ‘Āpuakea o
Hāna*

The upland of Wākiu is permeated with fragrance
The sweet scent of Kahalaowaka
The ‘Āpuakea rain of Hāna is soaked with perfume

(Akana and Gonzalez 2015:5)

The land where the ‘Āpuakea rain is known to fall is also documented by Kamakau and translated by Akana and Gonzalez:

*He ‘āina kaulana ‘o Hana i ka
wā kahiko... aloha nō nā alii i
kēia ‘āina ‘olu‘olu i ho‘opulu ‘ia
e ka ua ‘Āpuakea, ka ua
wāwahi i luna o ka hala, ka
hala mai Wākiu a Honokalani.*

Hāna was a famous land in the olden times... the chiefs really loved this pleasant land dampened by the ‘Āpuakea rain, the rain that shatters upon the hala trees, the hala from Wākiu to Honokalani.

(2015:5)

Hāna is poetically referred to as *Lani ha‘aha‘a* (low sky, of the low sky) for its rains (Pukui and Elbert 1986:193). Akana and Gonzalez present the song “*Maui No Ka Oi*” by Rev. S. Kapu, referring to the Laniha‘aha‘a rain and Wai‘ānapanapa, the coastal area of Wākiu:

*Makemake ke ‘ike aku
I ka ua Laniha‘aha‘a
Me ka Wai‘ānapanapa
‘O Maui nō lā ka ‘oi*

I want to see
The Laniha‘aha‘a rain
And Wai‘ānapanapa
Maui indeed is the best

(2015:135)

It is also important to note that winds and rains can share names. In Hāna, the wind Lau‘awa or Lau‘awaawa, as named by Nakuina above, is also a gentle rain of the same area.

*Lei Hāna i ka makani ua
Lau‘awa
Ke mahalo ‘ia maila e ka
Paiolopawa*

Hāna is bedecked with a lei of wind and rain of the Lau‘awa
Admired by the Paiolopawa

(Akana and Gonzalez 2015:144)

Hawaiian proverbs and poetical sayings, ‘ōlelo no‘eau, have been passed down through oral traditions. Many ‘ōlelo no‘eau have been collected and published in Hawaiian language newspapers and other primary and secondary sources. They often have both a literal and metaphorical meaning (called kaona), which is given where applicable. ‘Ōlelo no‘eau about geography can help us to understand natural phenomena, land use, and the history of a place. Although no ‘ōlelo no‘eau that refers specifically to Wailuanui could be found, there is one for Ke‘anae, one for Wākiu, and numerous for both moku the project areas are located within.

The one ‘ōlelo no‘eau for Wākiu is noted below and refers to the large hala (pandanus) groves in the Hana moku that, according to Handy and Handy, stretched from Ulaino through Wākiu to Hāna (1972):

Ka hala lau kalakala o Wakiu.

The thorny-leaved hala tree of Wakiu.

A boast about one who is not to be tampered with.
(Pukui 1983,)

Selected here are three ‘ōlelo no‘eau about Hāna with one speaking directly to the previous reference of Laniha‘aha‘a (a rain) as the poetic name for Hāna:

Mālia Hāna ke ahuwale nei Kaihuokala.

Hāna is calm, for Kaihuokala is clearly seen.

Kaihuokala is a hill on the Hāna side of Haleakalā. When no cloud rests upon it, it is a sign of clear weather. Also expressed *Mālie Maui, ke waiho mai la Kaihuokala.*
(Pukui 1983, #2124)

...

Hāna, mai Ko‘olau a Kaupō.

Hāna, from Ko‘olau to Kaupō.

The extent of the district of Hāna, Maui.
(Pukui 1983, #460)

...

Ka ua Laniha‘aha‘a o Hāna.

The Rain-of-the-low-sky of Hāna.

Refers to Hāna, Maui. Once, the young warrior chief Ka‘eokulani ran to a banana grove to escape a sudden squall. As he stood safe and dry in the shelter of the banana leaves he lifted his spear. It accidentally pierced through the leaves and a trickle of water came through. He remarked that the sky where he stood was so low he had pierced it.
(Pukui 1983, #1578)

Mele (songs) and oli (chants) are also integral repositories of information passed down through the generations. Like ‘ōlelo no‘eau, these were part of the oral tradition and subsequently became embodied in the written record when individuals such as Emerson in his *Unwritten Literature of Hawai‘i: The Sacred Songs of the Hula* gathered information through interviews

with native Hawaiians who he declared had “broken with the old superstitious tradition of concealment as to unearth so much of the unwritten literary wealth stored in Hawaiian memories” (1909:ix). A hula (dance chant) “*Oni ke Kula o Kama’oma’o*” about Maui’s famous places, including Ke’anae, is part of the Roberts Mele collection housed at the Bishop Museum:

*Ka’u ia e ha’i aku iā ‘oe,
He nani ia kuahiwi o Haleakalā.
Ua la’ā ia wahi kula Honua’ula,
Kí’eki’e ka makemake, i ka leo
o ka’u ipo,
Kīpahulu, Kaupō, Ke’anae,
Hāna,
Kēōkea, Kumuhonua, Waiki’o,
Kaulana puni o Maui loa.*

Let me tell you this,
Beautiful is the mountain of Haleakalā.
Dedicated is that little plain, Honua’ula,
High in the estimation, in the praise of
my lover.
There is Kīpahulu, Kaupō, Ke’anae, Hāna,
Kēōkea, Kumuhonua, Waiki’o,
Famous places all over the length of
Maui.

(Roberts 1995:170-171)

Kanikau, lamentation chants or songs composed to mourn the loss of loved ones, were also a facet of oral tradition that later became inherent in the written record. In many nineteenth century nupepa (newspapers), these dirges can be found within the obituaries of the time. One individual named Tonetakine Mapuhoe was highly eulogized with six kanikau in the July 10, 1865 edition of *Ke Au Okoa* . One of the kanikau references Wākiu:

Kanikau he aloha no T. Mapuhoe,
Ue kaanini mai ana o Kawaha,
Kuumpuna mai ka ua Ukiu o Makawao,
Ka ua Ulalena wale hoi o Piiholo,
Nou ka uhane i ka malu Kukui e Lilikoi,
O oe ka uhane lei hala o na pali Koolau,
I lei no a ohuohu i ka hala ka uka o Wakiu,
Anoano aloha ka uhane i na Lehua e Kamehaikana,
Ninau ka uhane i ka pali pahee i Kaliae,
Nou ka uhane auhulaana o ka pili Kaunoa,
Aloha kuu moopuna o ka makani Kilioopu,
Nana ka uhane o ka holu o ka lau ko o Puuohala,
Ka alohi anapa a ke pili o Kamaomao i ka lai,
Auwe! kuu lei aloha he moopuna—e.

UGEBINE KAWAHA

("He Kanikau Aloha no Tonetakine Mapuhoe" 1865)

3.1.2 The Mythical Era

Preserved in mo'olelo (traditional stories) are tales about a period in Hawai'i before kānaka (humans), when gods and deities inhabited the island, often bringing about the creation of lands and resources. Below are excerpts of mo'olelo set more generally in the larger moku of Hāna, as well as passages that speak to places connected to the project area in the adjacent Ko'olau moku.

3.1.2.1 *Ka Iwi o Pele*

There is a cinder cone located at Leho'ula near Aleamai, known to be the bones of Pele. There are two differing mo'olelo to explain how Pele's bones came to reside here under the hill in Hāna moku. The first places Pele in the story alongside a man named Namakaeha, who was traveling throughout Hawai'i from his homeland of Kahiki when he came upon Pele digging potatoes and deigned to fight her. Pele is defeated and her bones are stripped of their flesh and buried in the hill. Namakaeha then continues on his travels until he meets a man named Wakiu who, using his numerous bodies, kills Namakaeha. Also featured in this version is the cinder hill's association with the waters of Kāne and Kanaloa. Of the four principal gods of Hawaiian beliefs and religious systems, Kāne is the leading god who represents creation, including fresh water and atmospheric phenomenon like thunder and lightning, and is worshiped as an ancestor of both ali'i and maka'āinana. His diety brother, Kanaloa, is another main god and is significant as the god of the ocean. The story places Kāne and Kanaloa on the hill whereby the two akua made holes in the eastern side of the hill where water would have been found (Fornander 1919:506-510).

The second mo'olelo about the origins of the cinder hill is relayed by Emerson (1915) and finds Pele searching for a comfortable home to dwell in having travelled from Kahiki. She attempted to settle in Haleakalā but found it unsatisfactory being too large. She is pursued by her sister, Namakaokaha'i and Haui, the sea dragon, who are out to destroy her. Inevitably the corporeal body of Pele is indeed destroyed by her sister and her bones deposited at ka iwi o Pele, but she perservered in her spirit form, "flaming in the heavens above the summits of Mauna-loa and Mauna-kea" (Nathaniel B. Emerson 1915:XIV).

3.1.2.2 *Kū'ula-kai, the Fishing God, Hina-puku-i'a, His Wife, and Their Son, 'Ai'ai-a-Kū'ula*

The mo'olelo of Kū'ula-kai and his wife, Hina-puku-i'a, along with their son, 'Ai'ai-a-Kū'ula has been retold and translated in many collections of Hawaiian folklore and traditions including Thrum, Fornander, and Kawaharada.

Kū'ula and Hina lived in Hāna at Leho'ula near Ka Iwi o Pele where Kū'ula, possessed with mana kupua (supernatural powers) was able to control the fish of the area. The first fish of his daily catches were always offered to the fish god which made the fish obedient to him in return. He is said to have been the first person to construct a loko i'a (fishpond) near the shores of his home that was also called Kū'ula, which he stocked with fish that he allowed the people of

Hāna to come and gather when they needed. News of his great skill and his fishpond traveled to the chief, Kamohaoali'i, who lived at Wānanalua, who appointed Kū'ula as his head fisherman.

During this time, Kū'ula and Hina's son, 'Ai'ai slayed a giant puhi (eel) that had come from Moloka'i to live at a sea cave called Ka-puka-ulua. This puhi began taking all of the fish from Kū'ula's fishpond. Having devised a plan to kill the puhi, 'Ai'ai used landmarks on the shore to find certain places in the ocean to best help hook and land the puhi with the aid of people from Aleamai and Hane'o. The spine and jaw of the destroyed eel can still be found at Leho'ula. This eel played a large part in the continuing story of Kū'ula and 'Ai'ai, as the kahu (keeper) of this puhi traveled to Hāna to seek revenge against those who had slain it. He waited many years to seek his revenge and found it during a time of scarcity when he was given a fish by Kū'ula to present to Kamohaoali'i.

The kahu lied about the circumstances of the fish and deceitfully relayed the wrong message to the chief who became enraged and ordered Kū'ula and his family be put to death. Kū'ula, being imbued with mana kupua heard the plan and devised a way to escape with Hina as mist into the ocean, leaving the young 'Ai'ai to seek revenge on the chief and anyone who obeyed the ali'i. The fish of the area disappeared along with Kū'ula and Hina. Only after 'Ai'ai was taken in and treated kindly by a boy and his family did 'Ai'ai show his friend how to catch fish using the stone fish Pōhaku-muone and give the first two fish of a catch as an offering to Kū'ula and Hina, establishing the first ko'a (fish shrine, fishing grounds) and returning great supplies of fish to Hāna.

3.1.2.3 *Hā'alua - The He'e Kūpua of Wailuanui*

Originally printed in 1838, the book, *Ka moolelo Hawaii (The history of Hawai'i)*, was the first attempt by native writers to collect oral traditions and record them in print. According to the scholars who contributed to *Ka moolelo Hawaii*, the ocean located at Wailua in Ko'olau was known as Haalua (*Ka Moolelo Hawaii* 1838:9). As previously stated by Pukui and others, place names are often derived from interesting events known to have occurred at that place or from names of the deities known to have lived there (1974:x). In the case of Haalua, both are relevant as relayed in *The Hawaiian Almanac and Annual for 1902* where we find the mo'olelo of the aforementioned famous lawai'a (fisherman) of Hana, 'Ai'ai (see Section 3.1.2.2), as translated by S.N. Emerson from Moses Manu's original:

Aiai told his friend to go and kill the big hee kupua (wonderful octopus [sic]) in the deep sea, right out of Wailuanui, Koolau, and he consented.

When the canoes were made ready and drawn to the beach and the people came prepared to go to Koolau, Aiai brought the hokeo (fishing gourd) where the leho (kauri shell) that Kuula his father gave him was kept and gave it to his friend. This shell is called Lehoula and the locality at Hana of that name was called after it.

Then the canoes and people sailed away till they got out along the palis near Kopiliula where they rested. Aiai was not with the party, but overlooked their operations from the pali of Puhiai.

While they rested, preparation for the lowering of the leho was being made and when ready, Aiai's friend called on Kuula and Hina for the assistance of their wonderful powers, mana kupua. When he was through he took off the covering of the gourd and took the leho, which had rich beautiful colors like the rainbow. and [sic] attaching it to the line he lowered it into the sea where it sent out rays of a fiery light. The hee, Haalua, was so attracted by its radiance that it came out of its hole and with its great arms, which was as long and large as a full grown coconut tree, came up to the surface of the water and stood there like a coconut grove. The men were frightened for it approached and went right into the canoes with the intention of destroying them and the men and capturing the leho; but it failed, because at the proper time Aiai's friend, with his skill and power, had provided himself with a stone which he shoved into the head of the squid and the weight of the stone drew it down to the bottom of the sea and kept it there, being powerless to remove it so that he died. The men seized and cut off one of the arms which was so big that it loaded the canoes down so that they returned to Hana. When the squid died it turned to stone and is pointed out today just outside of Wailuanui, where a stone formation resembles the arms and body of a squid minus one arm. (Thomas G. Thrum 1902:117, underlining for emphasis)

3.1.2.4 *Manō Kānaka of Hāna*

Throughout Hawaiian mo'olelo there are many representations of manō (sharks) as kumupa'a (ancestral gods) and 'aumakua (deified family gods). The greatest known ancestral shark god, Kamohoali'i, the brother of Pele, was known to take the form of a handsome man. On one such occasion retold by Thrum (1907:255-268) Kamohoali'i takes Kalei, a woman of Waipi'o, as his wife. From their union a boy, Nanaue, is born as a manō kanaka (shark-man), and although loved and cared for by his family, his voracity as a man-eater was too great to overcome and he is exposed when the shark mouth on his back is revealed. When the people of Waipi'o realize he is the reason for the many missing swimmers in the area, they prepare to kill him and his human family, but Kamohoali'i steps in and the people of Hawai'i exile him instead. The shark-man travels to Hāna where he again takes human form and because he is so handsome and beguiling becomes a part of the community. Unable to keep from devouring people, however, he is once again forced to flee to Moloka'i. Eventually Nanaue is destroyed by fire with the assistance of another demigod, the Hermit Crab, Unauna.

A different mo'olelo featuring Nanaue as a hunchbacked hermit of Hāna gives us the origin of a type of poisonous algae called "limu make o Hāna" (the deadly seaweed of Hāna). After being determined to be a man-eating manō kanaka, Nanaue is captured and put to death in an imu (underground oven), but his deadly legacy continued:

Late that afternoon, as Nanaue's body crumbled to ashes, a breeze sprang up. In a gusty swirl it caught up the ashes, still glowing, and carried them out over the bay where they were scattered upon the water. That is the end of Nanaue, the people thought with relief.

Not long afterwards, a new sort of sea-moss was noticed growing on the ocean floor. The colors in it were mingled blue, gray, and lavender, and when it was held in the sunlight it gave a shimmering, silvery effect. But though everyone loved to eat the various mosses and seaweeds found in these waters, something made them cautious about this new one. They fed it first to a hog- and the hog died.

“It is the ashes of Nanaue,” they said, remembering how the charred fragments had fallen into the sea. “They have become a limu-make.”

To this day, the silvery limu is poisonous and is never eaten by those who find it in the ocean of that beautiful bay. (B. Lyons 1973:28-33)

According to Malo, this moss grew in a pool or pond in Mū’olea in Hāna moku and was smeared on the tips of spears, making them fatal. Those who were in charge of this smearing were referred to as hamohamo and they could only find this moss in that singular place (1898:266).

There are many other, similar stories of manō kānaka (shark-men) who are identified by the shark’s mouth located on their backs and their propensity for man-eating. One such individual identified in a mo’olelo from *The Honolulu Advertiser* (1934) was known to have come from Hāna and began life as a rat, later changing his form to a hanging bunch of bananas, eventually transforming into a human with a shark’s mouth on his back. Like other manō kānaka, this individual, known as Kamaikaahui, kept this physical difference concealed by a piece of kapa draped over his shoulders. He began to desire human flesh and would travel down to the shore where he dove beneath the waters to prey on hapless swimmers. When he was suspected as the killer, he jumped into the water, transformed into a shark and fled, never to be seen in Hāna again. However, his tale is continued in a mo’olelo relayed by Fornander (1918b:374) about a hero of Kaua’i, Palila, who travelled to Waikele on O’ahu where he encounters Kamaikaahui who has continued his devastating man-eating. Ahuapau, the ruler of O’ahu, and his people are afraid of Kamaikaahui and a chiefly decree is sent out stating that anyone who could rid O’ahu of the shark-man would be made an ali’i and have the privilege of entering Kanelaauli heiau at Kanehuna (near Punchbowl). With his war club, Huliamaahi, Palila obstructed Kamaikaahui’s escape to the ocean and struck him continuously until the manō kanaka perished.

3.1.2.5 *The Caves of Wai’ānapanapa*

During the rule of Kamohoali’i, the chiefess, Popoalaea, is given as tribute to a chief named Kaakea. They live near Honokalani. Kaakea is a jealous and mean husband, disliking the fondness Popoalaea has for her younger brother. Rumors about the young siblings are repeated to Kaakea who hatches a plan to kill his wife. Before he can do so, she escapes with her loyal attendant. They hide themselves away in the sea caves at Wai’ānapanapa, only appearing at night to obtain food. The people of the community begin to whisper about spirits wandering the area at night. The enraged chief believes he knows what is really happening and waits, watching for the spirits to appear. Kaakea heads toward the ocean and spies the kahili of his wife in the reflection on the smooth, glistening surface of the pool beneath where he stands above the caves. He dives into the pool, murders both women, their blood splashing against the

rocks. He tosses their bodies into the water which turned prismatic in pity over Popoalaea's death (Beckwith 1970:381).

According to a community study for Hāna Cultural Center (Allen et al. 1995:29-30), the origins of the name "Wai'ānapanapa" comes from the translation "water flashing rainbow hues" from the prismatic color that occurred when Popoalaea perished. The same study states that the spring from which the pool originates turns a redder hue during the season when the murder was to have occurred, with the natural phenomenon of gathering 'opae 'ula signaling the casting out of evil spirits.

3.1.3 Nā Po'e Kahiko o Maui Hikina – Traditional Hawaiian Settlement of Maui Hikina

The mythical era's oral traditions lay the framework for the record of early Hawaiian settlement of Maui Hikina as a captivating testament to the coexistence between nature and culture. The region, fecund with volcanic soil and bountiful water resources, profoundly connected the people of East Maui to a sustainable, subsistence living through an intricate web of extensive cultivation, knowledgeable fishing practices, and resourceful craftsmanship.

Maui Hikina can be defined by its landscape and geography which includes fertile valleys of rich volcanic soil thronged with minerals and nutrients, marked by complex networks of streams, rivers, and natural ponds. The ingenious and industrious inhabitants harnessed the geography of the area alongside the abundant water resources through intricate systems of irrigation aqueducts known as 'auwai that redirected water to engineered areas like permanent, stone-constructed terraces, lo'i kalo, and fishponds (Craighill E.S. Handy and Handy 1972:26). The water would then be returned to its natural course to ensure connectivity of the precious resource and its continued use downstream. This fertile 'āina (land) allowed extensive cultivation of kalo (taro) and 'uala (sweet potato) that yielded bountiful harvests, thereby sustaining the community.

Along with the cultivation of the land, fishing, too, was pivotal to the successful settlement of Maui Hikina. According to Titcomb, "Fishing was one of the constant, necessary occupations. Everyone knew how to obtain fish by various techniques" (1977:3). Freshwater streams and mountain pools were home to 'o'opu (gobies) and 'opae (shrimp) which were mainly gathered by the women (Titcomb and Pukui 1977:4). The surrounding ocean, with its abundant marine life and intricate coral reefs, provided a rich source of sustenance. Hawaiians devised sophisticated fishing techniques and utilized the coastal geography to ensure a constant supply of aquatic resources; the people of Kā'u on Hawai'i Island referred to the seaward areas of their ahupua'a as an ipukai or meat gourd (Craighill E. S. Handy et al. 1958:4) so much so was the reliance on the ocean as a source of protein.

Craftsmanship in Maui Hikina was yet another manifestation of the deep communion between the inhabitants and the environment they settled. Skilled artisans derived inspiration from the natural resources found in their surroundings, crafting items of both practical and cultural significance. These included intricately woven baskets from the fibers of local plants, wooden

tools and implements from the area's native trees, and exquisitely designed garments, showcasing an intimate connection between geography and artistry.

3.1.3.1 *Warfare, Politics, and Chiefly Preference*

According to Kamakau, "Hana was a land beloved by chiefs because of the fortress of Ka'uiki and the ease of living there" (1961:80). The hill itself is located on the southeast side of Kapueokahi (Hāna Bay) and is a 400-foot cinder cone. Kamakau offers further insight in the following:

The hill of Ka'uiki was the fortified ground for the Hawaiian forces, a fortress celebrated in ancient days for its strength as a refuge in time of danger. It was ascended by a ladder, the body of which was made of 'ohi'a wood from Kealakomo, fastened with withes of 'ie vine from Paiolopawa. The summit was covered with kanawao plants from Kawaipaka [to serve as bedding]. The contents of the fishponds of Kihahale were heaped like an icean on Ka'uiki. Big 'awa roots of Kualakila delighted the nostrils of the precious first-born chiefs with their aroma. Wananalua was the battlefield and the fortified walls of Ka'uiki. From Mokuhana came the whistle warning where to strike the leaping whales [their opponents]. (ibid)

With this fortress as a central point, the successful settlement of Maui Hikina was the backdrop of many legendary battles of Hawaiian history including between two brothers of a chiefly Maui line. Lono-a-Pi'ilani and Kiha-a-Pi'ilani, the two sons of the ruling chief of Maui, Pi'ilani, sometime in the fourteenth century, undertook a great campaign against one another after the death of their father. Kiha-a-Pi'ilani gained the support of his brother-in-law, the great 'Umi-a-Liloa of Hawai'i Island, who helped to prepare an immense armory of war canoes and weapons that launched from Hawai'i, across the 'Alenuihāhā Channel, bound for Hāna and its ali'i, the father-in-law of Kiha-a-Pi'ilani, Ho'olae-makua.

Upon arriving on Maui, Ho'olae-makua's forces were able to defend against the warriors of Kiha-a-Pi'ilani and 'Umi-a-Liloa. "Ho'olae-makua fought with those who slung the solid 'ala stones of Kawaipapa, the skilled throwers of smooth pebbles of Waika-'ahiki, the expert stone-tossers of Waikiu [probably Wākiu] and Honokalani, and the quick stone-slinging lads of Ka'eleku" (Samuel Mānaiakalani Kamakau 1961:29, underlining for emphasis). When the chief of Hawai'i asked his brother-in-law if there was another place to land his fleets of canoes, Kiha-a-Pi'ilani advised that there was a small harbor at Ko'olau called Wailua-iki and another landing at Wailua-nui.

When the canoes reached Wailua-iki, they were dismantled and set upright, and in that way the innumerable war canoes from Hawaii could be beached. After all the canoes were beached the men began to go overland to the site of battle. Upon reaching 'Ula'ino, the fighting commenced at Makaolehua, and in 'Akiala at La'ahana, at Kawaikau, at Nenewepue, at Kameha'ikana's kukui tree, and all the way along to Honokalani and Wakiu, into the pandanus grove of Punahoa. When the battle was fought with that brave warrior of the fortress of Ka'uiki hill, the small, strong-handed fellow [Ho'olae-makua] proved his fearlessness. He drove into his foes with no

thought of fear and scattered them at Kalaniwaawa. (Samuel Mānaiakalani Kamakau 1961:30, underlining for emphasis)

Although the forces of Ho'olae-makua were able to repel the army of his son-in-law and 'Umi-a-Liloa for a prolonged time, eventually he and his warriors at Ka'uiki fortress were overcome and defeated. When news of his loyal subject's defeat reached Lono-a-Pi'ilani, the elder son of Pi'ilani was overcome with dread and was said to have died of fear leaving the rule of Maui to his brother (Samuel Mānaiakalani Kamakau 1961:31).

One of the feats of engineering during Kiha-a-Pi'ilani's reign as the ruling chief of Maui was the final construction of Ke Ala Loa o Maui, also known as the Pi'ilani Trail, Hoapili Trail, and the King's Highway. Pi'ilani had created much of this basalt-paved roadway, but Kiha-a-Pi'ilani extended the road beyond Hāna to include Kaupo and Haleakalā which was also referred to as the kipapa (pavement) of Kiha-a-Pi'ilani (Craighill E.S. Handy and Handy 1972:489; MKE Associates LLC and Fung Associates Inc 2013:2-6). This road allowed the entire island to be connected, facilitating travel, communication, trade, and war (Craighill E.S. Handy and Handy 1972:489).

After Kiha-a-Pi'ilani's reign, his heirs, Kamalalawalu and Kauhi-a-Kama reigned with some skirmishes with Hawai'i and O'ahu occurring. However, it was not until the rule of Kekaulike, who resided in Kaupō, that a time of near continual warfare between Maui and Hawai'i began. Upon his death, Kekaulike named Kamehamehanui as his successor rather than his eldest son, Kauhi'aimokuakama. Great battles across Lāhainā moku took place between the brothers, culminating when Kauhi'aimokuakama was killed. The vanquished brother's ally from O'ahu, Peleioholani, conceded to Kamehamehanui and his uncle, Alapainui, of Hawai'i, that enough bloodshed had occurred, ending the war and restoring Kamehamehanui as mō'i of Maui. Kamehamehanui witnessed another Hawai'i Island ruler, Kalaniopu'u, invade Hāna moku and capture Kau'iki, controlling the district from 1759 until 1781 (Fornander 1880:214-215). Upon Kamehamehanui's death, his brother, Kahekili, became mō'i and took up the mantle of warfare against Hawai'i, continually repelling the enemy until the culminating battles that ensued with Kamehameha I overpowering the Maui warriors through his use of foreign technology and assistance (Samuel Mānaiakalani Kamakau 1961:148) and setting the path toward unification of the Pae 'Āina (Hawaiian Islands).

3.1.3.2 Ka 'Oihana Lawai'a ma Maui Hikina – Aquaculture and Traditional Fishing in Maui Hikina

The Hawaiian worldview and organization of nature and space not only applied to the skies above and natural phenomena, as noted previously, but also to the natural divisions of the oceans and lands. With regard to the ocean, the named sections began at ae-kai, or the strip of beach where the waves ran after breaking and extended to the deep ocean, or moana, which reached Kahiki-moe the extreme boundary of the ocean (Malo 1951:25-26) . In 1839, definition of the fishing grounds and fishing rights of the maka'āinana (common people), as well as that of

the konohiki (landlord) and ali'i, were recorded as a part of the earliest Constitution of the Kingdom, a structure that may have been an extension of the traditional management system.

Of the free and prohibited fishing grounds, the sections of the water were defined as follows – for the maka'āinana the fishing grounds were all those grounds without coral reef such as the kilohe'e (sea for spearing squid), the luhe'e (sea for squid fishing), the malolo (sea of the flying fishing), and moana (*Translation of the Constitution and Laws of the Hawaiian Island, Established in the Reign of Kamehameha III 1842:36*). The fishing grounds from the coral reefs to the sea beach were reserved for the konohiki (landlords) and tenants of their lands (ahupua'a) but not for others.

Maui Hikina can claim, through mo'olelo, a storied history of fishing traditions. Hāna is the home of Kū'ula-kai, the deified fishing god, his wife, Hina-puku-i'a, and their son, 'Ai'ai-a-Kū'ula, mentioned above in mo'olelo of the area (see Sections 3.1.2.2 and 3.1.2.3). Many of the amazing exploits of 'Ai'ai center around Maui Hikina in both Ko'olau and Hāna moku.

The story gives us context for the 'olelo noe'au: "Hāna i ka i'a iki. Hāna of the little fish" (Pukui 1983:54) a direct reference to the lack of fish in Hāna when they vanished with the planned demise, and eventual disappearance, of Kū'ula and Hina. The duality of the ever expanding Hawaiian worldview is present in the story, because alongside this scarcity, the mo'olelo also explains how Hāna becomes the birthplace of fishponds and a revered fishing community with timeworn traditions, through its connection with Kū'ula and 'Ai'ai. It is clearly recognizable, through this mythical tale of the establishment of fishing ko'a originating in Hāna and therefore the people of Hāna were strongly connected to the ocean. Its waters were noted by nineteenth century historians and writers for its well-stocked ko'a and fishponds. According to Beckwith, Hāna was beloved by ali'i because it was easy to live in the area with the abundance of fish from the fishponds below the hill fortress of Ka'uiki (Beckwith 1940:380).

In the continuing mo'olelo of 'Ai'ai, translated by S.N. Emerson, the Hāna ko'a, and the fish within them, are laid out:

After the death of the King of Hana Aiai left the people of Haneoo catching *hinalea* and went to Kumaka, a place where fresh water springs out from the sand and rocks near the surf of Puhele, at Hamoa, where lay a large, long stone in the sea. This stone he raised upright and also placed others about the water spring and said to his friend: "Today I name this stone Ku-a-lanakila, for I have triumphed over my enemies, and I hereby declare that all fishes, crabs and sea moss shall return again in plenty throughout the seas of Hana, as in the days when my parents were living in the flesh at Lehoula."

From the time Aiai raised this stone up to the present generation, the story of Ku-ula and Aiai is well preserved, and people have flocked to the place where the stone stands to see it and verify the tradition. Some kahunas advise their suffering patients to pay a visit to the stone, Ku-lanakila, with some offerings for relief from their sickness and also to bathe in the spring of Kumaka and the surf of Puhele.

This was a favorite spot of the kings and chiefs of the olden times for bathing and surf

riding, and is often referred to in the stories and legends of Hawaii-nei.

This was the first stone raised by Aiai and established as a Kuula at Hamoa, and the old people of Hana attributed the return of the fish to their waters to its influence.

After Aiai's practice of his father's instructions and the return of the fishes, his fame spread throughout the district and the people made much of him during his stay with them.

A great service wrought by Aiai during his boyhood was the teaching of his friends and his friends' parents how to make the various nets for all kinds of fishing. He also taught them to make the different kinds of fishing lines. When they were skilled in all these branches of knowledge pertaining to fishing he called the people together, and in their presence declared his friend to be the head fisherman of Hana, with full control of all the stations (ko'a i'a) he had established. This wonder working power second to none, possessed by Aiai, he now conferred on his friend whereby his (Aiai's) name would be perpetuated and his fame established all over the land.

The first ko'a i'a (fishing ground, or station) where Aiai measured the depth of the sea is near Aleamai, his birth-place, and is called Kapukaulua, where he hooked and killed the eel Koonā. It is a few miles from the shore to the southeast of the rocky islet called Alau. The second station that he established was at a spot about a mile from Haneoo and Hamoa which was for the kala, palani, nanue, puhi and ula. These varieties of fish are not caught by nets, or with the hook, but in baskets which are filled with bait and let down in the deep sea.

The third station, which he named Koauli, was located out in the deep sea for the deep-sea fishes, the depth ranging about 200 fathoms. This is the *ko'a* (station) that fishermen have to locate by certain shore bearings least a mistake is made as to the exact spot and the bottom be found rocky and the hooks entangle in the coral. In all the stations Aiai located there are no coral ledges where the fishermen's hook would catch, or the line be entangled, and old Hawaiians commended the skill of such locations, believing that the success of Aiai's work was due to his father's influence as an ocean deity.

Some days later Aiai went over to the bay of Wananalua, the present port of Hana, with its noted hill of Kauiki and the sandy beach of Pueokahi. Here he made and placed a kuula, and also placed a fish stone in the cliff of Kauiki whereon is the ko'a known as Makakiloia. And the people of Hana give credit to this stone for the frequent appearance of the akule, oio, moi, and other fishes in their waters.

Aiai's good work did not stop at this point, but proceeding to Honomāe he picked up three pebbles at the shore and going into the sea, out beyond the breaking surf, he placed them there. In due time these three pebbles gathered others together and made a regular ridge, and when this was accomplished the aweoweo gathered from the far ocean to this ridge of pebbles for rest, whereupon all the people came with nets, hook, and line and caught them as they desired. The writer witnessed this in 1845 with his own eyes. This ko'a for aweoweo is still there but difficult to locate from the fact that all the old residents are gone; either dead or moved away. (Thomas G. Thrum 1902:114-115)

In *Ka ‘Oihana Lawai‘a* (2006), the traditional Hawaiian fishing methods described by the Hon. Daniel Kahā‘ulelio in his five month serial in *Ka Nupepa Kuokoa* in 1902 mentions how the nenuē (*Kyphosus bigibbus*, *K. vaigiensis*) of Hāna were caught using fish hooks. Judge Kahā‘ulelio explains that in places where the ocean was shallow, the nenuē would gather in fishing grounds. One such area was situated below Ka‘uiki Hill and another by the island of Ala‘au. The nenuē were said to be “fed just as one fed tame hogs” on seaweed in these fishing grounds where they were often caught by net (Kahā‘ulelio 2006:185). However, another judge in Hāna was known to feed the stocks until they became great and fat, using his skills at hook fishing to catch the nenuē. The mele composed for this Hāna fishing ground is offered by Judge Kahā‘ulelio:

Ala‘au, past Kaiwiopēle
 Is like a bell ringing constantly for Haneo‘o,
 Whose sound is not hushed by the waters of Kūmaka,
 Rolling and slipping by goes the billows of Pūhele,
 To see the double opening containers of Hāmoa,
 A mischievous one, a hero from that woodland,
 I dodge the deluging showers of Hanalei,
 Let these fishing grounds be a favorite garland,
 Yearned after by day and by night.
 I take a sip, and we shall take a bite.
 (Kahā‘ulelio 2006:185)

The previously mentioned battle (see Section 3.1.2.3) between ‘Ai‘ai’s friend and the he‘e kūpua, Hā‘aluea, took place outside of the project area, but the people of Hāna took part in the battle and returned triumphant with one the great squid’s arms. The great he‘e kūpua is also mentioned in an oli regarding the fish of the ocean published in *Nupepa Kuokoa* in 1866:

*Na Aumakua mai ka hikina a
 ke komohana,
 Ia Kula-uka, ia Kula-kai, ia Ku-
 ula, ia Aiai
 Ia Hina-puku-i‘a, ia Hina-puku-
 ai;
 E ai oe e haawi au
 O Hamakua a ka Ulili,
 E haka ana i ka pali:
 E puhi ana i ka lawaia.
 Make e ka‘e ole la i kai,*

*To the Aumakua from the east to the
 west,
 To those of the upland, those of the
 shore, to Ku-ula, to Aiai,
 To Hina-who-produces-fish (and) to
 Hina-who-produces-plant-foods,
 Eat thou that which I give,
 At Hamakua of the steep trail,
 That winds up the precipice;
 Blow (luck) for the fisherman,*

*O ka puhi niho kalawalawa;
E ui a'e i na noho hale,
Ka anae hoolohe kaumuku,*

*Ka olola iki moe wai,
Ka uouoa pili kahakai.*

*O ka hee nui o Haaluea;
E noho ana o kole maka
onaona i ka lua,
E holoholo ana me kahi manini
ili kakau,
O ke kahe a ka hou-kahi.
Mako o kumu-nui-i-ka-lehua,*

*O ka awela ili ulaula,
O kalekale iki aho loa;
Alae au, oio ana,
He uku oe no ka maikai,
O ka umaumalei ke lii,
O ka oeo la i ka moana;
O ka uka halukuluku,*

*O ka opelu hoolili,
O ka malolo lele puu-kai,*

*E hooluheluhe ana i kana lele,
O kekee la o puhikii,
O Aiheihe kekahi,
O ke a'u nuku oioi,
Ke 'ahi maha oo o Kalae la,
Kahi lauhala pa i ke kua la;*

Elieli kapu, elieli noa,

*May he catch the gumless uhu at sea.
The eel with irregular teeth,
To bring back to the stay-at-home,
The big mullet that listens to loud
noises,*

*The little olola that sleeps in water,
The uouoa fish that lives near the
shore;*

*The great octopus of Haaluea,
The bright-eyed kole fish dwelling in
holes,*

*Swimming about with the stripe-
skinned manini,*

(And) the gliding hou-kahi;

*May he catch the great kumu (colored
like) the lehua;*

The red skinned awela,

The little, swift kalekale,

The swimming 'a'u, the 'o'io fish,

The good uku fish,

The umaumalei, chief (of fish),

The oeo fish of the deep,

*The aku fish that makes a rumbling
noise,*

The glistening opelu fish,

*The malolo that flies over the rising
wave,*

Flies with drooping wings,

The puhikii (flying) crookedly;

The iheihe fish too,

The 'a'u fish with the long snout,

(And) the strong gilled 'ahi of Kalae,

*(Fill) the lauhala (baskets) to carry on
the back,*

Dig profoundly, dig deeply,

la noho honua, noa.

Grant life to us on earth.

Our prayer is freed.

(Kalauaukumuole, translated by Mary
K. Pukui for the Bishop Museum)

3.1.3.3 *Ka 'Oihana Mahi 'Ai no Maui Hikina – Traditional Agriculture of Hāna*

The Hawaiian worldview and sustainability relied heavily on reciprocity throughout the ahupua'a. The people of the uplands relied on the people of the ocean, and vice versa, to ensure that they had equal amounts of ocean and land resources to continually thrive. It was common for the extended members of an 'ohana to live spread across the coast and uplands to ensure this type of reciprocity maintained community viability through fishing and farming. There is a saying "o ko-a-uka, o ko-a-kai" (of the uplands, of the sea) which refers to this system of kinship exchange that is often used as a trope within traditional mo'olelo. This trope of division of labor paired with geography is evident in the mo'olelo of Kū'ula-kai, who had a younger brother, Kū'ula-uka, whose work, when split between the two, became farming the lands from the seashore to the uplands. Kū'ula-uka eventually moved to the mountains where he took Hina-puku-i'a's sister, Hina-ulu-'ōhi'a, as his wife. (Kawaharada 2006:xvii).

According to Handy and Handy, Maui consisted of five main population centers. Hāna, one of the centers of East Maui, focused on dry taro and sweet potato cultivation (1972:272). Much of Hāna was cultivated in upland kalo along with banana, yam, wauke, and olona but it was also very famous for 'awa (Craighill E.S. Handy and Handy 1972:726) and Pukui stated that the ali'i also coveted the area for the abundant woods best for crafting scaffolds and ladders to scale fortresses of their enemies during times of war (Craighill E.S. Handy and Handy 1972:728).

Also offered by Handy and Handy (1972:729), planters of Hāna were thankful to the chief Kaleikini, who, noticing the effect of the salty winds blown through the underground caverns and up through blow holes, blanketing the fertile lands above, devised a way to protect his people and 'āina. Sending canoes to Lanai in search of kauila wood logs, he fashioned seals for the blow holes so that no further salt spray would blight the land, making it easier and more fruitful for planting. Some of these logs were still apparently found in the holes near Honokalani during the time of Handy and Handy's research in the 1940s (ibid).

The agriculture of Wākiu, although virtually missing from the resources listed in the few claims of the Māhele 'Āina, can be inferred based on the maps of the area and the cultivation occurring throughout other ahupua'a of Hāna moku. Handy and Handy reference Honokalani, the adjacent ahupua'a to Wākiu as "a sizable native settlement, where some dry taro is grown" and the areas of North Hana as "gently sloping land covered by a recent rugged lava flow; hence there are no constantly flowing streams... [but] dry taro flourishes... in the rich soil composed of a mixture of humus and decomposed lava, which is plenteously watered by rain except during occasional periods of drought" (ibid). The authors also note that in a small valley

just below Olopawa Peak, in the ahupuaʻa of Wākiu, taro had been cultivated at around 1,500 feet during the dry seasons (1972:730).

One of the kuleana claims of an ʻāina kula, Helu 4931 by Kaahaaina, mentions the large hala (*Pandanus odoratissimus*) forest that borders the 5-acre area distinguished by the claimant (see Figure 3-4). In addition, maps of the area along the coast demarcate “hala forest” stretching from Kaʻeleku to Kawaipapa (Dodge 1878). Hala usage was primarily through the leaves, or lauhala, which are long, slender, and typically have thorns, and were gathered and prepared to weave into various household goods such as mats, pillows, fans, and baskets (Abbott 1992). The leaves were also integral in thatching hale pili (grass houses) (Abbott 1992:69) while the fruit (keys) were eaten in times of need, to make lei, and the individual drupes (dried keys) were used as brushes and stamps for kapa (Abbott 1992:43, 54-55, 128). Abbott also mentions use of the hala as medicine (Abbott 1992:101) and on the rare occasion to create cordage using the aerial roots (ule hala) of the female tree (Abbott 1992:63; Summers 1990:99).

Further south, past the town of Hāna, in the area of Haneoʻo, Handy and Handy (1972) noted that the subsistence of the people in that community depended on different agricultural products than witnessed further north. Their diet relied on ʻuala (sweet potato) and fish and was supplemented by yams and sugar from further inland. They also note that ʻawa (*Piper methysticum*), wauke (paper mulberry, *Broussonetia papyrifera*), and olonā (*Touchardia latifolia*) were grown in the area, as well (1972:730).

4931 Kaahaaina Aloha oukou e ka
 pui hona kuleana ma Hinolulu Oahu
 Ke hai aku nei au ia oukou i kōu
 kuleana Aina, eia i Waikīu i Hana, eia
 ka nui o ua kuleana nei, he nui kuma-
 makolu kaulahas ka loa, he nui ku-
 mamakahi kaulahas ka laula, eia ka-
 hi huwa nui, he lapa aa nui iwaena
 o ua kuleana nei, ua moe aku ia māi
 kekahi aao, ka loa, a kekahi aao
 ka loa, eia kaulahas ka nui o ua
 lapa aa nei, eia ma ka Hihina
 Kulanakauhale o Ake, ma ke Komohana
 he Alamui Aupuni, ma ka Hihina o Kau
 he Ala e iho ana i Kai, ma ke Komohana
 hema ka ulukala nui o Halaaka.

Figure 3-4 Native Register Claim by Kaahaaina for Helu 4931, highlighting for emphasis of the large hala forest of Haloaka [Native Register, Reel 4, Volume 6, Image 00017 and 00018 (Office of Hawaiian Affairs 2011)].

3.1.3.4 Traditional Ceremonial Sites

Locations where the divine and the secular intersect, such as heiau (temples), ko’a (shrines), and other wahi kapu (sacred sites), were recognized for their significance through the building of structures and retelling of tales within their confines. These were spaces for offerings and ceremonies, where individuals sought communion with the divine to ensure prosperity. The primary purpose of ritual sites was to bestow blessings upon the people, chiefs, and those resources they depended upon. It is important to acknowledge not only monumental sacred sites like heiau, but also the everyday places utilized by the maka’āinana. All of these ceremonial spaces were pivotal for both the fertility of the land and the well-being of the community. Additionally, Patrick V. Kirch argues that heiau were also important places where people made systematic observations of the heavens (2019:3).

The first heiau built on Maui are historically associated with the chief Hua (also known as Hua-a-Pohukaina and Hua-a-Kapuaimanaku), born in Lāhainā and having ruled before the 10th

century (Thos. G. Thrum 1924:24). This chief erected heiau in both West and East Maui. In *Tales and Traditions of the People of Old*, Kamakau (1991:148) presents a mo’olelo of Hua that paid homage to his warrior prowess with his war club, Kalā’aualomakauahi, and mentions the various heiau he built:

*‘O Hua-a-Kapua’i-manakū,
Ke ‘li’i o Lahaina,
I hanau no i Kahoma i Kanahā,
‘O Lelenuikuakamau kahua.
O Wai’ie ke ēwe,
O Luakona ka piko,
O Kaua’ula ka a’a,
I Hale’ili i Kahili.
Noho i Wānanalua,
Hahau i ke kaua o Kaniuho’opio,
I hākā i Hakalau;
I pā iā Kaona i Hikianakalā,
I ili iā Kana,
I pale ‘ia iā Kalā’aualomakauahi,
I ka lā’au kapu a Hua.
Ha’ule i Kehoni i Ki’ikewe,
I ka pā i Niua ke ‘li’i ‘o Hua.*

Hua-a-Kapua’i-manakū,
The chief of Lahaina,
Was born at Kahoma, at Kanahā,
Lelenuikuakamau the site.
At Wai’ie [heiau] the placenta,
At Luakona [heiau] the navel cord,
At Kaua’ula the caul,
At Hale’ili, on Kahili.
He lived in Wānanalua,
Made kapu Honua’ula [heiau];
Smote in the battle of Kaniuho’opia,
Fought at Hakalau;
Was struck by Kaona at Hikianakalā,
Fell upon by Kana,
Warded them off with Kalā’aualomakauahi,
The sacred war club of Hua,
He died at Kehoni at Ki’ikewe,
In the enclosure at Niua, did the chief Hua die.
He was taken upland and laid away.

(Kamakau 1991:148)

In another mo’olelo about Hua-a-Pohukaina, the sacredness of heiau and those individuals tasked with their caretaking is apparent:

In the tradition of the Huas [for there were four of them], this same Hua-a-Pohukaina became infamous, as it is recorded of him that through a dispute with Leahoomoe, his high priest, about some birds, he in anger condemned the priest to death and his house to be burnt. The vengeance for this act was swift in coming and terrible in its consequences, for the springs dried up; the streams ceased running; no rain fell for three and a half years, and famine and desolation spread abroad, so that Hua and his people perished miserably, whereby the saying arose: “Nakeke na iwi a Hua i ka la” (Rattling are the bones of Hua in the sun). (Thos. G. Thrum 1924:25)

Kolb notes changes in the investment of labor and monumentality of religious sites, connecting it with the heightening degree of hierarchical relationships, intense warfare, and religious authority of the elite (1994:521). Unlike the smaller public marai (shrine) seen in other parts of Polynesia, by the 15th-century and well into the 16th-century, which witnessed the unification of island chiefdoms, heiau in Hawai’i “appears to follow a common trajectory among complex societies, where religious authority is increasing expressed through the political economy, and serves as a contextual model of a complex chiefdom undergoing rapid political stratification” (Kolb et al. 1994:521).

Orr (in Haun et al. 2014:17) lists 34 heiau between Kea'a Beach to Pu'uiki in Hāna. Māpele heiau, or medium-sized temples built for agricultural success and Lono worship, numbered 12, 6 were large and possible luakini heiau dedicated to Kū where human sacrifice may have taken place, 6 more were ko'a (shrines), and 2 were pu'uhonua (refuges). The largest heiau in the entire Hawaiian Island chain, Piilanihale at Honomaele, is located within Hāna moku north of the project area. The heiau has been classified as a luakini and measures 420 x 320 feet and is 50 feet at its highest point with walls that are 6 feet high and 8 feet thick (Walker 1929:10).

Other heiau that were identified by Walker in his survey of Maui (1929:8-10) and located near the project area are: Kaniomoku pu'uhonua, Mokae (a platform), Paoauhau (destroyed), Kawaipapa (destroyed by water and road), Kuakealii located at Honokalani, and Ohala at Honokalani near the Wai'anapanapa trail.

3.1.3.5 Queen Ka'ahumanu

Around 1768, in a cave near Ka'uiki, Ka'ahumanu was born at Pōnaha-ke-one to her chiefly parents, Namahana of Maui and Keeaumoku of Kona, at a time of great change in the Hawaiian Islands (Samuel Mānaiakalani Kamakau 1961:127). The favorite wife and frequent advisor of King Kamehameha I, Ka'ahumanu would be named the Kuhina Nui (regent or premier) to Liholiho, King Kamehameha II, upon the death of her husband. Together, Queen Ka'ahumanu and King Kamehameha II would break the 'ai kapu, the restriction of women and men eating together, destroying the old religious edicts and ushering in further monumental changes to the Hawaiian people (Kuykendall 1968:64-65).

3.2 WESTERN CONTACT AND 19TH-CENTURY CULTURE CHANGE

Written accounts of contact with the expeditionary forces of Captain James Cook place the *HMS Resolution* at Haalua, the ocean off the shores of Wailuanui, Ko'olau, Maui, in November of 1778 (*Ka Moolelo Hawaii* 1838). Kalaniopu'u of Hawai'i was campaigning against the ruler of Maui, Kahekili, placing the Hawai'i Island warrior, Kamehameha, in the prime position to be taken aboard the English ship for a day to explore the technology of the newcomers which would portend the changes to come.

3.2.1 Foreign Influence and Changing Economies

The unifying of the Hawaiian Islands by Kamehameha I in 1790 and the arrival of missionaries in the 1820s changed the socioeconomics and agricultural practices of the region. The traditional Hawaiian ahupua'a system struggled against foreign entrepreneurs pushing for private land ownership and a market-based economy. The Great Māhele of 1848 solidified the privatization of land, allowing capitalism to take root and foreign businesses to dominate the landscape.

During the reign of Kamehameha I the right to harvest 'iliahi (sandalwood, *Santalum spp.*) was delegated to the ali'i, who, recognizing the fragrant wood as a highly sought-after commodity in China, began to change the relationship between maka'āinana (the common people reliant on subsistent agriculture) and 'āina (Abbott 1992:132; Hammatt 1999). Concurrently, the fur trade

made Hawai'i a transshipment location between the North Coast of America and China (Hammatt 1999:xviii).

Maui witnessed the greatest influx of transient foreign trade, up until that time, with the 1819 discovery (Starbuck 1878:96) of Japanese waters rich with sperm whales to supply the immense need for whale oil during the early nineteenth century (Wong 1987:122). Japan was still operating under Sakoku (closed country), which restricted commerce and foreign relations outside of its borders (Totman 2007). This made Hawai'i the closest, accessible safe harbor for American, British, and other international whaling vessels in the Pacific (Wong 1987:122). The first American whaler, the *Balena*, to find port in Lāhainā, Maui on October 1, 1819, would herald the next 40 years of whaling in Hawai'i. By 1822 there were at least thirty sperm whalers from America cruising the waters of Hawai'i, using the anchorage of Honolulu and Lāhainā to hunt the many Pacific whale species (Starbuck 1878:96; Wong 1987:122). At the peak of whaling the total number of ships in Lāhainā numbered 429 (Speakman 1978:98), creating an impact that was in direct opposition to the other foreign incursion occurring at the same time: the missionaries.

Although the first Christian mission on Maui was established in Lāhainā in 1823, it did not take long for more mission sites and evangelists to make their way around the island. The missionary census of December 1831 listed 3,816 residents in the Hāna district (Richards and Whitney 1832:190). By 1838, the remote area of Hāna had a settled station at Wananalua, headed by Rev. Daniel Toll Conde of Saratoga, New York, and his wife, Anelucia Lee Conde of Vermont. In a letter dated October 15, 1838, Rev. Conde writes to Levi Chamberlain, Superintendent of Secular Affairs and a member of the 2nd Missionary Company that had arrived in Honolulu in 1823, providing a glimpse into the ideology of the missionaries of the time:

[I] am glad that you feel satisfied with your employment as it evidently contributes in no small degree to the furtherance of Christ's Kingdom at these Islands. While your hands are employed, your hearts no doubt ascend in ardent supplication for the Divine blessing to attend every effort that is made for the conversion of souls to God. (1838:33)

3.2.2 The Great Māhele

In 1848, King Kamehameha III and 245 ali'i (royalty) and konohiki (landlord) came together to divide the lands of the kingdom into three classifications. The Crown and the ali'i received their land titles and awards for whole ahupua'a, as well as individual parcels within an ahupua'a, which were then subsequently formally granted in 1850 (Alexander 1890:114). The lands given to the ali'i and konohiki were referred to as Konohiki Lands and lands retained by the King as Crown Lands. The distinction of Crown land is important and defined as:

... private lands of His Majesty Kamehameha III., to have and to hold for himself, his heirs and successors forever; and said lands shall be regulated and disposed of according to his royal will and pleasure subject only to the rights of tenants. (Kingdom of Hawaii 1848)

At the death of Kamehameha IV and with lack of a clear heir some confusion as to the inheritance of Crown lands and whether or not it followed the family line or the throne. It was decided by the Supreme Court that under the confirmatory Act of June 7th, 1848, “the inheritance is limited to the *successors* to the *throne*,” “the wearers of the crown which the conqueror had won,” and that at the same time “each successive possessor may regulate and dispose of the same according to his will and pleasure as private property, in the manner as was done by Kamehameha III” (Alexander 1890:121).

The third classification of lands partitioned out was termed Government lands that were defined and set aside for management in the following manner:

... those lands to be set apart as the lands of the Hawaiian Government, subject always to the rights of tenants. And we do hereby appoint the Minister of the Interior and his successors in office, to direct, superintend, and dispose of said lands, as provided in the Act ... (p)rovided, however, that the Minister ... shall have the power, upon the approval of the King in Privy Council, to dispose of the government lands to Hawaiian subject, upon such other terms and conditions as to him and the King in Privy Council, may seem best for the promotion of agriculture, and the best interests for the Hawaiian Kingdom ...(Kingdom of Hawaii 1848)

In 1850, most of the chiefs ceded a third of their lands to Kamehameha III in order to obtain an allodial title for the remainder. The majority of these lands were then placed into the Government land base (Alexander 1890:114). The designation of lands to be set aside as Government lands, paved the way for land sales to foreigners and in 1850 the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995:41-51).

In designations of lands as either Crown or Government, and through all awards of whole ahupua‘a, ‘ili, and later land sales to foreigners classified as Land Grants, the rights of the native tenants were expressly reserved, “Koe na Kuleana o Kanaka” (Reserving the Rights of Native Tenants) (Alexander 1890:114). An Act ratified on August 6th, 1850 ensured the gathering rights of the common people for personal use, which included the gathering of both terrestrial and marine resources, in addition to the right to water and the right of way on the lands of the Konohiki, were guaranteed and embodied in Section 10477 of the Civil Code (Alexander 1890:114-115). By this same Act, resolutions passed by the Privy Council granted fee simple titles, free of all commutation, with the exception of awards granted within the towns of Honolulu, Lāhainā, and Hilo, to all native tenants for their cultivated lands and house lots (hereafter referred to as kuleana land) (Alexander 1890:115). Claims of the native tenants, or kuleana land claims, were presented to and heard by the Land Commission whose duty was to:

...ascertain the nature and extent to each claimant’s rights in land, and to issue an Award for the same which is prima facie evidence of title “and shall furnish as good and sufficient a ground upon which to maintain an action for trespass, ejection or other real action against any other person or persons whatsoever, as if the claimant, his heirs or assigns had received a Royal Patent for the same.” (Alexander 1890:110)

Testimonies regarding kuleana lands often encompassed claims for multiple ‘ili or apana, situated both mauka and makai. These claims were cataloged under a single helu, or case number, and presented to the Land Commission for review. Kuleana land grants, known as kuleana claims, endorsed by the Land Commission, were bestowed upon occupants of the land, comprising native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-standing resident foreigners who could demonstrate residency on the parcels before 1845 (hereafter referred to as Land Commission Awards [LCA]). Despite endeavors to allocate lands to the maka‘āinana, a significant portion of these lands would eventually be acquired by foreigners as compensation for services rendered to the Hawaiian Kingdom.

Although the greater part of Wākiu Ahupua‘a was returned to the government by Lot Kamehameha and became Government Land, there were 3 individual kuleana claims that were successfully issued to native claimants. A lowly total of 5 claims were presented to the Land Commission for the entire ahupua‘a. Unfortunately, other than an ‘uala (sweet potato/*Ipomoea batatas*) farm mentioned in the native testimony of Helu 4665 by Pua Lou, the resources in these claims were not noted. There was, however, mention of the great hala grove of Wākiu when it is used as the southwestern border of Helu 4391 by Kaahaaina, the once konohiki of the area.

The following Māhele ‘Āina table (Table 3-2) summarizes the land claims that could be found for the ahupua‘a of Wākiu (Figure 3-5). The table lists, when available, the acreage, resources present, and whether the claims were awarded.

Table 3-2: List of Māhele ‘Āina Claims for Wākiu

HELU	R.P.	CLAIMANT	AHUPUA‘A	‘ILI	RESOURCES	AWARDED	ACREAGE
4665	7126	Pua Lou	Wākiu	Kamoku	NT: Uala farm; FT: well cultivated	Y	11.9 Acs
4666	6566	Puhako	Wākiu	Puakamalii	Survey Notes: Kalo and Kula	Y	5.14 Acs
4844	N/A	Kuana	Wākiu	Oioliikea & Kalaulaea	No resources listed	N	N/A
4931	8572	Kaahaaina	Wākiu	Haliiea	NR: Hala grove of Haloaka on the Southwest boundary, house lot, aa lava ridge.	Y	5 Acs
7952	N/A	Kawelo	Wākiu	Iolekea	No resources listed	N	N/A

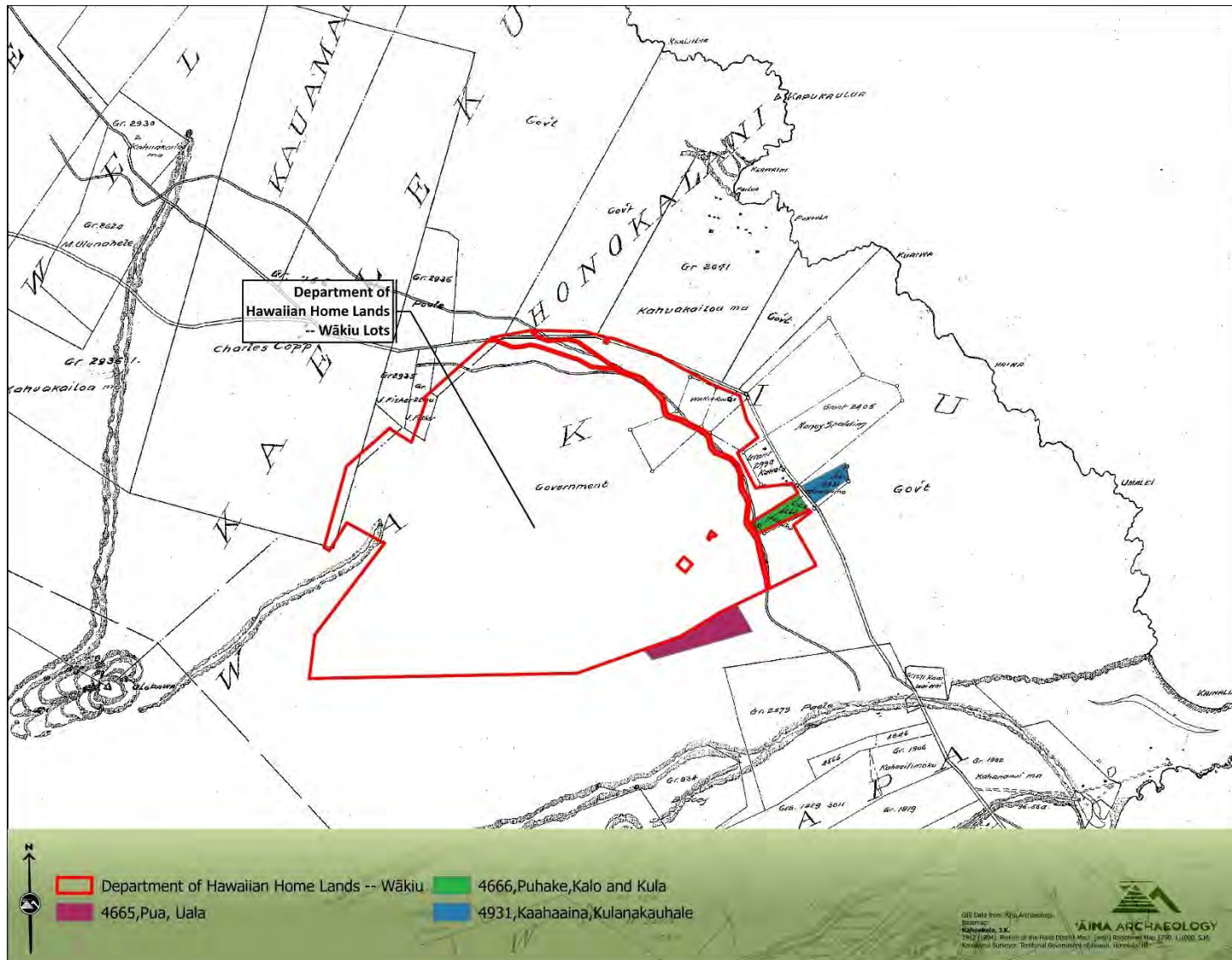


Figure 3-5. Map identifying the three awarded Māhele 'Āina native claims in the ahupua'a of Wākiu (Kahookele 1912 (1894)).

3.2.3 Royal and Land Patent Grants

It became apparent, during the time of the Māhele, that the prescribed land granting process was inadequate to meet the requirements of many of the native tenants, nor did it address the demands of certain foreign residents (Maly and Maly 2005:152). Often, as illustrated by the Helu 4844 and Helu 7952, (see Table 3-2) native tenant claims went unawarded. At other times the land that was awarded was insufficient to support the subsistence of the family to which it was granted. Another factor was foreign interest in larger tracts of land for commercial business ventures such as sugar. Therefore, a provision of the Kuleana Act of 1850, as outlined in the previous section, allowed for the purchase of land from the inventory of Government Lands through Royal Patent Grants (not to be confused with Royal Patents that were issued through the Land Commission) which after 1893 were referred to as Land Patent Grants. These grants were also used as a revenue-generating device to pay for the increasing cost of running the Government (Chinen 1958:27).

The Royal Patent Grants awarded in the area of Wākiu give us further insight into the resources available in the area (Table 3-3). For example, the survey of Helu 3014 to P. Kawelo, marked boundaries at a kukui tree, an ‘ōhi‘a, and the pūhala. Helu 2405 to Spalding also uses a kumu pūhala as a survey marker along with the government road mentioned in all of the other Māhele claims and land grants.

Table 3-3: Land Grants awarded in Wākiu

HELU	GRANTEE	AHUPUA‘A	YEAR	ACREAGE
2405	Spalding	Wākiu	1857	35.7
2990	Kawelo	Wākiu	1865	6.88
3014	Kawelo, P.	Wākiu	1866	24.10

3.2.4 The Influence of Commercial Sugar in Hāna Moku

Kō, or sugar cane (*Saccharum officinarum*), made its first appearance in Hawai‘i during the initial settlement by Polynesians. The highly adaptable cane evolved multiple variations as it traveled and thrived throughout the Pacific Islands for generations (E. S. C. Handy et al. 1991:183). In Hawaiian wet-taro farming, kō was found along embankments separating flooded terraces, while in dry-taro and sweet-potato farming the kō was planted as hedges or a windbreak (E. S. C. Handy et al. 1991:186). Sugar cane was a “lifesaver” at times of famine, a treat in times of abundance, an easement for unpalatable medicine, and possibly a hygienic tool to clean teeth (Abbott 1992:41; E. S. C. Handy et al. 1991:186). Kō was also planted for its colorful aesthetic (Abbott 1992:40). Leaves of the plant were sometimes used as wall coverings, the stalk as a dart in games, and the skin for plaiting braids (E. S. C. Handy et al. 1991:187).

The relationship between maka‘āinana and the ‘āina through the use of the traditional Hawaiian ahupua‘a system struggled against foreign entrepreneurs pushing for private land ownership and a market-based economy. The Great Māhele of 1848 solidified the latter, and foreign businesses began to dominate the landscape as commercial adventures pushed out

native subsistence agriculture and stewardship of the ‘āina. The Civil War prevented the American South from milling sugar which allowed room for Hawai‘i to compete in the lucrative California sugar market (C. MacLennan 1997:99), leading many entrepreneurs to begin various milling operations on the islands.

Hāna moku holds historical significance as one of Hawai‘i’s earliest locations for commercial sugarcane ventures. Hāna’s commercial sugar cultivation began as an endeavor by a Mr. Lingrin (also referred to as Lindgren) who planted 60 acres of cane and operated a primitive mill in a “grass house” (Condé and Best 1973:247; Dorrance and Morgan 2000:62; C. A. MacLennan 1995:36). Lingrin then sold his holdings to Mr. A.B. Howe, the son-in-law of Dr. G.P. Judd, in 1850 creating Howe Plantation with G. W. Wilfong noted as the manager in 1851 (Dorrance and Morgan 2000:62). Howe built an iron mill in 1852, the year of his death, which burned in 1854 with the subsequent closure of the operation in the same year (C. A. MacLennan 1995:41).

The industrial sugar boom in the Islands was injected with more success when Captain Pardon Edwards brought a “bundle of choice” sugarcane from the Marquesas Islands to Kaua‘i in 1854, making a pit stop in Lāhainā and dropping some off with Consul Chase and F.A. Oudinot. This new “Tahitian” cane outperformed the previous “Cuban” variety in growth rate, healthier rooting, sweetness, and hardiness against pests (Dorrance and Morgan 2000:177). It quickly became known as “Lāhainā Cane,” the preferred variety that catalyzed the sugar mill industry (Davies 1884; Royal Gardens Kew 1894:418-419). After Howe Plantation was abandoned by Judd, who had purchased the plantation after the death of his son-in-law, the plantation of 113.10 acres was obtained by Needham, Cooke, and Unna in 1861 for \$1,000. It was revived as Hāna Plantation (Figure 3-6) on April 20, 1863, under the direction and ownership of August Unna (Hawaii State Archives ; C. A. MacLennan 1995:41).

For over 20 years Unna would guide Hāna Plantation, built on the old lands of the Howe Plantation, expanding the cultivated acreage and installing a 20-inch gauge railway in 1883 (Condé and Best 1973:247). In 1885 Unna died, leaving his will to go through probate along with his personal property which according to a Pacific Commercial Advertiser article from May 19, 1885, was situated in “Wakiu, Kaeleku, Honokalani, Kamela, Honomaele and Nahiku, Island of Maui” (Pacific Commercial Advertiser 1885). It appears the plantation went into receivership and by 1888 had been purchased by M.S. Grinbaum who began to pay for Government Lease 302 and petition for the continued use of government wells to pipe water to the mill (Hawaii State Archives).



Figure 3-6. Circa 1885 photo of the sugar mill and residential camp of Hana Plantation (HSA PNL-17-00506 [negative] PP-106-9-018 [print]).

As the various plantations in Hāna continued to operate throughout the late 19th century, major changes were also occurring across the Hawaiian Islands. Queen Lili‘uokalani had worked determinedly to restore power to the monarchy after the death of her brother, King Kalākaua in 1891. Still, she was illegally deposed in 1893 and imprisoned in her own home two years later. At the same time, the U.S. entered war with Spain. With the threat of losing both a strategic military position and economic hub in the Pacific, American President McKinley signed an annexation resolution in July 1898, at the protest of native Hawaiians and the Queen herself, making the Hawaiian Islands a Territory of the United States (Daws 1968:284-290). This act largely benefited industrious foreign businessmen on the Islands and was in direct opposition to the desires of over half the population of native Hawaiians (Schamel and Schamel 1999).

3.3 HĀNA MOKU IN THE 20TH CENTURY

Although changes introduced in the 19th century altered the traditional fabric of Hāna moku, the district and the associated ahupua‘a remained isolated from the rest of the island. The 20th century, however, would herald further disruption to the quiet, agrarian community that had moved from subsistence to commercialization and again toward newly introduced economic drivers. The plantations would continue into the early part of the 20th century; however, they would make way for further developments in Maui Hikina, including the construction of a belt road, burgeoning tourism, and a cattle ranch.

3.3.1 1900-1950 – Early 20th Century

Although private hotel and steamship companies had been attempting to attract visitors to Hawai'i for years, no cooperative, sustained effort was made until January 1903 when the Territorial Legislature appropriated \$15,000 to form the Joint Tourist Committee (Schmitt 1980:83). The group renamed itself to the Hawai'i Promotion Committee and opened its first office in August of the same year (ibid). Throughout the years the organization changed its name from Hawaii Tourist Bureau in July 1919 to Hawaii Travel Bureau in 1944 and finally to the Hawaii Visitors Bureau in 1945 (ibid).

The Hāna Belt Road began with the premise to open Maui Hikina for more agriculture and settlement when talks of it first started in the early 1900s. When construction finally commenced around 1910, the conversation had evolved to the creation of a scenic byway to build tourism as a lucrative third industry to augment sugar and pineapple (Duensing 2015:133-134). Though the project was intermittent and plagued by tensions between community, businesses, and both local and territorial government, the Hāna Belt Road, often referred to as the "Road to Hāna" was completed in 1926. Heralded and opened with pomp, parade, and lū'au, the entirety of the road stretched approximately fifty-one miles along the rugged East Maui coast, including more than seventy concrete bridges and culverts that spanned the many gulches and streams that had once only been traversed by the most hearty and adventurous (Duensing 2015:137).

Among the other development projects being built at the same time as the belt road was Hāna School, located close to Kaihalulu Bay. An article from the *Honolulu Star-Bulletin* on October 8, 1912, highlights the bids for Maui improvements that included "the Maui belt road extension, the work of the Keokea Reservoir and the Hana School house" (Star-Bulletin Staff:3). The school was established in 1912, finished construction in February 1913 (Advertiser 1913:8), and had an enrollment of 145 by 1914 (The Maui News 1914:8). The school campus remained in this location until 1977 when the new Hāna school was built in Wākiu where the youth of the school are referred to as ka ulu pū hala o Wākiu (the hala grove of Wākiu) (Ernhardt 2004). This grove, referred to as Haloaka or Kahalaowaka, is the greatest single hala grove in the Hawaiian Islands, which the current school overlooks towards the ocean.

Hāna Plantation would change hands again in 1905 and be renamed Ka'eleku Sugar Co. which, under manager John Chalmers, would run a 36-inch gauge railroad and produce over 7,500 tons of sugar annually from 3,362 cultivated acres (Dorrance and Morgan 2000:62). In 1929 the warehouse operations would include night hours when electricity was installed making it easier to dispatch boats in a timely manner from the Hana Wharf ("Hana Notes":11). Controlling interests in the company would change throughout the years, but Ka'eleku Sugar Co. continued to operate through the first half of the century (Dorrance and Morgan 2000:62).

Around the same time, the original Hana Airport was developed in 1935 (Hawaii Aviation 2024). It was a small grass field situated at Hamoa. Inter-Island Airways served it with eight-passenger amphibians until the outbreak of World War II. Aviation advancements led to the introduction

of larger aircraft, rendering the field inadequate. Scheduled services ceased, and the area relied on sporadic flights by small unscheduled aircraft. Despite initial plans to develop the airport, its limited size, and unsuitability for expansion led to recommendations for its discontinuation. In 1947, Hamoa Airport came under the management of the Hawaii Aeronautics Commission, and plans were made to lease the present Hana Airport. However, due to lack of further development and plans for the new airport, the Hamoa air field's use dwindled, and the airport was eventually discontinued.

In 1944, the agents of Hāna Plantation, C. Brewer & Company, sold the operation to Paul Fagan, a San Francisco entrepreneur and co-owner of a minor league baseball team, the San Francisco Seals. Fagan shut operations down in 1945, converting the sugar lands into pastures and turned toward ranching by introducing purebred Hereford cattle. Fagan was not a stranger to ranching, having previously owned the Puuohoku ranch on Molokai before selling it to the Ward sisters of Honolulu (Honolulu Star-Bulletin 1947a:2). He thereby created Hāna Ranch and would build Kauiki Inn in 1946 which would become Hāna Ranch Hotel and later Hotel Hāna-Maui. Fagan is responsible for stimulating tourism in Hāna, not only creating the inn and hotel but also fostering professional baseball camps that drew widespread attention and brought in many sports reporters (Honolulu Star-Bulletin 1947b:8).

In the same year Fagan would begin building Kauiki Inn, a 7.4 magnitude earthquake would hit the Aleutian Islands sending a 400-mile-per-hour tidal wave toward an unsuspecting and unprepared Hāna on the morning of April 1 (Honolulu Star-Bulletin 1946). In Haneo'o (often referenced as Hamoa, the neighboring ahupua'a), the Atay (Atai), Cullen, and Mendez families would suffer the greatest loss of life and injury. Over 100 families on Maui were made homeless from the tsunami, countless buildings were destroyed, and millions of dollars in damages were incurred. The impact of this catastrophe on the Hāna community, however, was immeasurable.

3.3.2 1950-Present – Mid-20th Century to the Modern Era

Hāna continued to experience significant changes from the mid-20th Century to the present, further transforming from the remote, largely self-sufficient community into a more accessible and tourist destination as was the want of those who championed the Hāna Beltroad in the early 1900s. The construction of the new Hāna Airport in 1950 marked a pivotal role in this transformation, facilitating even easier access for visitors and residents. The increased connectivity brought about by the airport contributed to an influx of tourism, with more people eager to experience Hana's natural beauty and cultural heritage, further eroding the area's isolation.

Hotel Hāna Maui also underwent significant renovations and expansions in the 1980s. The hotel changed ownership over the years with each new owner investing in enhancements to rooms, facilities, and the wellness and relaxation of their guests. The most recent transformation occurred in 2019 when the hotel was rebranded as Hāna-Maui Resort by Hyatt, promising a boutique experience for visitors to the region.

Increased tourism has had both positive and negative impacts on Hāna. While it has stimulated the local economy, creating jobs and business opportunities in hospitality and related sectors, the influx of visitors has also posed challenges, such as the strain on local infrastructure and concerns about preserving the community's traditional way of life. In response to these challenges, Hāna has refocused on sustainable agriculture and remained a close-knit community, aiming to balance economic growth with environmental stewardship. This return to sustainable practices not only supports the local economy but also helps preserve Hāna's cultural and natural resources.

Paul Fagan's Hāna Ranch has also participated in this shift towards sustainability, diversifying its operations from purely cattle ranching to include organic farming and eco-tourism, promoting a more sustainable and resilient local economy. Meanwhile, the relocation of the Hāna School from the center of town to Wākiu reflects broader changes in the community, accommodating the growing population and the needs of its residents. The new school facilities are better equipped to provide quality education and support the community's aspirations for a sustainable future. Together, these developments illustrate Hāna's adaptive response to the dual pressures of modernization and preservation, striving to maintain its unique identity amid changing times.

4.0 ARCHAEOLOGICAL STUDIES OF WĀKIU AND THE IMMEDIATE AREA

The first archaeological investigations conducted in the Hāna area began in 1916 when John F. Stokes of the Bishop Museum executed a reconnaissance of precontact architecture for an archaeological study of heiau in Maui. The heiau noted by Stokes in the vicinity of Wākiu are summarized in Table 4-1 below.

Table 4-1. Heiau noted by John F. Stokes (1916)

Region	Name	Comments
Hana (General Area)	Kaniomoku	An ancient heiau and place of refuge
Kauiki (Kauwiki)	Honuaua	Kauwiki (sic), Hana. A medium sized heiau 120X70 ft. Portion so fhte foundation only remain.
	Kuawalu	Kauwiki (sic), Hana. This and Honuaua are credited to Hua-a-Pohuakai

Winslow Walker continued work begun by Stokes with an island-wide archaeological survey of Maui between 1928 and 1929. Similar to Stokes, Walker was pre-occupied with the monumental structures across the island, paying particular attention to the heiau (temples) and ko’a (shrines). While Walker did not document any heiau specifically situated within Wākiu, the neighboring ahupua’a of West Honomalee, Honokalani, Kawaipapa, and Wananalua altogether included 10 heiau that were documented as a part of Walker’s Maui survey. The heiau noted by Walker in the vicinity of Wākiu are summarized in Table 4-2 below.

Table 4-2. Summary of Heiau and Ko’a (Ku’ula) noted by Winslow Walker (1931) in the vicinity of Wākiu

Name	Location	Summary
Pi’ilanihale Walker Site 102 (Walker 1931:177)	West Honomalee Region At the shore on a hill near Kalahu Point	Largest heiau found on Maui, consisting of a stone platform terraced in several steps on the north and east sides. The north slope, the highest observed, features five step-terraces rising to a height of 50 feet from the base of the hill. The south and west sides are enclosed by a massive wall, 10 feet high and 8 to 10 feet thick. The top appears to be entirely paved with small pebbles and chunks of lava, with a few pieces of coral discovered. A house site lies just beyond the west wall, and the remains of other structures in the cane fields below suggest the presence of a former village. At the northwest corner, there are signs of a paved road leading up the slope, possibly part of Kihapi’ilani Trail.

Table 4-2 (continued). Summary of Heiau and Ko'a (Ku'ula) noted by Winslow Walker (1931) in the vicinity of Wākiu

Name	Location	Summary
Kuakealii Walker Site 103 (Walker 1931:179)	Honokalani Region 3/4 mi. north of Waianapanapa Cave and near the shore	A large open platform, not more than 4 feet high, measuring 90 feet on two sides and 85 and 110 feet on the other two. The top is paved with small pieces of lava and pebbles, with no coral present. While the platform edge is not terraced, a raised terrace on the east side, 18 inches above the main platform, runs the full 90-foot length and is 20 feet wide. Two pits are located in this terrace, possibly serving as refuse pits for the sacrificial altar. Small pits around the edge of the platform, possible image holes, were also noted. Part of the old Kihapi'ilani paved trail runs close by the heiau.
Ohala Walker Site 104 (Walker 1931:180)	Honokalani Region 1/4 mi. east of the road on southside of the trail	Low, rough-constructed platform, 4 feet high, measuring 110 feet long and 75 feet at its widest point. The pavement lacks coral or pebbles and has been disturbed by the formation of pits in several places. Drums are said to be heard from this heiau on certain nights.
Kaniomoku, Kawaipapa Walker Sites 105, 106 (Walker 1931:180)	Kawaipapa Region Cane lands above the road	Kaniomoku , mentioned by Thrum, noted as the place where Kaahumanu spent her childhood, with her birthplace being a large cave on the side of Kauiki Hill by the bay. Completely destroyed. Kawaipapa was located near the point where the road crosses the gulch of the same name. It was destroyed during the construction of the road, and a freshet washed away the remaining portions.
Waikaloa Walker Site 107 (Walker 1931:182)	Kawaipapa Region Rough lava flow beyond Mormon Cemetery	Simple rock platform, 5 feet high, 75 feet long, and 15 feet wide. No clear evidence identifying it as a heiau, though its size suggests it may be too large for a burial platform. No coral, pebbles, or beach stones used in construction.
Walker Site 108 (Walker 1931:183)	Kawaipapa Region On Keanini Point 100 ft. from shore	Likely of the Ku'ula class, measures 30 x 35 feet on a level spot in the lava. Facing the bay, its front is marked by a line of stones forming the edge of a step terrace. On the east side, a natural rock ledge serves as a wall, with indications of a small terrace below. The back consists of a platform 3 feet high, 10 feet wide, and 35 feet long. The interior features a double platform, likely used as a burial platform, with edges that do not align with the terrace. The terrace is constructed from large pieces of 'a'a lava with beach stones used for divisions. Only a few pieces of coral are present. Drums heard near here.

Table 4-2 (continued). Summary of Heiau and Ko'a (Ku'ula) noted by Winslow Walker (1931) in the vicinity of Wākiu

Name	Location	Summary
Kauleiula (?) Walker Site 109 (Walker 1931:184)	Kawaipapa Region 50 yds east of site at Nanualele	A stone platform sits on a rise of ground 6 to 8 feet high. It measures 60 x 95 feet, with an additional 30 feet of level hilltop that may have been included in the heiau. Below the hill lies a large natural pond, one of several in the area. A path of stepping stones crosses this pond and ascends the hill, intersecting one corner of the heiau. The heiau is constructed from chunks of lava and water-worn boulders. A low wall stands at one end, and several terraced platforms are present. Two of these platforms at least are graves. A house enclosure, measuring 12 x 25 feet, is set at an angle to the heiau platforms which does not appear to conform to the general layout of the heiau. The interior of the heiau is lower than its sides, but many terrace edges have been broken and stones removed for other purposes.
Kuuleilepo- Kauleiula Walker Site 110 (Walker 1931:185)	Kawaipapa Region At Kanalimu at the point north of Hāna Bay	The twin heiau consists of two elevated open platforms connected by a causeway. The larger platform, closer to the sea, measures 42 x 54 feet, while the causeway is 25 feet long, 8 feet high, and 4 feet wide. The smaller platform, measuring 22 x 26 feet, is slightly lower than the front one. The south side of the larger platform is terraced to a height of 15 feet. Built using water-worn boulders, 'a'a lava, and coral scattered on top, the structure has been partially damaged by modern houses and sheds constructed on its surface. Thrum identifies this as a double-named heiau, but informant N. Silva stated that Kauleiula Heiau is a nearby Site 79 initially mistaken for a graveyard.
Honuaula, Kuawalu Walker Sites 111 and 112 (Walker 1931:186)	Wananalua Region Base of Kauiki Hill	Two war heiau built by Hua-a-Pohukaina of Lahaina during the early 12th century. Thrum's 1917 list mentions that Honua'ula was constructed before a raid on Hawaii, and after his successful return, Hua built Kuawalu, which measured 70 x 120 feet. Both heiau have since been completely destroyed.

After the Walker study of 1931, there appears to be a significant gap in archaeological research of the area following a University of Hawai'i-led reconnaissance of the Wai'anapanapa State Park area in 1969. For over 50 years, no further studies were conducted in the immediate vicinity until 1984. Since 1984, a total of 17 archaeological studies have been carried out in the vicinity surrounding the DHHL Wākiu Master Plan area (Figure 4-1). While none of these investigations have directly included the master plan area, they have yielded extensive findings along both the coastline and inland regions, with particularly dense and complex archaeological sites and features identified along the Kawaipapa Stream. Table 4-3 provides a summary of the results from known archaeological studies, with detailed narratives of findings from each study with positive results presented below.

The first contemporary archaeological study of the vicinity was completed by the University of Hawai'i Department of Anthropology at Wai'anapanapa State Park in 1969. A total of 36 archaeological features comprised of a wide array of site types were identified as a part of the overall reconnaissance and high-level survey (Pearson 1969). These included a heiau, five cave shelters, an ancient trail, one pictograph, five ahu (markers), two U-shaped shelters, five miniature enclosures, three shelter walls, two house platforms, and various other walls and enclosures. The features were grouped into four distinct complexes based on spatial and functional relationships: the Heiau and Cave Complex, fishing shelters and associated trails and markers, inland house sites and enclosures, and graves or cemeteries (Pearson 1969:3-4).

The Heiau and Cave Complex centered around a large, well-preserved heiau (Site 1) connected to a large cave (Site 21) by an extended wall. The cave appears to have served as a settlement area rather than a burial site, potentially for individuals involved in rituals at the heiau. Nearby, Site 23, containing a pictograph, may be contextually related. While site specific activities were not discernable, as no subsurface testing was conducted, the structural association implies a ceremonial or administrative role for the overall complex (Pearson 1969:3-4).

The fishing shelters, markers, and trails demonstrated a coastal adaptation, indicative of the importance of marine resources to Hawaiian subsistence and cultural practices. Features such as Sites 5, 6, 8, 9, and 12 were likely utilized for fishing activities, while markers (Sites 2, 4, 7, 15, 19) may have served navigational or land mark purposes. The trail network (Site 10) illustrates connectivity between coastal resource zones and inland settlements (Pearson 1969:4-5).

Inland habitation sites, such as Sites 34 and 35, and associated enclosures (Sites 26, 27, 31–34) reflected dispersed settlement patterns. Enclosures and platform features indicates that habitation continued into the historic period (Pearson 1969:4-5).

Finally, three historic cemeteries were also identified within the survey area further indicating continued use and settlement well into the historic era (Pearson 1969:4).

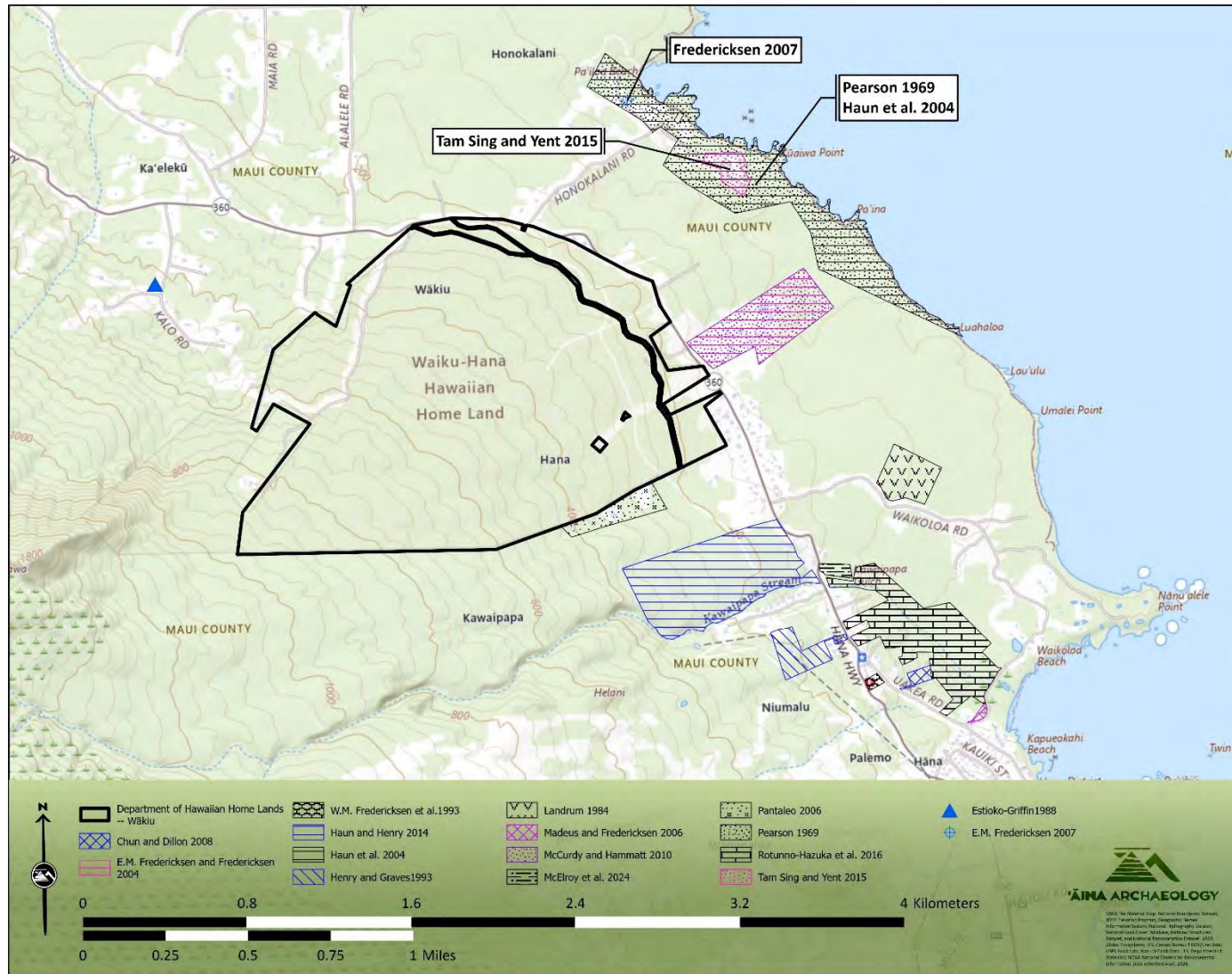


Figure 4-1. A portion of the National Map (United States Geological Survey 2024), Hāna Quadrangle section, showing the Wākiu lands of the Department of Hawaiian Home Lands outlined in black in relation to previous archaeological study areas.

Table 4-3. Summary of Previous Archaeological Studies in the Vicinity of Current Project Area

Reference	Location	Archaeological Study Summary
Pearson 1969	Kawaipapa	Reconnaissance: Identified 36 significant features including a heiau, cave shelters, trails, enclosures, walls, and ahu markers. These features were categorized into four functional complexes: religious (heiau and associated caves), fishing shelters and markers, inland habitation sites, and burial areas.
Landrum 1984	Kawaipapa	Reconnaissance: Pedestrian survey of a 14-acre parcel in an area surrounded by rugged aa lava terrain. The primary feature identified was a segment of an old government road, that was abandoned and overgrown at the time of the reconnaissance and located in the southwest corner of the parcel. Additionally, the northwest corner showed evidence of recent grading, but no cultural materials or artifacts were observed. No significant or culturally sensitive archaeological sites or features were identified on the surface of the parcel.
Estioko-Griffin 1988	Ka'elekū	Field Inspection: Inspection of a lava tube (SIHP 50-50-13-01813) at the request from a property owner interested in opening the lava tube to the public. Safety concerns prevented entry into the lava tube, which showed signs of disturbance, including litter and cow bones, but no visible stone structures. The tube is large and extends a considerable distance, with potential additional openings nearby. Recommendations were made to restrict public access until a thorough study of the interior could be conducted as there was a high probability of traditional Hawaiian use prior to Western contact.
Fredericksen et al. 1993	Kawaipapa Niumalu	Inventory Survey: Pedestrian and subsurface survey, which included manual test units (2), shovel tests (6), and auger tests (6), across a one-acre parcel. While a substantial historic lava rock wall along the eastern border was observed but not documented as an archaeological feature. No other surface features or artifacts were found. Subsurface testing produced minimal findings, including a basalt flake and a fire-cracked rock, which lacked clear cultural context. Extensive prior land modifications and recent disturbances may have contributed to the lack of archaeological findings.

Table 4-3 (continued). Summary of Previous Archaeological Studies in the Vicinity of Current Project Area

Reference	Location	Archaeological Study Summary
Henry and Graves 1993	Kawaipapa	Inventory Survey: A complete pedestrian survey and the excavation of 16 shovel tests across approximately 10.07 acres for the then proposed Hana Medical Center. Four sites were identified, and include two site complexes (SIHP 50-50-13-03150 and -03153) and two historic boundary walls (SIHP -03151 and -03152). The site complexes contained features such as enclosures, walls, terraces, and a platform, with functions attributed to habitation, agriculture, and boundary marking. Portable artifacts recovered included ceramics, glass, and faunal remains, suggesting historic occupation. Subsurface testing yielded no evidence of human remains but identified cultural deposits at SIHP -03150.
Fredericksen and Fredericksen 2004	Wākiu	Inventory Survey: Systematic pedestrian survey sweeps at 5 m intervals of portions of the Hāna High and Elementary School Campus slated for improvements. The survey results noted that the survey footprint had been previously altered with no culturally or historically significant material culture remains identified on the surface of the proposed improvement areas. Nonetheless, remnants of rock enclosures and alignments were noted in peripheral areas.
Haun et al. 2004	Honokolani, Wākiu, Kawaipapa	Inventory Survey: Pedestrian survey and subsurface testing of selected archaeological sites across a 111-acre parcel. A total of 59 sites with 119 features were documented and included enclosures, walls, terraces, platforms, trails, caves, cemeteries, and other cultural structures, reflecting a variety of functions such as habitation, agriculture, ceremonial activities, burial, and transportation. The findings highlight the traditional Hawaiian settlement patterns on the Hana coast, with several sites dating from A.D. 1200 to the mid-1600s and continuing into the historic period.

Table 4-3 (continued). Summary of Previous Archaeological Studies in the Vicinity of Current Project Area

Reference	Location	Archaeological Study Summary
Madeus and Fredericksen 2006	Kawaipapa	Inventory Survey: Systematic pedestrian survey of a 0.43-acre parcel and subsurface testing of a single identified site (SIHP 50-50-13-05946) which includes four features: two terraces, a depression, and a low platform. The overall complex was interpreted as having both pre-contact and post-contact components. Feature A, a terrace, and Feature B, a depression, may represent remnants of lo'i or aquaculture features. Feature C, a terrace or possible causeway, is suggested to have facilitated water management or access to the area. Feature D, a low platform with depressions likely from coconut stumps, is associated with post-contact agricultural use.
Pantaleo 2006	Wākiu Kawaipapa	Inventory Survey: Pedestrian survey and mechanically assisted subsurface testing across a 12-acre parcel. Twelve backhoe trenches were excavated, revealing two to four stratigraphic layers, including silty clay and basalt outcrop. No historically significant or culturally sensitive archaeological sites or deposits were identified.
Fredericksen 2007	Honokolani	Monitoring: Archaeological observation of excavation associated with wastewater system improvements. Excavations showed the presence of modern disturbances, including scattered glass fragments, rusted metal, and occasional marine shell fragments within the upper layers. Lower layers were sterile and composed of weathered soil and bedrock. No historically significant or culturally sensitive material culture or intact cultural layers were encountered.
Chun and Dillon 2008 (Dillon and Chun 2008)	Honokolani	Inventory Survey: Systematic pedestrian survey and subsurface testing of a 1.924-acre parcel resulted in the identification of one historic site, SIHP 50-50-13-6575, consisting of a concrete slab foundation likely associated with a small structure. Thirteen shovel probes were excavated across the property to evaluate subsurface deposits. The results indicated significant prior disturbance, with soils heavily modified by bulldozing and filling. No intact cultural deposits or significant artifacts were identified.

Table 4-3 (continued). Summary of Previous Archaeological Studies in the Vicinity of Current Project Area

Reference	Location	Archaeological Study Summary
McCurdy and Hammatt 2010	Wākiu	<p>Monitoring: Monitoring of excavation for approximately 282 linear meters of sewer line and installation of six septic tanks. Subsurface conditions showed stratigraphy consistent with past construction activities, with no culturally or historically significant materials or deposits were observed. Nonetheless, two areas of re-interment were identified near the location of Septic Tank HHST-5, the first marked by two upright stones, and the second, identified through communication with Mr. Milton Diego, a retired employee of F&M Construction. Re-interment included the placement of six or seven boxes containing multiple individuals buried at a depth of six feet in 1975 or 1976. Both locations were carefully avoided during excavation.</p>
Haun and Henry 2014 (Haun and Henry 2014)	Kawaipapa	<p>Inventory Survey: Pedestrian survey of a 72.81-acre parcel which resulted in the identification of 26 sites (SIHP 50-50-13-04964 and -06527 through -06551) comprised of 169 component features. The features include 112 stone lined pits, 19 walls, 12 terraces, 6 modified outcrops, 5 mounds, 3 enclosures, 2 artifact scatters, 2 platforms, 2 pavements, 2 concrete troughs and one each of the following; concrete basin, concrete foundation, railroad grade and road. Feature function includes agriculture (n=145), permanent habitation (9), livestock control (7), animal husbandry (4), transportation (2) and historic habitation (2).</p>
Tam Sing and Yent 2015	Honokalani, Wākiu	<p>Monitoring: Archaeological observation of the excavation of five trenches (TR-1 to TR-5) associated with the installation of new septic tanks and sewer lines for 12 cabins. The monitored areas were located in previously disturbed zones related to the park's initial construction in 1967. Consistent stratigraphy was noted across all trenches, with three layers overlying basalt bedrock at depths ranging from 150 cm to 280 cm. No historically significant or culturally sensitive deposits, features, or human remains were identified.</p>

Table 4-3 (continued). Summary of Previous Archaeological Studies in the Vicinity of Current Project Area

Reference	Location	Archaeological Study Summary
Rotunno-Hazuka et al. 2016	Kawaipapa	<p>Inventory Survey: Pedestrian survey of a 20-acre of an overall 55-acre parcel bisected by Kawaipapa Stream resulted in the identification of total of nine archaeological sites (50-50-13-06069, 07112-07117, and 08316-08317) with 70 component features. These include stacked stone walls (47%), mounds (20%), terraces (13%), and rock shelters (9%) that range in age from traditional Hawaiian precontact to historic era construction and use. Thirteen test units (TU1/TU1a-13) were conducted at SIHP -07112, 07114, 07115, 07116, 08316, and 08317, yielding primarily historic artifacts dating from the late 1800s to early 1900s. Traditional Hawaiian materials were also recovered from SIHP -08316 Features 2 and 3, as well as SIHP -07115 Feature 5. Finally, a historic era burial was also identified at SIHP -08316 Feature 2 during testing.</p>
McElroy et al. 2024	Kawaipapa	<p>Field Inspection: Preliminary inspection of a 5.95-acre area resulted in the identification six archaeological sites within the property: four basalt walls (Sites 1-3 and 6), a complex of rough boulder alignments (Site 4), and a larger complex of mounds, walls, and enclosures (Site 5) extending beyond the project boundary.</p>

In 1993, PHRI completed an archaeological inventory survey across approximately 10.07 acres for the then proposed Hana Medical Center (Henry and Graves 1993) that identified and documented four sites of varying significance and function. The findings included two site complexes (SIHP 50-50-13-03150 and -03153) and two boundary walls (SIHP -03151 and -03152), each contributing unique insights into the historical and cultural landscape of the region. SIHP -03150 consisted of an archaeological complex consisting of four component features: a small rectangular enclosure (Feature A), a large rectangular enclosure (Feature B), an L-shaped alignment with a terrace (Feature C), and an amorphous platform (Feature D) (Henry and Graves 1993:8-12). Feature A appeared to have functioned as a habitation site, as evidenced by its structural attributes and the discovery of domestic artifacts, including historic glass and ceramics. Feature B, with its high walls and lack of entry points, was likely used as an animal pen. Feature C, characterized by crude walls and limited cultural material, was assigned an indeterminate function. Testing in Feature D, a rectangular platform incorporating a cobbled terrace, yielded ceramics, glass, and faunal remains (Henry and Graves 1993:12).

SIHP -03151 is a rock wall extending along the northeastern portion of the project area. The construction, which incorporated stacked cobbles and boulders, served as a boundary wall that likely corresponded to historic land grants. SIHP -03152 is also a boundary wall on the northern edge of the project area, also constructed with cobbles and boulders that aligned with historic land grant boundaries (Henry and Graves 1993:12).

SIHP -03153 is a smaller complex near the western boundary, consisting of a stone wall (Feature A) and a terrace (Feature B) (Henry and Graves 1993:12-15). The stone wall showed signs of collapse but retained some intact portions, while the terrace was constructed using a natural outcrop to create a level area for cultivation. Shovel testing (STs 12 and 13) yielded minimal cultural materials, and local informants suggested the complex may have been constructed in the past two decades. Shovel testing (STs 5-7 and 14-16) in areas outside these identified sites revealed extensive prior modifications, including bulldozing and clearing for agriculture, and no significant cultural deposits were identified (Henry and Graves 1993:14). The findings collectively underscored the historical modifications within the project area, including its use for agriculture and boundary demarcations, which reflected the broader patterns of land use in the region.

Xamanek Researches completed an archaeological inventory survey of the 0.43-acre parcel in 2006 that identified one archaeological complex, SIHP 50-50-13-05946, comprised of four component features (Features A through D) that were interpreted as both pre-contact and post-contact components (Madeus and Fredericksen 2006). This site is situated adjacent to the previously documented Kawaipapa Complex (SIHP 50-50-13-01485), suggesting potential associations between the two locations. Feature A of SIHP -05964 is a crescent-shaped terrace constructed from sub-angular basalt boulders and cobbles stacked up to four courses high. This terrace, partially collapsed, is positioned atop a rock outcrop and abuts Feature B. It exhibits no cultural materials but may have supported agricultural activities, such as wet taro cultivation,

given its proximity to Feature B (Madeus and Fredericksen 2006:17-18, 20-21). Feature B is a depression measuring 15.5 by 5.5 meters, interpreted as the remnant of a wet taro patch or fishpond. The depression contains debris and is partly located on an adjacent property. Its construction and placement near the stream and Kawaipapa Complex reinforce its probable role in aquaculture or agriculture (Madeus and Fredericksen 2006:18-19, 21). Feature C is a terrace or probable causeway or raised 'auwai extending around Feature B. Constructed with sub-angular basalt boulders and cobbles, it features a stepped design with multiple retaining walls (Madeus and Fredericksen 2006:19). Subsurface testing resulted in the recovery of post-contact materials, including a glass bead, nails, and bottle fragments, suggesting modifications during the historic period (Madeus and Fredericksen 2006:22-27). Feature D, a low, rectangular platform, measures 13.8 by 5.3 meters and consists of basalt boulders and cobbles. It features circular depressions, remnants of coconut tree stumps, and is associated with a dismantled wall depicted on a 1940 map. This platform appears to have been constructed during the post-contact period, repurposing stones from the earlier wall (Madeus and Fredericksen 2006:28-30). Subsurface testing, including seven backhoe trenches across the project area and the single test unit within Feature C showed the presence of limited cultural deposits, with most features yielding no significant findings apart from scattered marine shell and post-contact artifacts (Madeus and Fredericksen 2006:24-34, 48-49).

In 2004, Haun & Associates completed an archaeological inventory survey of Wai'anapanapa State Park which resulted in the documentation of 59 archaeological sites and complexes comprised of 119 component features reflective of traditional Hawaiian settlement patterns, ceremonial practices, and historic period adaptation (Haun et al. 2004). Among the more notable findings is SIHP 50-50-13-05340, a segment of the historic Kiha-a-Pi'ilani Trail, which served as a coastal transportation route. This trail includes steppingstone paths and cleared sections but has been altered by modern activity (Haun et al. 2004:29-30). SIHP -05364, the Ohala Heiau Complex, is a ceremonial site with 15 features, including platforms, upright stones, and alignments. Excavations at the main platform (Feature D) and a smaller platform (Feature G) showed multiple occupation phases, with marine shells, basalt tools, and evidence of ritual activity dating as early as A.D. 1285-1405 (Haun et al. 2004:59, 62).

The SIHP -05372 lava tube cave complex demonstrates dual use for habitation and defense, with features including walls, pavements, and burial evidence. The main cave (Feature F) yielded artifacts such as a basalt mortar and pig bones, while excavations revealed cultural deposits and hearth features, confirming use during A.D. 1285-1405 (Haun et al. 2004:73-81). SIHP -05350, a U-shaped permanent habitation, features faced walls and a paved interior, with marine shells suggesting a combination of habitation and ceremonial use (Haun et al. 2004:39-40).

An extensive network of stacked stone walls (SIHP -05367) delineates large enclosures, likely constructed in the early 19th century to manage cattle and protect habitation areas (Haun et al. 2004:67-70). Additionally, SIHP -05390, a historic cemetery, represents graves of multi-ethnic

significance, emphasizing the site's cultural importance during the historic period (Haun et al. 2004:105).

In 2008, Affordable Cultural & Ecological Services, LLC. (ACES) completed an archaeological inventory survey of the 1.924-acre project area which resulted in the identification of a single site consisting of a historic era concrete slab foundation of a small shed or structure (SIHP 50-50-13-6575) (Dillon and Chun 2008). The footprint of the slab measures approximately 2.5 by 3.0 meters, with a height ranging from 20 to 35 centimeters and constructed of poured concrete over angular basalt cobbles, an older method of construction which is indicative of its historic age. The concrete incorporates small, rounded pebbles rather than modern angular gravel. The structure's location in the lower makai portion of the property suggests it was part of the agricultural or residential activities historically conducted on the lot (Dillon and Chun 2008:30). Overall, the project area itself exhibited extensive signs of past bulldozing, filling, and soil redistribution, particularly in its western portion, where the land was reshaped into a terraced platform. The eastern portion, where the slab foundation was found, retained more intact soils, though the surrounding terrain had been altered significantly by historic agricultural and residential developments. No additional surface artifacts or cultural materials were identified, and subsurface testing across thirteen shovel probes yielded no significant findings, apart from a single piece of modern black plastic in one shovel probe and a fragment of bathroom tile in another (Dillon and Chun 2008:30-37).

A large-scale archaeological survey of approximately 20-acres was conducted between 2010 and 2011 by Archaeological Services Hawai'i, LLC. which resulted in the documentation of nine archaeological sites and complexes (SIHP 50-50-13-06069, 07112–07117, and 08316–08317), comprised of 70 component features that reflected both historical and traditional pre-contact Hawaiian use of the area (Rotunno-Hazuka et al. 2016). These features include rock walls, mounds, terraces, and shelters. SIHP -06069 consists of a previously recorded boundary wall in poor condition due to bulldozer activity (Rotunno-Hazuka et al. 2016:35). SIHP -07112 is comprised of 13 component features, including rock walls and rock wall segments (Features 1, 2, 4, 8, and 13), modified depression (Feature 3), terraces (Feature 5, 6), terraced platform (Feature 12), enclosure (Feature 7) and mounds (Feature 10, 11) potentially representing historic period to modern era animal husbandry and agricultural activities with possibly associated habitation (Rotunno-Hazuka et al. 2016:37-53). Of note are Features 11 and 12. Feature 11, a previously disturbed J-shaped wall segment with a shallow soil deposit was tested (TU-11) to assist with the determination of age and function. While excavation yielded sparse charcoal (0.4g), no significant cultural materials were recovered which appears to be in keeping with animal husbandry in the historic or modern era (Rotunno-Hazuka et al. 2016:47-50). Testing of an intact corner of Feature 12 (TU-12), a substantial terrace platform with prior disturbance, showed the presence of a four-layer stratigraphic sequence with the recovery of a single glass fragment (Rotunno-Hazuka et al. 2016:49-52).

SIHP -07113 includes 10 component features, primarily consisting of walls (Features 1-4, 8, and 10), as well as a U-shaped enclosure (Feature 9), an overhang (Feature 5), and stepped terraces (Features 6 and 7) along Kawaipapa Stream (Rotunno-Hazuka et al. 2016:52-68). Disturbances from flooding and mechanical activity have affected the state of preservation for most features, some of which may have served dual functions for agricultural soil retention and stream control.

SIHP -07114 includes 10 component features comprised of 17 total sub-features. These include stone walls (Features 1, 2, 4, 5, and 10), rock mounds (Features 3, 6, 7, and 8), an overhang (Feature 10a), and a multi-component rectangular enclosure (Feature 9) (Rotunno-Hazuka et al. 2016:32). Features 8 and 9 appear to be affiliated with traditional ritual and ceremony (Rotunno-Hazuka et al. 2016:68-88). Testing within the general enclosed area of Feature 9 (TU-7 and TU-8) resulted in the identification of a cultural deposit over shallow bedrock with recovered materials consisting of charcoal (3.7g), a basalt flake, and minimal marine shell (32.7g). The recovered materials are suggestive of either an agricultural use or animal enclosure with a possible earlier ceremonial function (Rotunno-Hazuka et al. 2016:80-84).

SIHP -07115 consists of six features, one of which is multi-component, and includes stone walls (Features 1, 2, 4), stone enclosures (Features 3 and 6), and a three-tiered rock terrace platform with a depression (Feature 5). All features were interpreted as pre-contact structures for habitation or specialized use (Rotunno-Hazuka et al. 2016:89-109). Testing at Feature 3 (TU-5 and -6) showed the presence of three layers and was interpreted as a multi-period habitation site based on the recovery of 60.8g of charcoal, marine shell (2.9g), and historic artifacts (i.e. nails, glass, and a brass screw) (Rotunno-Hazuka et al. 2016:93-98). Testing of the depression at Feature 5 (TU-2) as well as the lower terrace tier (TU-3) resulted in the recovery of 12.1g of charcoal but no other cultural materials in the former while formal artifacts and materials associated with pre-contact use were recovered from the latter. Traditional artifacts, including a basalt flake, volcanic glass, and a possible adze fragment were all recovered from TU-3, along with marine shell (0.9g), and charcoal (14.2g), which is indicative of a habitation or work area (Rotunno-Hazuka et al. 2016:100-107). Testing at Feature 6 (TU-4) only yielded sparse charcoal flecking and no significant cultural materials which led to the enclosure being interpreted as an animal pen (Rotunno-Hazuka et al. 2016:107-109).

SIHP -07116 is an agricultural complex with eight features that include rock mounds (Features 2 and 5) and planting areas (Features 1, 3, and 4) that had been subject to extensive severe disturbance from flooding and recent bulldozing (Rotunno-Hazuka et al. 2016:109-124). Testing at Feature 3 (TU-9) recovered basalt debitage, a modern glass shard, and coral manuports, indicating disturbance but also traditional and historic agricultural use (Rotunno-Hazuka et al. 2016:112-114).

SIHP -07117 is a seven-feature historic habitation complex that potentially extended back to the pre-contact era that includes rock shelters (Features 3, 5, 7), boundary walls (Feature 1 and 6), mounds (Feature 4) and a terrace (Feature 2) (Rotunno-Hazuka et al. 2016:117-135).

Portable artifacts were recovered from the surface of Feature 3 and included ceramic sherds, a whole inkwell bottle, a green wine bottle base, and a medicine bottle missing only the lip (Rotunno-Hazuka et al. 2016:120-121).

SIHP -08316 is a temporary habitation area with three features that include terraces (Features 1 - 2) and a burial mound (Feature 2a) (Rotunno-Hazuka et al. 2016:124-141). Testing at Feature 1 (TU-12) identified a cultural layer within Layer III that was approximately 10 cm thick and contained 13.3 grams of marine shell, three tertiary basalt flakes, a potentially worked basalt piece, and a volcanic glass core (Rotunno-Hazuka et al. 2016:125-126). Testing at Feature 3 (TU-13) identified three cultural layers within Layer III and upper limits of Layer IV with cultural material consisting of marine midden, coral fragments, 'ili'ili (pebbles), glass bottle body shards, volcanic glass, and wood charcoal as well as a fragmented fishhook, a broken gin bottle, and lithic debitage (Rotunno-Hazuka et al. 2016:131-136).

Finally, SIHP -08317 is a historic ceremonial site with three component features, including a rock mound (Feature 2a) containing a historic burial (Rotunno-Hazuka et al. 2016:136-151). Testing at Feature 2a (TU-1) identified a historic burial mound along with portable cultural materials, including metal fragments and a porcelain shard. The burial is believed to be Hawaiian, possibly of mixed ancestry, based on associated artifacts and context (Rotunno-Hazuka et al. 2016:137-140).

In 2008, Haun & Associates completed fieldwork for an archaeological inventory survey of a 72.81-acre parcel that resulted in the identification of 26 archaeological sites (SIHP 50-50-13-04964 and -06527 through -06551) with 169 features that spanned both the pre-contact and historic time periods (Haun and Henry 2014). Overall feature types and functions primarily revolved around agricultural, habitation, transportation, and livestock control features.

SIHP 50-50-13-04964 is a railroad grade that extends through the parcel, and stands out for its contribution to Maui's historic sugar cane industry. Constructed prior to 1915, it was crucial for transporting sugar cane and is notable for its well-preserved construction methods, including mortared retaining walls and bridge abutments. Nearby, SIHP -06546, a historic road likely built post-abandonment of the railroad, demonstrates evolving transportation needs. Both sites are key for understanding the historical infrastructure of the area (Haun and Henry 2014:21-23, 51-53).

Agricultural features dominated the findings, with 145 features, including stone-lined pits, terraces, and walls, designed for moisture retention and cultivation. These are represented by SIHP -06540, the larger of the agricultural complexes with 12 component features, including a large enclosure and cultivation pits, indicating extensive and intensive agricultural activity. Smaller complexes like SIHP -06537, consisted of similar features with agricultural functions related to both pre-contact and historic use of the overall project area (Haun and Henry 2014:21, 40-44).

Permanent habitation sites like SIHP -06528 included platforms, enclosures, and modified outcrops, likely used as residential areas. Subsurface testing at these sites resulted in the recovery of portable cultural materials such as charcoal and marine shell fragments (Haun and Henry 2014:29-31).

Finally, historic features, including livestock control walls (Sites 6547, 6548) and pig pens with concrete structures (SIHP -06551), reflect post-contact shifts in land use. These features underscore the area's transition from traditional practices to ranching and localized farming in the early 20th century (Haun and Henry 2014:53-57).

Keala Pono Archeological Consulting conducted a field inspection of a 5.95-acre area for proposed for Hāna Health staff housing (McElroy et al. 2024). Preliminarily, six archaeological sites (Sites 1-6). Site 1 consists of parallel basalt retaining walls partially lining the driveway and constructed of dry-stacked basalt. The northern wall is short and straight, while the southern wall is longer and curvilinear, featuring a concrete beam and an upright waterworn basalt stone; this site is likely historic and associated with the driveway's development (McElroy et al. 2024:30-31). Sites 2 and 3 are roughly stacked basalt stone walls of an indeterminate function that were severely overgrown (McElroy et al. 2024:31-32) with the western end of Site 2 showing some curvature along the alignment (McElroy et al. 2024:26)(26). Site 4 consists of rough boulder alignments near Kawaipapa Stream, some of which appear as stacked walls with two courses that may represent agricultural or boundary elements, though dense vegetation obscured visibility (McElroy et al. 2024:33). Situated in the northeast corner of the parcel, Site 5, the most complex multi-component site, included a number of mounds, walls, and enclosures that extended beyond property boundaries. The neatly stacked basalt stone construction of the features is suggestive of traditional Hawaiian pre-contact origin (McElroy et al. 2024:34-35). Finally, Site 6 is a basalt stone wall that begins as a curved structure and transitions to a deflated alignment which is less discernible toward the northeast due to tree disturbance and overgrowth, the function and age for which are unclear (McElroy et al. 2024:35).

5.0 SUMMARY OF PROJECT AREA SITE VISIT

A project site visit with Wākiu CDC members Alohalani (Jade) Smith, Alike Smith, Sam Kalalau III, and Loretta “Etta” O’Hara occurred on July 22, 2024 with ‘Āina Archaeology staff Tanya L. Lee-Greig and Leimomi Ah Sing. The primary focus of the visit included gaining familiarity with the cultural resources of the proposed DHHL Wākiu Master Plan area with an emphasis of on the potential presence of highly significant archaeological features. Members of Wākiu CDC graciously spent their time introducing the ‘Āina team the landscape and outer boundary of the master plan area as accessible by existing roads and trails to assist with understanding the extent of the project area, logistical challenges for future archaeological work, and insight into the type of sites and features present.

Vegetation Observations

The area is densely vegetated with invasive species such as Maconnia (prevalent throughout Hāna), Christmas berry, Turkey berry, and African tulip. Other observed plants include bamboo, mango trees, lychee trees, pū hala, guava, kukui, and recent plantings of ‘ulu (breadfruit) trees.

Access and Surrounding Features

The closest access points to the DHHL project boundary is situated adjacent to Ala Kukui with the best access at Olopawa (private property, drive access to the house) and the road to the water tank. A historic railroad bed, potentially associated with the railroad alignment previously documented as SIHP 50-50-13-04964 (Haun and Henry 2014:21-23), connects these roads on foot. The track once extended to Kealakū, Olohina town, and Olahino and while Hāna Ranch owned the easement, properties along the track have been developed by private landowners. From this railroad bed, visibility into the understory both, mauka and makai of the easement, was generally good with the ability to observe the presence of archaeological features consisting of terraces paralleling the contours of low ridges, along with stacked basalt stone walls and enclosures at the base of and contouring a small pu‘u (hill) near Kawaipapa Stream. Those in attendance pointed toward State lands where taro farming occurred historically (above Ala Kukui near the upper river).

6.0 SUMMARY AND RECOMMENDATIONS

Previous archaeological research and field studies in the area surrounding the DHHL Wākiu Master Plan area resulted in the identified site complexes and features that span a broad temporal range, from pre-contact Hawaiian settlement (circa A.D. 1285-1405) to the historic period (19th–20th century). The features demonstrate transitions in land use, ceremonial practices, habitation, and agricultural activities, reflecting the dynamic evolution of the cultural landscape over time. The following provides an overall of summary of archaeological findings, all of which are consistent with the cultural historical background research presented in Section 3.0:

1. Ceremonial and Religious Features

- Heiau and related complexes, such as the Ohala Heiau Complex (SIHP -05364).
- Ritual and ceremonial platforms with evidence of multiple occupational phases.
- Features associated with burial and mixed ceremonial purposes, including SIHP - 08317 and the lava tube cave complex.

2. Habitation Features

- Permanent structures, including platforms, enclosures, rock shelters, and U-shaped alignments.
- Temporary and dispersed habitation features, often associated with cultural deposits of charcoal, marine shell, and artifacts.

3. Agricultural Features

- Agricultural complexes featuring terraces, rock mounds, stone-lined pits, and 'auwai (irrigation channels).
- Features indicative of traditional and historic period cultivation, including wet taro patches and extensive stone-walled enclosures.

4. Coastal and Marine Features

- Fishing shelters, trails, and markers illustrating coastal adaptation and subsistence practices.
- Associated navigational landmarks and pathways connecting coastal and inland resource zones.

5. Transportation and Boundary Features

- Historic transportation routes, such as the Kiha-a-Pi'ilani Trail and railroad grades.
- Stone walls and alignments marking historic land boundaries or agricultural zones.

6. Animal Husbandry Features

- Enclosures, pens, and walls linked to cattle ranching and pig farming during the historic era.

7. Cemetery and Burial Features

- Historic cemeteries and burial mounds reflecting multi-ethnic and Hawaiian ancestry.
- Lava tube cave burials with associated habitation and defense uses.

8. Historic Infrastructure

- Structures such as boundary walls, concrete slabs, and foundations related to early 20th-century agricultural and residential developments.

This comprehensive dataset illustrates the region's long-standing cultural significance, encompassing ritual, habitation, and agricultural activities, alongside adaptation to post-contact economic and social changes. With the limited vantage of walking and driving along the boundary of the master plan area along with the extent of both the railroad bed and cleared utility lines near the water tank during the brief, one-day site visit, it is clear that the potential for the presence of above-ground archaeological sites and features representing both pre-contact traditional Hawaiian architecture and historic era ranch and components of industrial sugar ventures as summarized above is highly likely with the DHHL Wākiu Master Plan area. The highest densities for which would be along drainages and contouring low ridges where present. Given the scale of the proposed project, a comprehensive Archaeological Inventory Survey Plan is strongly recommended prior to initiating formal archaeological fieldwork. This plan should identify phases of development, areas to be avoided, and the required intensity of effort to ensure thorough documentation of historic properties, the results of which could also inform future beneficiary land use based on traditional settlement and agricultural use areas and overall planning.

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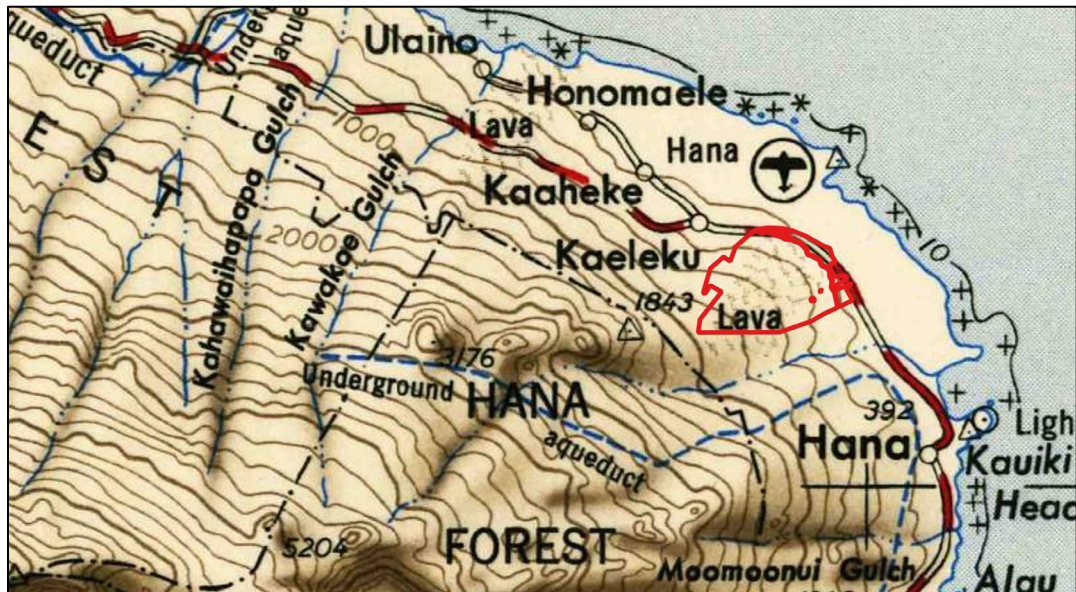
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Appendix E

Cultural Impact Assessment

**REVISED DRAFT—Cultural Impact Assessment for the DHHL
Master Plan in Wākiu Ahupua‘a, Hāna District, Island of
Maui, Hawai‘i**

TMKs: (2) 1-3-004:011, 012, and 017



Prepared For:

Department of Hawaiian Home Lands
91-5420 Kapolei Pkwy
Kapolei, HI 96707

January 2025



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MANAGEMENT SUMMARY

Keala Pono Archaeological Consulting conducted a Cultural Impact Assessment (CIA) for the proposed DHHL Master Plan at TMKs: (2) 1-3-004:011, 012, and 017 in Wākiu Ahupua‘a, Hāna District, on the island of Maui. This is located inland (mauka) of Hāna Highway.

The current study took the form of background research and an ethnographic survey consisting of four interviews, which are included in this report. The background research synthesizes traditional and historic accounts and land use history for the Wākiu area. Community consultations were performed to obtain information about the cultural significance of the subject properties and the region as a whole, as well as to address concerns of community members regarding the effects of the proposed construction on places of cultural or traditional importance.

Archival research revealed that ‘uala and dryland kalo cultivation occurred in Wākiu during pre-contact times. The area was also known for hala forests and was close to Honokalani Village near the coast. One heiau is located in Wākiu within Wai‘ānapanapa State Park. The park also contains more than 50 documented archaeological sites including heiau, historic cemeteries, habitation sites, enclosures, rock walls, cairns, trails, and a pictograph, as well as various agricultural and habitation features. No archaeological studies or historic properties are known for the current project area.

Consultations with individuals knowledgeable about Wākiu Ahupua‘a and the study lands produced information on its rich cultural history. Although Wākiu has been relatively sparsely populated, families did live, farm, hunt, and gather resources throughout the ahupua‘a. The majority of the population lived near the sea to continue their fishing traditions, but even these families visited the uplands regularly for farming or other important reasons. A very important cultural resource in the area has been the underground lave tubes and cave system, utilized in traditional times for war purposes, but also used as household refuse pits and canoe storage caves by Hawaiian families in the modern era. Eventually, Wākiu saw the introduction of ranching and sugarcane production. Remnant features from this era, including a historic railroad track which serviced this area, still exist. Still, the interviewees agreed that the project would not adversely affect any known sites of cultural significance nor any traditional cultural practices. The interviewees also agreed that the DHHL project is much needed by the Hana community, and they look forward to seeing it materialize.

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INTRODUCTION

At the request of G70 on behalf of the Department of Hawaiian Home Lands (DHHL), Keala Pono Archaeological Consulting prepared a Cultural Impact Assessment (CIA) for the proposed DHHL Master Plan at TMKs: (2) 1-3-004:011, 012, and 017 in Wākiu Ahupua‘a, Hāna District, on the island of Maui. This is located inland (mauka) of Hāna Highway. The CIA was designed to identify any traditional cultural resources or cultural practices in the area and to gain an understanding of the community’s perspectives on the proposed housing development.

The report begins with a description of the project, a historical overview of land use, and a summary of previous archaeological studies in the area. The next section presents methods and results of the ethnographic survey. Project results are summarized and recommendations are made in the final section. Hawaiian words, flora and fauna, and technical terms are defined in a glossary. Also included in this report are appendices with documents relevant to the ethnographic survey, including full transcripts of the interviews.

Project location and Environment

The project is located on TMKs: (2) 1-3-004:011, 012, and 017 in Wākiu Ahupua‘a, Hāna District on the island of Maui (Figure 1). These three agricultural-zoned parcels are on the mauka side of Hāna Highway and total 656.3 acres (ac.) [265.6 hectares (ha)] (Figure 2). The study area is bounded by Hāna Highway to the northeast and undeveloped land on the west and south. An easement for the former railroad grade runs contiguous to the makai edge of TMK: (2) 1-3-004:012, separating it from the other parcels. DHHL is the project proponent and landowner.

The island of Maui was created by two distinct shield volcanoes, Haleakalā in the east and Pu‘u Kukui in the west. The two separate land masses became connected by an isthmus when “lavas of Haleakala banked against the already existing West Maui volcano” (Macdonald et al. 1983:380). Wākiu is located on the wet, windward coast of the island. Handy and Handy (1972:502) call it “one of the wettest and most verdant coastal areas in the Hawaiian Islands.” The study parcel stands at approximately 60–275 meters (m) [200–900 feet (ft.)] above mean sea level (amsl) and is roughly 0.8 kilometers (km) [0.5 miles (mi.)] from the coast at Wai‘ānapanapa State Park. The nearest watercourse is Kawaipapa Stream, which is approximately 0.5 km (0.31 mi.) southeast of the study area and flows out into the ocean on the northwest side of Hāna Bay. Kawela Stream is approximately 1.10 km (0.68 mi.) to the northwest.

The project area lies predominantly on Malama extremely stony muck, 3–25% slopes (MYD) (Figure 3). A small portion of Hana silty clay loam, moderately deep, 3–15% slopes (HKNC) is located in the east along the highway and Hana very stony silty clay loam, 3–25% slopes (HKLD) can be found in the western extent. The USDA soil survey of the State of Hawai‘i describes these soils as follows (Foote et al. 1972):

Hana very stony silty clay loam, 3–25% slopes (HKLD)

This soil is on smooth, low mountain slopes...The substratum is moderately weathered, pebble-sized cinders overlying Aa lava. The soil is strongly acid to medium acid in the surface layer and slightly acid in the subsoil. Permeability is moderately rapid. Runoff is slow to medium, and the erosion hazard is slight to moderate. This soil is used for pasture. (Foote et al. 197:37)

Hana silty clay loam, moderately deep, 3–15% slopes (HKNC)

This soil is nonstony and moderately deep...The substratum is fragmental Aa lava at a depth of 20 to 30 inches. Runoff is slow to medium, and the erosion hazard is slight to moderate...This soil is used for pasture and homesites. (Foote et al. 197:37)

Malama extremely stony muck, 3–25% slopes (MYD)

This soil is on rough Aa lava flows. Permeability is very rapid. Runoff is very slow, and the erosion hazard is no more than slight. In places roots penetrate to a depth of 2 feet. This soil is used mostly for water supply. Small acreages are used for orchard crops and pasture. (Foote et al. 197:93)

Also in the vicinity to the west of the study area in the uplands is rough mountainous land (rRT), which is found across all of the Hawaiian Islands (Foote et al. 1972:119).

The project area experiences an average rainfall of 250 cm (98 in.) per year with January and March being the wettest months (Giambelluca et al. 2013). The subject properties are undeveloped and consists of a dense jungle that is made up of a variety of large trees, bushes, and shrubbery including invasive plants, but also kukui groves, large hala forests, and hau.

The Project

The proposed project includes the development of a new DHHL homestead primarily focused on subsistence agricultural lots and other associated land uses. The project is still in an early phase and plans have not been finalized. Proposed land use consists of a commercial area and community centers along the highway, kūpuna housing, residential homesteads, subsistence agriculture homesteads, a cemetery, boat storage, a convenience store, food truck area, pastoral land, kuleana parcels, a charter school, community gardens, and parks. Several areas with existing hala forest will be kept in place. Extensive ground disturbance will be required for the project and associated infrastructure and utilities.

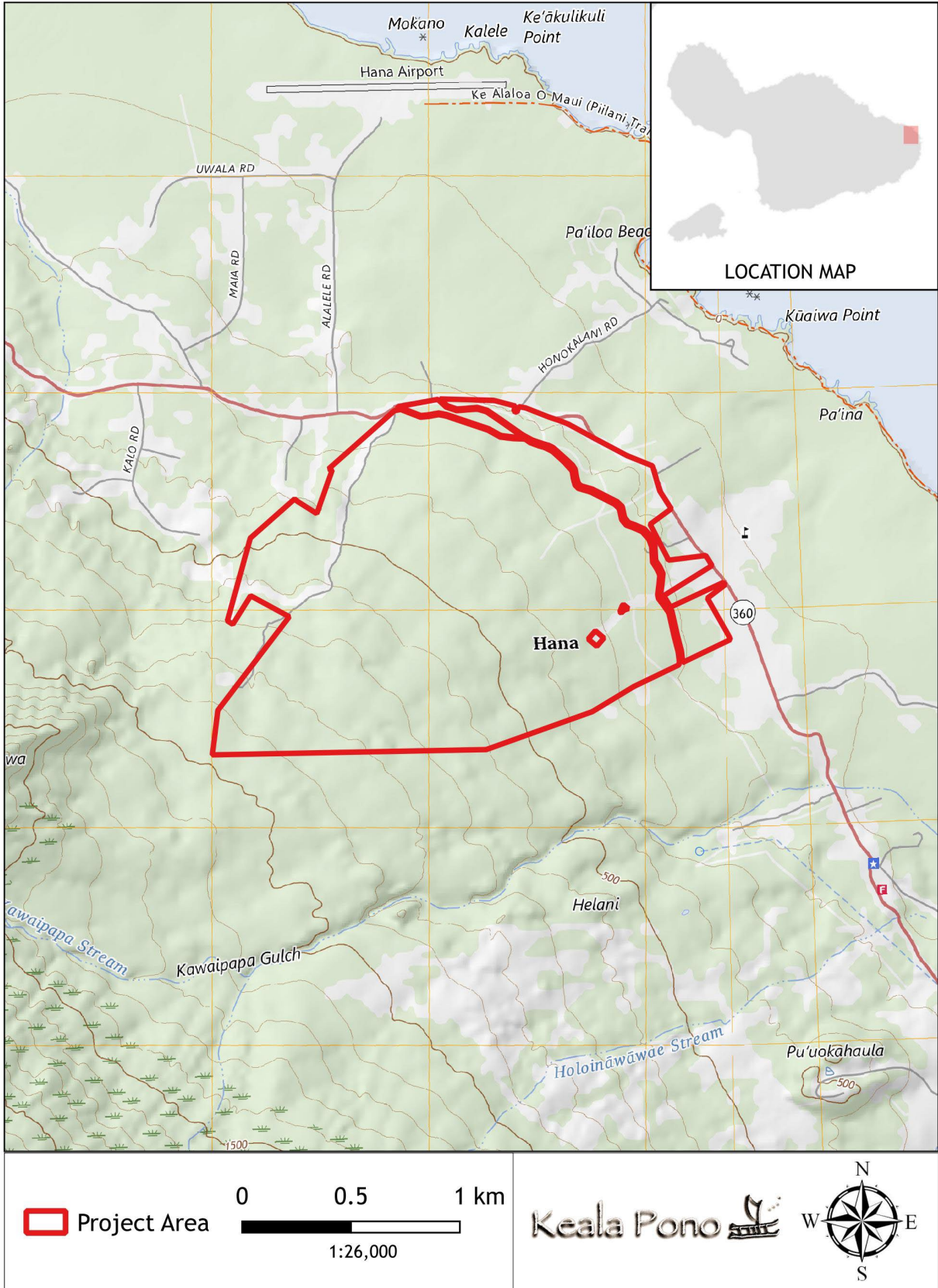


Figure 1. Project area on a USGS Hana quadrangle map (USGS 2024).

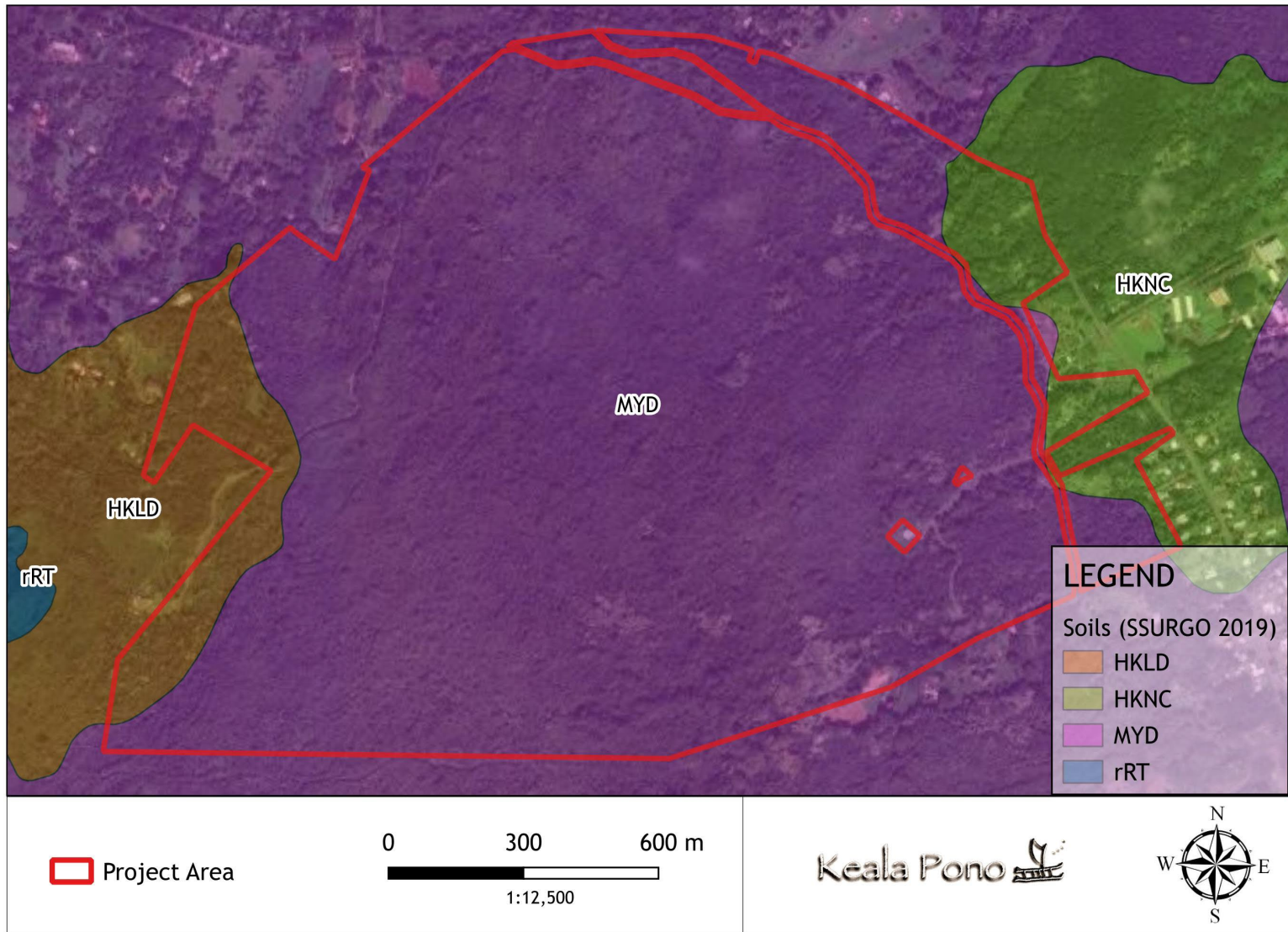


Figure 3. Soils in the vicinity of the project area (data from Foote et al. 1972).

BACKGROUND

This section of the report presents background information as a means to provide a context through which one can examine the cultural and historical significance of the project lands. In the attempt to record and preserve both the tangible (e.g., traditional and historic archaeological sites) and intangible (e.g., mo‘olelo, ‘ōlelo no‘eau) culture, this research assists in the discussion of anticipated finds. Research was conducted at the Hawai‘i State Library and the State Historic Preservation Division (SHPD) library, and using online resources at the University of Hawai‘i at Mānoa libraries, as well as databases such as Ulukau, Kipuka, Waihona ‘Aina, and Papakilo, and the State of Hawai‘i Department of Accounting and General Services (DAGS) website. Historical maps, archaeological reports, Māhele data, and historical reference books were among the materials examined.

Wākiu Ahupua‘a in the Pre-Contact Era

Under the traditional Hawaiian system, one island or section of an island was the domain of an ali‘i nui or mō‘ī who had gained control through a combination of inherited rank and personal prowess (Handy et al. 1991:278). It was during the time of the ali‘i Kaka‘alaneo of Maui that land on the island was divided up and portioned out into districts, sub-districts, and smaller divisions. Each of these was ruled over by an appointee of the landlord of the next larger land division. All of these divisions and subdivisions were ultimately under the control of the chief who ruled a portion of, if not the entire, island. Traditional sources recount that this division on Maui came shortly after the time of Wākea, ancestor of all ali‘i (Handy et al. 1991:491). The unification of Maui by the brothers Pi‘ilani and/or Kihapi‘ilani brought together two comparable systems operating in East and West Maui, pulling them together under a single ali‘i nui or mō‘ī. Joerger remarks on the traditional division of land:

The Hawaiians made the divisions of the lands...following a mountain ridge, the bottom of a ravine, or the center of a stream or river. But oftentimes only the line of growth of a certain type of tree or grass marked a boundary, and sometimes only a stone determined the corner of a division. (Joerger 1974:1)

The largest divisions were the islands themselves. These were then divided into moku and smaller districts called kalana, though neither of these had designated administrators. The next unit down in size was the ahupua‘a, which was ruled over by a chief or a konohiki. Ahupua‘a could, in turn, be subdivided into ‘ili. These ‘ili could either be a simple subdivision of the ahupua‘a, where a konohiki acted as agent to the ahupua‘a chief, or could operate with greater autonomy as ‘ili kūpono, where a chief paid tribute directly to the mō‘ī (Joerger 1974:3–4).

Whereas district and ahupua‘a boundaries were likely defined roughly 500 years ago, some district boundaries were established more recently (Sterling 1998:3), and this is the case with Hāna. Due to governmental changes in the mid-19th century, some district boundaries on Maui were renamed or redefined as people moved to different areas and land use changed. The current moku of Hāna includes the ancient districts of Kahikinui, Kaupō, Kīpahulu, Hāna, and Ko‘olau. It spans from Makapu‘u Ahupua‘a in the north to Pu‘ualu in the south and is a legendary moku associated with ali‘i (Sterling 1998:118). Wākiu is situated between Kawaipapa Ahupua‘a to the south, Ka‘elekū to the northwest, and the small, coastal ahupua‘a of Honokalani to the north.

Place Names

One often overlooked source of history is the information embedded in the Hawaiian landscape. Hawaiian place names “usually have understandable meanings, and the stories illustrating many of the place names are well known and appreciated...The place names provide a living and largely intelligible history” (Pukui et al. 1974:xii). Several place names associated with the study area are listed in the *Place Names of Hawaii* (Pukui et al. 1974), along with the meanings of the names and/or comments about the specific locales:

Hāna. Quadrangle, village, bay, surfing area, elementary and high school, beach park, district, forest reserve, plantation and road, East Maui. Queen Ka‘ahumanu was born here at a place called Pōnaha ke one (circle [of] the sand) Poetic: *‘āina ua, lani ha‘aha‘a*, rainy, low-lying sky. (Pukui et al. 1974:40)

Honokalani. Land section, Hāna qd., Maui. *Lit.*, the royal chief bay. (Pukui et al. 1974:49)

Ka‘elekū. Land section near, Hāna, Maui. *Lit.*, the basaltic rock. (Pukui et al. 1974:61)

Kapukaulua...Point, Hāna qd., Maui... *Lit.*, the *ulua* fish hole. (Pukui et al. 1974:90)

Kawaipapa. Land section and gulch near Hāna, Maui where chief Kihaapi‘ilani built a path paved with stones. *Lit.*, the stratum stream. (Pukui et al. 1974:99)

Wai‘ānapanapa. Lakes (6,800 feet elevation), Hāna Forest Reserve, Nāhiku qd.; State park and caves, Hāna qd., Maui. A cruel chief, Ka‘akea, suspected his wife, Pōpō‘alaea (ball of ochreous earth), of having an affair with her younger brother. The wife hid in a cave, but the shadow of the *kāhili* waved by the attendant betrayed their hiding place, and Ka‘akea killed them both. On the night of Kū, the water in the pool is said to run red...*Lit.* glistening water. (Pukui et al. 1974:221)

Wākiu. Land section near Hāna, Maui. *Lit.*, northwest wind sound. (Pukui et al. 1974:228)

‘Ōlelo No‘eau

Traditional proverbs and wise sayings, known as ‘ōlelo no‘eau, are another means by which the history of Hawaiian places has been recorded. In 1983, Mary Kawena Pukui published a volume of close to 3,000 ‘ōlelo no‘eau that she collected throughout the islands. The introductory chapter of that book reminds us that if we could understand these proverbs and wise sayings well, then we would understand Hawai‘i well (Pukui 1983). While there is just one ‘ōlelo no‘eau that mentions Wākiu specifically, several others speak of the greater Hāna region.

Ka hala lau kalakala o Wākiu.

The thorny-leaved hala of Wākiu.

A boast about one who is not to be tampered with. (Pukui 1983:310)

Hāna i ka i‘a iki.

Hāna of the little fish.

Hāna was known in ancient times as the land where fish were scarce. Believing slanderous tales about Ku‘ula and his wife, Hinahale, the ruling chief of Hāna ordered them destroyed. Having mana over the fish of the sea, the two caused a scarcity until their son ‘Ai‘ai brought them back to life. Ku‘ula and Hinahale were worshiped as deities by fishermen. (Pukui 1983:54)

Hāna, mai Ko‘olau a Kaupō.

Hāna, from Ko‘olau to Kaupō.

The extent of the district of Hāna, Maui. (Pukui 1983:55)

I ‘auhe‘e o Ka‘uiki i ka wai ‘ole.

Ka ‘uiki was defeated for the lack of water.

When ‘Umi, ruler of Hawai‘i, went to Hāna to battle against Lono-a-Pi‘ilani of Ka‘uiki, thirst weakened the Maui warriors. Often used later to mean “without water or the needed supplies we cannot win.” (Pukui 1983:125)

Ka haka o ka moa kāne, ua kau ‘ia e ka moa wahine.

The perch of the cock is now occupied by a hen.

Said by Puna, whom Kalaniōpu‘u placed as governor in Hāna, Maui. Malihelelima wanted Puna out of the way and lied that Kalaniōpu‘u had sent word for Puna to meet him in Hawai‘i at once.

When Puna arrived in Hawai‘i, he discovered that he had been duped and that Ka‘uiki hill in Hāna had been taken by the Maui chiefs in the meantime. The saying was later used to mean that a superior worker had been replaced by another who was not as good. (Pukui 1983:141)

Ka ua kea o Hāna.

The white rain of Hāna.

Refers to the misty rain of Hāna, Maui, that comes in from the sea. (Pukui 1983:169)

Ka ua Laniha‘aha‘a o Hāna.

The Rain-of-the-low-sky of Hāna.

Refers to Hāna, Maui. Once, the young warrior chief Ka‘eokulani ran to a banana grove to escape a sudden squall. As he stood safe and dry in the shelter of the banana leaves he lifted his spear. It accidentally pierced through the leaves and a trickle of water came through. He remarked that the sky where he stood was so low he had pierced it. (Pukui 1983:170)

Lewa ka waha o ka puhi o Laumeki.

The mouth of the eel of Laumeki gapes.

Said of one who talks so much that his mouth is hardly ever closed. Laumeki was an eel-man who lived at Wailau, Moloka‘i. When he saw that Ku‘ula’s fishpond at Hāna, Maui was always full of fish, he decided to assume his eel form and go there to steal some. On one of his thieving expeditions, he was caught by a magic hook and drawn ashore, where his jaw was smashed and left gaping. (Pukui 1983:214–215)

Mālia Hāna ke ahuwale nei Kaihuokala.

Hāna is calm, for Kaihuokala is clearly seen.

Kaihuokala is a hill on the Hāna side of Haleakalā. When no cloud rests upon it, it is a sign of clear weather. Also expressed Mālie Maui, ke wahio mai la Kaihuokala. (Pukui 1983:231)

O Hāna ia, he ‘āina au pehu.

That is Hāna, land where lack was known. (Pukui 1983:258)

O Wananalua ia ‘āina; o Punahoa ka wai; o Ka‘uiki ka pu‘u.

Wananalua is the land; Punahoa is the pool; Ka‘uiki is the hill.

Noted places in Hāna. (Pukui 1983:258)

Mo‘olelo

The entirety of Hāna was considered a wahi pana and was linked through legendary, historical, and traditional accounts to various traditional deities like Pele, Kāne, Kanaloa, Pu‘uhele, and Maui. Like ‘ōlelo no‘eau, mo‘olelo offer insight into what life may have been like in the project region in ancient Hawai‘i. They preserve topics of interest relevant to particular areas that were meant to be passed down the generations of those living in that place. While just one story speaks of Wākiu, the greater Hāna region is often discussed in legendary accounts. One mo‘olelo was also found that speaks of the nearby Wai‘ānapanapa caves in Honokalani.

The island of Maui was named for the demigod Māui, who was said to live in Hāna at Ka‘uiki (Pukui et al. 1974:92, 148). There are many mo‘olelo that tie the demigod and his tricks to Hāna. Māui lifted up the sky so the people could stand tall from on top of Pu‘u Ka‘uiki. This is why Hāna is sometimes called “Hāna of the low sky” (Pukui 1983:170). The two gods Kāne and Kanaloa also lived at Pu‘u Ka‘uiki. It is thought that the two pillars of rock at the base of the hill represent the twin coconut trees that stood at the entrance to their garden.

One of Pele's sisters, Pu'uhele was brought to visit Hāna as a child but was left by her mother to live at Pu'u Ka'uiki since she constantly bit her breast when nursing (Beckwith 1970:189). Another version of the same story recalls that Pu'uhele was born as a fetus and left by Pele and her other sisters at Nu'u, where she turned into a beautiful maiden. She was killed when trespassing in Wananalua and buried. Ka'uiki Hill rose from the earth at the site of her grave (Cleghorn and Rogers 1987:6).

Another story connects the goddess Pele to the Hāna District and specifically references Wākiu. It is said that the very first time Pele left Haleakalā, she went to a peak called Kaihuakala (The sun's nose). To the northwest of this is another peak named Hale o Pele (Pele's House) and from there, she created a lava flow that covered the land "as far as Kawaipapa, Wakiu, Honokalani, Kaeleku, and between Honoma'ele and Makapu'u in 'Ula'ino." She is also associated with Ka'uiki Hill (Sterling 1998:119):

So it is with the hill called Ka-iwi-o-Pele (Pele's Bones) at Aleamai and at Haneo'o. It was the same Pele who broke open the side close to the sea at Leho'ula and formed a rocky island just outside of Haneo'o called Alau, which is there to this day. There are other rocky islets standing on the eastern side of Ka'uiki called Na-niu-a-Kane, Moku-mana, Puki'i and Mokūhano. (Sterling 1998:119)

Ka Iwi o Pele is a smaller hill south of Ka'uiki that got its name because Namakaeha, a man from Kahiki, killed Pele and buried her bones there. According to the mo'olelo, dogs exhumed her remains and piled them up. After burying Pele's bones, Namakaeha came across a man named Wakiu. The pair fought and Wakiu used his sorcery to ultimately come out victorious (Sterling 1998:119). It is not certain if the sorcerer Wakiu is tied to Wākiu Ahupua'a or how he got his name.

The legend of Wai'anapanapa speaks of the chiefess Popoalaea. Popoalaea married the warrior chief Kakae, who took her to live in the Hāna uplands because of jealousy. Despite their secluded home, Kakae became increasingly suspicious and threatening and Popoalaea soon feared for her life. She ran away with her companion, Manona, "hiding always and traveling by the underground passages, for the great mountain is honeycombed with caves and caverns, and lava tubes leading to the ocean" (Emma Kalelookalani Omsted in Sterling 1998:125). Papaloa beach had deep caves where women would hide and it was here that Popoalaea and Manona found refuge.

To gain entrance to the hiding place of the women it was necessary to dive into the pool under a jutting ledge, beyond which the cavern opened out into a low roofed room. To one side immediately above the water line was a small ledge shaped like a throne, which was just large enough to hold the princess. On the opposite side, a similar but smaller ledge made a seat for the maid [Manona]...Thus they hid, emerging only at night to find food and a possible means of escape to another island, returning to the cave at daylight. (Emma Kalelookalani Omsted in Sterling 1998:125)

When they fled, Manona brought along Popoalaea's kahili to prove their identities. Unfortunately, it was this kahili that was their downfall. Kakae never ceased searching for his wife and soon arrived to Honokalani where the villagers spoke of wandering spirits near the shore that only came out at night. He searched the shoreline and came to rest near the entrance to the cave. The pool was so clear that it reflected the ceiling of the women's hiding place and he soon recognized Popoalaea's kahili. Enraged, Kakae sent his men into the cavern to retrieve the women who he then killed by smashing them into the rocks.

And to this day one may see the rocks stained with the life blood of Popoalaea, for the roof and sides are dark with it, and over all are the white flakes of brain particles...On the nights of Ku, when the moon is in a certain stage, the very waters of the pool itself are said to become red, and there is a strange and weird light in the cave...

In the spring—it was at that time of the year the tragedy took place—the stones are said to be of a redder hue caused by the gathering of the opae ula—red shrimp—the sign of forgiveness or the casting out of an evil spirit. (Emma Kalelookalani Omsted in Sterling 1998:126)

The mo'olelo of the wind gourd of La'amaomao follows Kūapāka'a, Pāka'a, and a magical gourd that allows its user to control the winds. In a chant, the winds of Hāna are recited:

...Hāna's winds are 'Ai-manu,
Kaomi, Kāpae,
Ho'oula, Lauawaawa,
Paiolopaowa, Halemauu,
Kui, Kona... (Nakuina 1990:54)

Traditional Land Use and Subsistence

Wākiu would have been well supplied with both marine and terrestrial resources, however the entire northern half of the Hāna District where the project area is located did not have any perennial streams during ancient times due to a relatively recent lava flow. One nearby source of freshwater is the Wai'ānapanapa caves near the coast, which collect freshwater since it floats at the surface above the ocean water (Sterling 1998:120). Despite the lack of reliable water sources, the rich, volcanic soil made the region ideal for dryland kalo cultivation. Though most of Hāna is too wet for growing 'uala, it was farmed near the coast where it was drier.

Close to the Wai'ānapanapa caves was a large settlement called Honokalani, which shares its name with the small ahupua'a at the shore, adjacent to Wākiu. This area was known for having cultivated some dryland kalo and 'uala (Sterling 1998:120). Wākiu and Honokalani are also known for vast hala groves, which are noted in historical documents and 'ōlelo no'eau. Kamakau mentions, "...the juicy pork and tender dog meat dear to the memory of chiefs of that land, moistened by the 'apuakea rain that rattles on the hala trees from Wākiu to Honokalani" (Kamakau 1992:385). The project area still contains several of these areas of large hala forest.

The island of Maui exhibits eleven great heiau (200 ft. in length or longer), and six of them are located within Hāna District (Sterling 1998), demonstrating the importance of the project region in traditional times. A number of smaller heiau were also scattered throughout the district. Two heiau are located within Wai'ānapanapa State Park, which spans the ahupua'a of Honokalani and Wākiu. These are Kuakeali'i Heiau in Honokalani and Ohala Heiau in Wākiu:

Kuakealii Heiau, Walker Site 103

Location: About three quarters of a mile north of Waianapanapa Cave near the shore.

Description: A large open platform not more than 4 feet high. It measures 90 feet on two sides, the other two being 85 and 110. The top is entirely paved with small pieces of lava and pebbles. There is no coral. The edge of the platform is not terraced, but on the east side is a raised terrace 18 inches above the level of the main platform. It is 20 feet wide and extends the whole distance of 90 feet along the east side. There are two pits in it possibly serving the purpose of refuse pits for the sacrificial altar. Around the edge of the heiau platform are small pits in several places. These look like image holes. Part of the old Kihapiilani paved trail runs close by the heiau. (Walker 1931:179)

Ohala Heiau, Walker Site 104

Location: A quarter of a mile east of the road on the southside of the trail.

Description: A low platform of rough construction 4 feet high. It is 110 feet long and 75 feet wide at the widest part. There is no coral or pebbles in the pavement, which has been disturbed to form pits in many places. Drums are said to be heard from this heiau on certain nights. (Walker 1931:180)

Ali'i and Warfare

Hāna Moku, but specifically Hāna Ahupua'a is associated with many prominent battles, ali'i, and their 'ohana. One reason that ali'i may have favored the region is its proximity to the north of Hawai'i Island.

Alenuihaha Channel, between the southeast and south coast of East Maui and 'Upolu Point (the northwest tip of Hawaii) could easily be crossed in either direction in a couple of hours when a trade wind was blowing. As a sanctuary, both in wartime and peacetime, Hana was an ideal seat for ruling

ali'i of either island, as well as a much pleasanter and more beautiful place to live. (Handy and Handy 1972:502)

Kiha a Pi'ilani, the son of Maui Chief Pi'ilani, lived in Kawaipapa, the adjacent ahupua'a to Wākiu. For some time he consulted Kahu'akole about regaining control over the kingdom which was ruled by his older brother Lono a Pi'ilani. While in Kawaipapa, he courted the Kolea Moku, daughter of the Hāna chief Ho'olae Makua, though he disguised himself as a commoner. When Kiha a Pi'ilani realized that Ho'olae Makua would remain loyal to his brother, he called upon his brother in law, 'Umi a Liloa from Hawai'i Island, who sent warriors to Hāna. Ho'olae Makua waited for the canoes to arrive at Waikaloa, just in front of Kawaipapa (Sterling 1998:121). The Hāna warriors were skilled at throwing sling stones and began pelting the invaders with 'alā kanawao from Kawaipapa, Waika'akihi, Wākiu, and Honokalani to sink the incoming canoes. Those who made it ashore continued fighting from "Akiala, to Laahana, to Kawaikau, to Neneuepua, to Kukui-o-Kamehaikana. The fighting reached Honokalani, to Wakiu, through the hala grove of Kahalaoweke..." (Sterling 1998:121). The Maui chief was eventually victorious.

Kiha a Pi'ilani is credited for constructing the first paved roads around Maui to make transportation and access easier:

The construction of the road was begun at the stream at Kawaipapa and at Pihele where it would start to enter the hala grove of Kahalaowaka. From here to the forest of Akialaa at Honoma'ele the 'alā stone paving was set at intervals on the road...(Sterling 1998:130)

Historic Wākiu

It is generally accepted that in 1778 Captain James Cook became the first westerner to see the Hawaiian Islands, which at that time were not yet united under one sovereign. Following Cook, a wave of other foreign explorers landed on Hawai'i's shores. Around the same time as the arrival of the first westerners to Hawai'i, many of the other islands were experiencing major political changes. It was during this time that O'ahu's sovereignty ended with the invasion of the Maui chiefs, and the Maui rule was subsequently overcome by the invasion of forces from Hawai'i Island. Kaua'i and Ni'ihau were ruled by Kaumuali'i who relinquished control in 1810 during peaceful negotiations with Kamehameha I, who then became the ruler of all the Hawaiian Islands.

Changes in Land Tenure

The change in the traditional land tenure system in Hawai'i began with the appointment of the Board of Commissioners to Quiet Land Titles by Kamehameha III in 1845. The Great Māhele took place during the first few months of 1848 when Kamehameha III and more than 240 of his chiefs worked out their interests in the lands of the Kingdom. This division of land was recorded in the Māhele Book. The King retained roughly a million acres as his own as Crown Lands, while approximately a million and a half acres were designated as Government Lands. The Konohiki Awards amounted to about a million and a half acres, however title was not awarded until the konohiki presented the claim before the Land Commission.

The Mahele was an instrument that began to settle the undefined rights of three groups with vested rights in the dominion of the Kingdom --- the government, the chiefs, and the ho'a'āina. These needed to be settled because it had been codified in law through the Declaration of Rights and laws of 1839 and the Constitution of 1840, that the lands of the Kingdom were owned by these three groups... Following the Mahele, the only group with an undefined interest in all the lands of the Kingdom were the native tenants, and this would be later addressed in the Kuleana Act of 1850. (Beamer 2008:194, 195)

In the summer and fall of 1850 two pieces of key legislation were adopted by the Kingdom of Hawaii. First, on July 10th of 1850, the Alien Land Ownership Act was established, allowing foreigners to hold title to lands within the Kingdom. Less than a month later, the Alien Land Ownership Act was followed by the Kuleana Act on August 6th of 1850. The Kuleana Act allowed citizens to present claims before the Land Commission for

parcels that they were cultivating within the Crown, Government, or Konohiki lands. By 1855 the Land Commission had made visits to all of the islands and had received testimony for about 12,000 land claims. This testimony is recorded in 50 volumes. Ultimately between 9,000 and 11,000 kuleana land claims were awarded to kama'āina totaling only about 30,000 acres and recorded in ten large volumes.

Although the Māhele had specifically set aside property for the King, the government, and the chiefs, this did not necessarily alienate the maka'āinana from their land. On the contrary, access to the land was fostered through the reciprocal relationships, which continued to exist between the commoners and the chiefs. Perhaps the chiefs were expected to better care for the commoners' rights than the commoners themselves who arguably might have been less knowledgeable in foreign land tenure systems. Indeed, the ahupua'a rights of the maka'āinana were not extinguished with the advent of the Māhele, and Beamer points out that there are "numerous examples of hoa'āina living on Government and Crown Lands Post-Mahele which indicate the government recognized their rights to do so" (Beamer 2008:274).

Hoā'āina who chose not to acquire allodial lands through the Kuleana Act continued to live on Government and Crown Lands as they had been doing as a class previously for generations. Since all titles were awarded, "subject to the rights of native tenants." The hoa'āina possessed habitation and use rights over their lands. (Beamer 2008:274)

For those commoners who did seek their individual land titles, the process that they needed to follow consisted of filing a claim with the Land Commission; having their land claim surveyed; testifying in person on behalf of their claim; and submitting their final Land Commission Award (LCA) to get a binding royal patent. However, in actuality, the vast majority of the native population never received any land commission awards recognizing their land holdings due to several reasons such as their unfamiliarity with the process, their distrust of the process, and/or their desire to hold to their traditional way of land tenure regardless of how they felt about the new system. In 1850, foreigners were allowed to buy land. This further hindered the process of the people securing lands for their families.

The unawarded kuleana lands were sold by the Hawaiian government to create income for the Kingdom. Land Patent Grants and Royal Patent Grants (collectively abbreviated here at GR) were the deeds obtained from the sale of land that belonged to the government.

At the time of the Mahele, some of the land was the King's own land which later became known as Ceded Lands. Other lands in the possession of ali'i were returned to the King in exchange for Commutation of property the ali'i kept. Some of these returned lands became Government lands and were sold by the government to generate income for the Kingdom, since the King gave up his traditional right to collect taxes and goods following the Mahele. (Waihona Aina n.d.)

LCAs and GRs generated during the Māhele offer valuable information regarding land use, traditional and historic boundaries, and landmarks, as well as the natural resources of the area. A total of 11,179.39 acres consisting of 77 LCAs and 71 GRs were awarded in the Hāna District (Cleghorn and Rogers 1987). LCAs were approximately 2.10–1,093.50 acres, while GRs measured between 0.66–336.30 acres in size. Records show that these lands were used for wet and dry kalo cultivation, 'uala, kō, niu, and as piggeries. Three LCAs were awarded near the current project area. Two are located on either side of Hāna Highway and the other is east of the Government Road (Figure 4, Table 1). Māhele documentation lists a hala grove, an 'a'ā ridge, and a nearby trail leading to the ocean for the makai lot, LCA 4931 awarded to Kaahina. No land use or additional information was listed for the other two parcels awarded to Puhake as LCA 4666 and Pua Lou as LCA 4665.

Three GRs are located in the vicinity of the study area (see Table 1) as shown on an 1894 map (see Figure 4) and one GR was found in Māhele documents, but not on historic maps. These are GR 2405 belonging to Nancy Spalding and Kawelo's GR 2990 that is later listed as belonging to Stanton W. Estrella and his wife Lucinda H. GR 9974 is a long, thin railroad easement owned by Hana Ranch Inc. that runs between the mauka parcel [TMK: (2) 1-3-004:012] of the study area and the makai parcels along the highway [TMK: (2) 1-3-004:011 and 017]. GR 3014 is a 24.1-acre parcel belonging to Paulo Kawelo. The 1894 map showing land owners designates the project area as Government land (see Figure 4).

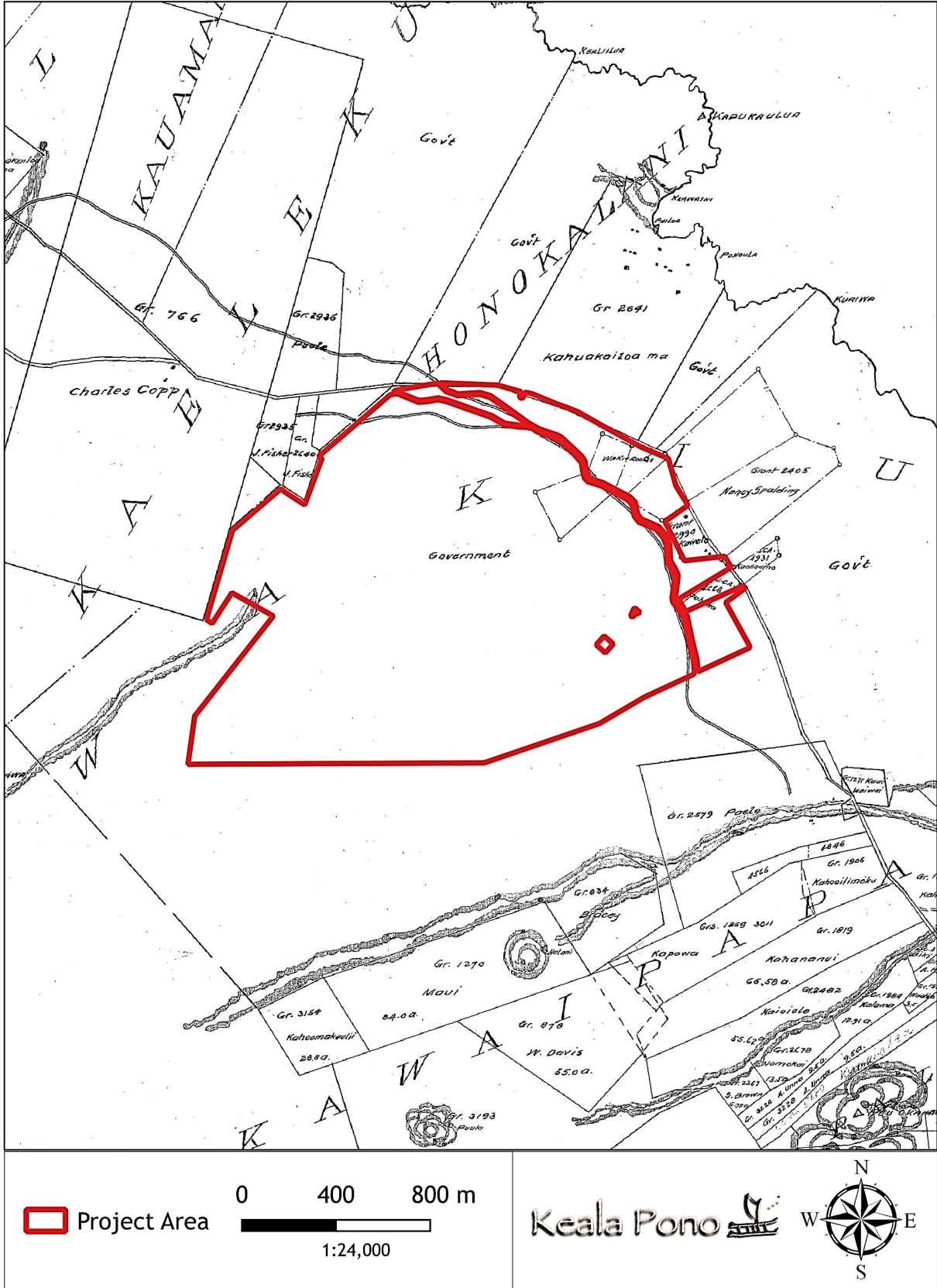


Figure 4. Portion of a map of Hāna showing land owners (Dodge 1894).

Table 1. Land Commission Awards and Grants in Wākiu

LCA or GR #	Claimant	Size (ac.)	Notes
GR 2405	Nancy Spalding	35.7	Purchased on August 12, 1857.
GR 2990	Kawelo/Stanton W. Estrella & wife Lucinda H.	6.88	Purchased on June 6, 1865.
GR 3014	Paulo Kawelo	24.1	Purchased on February 2, 1866.
LCA 4665	Pua Lou	11.9	One ‘āpana, ‘ili of Kamoku; no land use listed.
LCA 4666	Puhake	5.17	One ‘āpana, ‘ili of Puakamali‘i; no land use listed.
LCA 4931	Kaahina	5.0	One ‘āpana, hala grove, ridge of ‘a‘ā lava, trail to the ocean on northeast of lot. No land use listed.
GR 9974	Hana Ranch Inc.	Var.	Railroad easement.

Historic Land Use

The first westerner to visit the East Maui coastline was James Cook, captain of the *HMS Resolution*. He made landfall in November of 1778 and invited Kalaniōpu‘u and Kamehameha I to join him aboard his ship while anchored off of Hāna. Cook thought that the two were chiefs of Hāna and did not know about their fierce rivalry (Cleghorn and Rogers 1987). By the mid-1800s missionaries began to settle in East Maui, establishing mission stations and churches, some constructed near traditional heiau. In 1837 a mission station was built at Hāna, which drew residents from around the district.

Also in the mid-1800s, the sugar industry reached East Maui, becoming one of the first places with commercial sugar cultivation. The earliest sugar plantation in Hāna was established near Ka‘uiki around the same time as the Māhele. The 60-acre plantation was owned by Lindgren who also built a sugar mill out of a grass shack (Borthwick et al. 1992). Initially, local farmers would cultivate sugarcane on their LCAs and GRs to sell to the mill (Borthwick et al. 1992). In 1851, the Hana Plantation Company was established by a former whaler, George W. Wilfong, though it soon burned down and became abandoned. A Dane named August Unna began purchasing the smaller plantations such as that owned by Lindgren in order to restore the Hana Plantation Company. He began his endeavor in 1861 and by the end of the 1800s, nearly all of the small farmers ceased operations, changing the livelihood of Hāna residents:

The Plantation was the primary source of change in Hāna, “permanently altering its lifestyle and landscape.” Fertile land was farmed, used for grazing or “at least surveyed for its economic potential.” Not many maka‘ainana owned land and in the private land tenure system, lost their traditional land-use rights. Since they were no longer self-sufficient, many of these people had little choice but to become indentured laborers as a means to earn the money now needed to buy food and pay the king’s taxes. (Davis 1988:21 in Orr and Kolb 1993)

Plantation workers would move cane from the field to the Hana Plantation mill located mauka of Hāna Harbor until 1883 when a 20-inch gauge rail system was constructed (Dockall et al. 2005). By this time, Hāna had six commercial sugar plantations: Kaeleku Sugar Company, Hamoa Agricultural Company, Kawaipapa Agricultural Company, Hana Sugar Company, Reciprocity Sugar Company, and the Haneo Agricultural Sugar Company (Orr and Kolb 1993). A Hawaiian Government Survey map of Maui from 1885 places the project area within a large coastal region (red outline) demarcating the extent of the sugar plantation lands (Figure 5). The inland and mountain area are forest lands not in forest reserves (blue dashed outline). The map also shows the only school (blue dot) and post office (red dot) in the region situated in Hāna town.



Figure 5. Portion of a Hawaiian Government Survey map of Maui Island (Dodge 1885).

In the early 20th century, the 20-inch gauge rail was upgraded to a 36-inch rail for use with locomotives (Dockall et al. 2005). The commercial sugarcane era in Hāna peaked around 1936, however, just a decade later in 1946 the last sugar plantation in Hāna closed, in part due to tsunami damage to the harbor.

A map from 1929 illustrates the Ka‘elekū Sugar Company railroad line, which runs through an easement, separating the mauka and makai parcels of the project area (Figure 6). Of note are several trails in the vicinity. One can be seen running from Hāna Highway to the ocean near Wai‘ānapanapa Cave. Another trail is on the west side of the study area crossing into Ka‘eleku Ahupua‘a.

Roughly 14,000 acres of the Hana Plantation was sold in 1944 to Paul Fagan, who had plans to start Hāna Ranch (Hāna Ranch n.d.). The same year, he founded Ka‘uiki Inn, later named Hotel Hāna Maui. The cane fields served as the initial pasturage for cattle, but was improved over the years through the addition of various grasses, including the down dominant pangola. Ranch land clearing in the 1960s, utilizing bulldozers created numerous piles of wood and dirt and stone piles that are still evident. The proliferation of exotic plant growth (such as lantana and Christmas-berry) since the 1960s has resulted in significant alteration of the vegetation in the area, and appears to have resulted in additional bulldozing...(Borthwick et al. 1992:16)

Prior to converting Hana Plantation’s cane fields into ranchland, Fagan had been the owner of Moloka‘i’s Pu‘u o Hoku Ranch and Maunawili Ranch on O‘ahu. Fagan brought cattle from Moloka‘i and put them out to graze in the existing fields, which drastically altered the landscape once more (Borthwick et al. 1992:16). Hāna Ranch is still in operation today and owns the railroad alignment next to the current study lands.

Today, tourism has grown in the Hāna District. The makai subject parcels are located along one of the most popular tourist destinations on Maui, the scenic Road to Hāna (Hāna Highway), and the original hotel established by Fagan is still the main hotel in the area, now called the Hyatt Hāna-Maui Resort.

Two maps from the 1950s illustrate the region’s development. The 1954 map places the study lands in “lava” and also shows the Hāna Airport (Figure 7). A map from 1957 depicts the railroad grade and several structures along either side of the highway (Figure 8). No structures or roads are shown within the project area and a hala grove and two cemeteries are labeled near the coast.

Previous Archaeology

While no previous archaeological studies were completed for the current project area, a few studies have been carried out in the vicinity (Table 2). The following paragraphs summarize reports that were found in the SHPD Kapolei library for previous work in the area within approximately 0.5 km of the study lands. Studies at Wai‘ānapanapa State Park are presented in a separate section. Project locations are illustrated in Figure 9. State Inventory of Historic Places (SIHP) numbers are prefixed by 50-50-13 and sites with known locations are shown in Figure 10 and listed in Table 3.

The earliest archaeological study was carried out by T.G. Thrum to identify the most prominent heiau across the island of Maui (Thrum 1917). In 1931, Walker completed a more extensive study of the heiau of Maui to expand on Thrum’s earlier findings (Walker 1931). Though many heiau were documented during these two early studies, no heiau were recorded within 0.5 km of the project area. Near the coast, two heiau were documented within Wai‘ānapanapa State Park. Kuakeali‘i Heiau (Site 103) is described as a large, open platform that is paved with small lava pieces and pebbles with no coral utilized in its construction. It has one terrace on the east side and several pits, “possibly serving the purpose of refuse pits for the sacrificial altar. Around the edge of the heiau platform are small pits in several places. These look like image holes” (Walker 1931:179). Ohala Heiau (Site 104) is within Wākiu Ahupua‘a and is a roughly constructed low platform that is disturbed in several areas. It was noted that “drums are said to be heard from this heiau on certain nights” (Walker 1931:180).

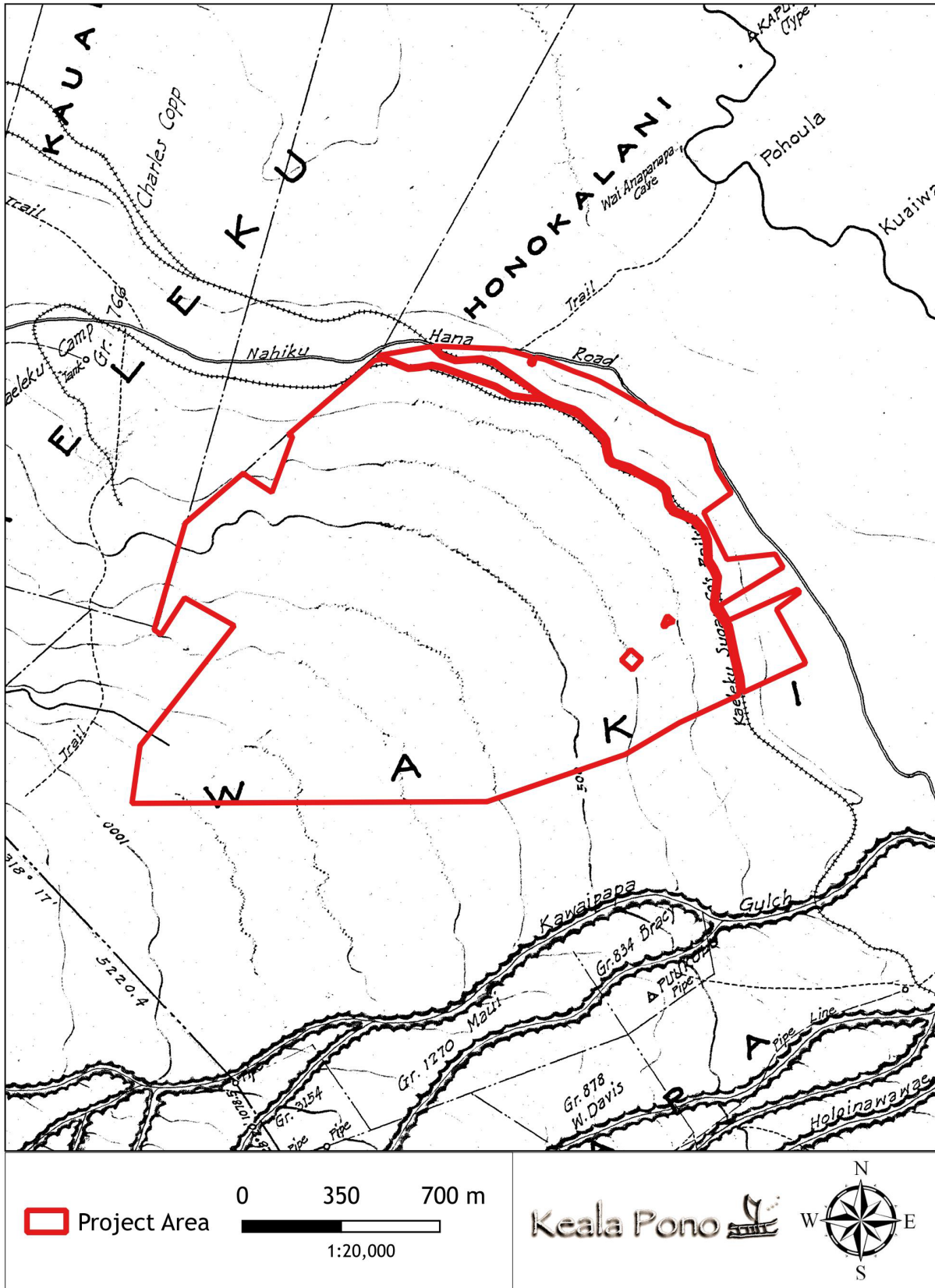


Figure 6. Portion of a Hawaii Territory Survey map of the Hāna and Kīpahulu Forest Reserves (King 1929).

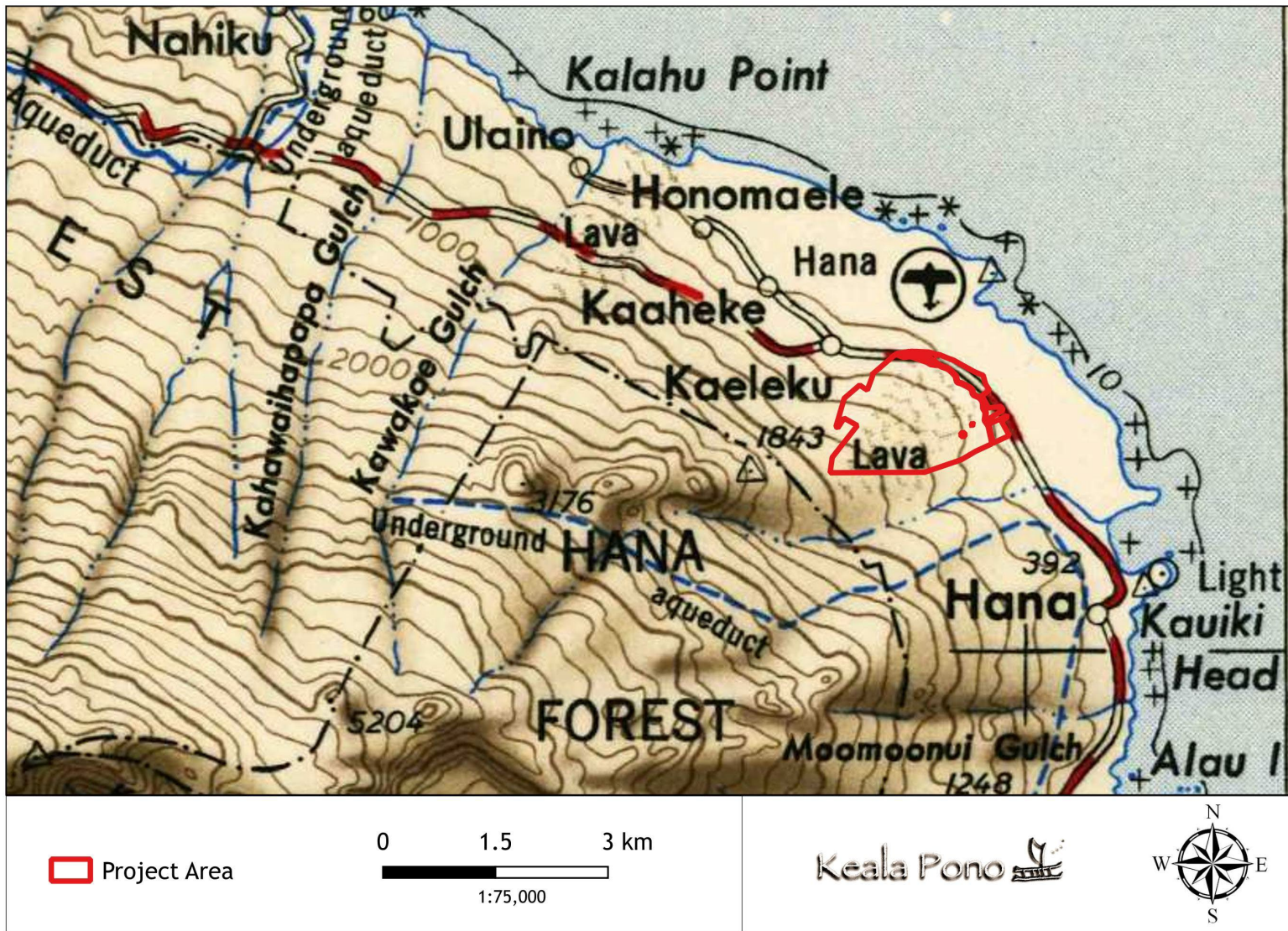


Figure 7. Portion of a USGS quadrangle map of Maui showing the project area (USGS 1954).

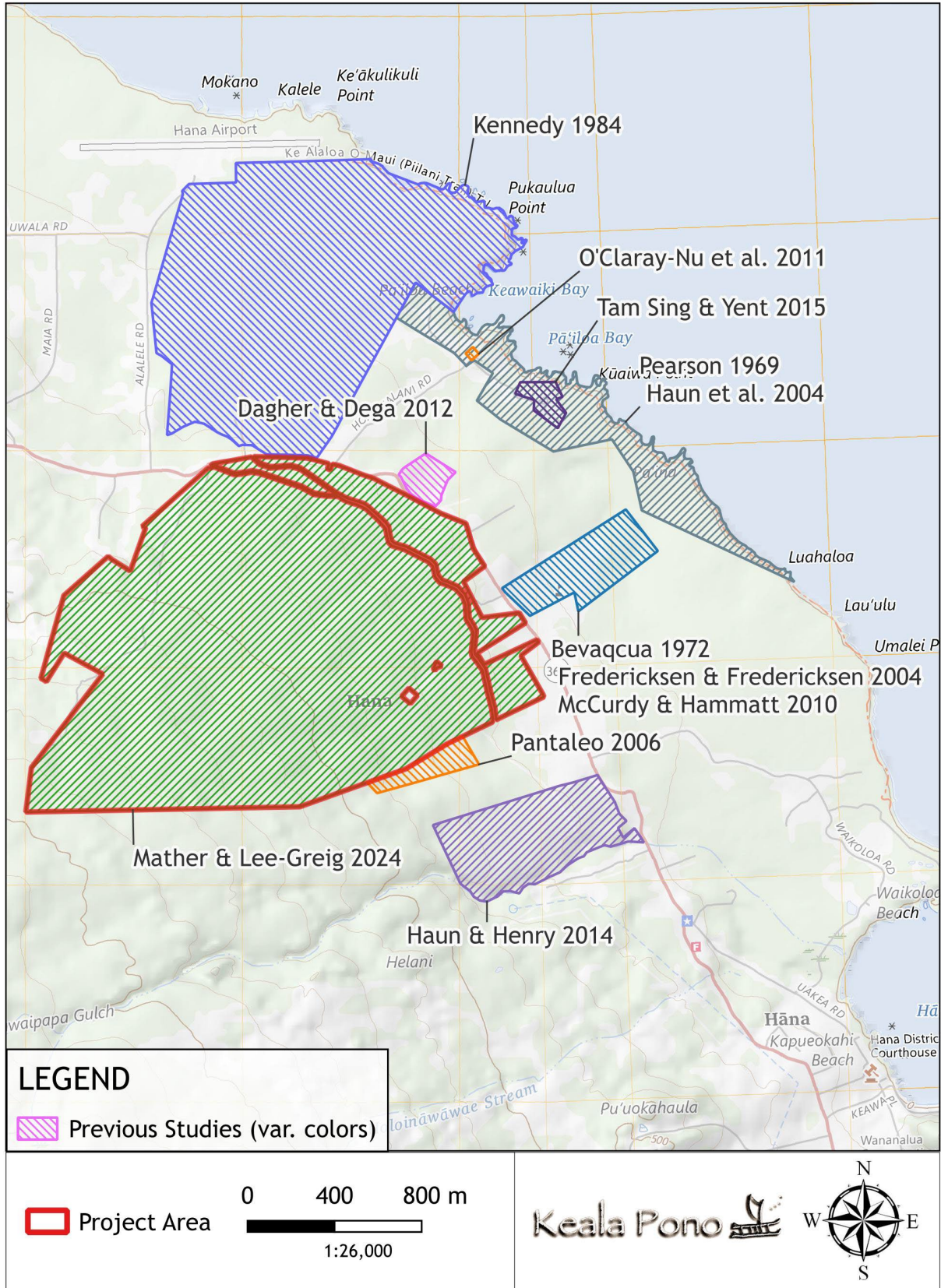


Figure 9. Previous archaeological studies within 0.5 km of the project area.

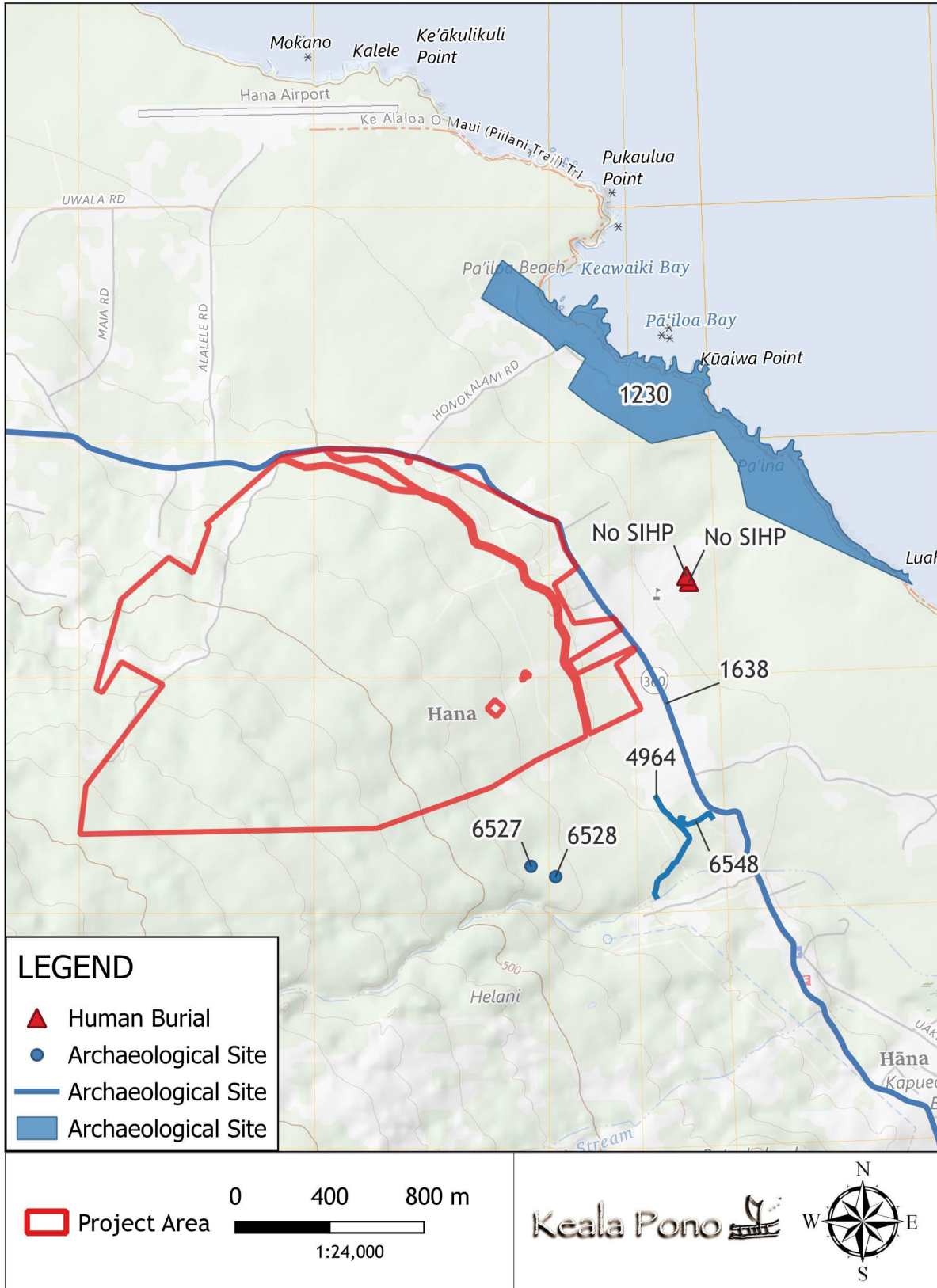


Figure 10. Archaeological sites with known locations within 0.5 km of the project area.

Table 2. Previous Archaeological Studies in the Vicinity of the Project Area

Author (s) & Year	Location	Study	Findings
Thrum 1917; Walker 1931	Island-wide	Heiau Study	Documented two heiau in Wai‘ānapanapa State Park, Kuakeali‘i Heiau (SIHP 103) and Ohala Heiau (SIHP 104). The State Park is more than 0.5 km from the study area.
Pearson 1969	Wai‘ānapanapa State Park	Archaeological Reconnaissance	Documented 34 sites consisting of a heiau, cave shelters, walls, enclosures, house platforms, a pre-contact trail remnant, a pictograph, six ahu, a burial complex, and two U-shaped shelters.
Bevaçua 1972	Hāna High and Elementary School	Archaeological Reconnaissance	Recorded a habitation site that had been previously disturbed by construction activities.
Kennedy 1984	Wākiu	Archaeological Inventory Survey	Identified 368 features of the previously documented burial complex in Wai‘ānapanapa State Park.
Haun et al. 2004	Wai‘ānapanapa State Park	Archaeological Inventory Survey	Recorded 59 sites comprised of 119 features from the pre-contact and post-contact eras.
Fredericksen & Fredericksen 2004	Hāna High and Elementary School	Archaeological Inventory Survey	No historic properties recorded.
Pantaleo 2006	TMK (2) 1-3-004:008	Archaeological Inventory Survey	No historic properties recorded.
McCurdy & Hammatt 2010	Hāna High and Elementary School	Archaeological Monitoring	No new historic properties recorded, however school staff mentioned two possible areas of re-interment on campus, albeit with conflicting information. No SIHP numbers were assigned to the possible sites.
O‘Claray-Nu et al. 2011	Wai‘ānapanapa State Park	Archaeological Monitoring	Documented eight sites: disturbed ‘ili‘ili and marine midden deposits, footings, a hearth, and wall remnants.
Dagher & Dega 2012	Wākiu TMK (2) 1-3-005:013	Archaeological Inventory Survey	No historic properties recorded.
Haun & Henry 2014	North of Kawaipapa Stream	Archaeological Inventory Survey	Identified 26 sites with 169 features, mainly associated with agriculture.
Tam Sing & Yent 2015	Wai‘ānapanapa State Park	Archaeological Monitoring	No historic properties recorded.
Mather & Lee-Greig 2024	Current Project Area	Cultural Genealogy	Noted the region’s cultural significance and potential for undocumented above-ground archaeological resources to be present. An archaeological inventory survey plan was recommended based on the scale of the project.

Table 3. Archaeological Sites with Known Locations in the Project Area Vicinity

Site 50-50-13-	Description	Author(s)
1230	Wai‘ānapanapa Complex/Honokalani Village	
1638	Hāna Belt Road	
4964	Historic railroad	Haun & Henry 2014
6527	Terrace	Haun & Henry 2014
6528	Permanent habitation complex consisting of an enclosure, two platforms, and two modified outcrops	Haun & Henry 2014
6548	Four historic walls used for livestock control	Haun & Henry 2014
No SIHP	Possible re-interment location	McCurdy & Hammatt 2010
No SIHP	Possible re-interment location	McCurdy & Hammatt 2010

Several studies were carried out at the Hāna High and Elementary School property makai of the highway. An archaeological reconnaissance survey was completed for the proposed campus location (Bevacqua 1972). Two hammerstones, a possible grindstone, and waterworn pebbles were determined to be a possible habitation site that had since been destroyed. No SIHP number was assigned and it was concluded that the site did not retain significance and had “extremely poor” potential for data recovery. It was also noted that the property had been extensively disturbed by former papaya cultivation or ranching. In 2004, an archaeological inventory survey consisting of a pedestrian survey was required prior to improvements to the school (Fredericksen and Fredericksen 2004). No historic properties were recorded. Subsequent archaeological monitoring on the school campus did not document any new historic properties (McCurdy and Hammatt 2010). However, school staff mentioned two possible reinterment sites for previously identified human burials. One was marked by two upright stones and another where six or seven boxes of remains were reburied that had been exposed in the 1970s when the school was originally constructed. There were several conflicting accounts regarding the re-interment sites. It is possible that the uprights were placed by a former teacher and did not mark the location of human remains and also that the two re-interment sites were a single site with individuals having mistaken the location. No SIHP numbers were designated and the locations were avoided.

Plans for the construction of the Ala Kukui Spiritual Retreat required an archaeological inventory survey of the 12-acre parcel adjacent to the current project area (Pantaleo 2006). The study included a pedestrian survey and 12 mechanically excavated trenches. No historic properties or cultural deposits were encountered.

An archaeological inventory survey was conducted for an 8.996-acre parcel adjacent to Hāna Highway (SIHP 50-50-13-1638), which consisted of a pedestrian survey and nine mechanically excavated trenches (Dagher and Dega 2012). No historic properties were observed and no further archaeological work was recommended for the parcel.

An archaeological inventory survey was required in advance of a proposed affordable housing subdivision project on a 72.81-acre area mauka of Hāna Highway, to the southeast of the current subject properties (Haun and Henry 2014). The study recorded 26 sites (SIHP 50-50-13-4964, and 6527–6551) with a total of 169 pre- and post- contact features consisting of 112 stone-lined pits, 19 walls, 12 terraces, six modified outcrops, five mounds, three enclosures, two artifact scatters, two platforms, two pavements, two concrete troughs, a concrete basin, a concrete foundation, a railroad grade, and a road. The sites include permanent habitation complexes and agricultural complexes. Agricultural features are the most common feature type (n=145), with the most common of these being stone-lined pits (n=112) interpreted as cultivation pits. Historic plantation-

era infrastructure included a railroad grade (SIHP 4964) and a road (SIHP 6546) in addition to historic walls (SIHP 6547, 6548, and 6551). Of the 26 sites, the railroad grade (SIHP 4964); a terrace (SIHP 6527); a permanent habitation complex consisting of an enclosure, two platforms, and two modified outcrops (SIHP 6528); and historic walls used for livestock control (SIHP 6548) are within 0.5 km of the current project area.

In anticipation of the current project, a cultural genealogy report was drafted which consisted of archival research and a brief field visit to the outer edges of the current subject properties (Mather and Lee-Greig 2024). The study noted the region's cultural significance and the presence of pre- and post-contact historic properties in the vicinity of the proposed project. It was determined that the area has the potential for encountering undocumented above-ground archaeological resources. Members of the Wākiu Community Development Corporation (CDC) guided archaeologists to accessible areas along the project's outer boundary for a site visit via the SIHP 4964 railroad grade and existing trails and roads. The area was described as "densely vegetated with invasive species" (Mather and Lee-Greig 2024:63). During the brief visit, historic taro farming was mentioned by CDC members, and walls, enclosures, and terraces were observed. An archaeological inventory survey plan was recommended for the project based on its scale.

Wai'ānapanapa State Park

Wai'ānapanapa State Park is approximately 110 acres and spans both the Wākiu and Honokalani shore. The entirety of the State Park, plus additional State-owned land near Hāna Airport is designated as SIHP 50-50-13-1230, referred to as Honokalani Village or the Wai'ānapanapa Complex. SIHP 1230 was listed on the Hawai'i and National Register of Historic Places in 1985. The park is more than 0.5 km away from the current project area, but is a culturally significant and archaeologically sensitive area that informs on Wākiu and the region as a whole. Thus, archaeological work completed for Wai'ānapanapa State Park will be summarized below.

An initial archaeological reconnaissance was completed in 1969 as a preliminary step in the development of the area as a State Park (Pearson 1969). The surface survey documented 33 previously unidentified archaeological sites comprised of a heiau, five cave shelters, a trail, a pictograph, five ahu or markers, two U-shaped shelters, five small enclosures, three shelter walls, two house platforms, and three historic cemeteries, in addition to other walls and enclosures. Another cemetery was recorded outside the park boundaries near the Hāna Airport consisting of scattered burials. The sites were grouped into four complexes (heiau and cave complex; fishing shelters, ahu, and trails; inland house sites, enclosures, walls; and graves and cemeteries) with an approximate age ranging from the pre- to post-contact period.

In 1984, an archaeological inventory survey of more than 300 acres south of Hāna Airport recorded 368 features of Pearson's burial complex (Kennedy 1984). The features included filled crevices, ahu, incomplete graves, platforms, a possible heiau, and a multi-tiered platform with upright stones. The cemetery was believed to be historic and in use from 1600 to the late 1800s. The study did not include subsurface testing.

An archaeological inventory survey consisting of a pedestrian survey and six test excavations was conducted at Wai'ānapanapa State Park (Haun et al. 2004). The study documented a total of 59 sites with 119 features and relocated most of the features identified by Pearson (1969), however several were not found and were believed to have been destroyed during the intermittent decades or determined to be modern (Figures 11–13).

Archaeological monitoring was required for a waterline improvements project at the park, which documented eight previously disturbed sites (O'Claray-Nu et al. 2011). These include disturbed

SIHP Site No.	Type	No. of Features	Function	Formal Type																	Function													Haun & Associates Field Designation	Pearson Site #							
				Enclosure	Wall	Cairn	Terrace	Pavement	Platform	Trail	Cave	Upright	U-shape	Mound	L-shape	Overhang	Alignment	Cemetery	C-shape	Cupboard	Modified outcrop	Pictograph	Petroglyph	Permanent Habitation	Ceremonial	Temporary Habitation	Habitation	Marker	Agriculture	Transportation	Historic Burial	Livestock control	Boundary			Rock art	Burial	Storage	Indeterminate			
5371	Enclosure	1	Permanent habitation	1																		1															56					
5372	Complex	6	Permanent Habitation/Burial		3						3											5											1				8	21				
5373	Overhang	1	Temporary Habitation											1										1												4	22					
5374	Complex	4	Permanent Habitation				3								1							4														83	-					
5375	Overhang	1	Temporary Habitation											1									1													2	18					
5376	Complex	2	Rock art																														2			68/85	23					
5377	Enclosure	1	Permanent Habitation	1																		1														78	31					
5378	Complex	4	Permanent Habitation/Agriculture	2							1											1					3									58/59/60/61						
5379	Mound	1	Agriculture								1																1									61a						
5380	Wall	1	Livestock control		1																												1			43	32					
5381	Enclosure	1	Permanent Habitation	1																		1														69						
5382	Pavement	1	Permanent Habitation					1														1														70						
5383	Mound	1	Agriculture								1															1										80	-					
5384	Complex	2	Permanent Habitation	2																		2														44	33					
5385	Enclosure	1	Permanent Habitation	2			2															4														45/46/79/81	24/34					
5386	Complex	2	Permanent Habitation	1			1															2														82	-					
5387	Wall	1	Livestock control		1																												1			83a	-					
5388	Complex	2	Permanent Habitation	2																		2														47	26/27					
5389	Enclosure	1	Permanent Habitation	1																		1														71						
5390	Cemetery	1	Historic Burial												1													1								49	30					
5391	Complex	2	Temporary Habitation								2													2												48	28					
5392	Complex	5	Permanent Habitation	5																		5														73/75						
5393	Enclosure	1	Permanent Habitation	1																		1														75						
5394	Enclosure	1	Permanent Habitation	1																		1														75						
5395	Enclosures	4	Permanent Habitation	4																		4														75/76/77						
5396	Cemetery	1	Historic Burial													1													1							74	29					
5397	Cemetery	1	Historic Burial													1													1							72	29					
5398	Wall	1	Livestock control		1																													1		84	-					
Total				29	14	10	10	8	6	5	5	5	4	4	4	3	3	3	2	1	1	1	1	1	1	1	51	16	15	1	10	5	5	3	6	2	2	1	1	1		

Figure 12. Continuation of table of archaeological sites at Wai'ānapanapa State Park from Haun et al. 2004 and Pearson 1969 (Haun et al. 2004:26).

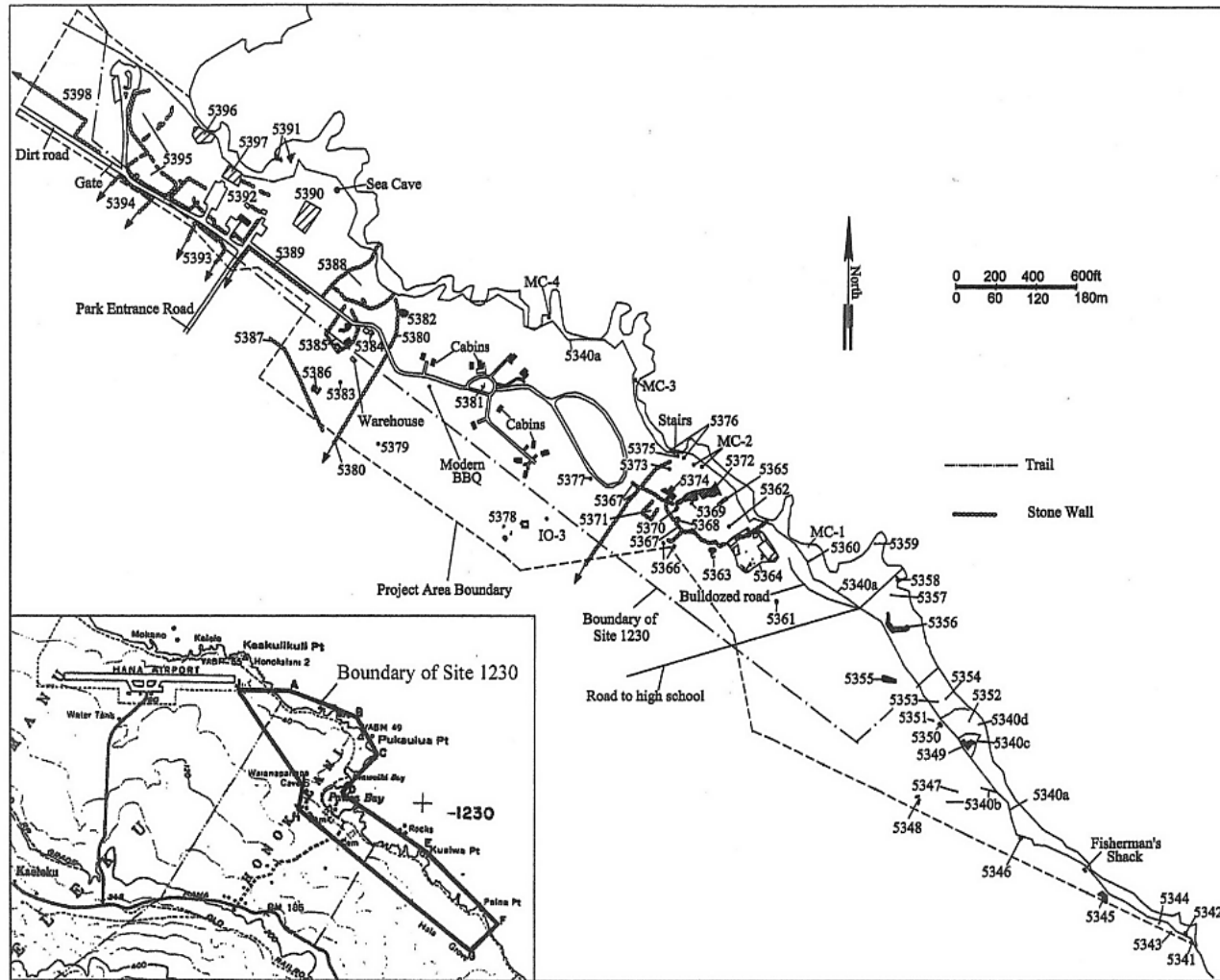


Figure 13. Map of known archaeological sites at Wai'anapanapa State Park (Haun et al. 2004:24).

‘ili‘ili and marine midden deposits, rock wall footings, a hearth, and wall remnants. Due to their disturbed nature, three of the sites did not warrant SIHP numbers. The ‘ili‘ili deposits, buried wall footings, and wall remnants were associated with previously documented sites. Two possible hammerstones were also found.

Archaeological monitoring was necessary for wastewater improvements to the cabins located in the central portion of Wai‘ānapanapa State Park (Tam Sing and Yent 2015). No new historic properties, cultural deposits, or human remains were observed during the monitoring program. It was noted that the area was previously disturbed from earlier park construction.

Summary of Background Research

The island of Maui was named for the demigod Māui, who lived in Hāna, and the region is also associated with Pele, Kāne, Kanaloa, and Pu‘uhele through mo‘olelo. In pre-contact times, Wākiu and Honokalani supported ‘uala, dryland kalo, and marine resources as main sources of subsistence. The area was known for its groves of hala and a village was located at the coast in Honokalani. Several prominent heiau are known for the district with one falling within Wākiu Ahupua‘a within Wai‘ānapanapa State Park. Wākiu and Hāna are connected to many ali‘i such as Kiha a Pi‘ilani and Ho‘olae Makua.

No LCAs were awarded within the study area during the Māhele, however two are located nearby that name a hala grove, ridge of ‘a‘ā, and a trail to the ocean. Three land grants were recorded in the vicinity, one of which is a railroad easement. No further information regarding land use was found. In the historic period, sugar plantations and ranching transformed the region both in terms of environment as well as lifestyle and livelihood of the Wākiu residents. Much of the coastal region of the district was converted to sugarcane fields. Hāna Harbor was developed and a rail system was constructed to move cane from mills and the harbor using rail cars and locomotives. At its height, Hāna had six commercial sugar operations until 1946, when the last sugar plantation closed, in part due to damage to the harbor from a tsunami. Today, Hāna is a main tourist destination for visitors to Maui.

No archaeological studies have been conducted within the project area; however several nearby studies were completed at Hāna High and Elementary School as well as Wai‘ānapanapa State Park. These studies have documented possible re-interment sites, the Hāna Highway (SIHP 1638), and Honokalani Village/Wai‘ānapanapa Complex (SIHP 1230). Wai‘ānapanapa State Park contains more than 50 sites including heiau, historic cemeteries, habitation sites, enclosures, rock walls, cairns, trails, and a pictograph, as well as various agricultural and habitation features. No archaeological studies or historic properties are known for the current project area.

ETHNOGRAPHIC SURVEY

Not all information can be found in the archives, in textbooks, or at the library. Rather, it is through the stories, knowledge and experiences of our kama‘āina and kūpuna, that an abundance of information is found. Through them we are able to better understand the past and plan for our future. With the goal to identify and understand the importance of, and potential impacts to, traditional Hawaiian and/or historic cultural resources and traditional cultural practices of the project area in Wākiu, ethnographic interviews were conducted with community members who are knowledgeable about the area.

Methods

This Cultural Impact Assessment was conducted through a multi-phase process between September 2024 and January 2025. Guiding documents for this work include The Hawai‘i Environmental Council’s Guidelines for Assessing Cultural Impacts, A Bill for Environmental Impact Statements, and Act 50 (State of Hawai‘i). Personnel involved with this study include Windy McElroy, PhD, Principal Investigator of Keala Pono Archaeological Consulting and Dietrix Duhaylonsod, MA, Ethnographer.

Interviewees were selected because they met one or more of the following criteria: 1) was referred by Keala Pono Archaeological Consulting or G70; 2) had/has ties to the project area or vicinity; 3) is a known Hawaiian cultural resource person; 4) is a known Hawaiian traditional practitioner; or 5) was referred by other cultural resource professionals. Three individuals participated in the current study. Mana‘o and ‘ike shared during these interviews are included in this report.

Interviews were taped using a digital MP3 recorder. Prior to the interviews, each person was provided with a map or aerial photograph of the subject property or given a description of it, the Agreement to Participate (Appendix A), and Consent Form (Appendix B), and briefed on the purpose of the Cultural Impact Assessment. Research categories were addressed in the form of open questions which allowed the interviewee to answer in the manner that he/she was most comfortable. Follow-up questions were asked based on the interviewee’s responses or to clarify what was said.

Transcription was completed by listening to recordings and typing what was said. A copy of the edited transcript was sent to each interviewee for review, along with the Transcript Release Form (Appendix C). The Transcript Release Form provided space for clarifications, corrections, additions, or deletions to the transcript, as well as an opportunity to address any objections to the release of the document. When the forms were returned, transcripts were corrected to reflect any changes made by the interviewee.

Several potential interviewees were contacted, resulting in the four interviews (Table 4). The ethnographic analysis process consisted of examining each transcript and organizing information into research themes, or categories. Research topics include connections to the project lands, Wākiu history, the natural environment, archaeological sites and cultural practices, change through time, and recommendations and mitigations for the project. Edited transcripts are presented in Appendices D through G.

Interviewee Background

The following section includes background information for each interviewee, in their own words. This includes information on the interviewee’s ‘ohana and where the interviewee was born and

Table 4. List of Individuals Contacted

Name and Connection	Method of Contact	Result of Contact
Sam Kalalau (Community member)	Telephone, Videoconference, USPS	Interview complete
William Kaleo Kinney (Community member)	Email, telephone	Interview complete
Mia Sado-Magbual (Community member)	Email, telephone	Interview complete
Jade Alohalani Smith (Community member)	Email, telephone	Interview complete

raised. The interviewees are Sam Kalalau, William Kaleo Kinney, Mia Sado-Magbual, and Jade Alohalani Smith.

Sam Kalalau

My name is Samuel Kalalau III. I was born and raised here in Hāna in 1952. I'm 72 years old. And I spent the majority of my time growing up here in Hāna... My family actually lives in the Waikoloa district, which is Kawaipapa Ahupua'a. It's pretty close to the Hawaiian Homestead area.

William Kaleo Kinney

I was born May 16, 1941, in Hana, Hana Hospital, and then I grew up there. My father is Kihapi'ilani William Kinney. He was born and raised in Ha'ena, Kaua'i. And that's where I come, I come back go look for him, I like say that I come full circle, but I always remembah my birthplace in Hana. And I was born and raised right below the hospital by the road, going down to Waikoloa... [Hana] das was my mother's place, my grandfather's place.

I went to school in Hana, till about the fifth grade. Then, we left, I left, about 1950, so I going be around nine or 10 years old. Then I moved to Paukukalo, go stay with my grandma and my uncle and my oldest sister and her family. And then I went to 'Iao School, 'Iao Intermediate, seventh grade and eighth grade. And then I graduate eighth grade, then ninth grade I going high school, so I go to Baldwin High School. And I spent four years, but my mother and I, we live up Vineyard Street, Wailuku, till I graduated. And I went to school over there, and I graduate Baldwin High School.

Mia Sado-Magbual

Mia Kaulana Sado-Magbual was born in 1981 in Wailuku, Maui, and raised in Pukalani, Maui. She attended Pukalani Preschool, Pukalani Elementary, and King Kekaulike High School, then graduated at Ka'ahumanu Hou Schools in 1999. Completed AS in Human Services at UH Maui in 2015 and BA in Interdisciplinary Studies at UH Manoa in 2022. Her current career is in social work, managing family strengthening services for families in need.

Mia's mother is from Weymouth, MA, but she moved to Maui in 1978 with Mia's two older brothers. Mia's father was born and raised in Wananalua, Hana. His family moved to Hamakuapoko when he was 2 years old. Mia's paternal grandfather is from Ilocos Norte, and h moved to Hawai'i in 1910. My paternal grandma, Nancy Kaleo, was born and raised at Wananalua

in Hana. She is the youngest of James and Louisa Kaleo, direct descendants of Ka ‘Ohana Kaleo. Tutu James Kaleo and his father Aimoku Kepoo Kaleo were born and raised on kuleana land.

Jade Alohalani Smith

My name is Jade Alohalani, was Brewster, but I married Smith of Hāna. I was born in California. My dad was in the Army, and once he was done and discharged, he came back to Maui. And lo and behold, we moved back to Hāna. He was born and raised in Hāna, and from there he took us out. We went into the southern end of Maui, into Kīhei, or Kula Kai is the proper place name. And so we learned a lot going from tropical to desert. [laughs] But I attended the Hāna Elementary at the time, and then the Kīhei Elementary, the old one down by the Suda store. So those were the two, and then I went Baldwin, which was the district that I would go into because I live in Kīhei, but it’s in Wailuku.

Topical Breakouts

The following sections are extended quotations from the interviews, organized by topic. Interviewees provided information on connections to the project lands, Wākiu history, the natural environment, archaeological sites and cultural practices, and change through time. They also shared their concerns and recommendations for the proposed project.

Connections to the Wākiu lands

Waikoloa connects over there. We actually came off of the peninsula over there. My father-them, growing up, they were like fishermens, but they did all their farming up mauka. So they went into the Hawaiian Homes property along the rivah, Kawaipapa River, to do their taro farming, bananas, and stuff like that, other kine farming crops. When they were young they walked from Waikoloa up to areas up there and did their farming and stuff. The families from Waikoloa, there was a lot of Hawaiian families down there too, so that was part of their mauka job. They went up and did their farming and stuff like that, then they stayed down by the beach and did their fishing and stuff like that... You know Ala Kukui? Ala Kukui is right at the boundary with the Hawaiian Homes property. So it’s mauka, that [DHHL project], mauka of Ala Kukui, and closer to the rivah, along the rivah where they can get water. [Sam Kalalau]

I knew some of the people from the Wainapanapa/Honokalani area, the families, some of the families there. They went mauka too, for gather, you know, pig hunting. They did some farming up there too. They were like the Hawaiians living in Waikoloa. Wainapanapa was a fishing village, the Hawaiians that lived there. And they went mauka too to do their farming and stuff up in there. I used to know some of the people, but the old timers there that I knew, they did their fishing down there, they had a black sand beach and stuff, Wainapanapa. [Sam Kalalau]

I always remembah my birthplace in Hana. And I was born and raised right below the hospital by the road, going down to Waikoloa. And I love this place, because I grew up like I gotta be by myself. So when I stay by myself, I run behind the house, and I go down behind our house, and it's all rainforest here. [William Kinney]

Tutu James’ brother John Kepoo Kaleo married Makaole who descends from Kahananui. Ka ‘Ohana Kahananui original kuleana land is Wakiu. My dad's cousin, Uncle Kaleo “Blue” Kinney, is one of their children, and a living heir of that ‘aina. [Mia Sado-Magbual]

My mana’o comes from my connection with my ‘ohana. My dad's cousins, Uncle Kaleo Kinney and Orpha Kinney Kaina, have shared their oral history with me. I have also done personal research as I have connected with distant cousins... I would visit Keanae every summer with my

church for camp. We would frequent Hana to swim and enjoy the outdoors. [Mia Sado-Magbual]

My grandmother's side, her mama comes from Honokalani, so we're all down 'Ula'ino, Honokalani side, Ka'elekū. History was very, how do you say, we grew up for the moment, and we loved it. Our backyard was, you know, the Wainapanapa cave, beaches. Midnight, we'd go with the 'ukuleles and sing our hearts out and just love that type of life. 'Ula'ino, same thing, we'd walk from the road downwwwn to the muliwai and just sing our hearts out, enjoy, grabbing some 'awapuhi, you know, the shampoo, and all that stuff for the next day, so we could bathe and whatnot. So it was really nice at the time. [Jade Smith]

Most times we stayed on that end, we really didn't venture into Wananalua side, or more where my grandmother's other side came from, Hāmoa side. But we stayed more in that [Honokalani/'Ula'ino] area, and it's because there was a lot of caves. We were creative back then. We could, you know, hide-n-seek and all that, that was a big deal, right? [laughs], the hide-n-seek type of stuff, but yeah, we grew up just loving nature and staying close to learn our resources, and how to protect it, how to give back when you take from the land. That was very sacred to my family. We would get lickers if we neva... You know, we were kids, we'd just like raid all the, what's that, the watercress. But we take time, we had to put back and plant and, we neva like do that, we was lazy, right? We just wanna play and eat. [laughs] But we learned real fast that we had to do that in order to continue having fun and eating it. So yeah, we were raised like that. [Jade Smith]

So when we lived there, we lived in our family's property, the Kanekoas, at the corner house of Honokalani, and that was a two story home at the time. And we would run across and go into Wākiu. We knew there was the tracks, the railroad tracks, but we would play. We had no idea, you know, just property and more land, so we went and explored in that section as well. So, yeah, so many things I could tell, like kids are hungry, we go to the pantry, go take the Vienna sausage, and run back in the pasture and go eat 'em, It was just a highlight of that time. [Jade Smith]

We were all meeting down at the family's, Pi'ilani's hale, down there. So there's the house way at the corner. So we would have all the families gather and sit down and talk. So just getting outta high school, accompanying my dad, again not paying attention because I was in love at the moment, but now I reflect back, and I'm like, why did I not eat all that knowledge, the mana'o, the 'ike that everybody had at the time, and the stories that we have. Our families were from 'Ula'ino side... but if I had taken it more serious, I would've had more knowledge from our kupuna. Now, even for Wākiu, we wanna know, but there's no one here to tell us. So we missed out. We missed the mark at the time. So we just try to pick up what we can. But history was so rich and so real. And every time I go back, to that place, it's like you sit down, you can sit down by the muliwai and just sit in there and just hear things, feel it, smell it, and just imagine it with your kupunas there. [Jade Smith]

Wākiu History

Most of the time was along the sugarcane road, if had any houses and stuff like that. But way mauka, in the cinder peak area, the plantation made tunnels for bring water down for the sugarcane farms. But some of those tunnels is all caved in already, it's been long, long time, plantation time, in the '30s, I think, and stuff like that, maybe earlier. So most of those tunnels are falling down. But up in the cinder peak, there was recorded, with DLNR, there was a, not burial, but we found skeletal remains in one of the old tunnels. We think went collapse on the person, or when the person was working on the tunnels, it might have just buried him. They think it might have been a Chinese [worker], they wasn't too sure if it was a Hawaiian or not. But the guys working on the tunnels, so was all the Chinese people... it was written, recorded by DLNR, they came up, and we

just went rebury 'em in the tunnel and then just close the tunnel off. [Sam Kalalau]

I always remember, and I always have picture of how this place was [talking about the Wākiu area], makai and mauka. And I know because never had too much people live here, but it was like wide open space, but had 'ohana living here, like scattered, like down Wainapanapa, had the Lono family, das my cousins down Wainapanapa. [William Kinney]

In that area, it has a lot of history of even the time of war, you know, how our ali'is and how that section was a place where it had underground lava tubes. So it was very useful when times [of war] came like that. And I was too young to even know the details, but to just venture and look into some of these, not too much caves or lava tubes on the bottom, it's more up on the top end. But yeah, I didn't even realize that, hey, that's Wākiu all up above that area. [Jade Smith]

We knew that that was the train because we had photos from my tūtū man-them. Hāna Bay, they had the train tracks go all the way up to the wharf... So they could take all the, whatever they were harvesting or whatever they had to ship out, to small boats and take it out to the ship. So we knew that was a part of it, and how far it came out, all the way to our [Wākiu] side. [Jade Smith]

And so, it has a lot of history... We knew that the Kamehamehas, their ship came into our bay, because we family to them. So they came, it was their retreat down there. And so they came into the village. Whatever they did, they did. But just knowing that for a fact, it's like, wow, we were that close to it. Opunui, which I believe is Kamehameha the third's oldest son was the one that owned, who is our tūtū man too, he had the property up at where the three veins come to the pu'u and so forth. [Jade Smith]

The Natural Environment

In that area where DHHL has [Wākiu], they had stories. They had mele about the 'awa, when certain times of the year, when certain winds blow, you can smell the blossom of the 'awa... Yeah [laughs] that place used to have lot of 'awa and stuff like that. But people been up dea and just taking and not putting back in the ground. [Sam Kalalau]

You know over there too, it's the last volcano flow on this side of the island, that district, Wākiu, where the Hawaiian Homes area is. It goes right down to the ocean. You can see the last lava flow and stuff like that. [Sam Kalalau]

I know as a young boy going through this place, but only on the road. I always wondering, because when I look at em, sometime I see, you know, different stuffs growing, you know, like banana trees or whatever. But this is like a sacred place, the hala. I just was reading about that, one little thing about this place, this used to be a hala grove. And I know it's a big place. Then like, as far I can say, because I was only a little boy when I go through there. [William Kinney]

I always remember, and I always have picture of how this place was [talking about the Wākiu area], makai and mauka. And I know because never had too much people live here, but it was like wide open space, but had 'ohana living here, like scattered, like down Wainapanapa, had the Lono family, das my cousins down Wainapanapa. And talking about that place, das the place I used to go every time, because I used to go by the place where get that cave with the water underneath. And then das why I feel with the stories, mo'olelos about this place. And this little cave, the one with the pond, now you think it's all infiltrated by how many people go there. Before, when you go inside there, it's dark, just like Waikoloa, all the trees grow ova. When you go inside, dark, you know, black. But when I go by this cave, I remember the story about had this girl, the princess, and she had a lover. They used to go in there, swim. But had a jealous suitor. He come ova dea, and he

jealous. And then he kill her. And he probably kill the lover. And he kill em. And das why every time when the April rains come, the pond come all red like blood. But it's a mo'olelo, because das all the small shrimp, the orange, the red shrimp, get thousands all lay up on the bottom, they look like blood. And then when you go inside, you swim, the rock come ova hea. But you dive undaneath and you go inside, and you come up, and they get one chair, one slab, one rock flat. And you just come up, you turn your body around. [William Kinney]

There was an awesome strategic cave system. Wouldn't the ali'i say, "Eh kapu. No can [trespass]." Only the farmers who knew that they had to cover the hole, or however, were permitted up there. [Jade Smith]

We had a gentleman that went up and he did a drone flight over it. And he said that there was one particular area there that was a big, huge black hole... And he tried to describe it, but it's hard to see 'cause he could only tell from the colors of how the reading came out. And he said it's huge... A huge sinkhole... So we are anxious to find out where that is. It's within the 647 acres more on the mauka, I mean like, more above. So I am very interested in knowing what is that. And what if you find one nother city down there, with artifacts? Yeah. I mean, the sky's the limit. But when he said that, I was like, I don't know what to say. "Humongous," he says, so it's not just one hole, one sink hole, maybe one acre. He said it's huge. [Jade Smith]

Archaeological Sites and Cultural Practices

There's some rock walls dea, because they used to have ranchers before. And they used to hold the cattle and pigs and stuff like that. Might get some animal pens, but all rock walls. But not too much in the [DHHL] area because around the area where they wanna build and stuff like that, there's the old sugarcane road, where the train ran through that property. And so most of the things, if you gonna find anything, it's kinda down by where the train went by, because the people caught the train for come work from out that side, Nahiku side, to come work in Hana, and going this side with the sugarcane train. [Sam Kalalau]

And then you might find other, where people had their cows and pigs and stuff, because majority of that area back there where they gonna develop and stuff like that, people used to raise cattle. See back then, there was little grass spots here and there before all the exotics came in and took over that whole place. [Sam Kalalau]

It [the train track] goes right through the property... yeah, just the train track went through. The sugarcane was on the other side of that property. [Sam Kalalau]

I think that area, only the guys that know was farmers, ranchers. They planted papaya trees and stuff like that. Yeah that's going to be the areas where they're thinking about putting the homes and stuff like that. [Sam Kalalau]

There's a big bamboo forest up there too, and lot of the people go harvest the bamboo shoots too. [Sam Kalalau]

At one point, the Purdys, Parker Purdy, he leased it from the State, so he was farming on that place. So he had some spots that he had bananas, he had sweet potatoes, he did papayas, he did oddah kine vegetables... And then before him, or the areas that he neva use, some of the guys that live in the area over dea had cattle, you know, little bit small herds, 20, 15, like that. [Sam Kalalau]

My grandfather, he grow seven big 'ulu trees. I always look at these 'ulu trees, big up there. And my father was the first one, he plant the bluefield banana. [William Kinney]

And then behind our house had one big hala tree, and we get our toilet over dea. But I go a little bit more, had one cave, but das where all our 'ohana before me, they throw their 'opala, but I walk along the top, the corn beef can or whateva. But they had one little bit opening [at the cave], yeah? So I look inside dea. But it took me all my whole life for realize there was one cave, and behind me, had two more cave. One cave is like, the water was crystal clear. It was cold [emphasizing cold]. Looked like had before in the old days, the mo'ō used to live inside dea. And the oddah cave had, I think all my tutu, my grandfather-dem, they used to store their canoe, their fishing canoes inside dea, so they can carry em, go outside Waikoloa, for start go holoholo. And then, on top of us, the ranch, had one big pasture, and the ranch had the pipi inside dea, and was all the bulls, the white face bulls, all the big kind bull, yeah? But I see em every aftanoon. They come eat. They go around, das how the pipi up dea. But every aftanoon they always in front us. And I know this place. [William Kinney]

My grandmother and her sister, I remember one time I had to go watch them. They had to go bathe, and it was nighttime, so we had to go a little bit further up. It was so much fun to watch them. They were like little girls, and they're in their seventies, [but like] little girls swimming in the cold water talking Hawaiian. And I sat there going, "Oh, look at that. They're having fun." And I'm like, I wouldn't, it's so cold. But now I reflect again, and it's like they're going back to their childhood days. And you can make the conversation now, because I know some Hawaiian, and it was just talking about, "Hey, you remember when we used to throw the pōhaku, and, you know, they just remembered a lot of things. Things would come up, and then they would say 'em all in Hawaiian. And I would be like, wow, that's so cool. And again, I wish I really took that serious, other than just sitting there and like, okay, what else I going do? I would've been like, "So Tūtū, how was it when you guys was young? Where the place you guys used to go up hea." You know, all that kind. And like the bird nest, you remember the bird nest, the Hawaiian bird nest, they call it? But it's really the fern that grows high in the tree. And it's huge. And they would say how they used to like, try to get the biggest one. But that means the highest one, right? So that was a game that they played back in the days, and it's like, oh, I wouldn't do that. I might break a leg or something. But there was no boundaries back then, and I'm sure they were more tough than we are today. [Jade Smith]

It was a very productive side of the island where they had sweet potatoes, there were wet and dry land 'uala and kalo in that area. Now if you go back into the times of war, then yeah, there's stories. I don't know the whole thing, so I won't share. But I know that a lot of them had cave systems that they could get from one to the other side, one way or the other. So when war came, they went into the mountains, but some of them went down under and showed up in certain areas. And that was so awesome. Our people are so smart. They study the land... They knew. Now imagine, if you're gonna grow 'uala, or sweet potato, you're gonna kind of grow it over a cave, um, doorway, not doorway, but you know, the opening of it... Then you're gonna conceal it so that nobody knows. Can you imagine how they did that and made sure that whoever farmed there is like, "Keep this one green, don't let it get old and always make sure everything's covered." [Jade Smith]

Like my tūtū man O'opa, Moses O'opa, he was a canoe builder. And so it was interesting, like whea he got all the trees to build them? But back then you go straight up into the mountains... So there was only certain places that they would go into, but all these needs and resources, where did they get it all? I mean, they had it no doubt. And I understand even the stones were very, it was like bullets, right? because they used them in the slings... So the particular stone was found in Wākiu too... I forgot what they call what kind of stone there was. But yeah, they looked for these, to shape it, make it round. But yeah, that was the area. And there's a lot of blue rock on the top section. [Jade Smith]

We walked there maybe about three months ago. We walked through, by the railroads. We didn't see much structures in that section, but further off, I would think, is a lot, like a village. You could see somewhat of remnants that was kind of going up. And we looked at it, "What was it up here?" But all good feeling, no moa 'uhane, you know? You get the sense, yeah, when you walk [other] places, and it's like, "Ohhh [sounding unpleasant], okay, it's not good up over here." But no, it was all good going in there. Actually. I felt really good. [Jade Smith]

Change Through Time

[Nowadays Wākiu is] just overgrown, with exotics, plants that are not native, I mean, it choked up a lot of the native plants that used to grow there before. There's scattered areas with hala trees, and might get very little 'ōhi'a. I mean, still get choke 'ōhi'a, but get all this foreign kine weeds in there that choke out all the native plants. And miconia is one of the biggest problems. [Sam Kalalau]

[The project area] was like open, like all like forest, like hala and everything. But like I said, [nowadays] the buffalo grass or whatever grass, but I don't know what underneath. But I know that get caves. But like when I come to something like that, I no go inside. I no maha'oi, the old Hawaiian style, no maha'oi. You stay outside. It's not yours. But if it's yours, you can go inside. [William Kinney]

Now the population, I think the population is what, 7,000 plus in Hāna? I mean, back when we were [young], lucky if was even a thousand, but it was really nice. It was peaceful, no problem. Everybody knew each other. Everybody bartered. That's one thing I learned. Because even when we moved out to Kīhei, my father always bought things from Kīhei to barter with the family there [in Hāna side]. And so we call it shopping, where we would go, "Okay, we're going Hāna for the weekend." But when we go, we picking up fruits, ferns, along the way. He barter, they get fish and so forth. By the time we go home, the truck is full with food. Yeah but that's how it was back in the days. [Jade Smith]

I had fond memories growing up there. You know, just go Aunty's house, go Uncle's house, and then we go into town, it's the same thing. You know everybody. And okay, we're gonna sleep over. It was not a problem. And I think we still carry that today in Hāna, but now we come into the present time, and it's totally different. You know, like the invasive species is one horrendous problem for us in Hāna, takes a lot from our native plants and so forth, but it just grows. You know, miconia, we went up and there was a fortress of it... And they're tall. Their seeds are so fine that you just touch 'em, they go poof. Now all the seeds are spreading. And so when those are all introduced, even the African tulip, it's like, pohō, right? Tsā! But we're stuck now with so much of that and so much different people, actors come in, right? They bring their friends in. And it's beautiful. It's not only our land, it's everybody's. But the dynamics that change, it's everything, whether it's your culture, whether it's the traditions. So you learn to miko, yeah? You learn to miko with everybody. But, till today, I just say it's still beautiful Hāna. It's still beautiful. And, you know, different people, it doesn't matter, everybody gets along, so far that I know. [Jade Smith]

When the Mahele came, my tūtū man was the one that was granted the royal patent there, my great-great-grandfather. It shifted, moved, and everything. It's under the state and all that. But anyway, I'd like to know how that happened, right? [Jade Smith]

I went there to collect rocks for hula. So the hālau said, "Oh, you can go get rocks." So when I go, I gotta pray, right?... I was picking up and someone came and said, "Oh, you know you cannot collect yeah?" I said, "I'm sorry, but this is our land, and I doing this for my cultural practice... I don't know if they educated you guys about that, but I'm doing my own thing. I'm not bothering any of you guys. And if you excuse me." And then I went tilt the umbrella 'cause I no like be

bothered. You know, I'm over there digging, I'm trying to look the size, and they keep coming. And I got so irritated. So when I walked back up, when I looked at the whole landscape, it looked like cows, just herds roaming all over the place, and I actually started crying. This energy just overpowered me, and I got angry 'cause I'm like, "Look how disrespectful"... All for the money, you know, and this was our backyard. And all our tūtū man and tūtū wahine are still buried there. And I'm looking at it, and they're so maha'oi, and it's too much. So I look at that, and I was like, oh my gosh, it was such a sad feeling when I left there. [Jade Smith]

Concerns and Recommendations

I don't think so [that the development will have adverse effects to specific places of cultural significance], because a lot of the cultural significance over dea, is on the makai side of the road... It's on the makai side where the king's trail runs, and then get Wainapanapa, the fishing village. And then you get all those old Hawaiian burial sites down there. It's all down there. Up, I don't know. You might find rare native ones, but other than that, it was like mostly farming they did. And they never went too way up, too. [Sam Kalalau]

But other than that, because it's behind of the old Wākiu housing area, I don't think there's gonna be too much problems, with roads or access. If anything, the guys might wanna have hunting access or something like that. That kine is easy because the old cinder road, you see I worked for the County on the highways, and when we mined that cinder peak up there, I was there from day one when we went open up that cinder peak. And the road going up, we maintained that road all the time. But because it's DLNR, the County, they stopped all the thing up dea already, so the Hawaiian Homes, it's not gonna go in the cinder peak area. But they might use the road that used to go to the cinder peak. Because there's one private house up there, on the edge of the property, and it's right dea where the road splits, goes to the cinder peak, and [the other road] stays on Hawaiian Homes property. [Sam Kalalau]

I don't think you might get too much concerns from the Locals. But down here in Hāna now, we have a lotta wannabes, and the wealthy people, they own lands all around, in Hāna and around the Hawaiian Homes area and stuff like that. They might be kinda concerned because they see that all of a sudden they going get houses next to them... These wealthy people down here, you know, they all high makamaka, they all to themselves. They no care about the Local people. They only worry that oh going be close to them. [Sam Kalalau]

That Wākiu development is not going to block anybody's view because it's mauka of the road, and it's all state-owned property all the way to the mountain. But those guys over dea [the ones near to Wākiu], I think they'll be alright, because they come to our meetings too, because they like know and stuff like that. So they get little bit concerns. But there's the one that own the property way up there, they wanna kinda be helpful. [Sam Kalalau]

I don't have any [opposition] right now. This [DHHL development] is what would materialize, I see. And then, I happy!... it is most important, really important that this place materialize and be fruitful. I know that this is a great place for our people. And with all this, like I can see em already. You can have industrial area, you can farm lots. And I always talk to my daughter about that. She like get one house where she can grow one garden. She can grow something and then maybe, like get food stand or something ladat, like I see every time in Anahola. It's a great lesson that I see this kine stuff, so I know what the stuff can do. [William Kinney]

[If lava tubes or burials are encountered] go around and leave em. And then get guys go take care, the job, like Mia [Uncle's niece] and then that other girl, McElroy. [William Kinney]

[Support the project] If that is what the kanaka in Hana that are eligible for homeland wants, [while] working carefully and having archaeologist on site... [to] help to recognize cultural sites. [Mia Sado-Magbual]

I think [the DHHL project] it's needed, especially for the people of Hāna. Like Hawaiian Homes, of course, is under, but we are trying hard to have only those who live and work in Hāna, with the genealogy of at least three generations back, to be awarded land there... And I think that that is the best way to go because we have connections to the land. We have history with the land versus others that just come, and then they like make change and cause trouble or don't respect what is there. We see that, you know, in different homesteads. So we're hoping that we can find a way that Hawaiian Homes would allow that to happen, because we want the change. We need the homes. It would be so wonderful. [Jade Smith]

I would think that just that place alone, the [housing] association, when it comes, they could just do a whole study on Wākiu itself... working on the committee to get the history to help people understand the area, the only thing is, of course, is maybe try not to teach them about the cave system underground. Bumbye they maha'oi somebody else's place... I don't know what else to say, but other than why not us work on getting this [completing this documentation]. [Jade Smith]

Hāna, believe me, we are very culturally sensitive. So to protect that area is our number one goal. Because it's under the state, so then you got a different criteria that you gotta meet. So it all depends. And that's why I'm saying that the association there would have every right to figure out what they wanna do when the time comes. If it's gonna be supported, for culture and history and all that, I believe the community will support it. But you gotta know the Hāna community. They're very vocal and very, how do you say it? [laughs] I mean, I get involved too, but sometimes I have to watch myself... We really get engaged. Yeah. Hands on, feet on, everything, because we are very passionate about protecting Hāna as a whole, you know? So that's from Hāna all the way to Kaupō, the whole district. And because all of our families own lands in between, you know, and like, there's some in Kaupō, there's some in Kīpahulu, there's some in Hāna. But now you like know, "How they got these lands in different sections of Hāna?" Right? Was it the alcohol times? Or did they barter certain things? But when you really look at it, it's the families, they're very protective... [Jade Smith]

Summary of Ethnographic Survey

The interviewees all have deep familial connections to Hāna and the ahupua'a of Wākiu and the adjacent ahupua'a of Honokalani and Kawaipapa, especially the area of Waikoloa. One interviewee also has family connections to 'Ula'ino, which is a Ko'olau ahupua'a at the boundary of Hāna. Two of the interviewees grew up spending time in the Wākiu area, observing, exploring, playing and picking food from the land. Another interviewee mentioned that his family lived at the lower elevation to tend to their fishing practices, while they farmed and hunted up at Wākiu. All interviewees expressed the deep connection they feel to the area, even if they live far away.

The interviewees had much to share about the natural environment of Wākiu. One pointed out that it is situated on the last volcano flow on that side of Maui. He also shared that there used to be so much 'awa in the area that it was noted in mele, but unfortunately the 'awa dwindled because people were taking it unsustainably. Another interviewee mentioned the sacredness of Wākiu with its well-known hala grove. He also shared that there were underground caves with water, one of which is associated with a slain ali'i wahine. A mo'olelo recounting this is memorialized by the seasonal appearance of the 'ōpae'ula which likens the red of the shrimp to the appearance of blood. Another interviewee also mentioned the cave system, adding that it is thought to have been kapu with only select farmers knowing the extent of it so they could cover the entrances. This interview

pointed out that there is a very huge sinkhole, perhaps an acre in size, at the mauka portion of Wākiu.

Regarding the history of Wākiu, the interviewees shared that very few families lived in Wākiu. In traditional times, Kamehameha's ships would sail into the area, and the ali'i would have their retreat there. One of Kamehameha's sons, Oponui, claimed land in the mauka area. The lava tubes and caves there were also strategically used for war purposes in traditional times. An interviewee noted that after the area transitioned to sugarcane production, houses were mostly along the sugarcane road. He added that in the 1930s, Chinese workers helped construct tunnels to bring water from the cinder peak area down to the sugarcane farms. The DLNR recorded this inadvertent discovery and the subsequent reinterment of one of these workers who appeared to have died from a collapsed tunnel. An important development in the area was the installation of train tracks, which made their way through Wākiu, transporting agricultural produce and other things down to the wharf at Hāna Bay.

The interviewees also shared their knowledge about archaeological sites at Wākiu and cultural practices associated with the area. Besides mentioning the presence of the old sugarcane train tracks, one interviewee pointed out the presence of rock walls and animal holding pens from the ranching era. Another interviewee underscored the importance of the underground cave system for discreet movement, some of which had their entrances concealed by growing 'uala, adding that there may be village remnants buried under the vegetation throughout the area. For cultural practices, one interviewee pointed out that the elders of his family also used some of the caves to store their fishing canoes, while another cave was set aside to discard the family's 'ōpala. Regarding farming, there was the planting of papaya, sweet potato, 'ulu, kalo, and banana, especially the bluefield banana, which one of the interviewee's fathers was the first to plant. As mentioned above, small-scale ranching took place in Wākiu, and there was also bamboo harvesting further upland. Another interviewee also mentioned the harvesting of big trees to build canoes and of certain kinds of rock to make slingstones. And finally, a memory was shared of going with kūpuna to bathe in the mauka portion of the stream, and there the kūpuna reminisced about collecting the bird's nest ferns high up in the trees.

The interviewees talked about the changes they have seen in the area. One mentioned that there are fewer hala and 'ōhi'a today due to the introduction of miconia and other exotic, non-native plants. Another pointed out that buffalo grass and other grasses have overcome the forest. Still another interviewee mentioned the invasive species, adding that there is also an influx of newcomers settling in Hāna, some of whom are disrespectful, obstructing Hawaiian cultural practices and gathering rights. It was noted that land title shifted from royal patents to today's ownership, but it's not clear how that happened. The population of Hāna exploded from less than 1,000 to more than 7,000 today. It was peaceful back then, and the community was close, families bartered. However, the Hāna community today has learned to get along with the newcomers.

While the change in lifestyle due to the change in community is a concern in itself, the interviewees did not express concerns about the DHHL project. None of them expected the project to adversely impact any specific sites or practices of cultural significance. One interviewee said that she supports the project if it is what the Hāna beneficiaries want. Another interviewee did not expect opposition from the Local community, but only from the wealthy newcomers in Hāna, who do not care about the Local population. He added that the DHHL development would not block anyone's view since there is only one property owner way up mauka, but even that owner has been proactively participating in the meetings. Another interviewee shared that he is happily looking forward to seeing the DHHL project materialize because it will be good for the next generation, especially with its farm lots, gardens, and other opportunities. And finally, the fourth interviewee said that the DHHL project is needed for the people of Hāna, but recommended that DHHL give

priority of awarding Wākiu parcels to the Hāna community and those who have long time familial connections to the area. This recommendation is listed in bullet point format along with other recommendations that the interviewees brought forth:

- Give priority in awarding Wākiu parcels to Hāna community members and others who have long time familial connections to the area.
- Maintain and allow access to the old road that goes to the cinder peak.
- If lava tubes or burials are encountered, go around them and contact the right people to take care of it.
- Have an archaeological monitor present during the project's construction to help identify cultural sites as needed.
- Support the future Wākiu homestead's association to complete a cultural-historical study on Wākiu through which they can plan the future of their community.
- Since the Hāna community is very culturally sensitive, keep them engaged with good communication as the project moves forward.

SUMMARY AND RECOMMENDATIONS

Although the project area in Wākiu has had a relatively sparse population throughout history, there are ‘ohana which have historically been tied to that area, and there are familial descendants today who continue to have this deep connection. While very few families lived in the mid to higher elevations of Wākiu, many others lived at the lower elevation to carry on their fishing traditions while farming, hunting, and harvesting various resources, such as bamboo and bird’s nest ferns, up in the project area. Other resources included the selecting of trees to make canoes and the collecting of rock to make slingstones. A very important resource of the landscape were the lava tubes and caves themselves, which were strategically used for war purposes, or used as refuse pits, or used to store fishing canoes in the makai area. Some of the crops that were farmed in Wākiu are the papaya, sweet potato, ‘ulu, kalo, and banana, including the introduced bluefield banana. Besides farming, small-scale ranching of cattle took place along with the raising of pigs. Historically, the Kamehameha family would sail from Hawai‘i Island to Hāna to enjoy a retreat there. At least one of Kamehameha’s sons, Opunui, claimed land in the upper portions of Hāna. As the land use of the region changed over time, from subsistence use to ranching to the large-scale production of sugarcane, so too did the landscape change. Houses were clustered along the old sugarcane road. Tunnels were built at the cinder peak to bring water down to the sugarcane fields. And a railroad track was installed to run through Wākiu, transporting agricultural produce and other things down to the wharf at Hāna Bay. Perhaps more impactful than the change of the landscape is the change of the community due to wealthy newcomers moving into the area. What was once a tight-knit community of less than 1,000 people has increased to more than 7,000, with some of the newcomers not caring about the Local population and obstructing traditional practices and gathering rights. The Hāna community continues to try to get along with this influx.

Cultural Resources, Practices, and Beliefs Identified

Due to the history of Wākiu, a historic railroad track still runs through the area. And from the ranching era, walls and animal enclosures might still be present under the vegetation. Furthermore and perhaps more importantly, lava tubes and caves, utilized since traditional times for war, refuse, or storage, might be uncovered. Farming was also done in the area, so traditional agricultural remnants could still be present. Besides the practices of farming and ranching, hunting and the harvesting of natural resources did occur in the mauka portions of Wākiu, and might still occur today. In mele and mo‘olelo, the abundance of ‘awa was celebrated, and the presence of the ‘ōpae‘ula was noted to memorialize the death of an ali‘i wahine in the area. No other cultural resources, practices, or beliefs were identified, but a future study of the area can help with this research.

Potential Effects of the Proposed Project

All of the interviewees express their support for the DHHL project, adding that it is much needed in the community. Generally speaking, the interviewees do not expect the project to have any adverse effects on specific cultural resources and traditional practices in Wākiu. However, adverse effects are not ruled out, and care should be taken as the project moves forward, in case culturally significant lava tubes and caves or other traditional properties are inadvertently discovered.

Confidential Information Withheld

During the course of researching the present report and conducting the ethnographic survey program, confidential information was redacted from a transcript, at the request of the interviewee’s ‘ohana, as well as a portion of an interview which talked about a death in the family.

Conflicting Information

No conflicting information was obvious in analyzing the ethnographic interviews. On the contrary, a number of themes were repeated and information was generally confirmed by independent sources.

Recommendations/Mitigations

All of the interviewees are deeply connected to the project area and support the plans that DHHL has developed. As DHHL moves forward, it needs to keep good communication with the Hāna community to foster healthy engagement. During construction, an archaeological monitor should be present to help identify cultural sites as needed. If lava tubes or burials are encountered, they should be avoided while the right people are called in to help mālama. If possible, let the old road to the cinder peak stay and allow access to the community. Finally, the recommendation to give priority in awarding Wākiu parcels to Hāna community members and others who have long time familial connections to the area should seriously be considered. And the future Wākiu homestead's association should be supported to complete a cultural-historical study on Wākiu through which they can plan the future of their community.

GLOSSARY

‘a‘ā	Rough, stony lava. Surface appearance is sharp and broken.
ahu	A shrine or altar.
ahupua‘a	Traditional Hawaiian land division usually extending from the uplands to the sea.
‘āina	Land.
‘alā	A dense basalt, as used for poi pounders and sling stones.
ala	Trail, road, path.
ali‘i	Chief, chiefess, monarch.
ali‘i nui	High chief.
‘āpana	Piece, slice, section, part, land segment, lot, district.
awa	The milkfish, or <i>Chanos chanos</i> , often raised in fishponds in ancient times.
‘awapuhi	Wild ginger (<i>Zingiber zerumbet</i>). The flowering plant <i>Zingiber</i> common to Hawaiian forests.
hala	The indigenous pandanus tree, or <i>Pandanus odoratissimus</i> , which had many uses in traditional Hawai‘i. Leaves were used in mats, house thatch, and basketry; flowers were used for their perfume; keys were utilized in lei and as brushes; roots and leaf buds were used medicinally; and wood was fashioned into bowls and other items.
hālau	Meeting house for hula instruction or long house for canoes.
hau	The indigenous tree <i>Hibiscus tiliaceous</i> , which had many uses in traditional Hawai‘i. Sandals were fashioned from the bark and cordage was made from fibers. Wood was shaped into net floats, canoe booms, and various sports equipment and flowers were used medicinally.
heiau	Place of worship and ritual in traditional Hawai‘i.
hoa‘āina	Native tenants that worked the land.
holoholo	To go out or go for a walk or ride.
‘ike	To see, know, feel; knowledge, awareness, understanding.
‘ili	Traditional land division, usually a subdivision of an ahupua‘a.
‘ili kūpono	An ‘ili within an ahupua‘a that was nearly independent. Tribute was paid to the ruling chief rather than the chief of the ahupua‘a, and when an ahupua‘a changed hands, the ‘ili kūpono were not transferred to the new ruler.
‘ili‘ili	Waterworn cobbles often used in floor paving.
kāhili	Feather standard; a symbol of royal Hawaiian status.
kalana	A division of land smaller in size than a moku, or district.
kalo	The Polynesian-introduced <i>Colocasia esculenta</i> , or taro, the staple of the traditional Hawaiian diet.
kama‘āina	Native-born.
kapu	Taboo, prohibited, forbidden.
kō	The Polynesian introduced <i>Saccharum officinarum</i> , or sugarcane, a large grass traditionally used as a sweetener and for black dye.
konohiki	The overseer of an ahupua‘a ranked below a chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.

kukui	The candlenut tree, or <i>Aleurites moluccana</i> , the nuts of which were eaten as a relish and used for lamp fuel in traditional times.
kuleana	Right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership.
kupuna	Grandparent, ancestor; kūpuna is the plural form.
maha‘oi	Bold, rude, forward, nosy.
Māhele	The 1848 division of land.
maka‘āinana	Common people, or populace; translates to “people that attend the land.”
makai	Toward the sea.
mālama	To care for, preserve, or protect.
mana	Divine power.
mana‘o	Thoughts, opinions, ideas.
mauka	Inland, upland, toward the mountain.
mele	Song, chant, or poem.
mō‘ī	King.
moku	District, island.
mo‘olelo	A story, myth, history, tradition, legend, or record.
niu	The Polynesian-introduced tree <i>Cocos nucifera</i> , or coconut.
‘ohana	Family.
‘ōlelo no‘eau	Proverb, wise saying, traditional saying.
‘ōpae‘ula	Red shrimp.
‘ōpala	Rubbish, trash, garbage, junk.
pōhaku	Rock, stone.
pohō	Loss, damage, out of luck.
post-contact	After A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
pre-contact	Prior to A.D. 1778 and the first written records of the Hawaiian Islands made by Captain James Cook and his crew.
pu‘u	Hill, mound, peak.
tūtū man	Grandfather.
tūtū wahine	Grandmother.
‘uala	The sweet potato, or <i>Ipomoea batatas</i> , a Polynesian introduction.
‘uhane	Ghost, spirit.
ulua	An adult of various Carangid fishes.
wahi pana	Sacred places or legendary places that may or may not be kapu, or taboo.
wahine	Woman, wife; femininity. Wāhine is the plural.

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APPENDIX A: AGREEMENT TO PARTICIPATE

**Agreement to Participate in the Cultural Impact Assessment for
the Wākiu DHHL Development Project**

Dietrix J. U. Duhaylonsod, Ethnographer, Keala Pono Archaeological Consulting

You are invited to participate in a Cultural Impact Assessment (CIA) for the DHHL development project in Wākiu, on the island of Maui (herein referred to as “the Project”). The Project is being conducted by Keala Pono Archaeological Consulting (Keala Pono), a cultural resource management firm. The ethnographer will explain the purpose of the Project, the procedures that will be followed, and the potential benefits and risks of participating. A brief description of the Project is written below. Feel free to ask the ethnographer questions if the Project or procedures need further clarification. If you decide to participate in the Project, please sign the attached Consent Form. A copy of this form will be provided for you to keep.

Description of the Project

This CIA is being conducted to collect information about the Project property in Wākiua and its surrounding area in East Maui through interviews with individuals who are knowledgeable about this area, and/or about information including (but not limited to) cultural practices and beliefs, mo‘olelo, mele, or oli associated with this area. The goal of this Project is to identify and understand the importance of any traditional Hawaiian and/or historic cultural resources, or traditional cultural practices in properties on the current subject properties. This Assessment will also attempt to identify any affects that the proposed development may have on cultural resources present, or once present within the Project area.

Procedures

After agreeing to participate in the Project and signing the Consent Form, the ethnographer will digitally record your interview and it may be transcribed in part or in full. The transcript may be sent to you for editing and final approval. Data from the interview will be used as part of the ethnohistorical report for this project and transcripts may be included in part or in full as an appendix to the report. The ethnographer may take notes and photographs and ask you to spell out names or unfamiliar words.

Discomforts and Risks

Possible risks and/or discomforts resulting from participation in this Project may include, but are not limited to the following: being interviewed and recorded; having to speak loudly for the recorder; providing information for reports which may be used in the future as a public reference; your uncompensated dedication of time; possible misunderstanding in the transcribing of information; loss of privacy; and worry that your comments may not be understood in the same way you understand them. It is not possible to identify all potential risks, although reasonable safeguards have been taken to minimize them.

Benefits

This Project will give you the opportunity to express your thoughts and opinions and share your knowledge, which will be considered, shared, and documented for future generations. Your sharing

of knowledge may be instrumental in the preservation of cultural resources, practices, and information.

Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected upon request. You may request, for example, that your name and/or sex not be mentioned in Project material, such as in written notes, on tape, and in reports; or you may request that some of the information you provide remain off-the-record and not be recorded in any way. To ensure protection of your privacy, confidentiality and/or anonymity, you should immediately inform the ethnographer of your requests. The ethnographer will ask you to specify the method of protection, and note it on the attached Consent Form.

Refusal/Withdrawal

At any time during the interview process, you may choose to not participate any further and ask the ethnographer for the tape and/or notes. If the transcription of your interview is to be included in the report, you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

APPENDIX B: CONSENT FORM

Consent Form

I, _____, am a participant in the Cultural Impact Assessment for the Wākiu DHHL Development Project (herein referred to as “the Project”). I understand that the purpose of the Study is to conduct oral history interviews with individuals knowledgeable about the Project and the surrounding area of Wākiu on Maui. I understand that Keala Pono Archaeological Consulting will retain the product of my participation (digital recording, transcripts of interviews, etc.) as part of their permanent collection and that the materials may be used for scholarly, educational, land management, and other purposes.

_____ I hereby grant to Keala Pono Archaeological Consulting ownership of the physical property delivered to the institution and the right to use the property that is the product of my participation (e.g., my interview, photographs, and written materials) as stated above. By giving permission, I understand that I do not give up any copyright or performance rights that I may hold.

_____ I also grant to Keala Pono Archaeological Consulting my consent for any photographs provided by me or taken of me in the course of my participation in the report to be used, published, and copied by Keala Pono Archaeological Consulting and its assignees in any medium for purposes of the report.

_____ I agree that Keala Pono Archaeological Consulting may use my name, photographic image, biographical information, statements, and voice reproduction for this report without further approval on my part.

_____ If transcriptions are to be included in the report, I understand that I will have the opportunity to review my transcripts to ensure that they accurately depict what I meant to convey. I also understand that if I do not return the revised transcripts after two weeks from the date of receipt, my signature below will indicate my release of information for the draft report, although I will still have the opportunity to make revisions during the draft review process.

By signing this permission form, I am acknowledging that I have been informed about the purpose of this report, the procedure, how the data will be gathered, and how the data will be analyzed. I understand that my participation is strictly voluntary, and that I may withdraw from participation at any time without consequence.

Consultant Signature **Date**

Print Name **Phone**

Address

APPENDIX C: TRANSCRIPT RELEASE

Transcript Release

I, _____, am a participant in the Cultural Impact Assessment for the Wākiu DHHL Development Project (herein referred to as “the Project”) and was interviewed for the Assessment. I have reviewed the transcripts of the interview and agree that the transcript is complete and accurate except for those matters delineated below under the heading “CLARIFICATION, CORRECTIONS, ADDITIONS, DELETIONS.”

I agree that Keala Pono Archaeological Consulting may use and release my identity, biographical information, and other interview information, for the purpose of including such information in a report to be made public, subject to my specific objections, to release as set forth below under the heading “OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS.”

CLARIFICATION, CORRECTIONS, ADDITIONS, DELETIONS:

OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS:

Participant Signature	Date
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Print Name	Phone
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Address

APPENDIX D: INTERVIEW WITH SAM KALALAU

TALKING STORY WITH
SAM KALALAU (SK)

Oral History for the DHHL Wākiu project by Dietrix Duhaylonsod (DD)
For Keala Pono 10/8/2024

DD: Okay, today is October 8, 2024, and it's Tuesday, and we're sitting down talking story via telephone, with Uncle Sam Kalalau, and we're gonna be talking about the proposed plan for DHHL to develop parts of Wākiu. And before we go any further, we just wanna say mahalo to Uncle Sam for taking the time to talk story, so mahalo and aloha.

SK: Okay, aloha.

DD: So if we could start, if maybe you could say your name, when/where you were born, where you grew up, where you went to school, things like that?

SK: Okay, my name is Samuel Kalalau III. I was born and raised here in Hāna in 1952. I'm 72 years old. And I spent the majority of my time growing up here in Hāna.

DD: Okay, mahalo for sharing that. Is there anything else that you'd like to share about your 'ohana background?

SK: My family actually lives in the Waikoloa district, which is Kawaipapa Ahupua'a. It's pretty close to the Hawaiian Homestead area.

DD: Okay, yeah, I've seen that on the map.

SK: Yeah, Waikoloa connects over there. We actually came off of the peninsula over there. My father-them, growing up, they were like fishermens, but they did all their farming up mauka. So they went into the Hawaiian Homes property along the rivah, Kawaipapa River, to do their taro farming, bananas, and stuff like that, other kine farming crops. When they were young they walked from Waikoloa up to areas up there and did their farming and stuff.

The families from Waikoloa, there was a lot of Hawaiian families down there too, so that was part of their mauka job. They went up and did their farming and stuff like that, then they stayed down by the beach and did their fishing and stuff like that.

DD: A really nice way of making use of their resources from mauka to makai.

SK: Yeah.

DD: Okay, mahalo for sharing that. So that mauka portion, is that the Wākiu portion, or how close is it to the DHHL project area?

SK: You know Ala Kukui? Ala Kukui is right at the boundary with the Hawaiian Homes property. So it's mauka, that [DHHL project], mauka of Ala Kukui, and closer to the rivah, along the rivah where they can get water.

DD: Okay, that's a really good visual, mahalo. And then is there anything you can share about that property that they're wanting to develop, maybe some personal anecdotes, or mele, mo'olelo, any kine of background that you can share about that area?

SK: In that area where DHHL has, they had stories. They had mele about the 'awa, when certain times of the year, when certain winds blow, you can smell the blossom of the 'awa.

DD: Oh wow, awesome.

SK: Yeah [laughs] that place used to have lot of 'awa and stuff like that. But people been up dea and just taking and not putting back in the ground.

DD: I see, interesting. What about, are there any certain ways that you have acquired knowledge about the area?

SK: Yeah, I knew some of the people from the Wainapanapa/Honokalani area, the families, some of the families there. They went mauka too, for gather, you know, pig hunting. They did some farming up there too. They were like the Hawaiians living in Waikoloa. Wainapanapa was a fishing village, the Hawaiians that lived there. And they went mauka too to do their farming and stuff up in there. I used to know some of the people, but the oldtimers there that I knew, they did their fishing down there, they had a black sand beach and stuff, Wainapanapa.

DD: I see. And that area, Honokalani, I think that's north of you, yeah?

SK: Yeah. Makai of the highway.

DD: Okay, mahalo. So as far as you remember, could you share how the area has changed? How is it different from before to now?

SK: Umm, just overgrown, with exotics, plants that are not native, I mean, it choked up a lot of the native plants that used to grow there before. There's scattered areas with hala trees, and might get very little 'ōhi'a. I mean, still get choke 'ōhi'a, but get all this foreign kine weeds in there that choke out all the native plants. And miconia is one of the biggest problems.

DD: Oh yeah, yeah. I know that there was problems with that miconia here on O'ahu too, I heard about that.

Okay, would you happen to know if there are any traditional sites or historically significant buildings on that property that they're looking to develop?

SK: Not really, not really, but there's some rock walls dea, because they used to have ranchers before. And they used to hold the cattle and pigs and stuff like that. Might get some animal pens, but all rock walls. But not too much in the [DHHL] area because around the area where they wanna build and stuff like that, there's the old sugarcane road, where the train ran through that property. And so most of the things, if you gonna find anything, it's kinda down by where the train went by, because the people caught the train for come work from out that side, Nahiku side, to come work in Hana, and going this side with the sugarcane train.

DD: Oh okay.

SK: Yeah, most of the time was along the sugarcane road, if had any houses and stuff like that. But way mauka, in the cinder peak area, the plantation made tunnels for bring water down for the sugarcane farms. But some of those tunnels is all caved in already, it's been long, long

time, plantation time, in the '30s, I think, and stuff like that, maybe earlier. So most of those tunnels are falling down. But up in the cinder peak, there was recorded, with DLNR, there was a, not burial, but we found skeletal remains in one of the old tunnels. We think went collapse on the person, or when the person was working on the tunnels, it might have just buried him. They think it might have been a Chinese [worker], they wasn't too sure if it was a Hawaiian or not. But the guys working on the tunnels, so was all the Chinese people.

DD: Oh yeah, was probably hazardous, and those guys was doing that.

SK: Yeah, so it was written, recorded by DLNR, they came up, and we just went rebury 'em in the tunnel and then just close the tunnel off. That's the only thing. And then you might find other, where people had their cows and pigs and stuff, because majority of that area back there where they gonna develop and stuff like that, people used to raise cattle. See back then, there was little grass spots here and there before all the exotics came in and took over that whole place.

DD: Oh, so that property itself, did the train just go by it? Or did the train actually go through that place where they wanna develop?

SK: The train?

DD: Yeah, the train track.

SK: Yeah, it goes right through the property.

DD: Okay, I see. And any sugarcane was on that property too, or just the train track went through?

SK: Yeah, just the train track went through. The sugarcane was on the other side of that property, and the other ones was from Kawaipapa, come back to Hāna, all the way Hāna to Kīpahulu.

DD: Oh okay, got it. Mahalo for explaining that. Okay, what about any traditional gathering practices? Would the development affect any gathering practices in the area?

SK: I no think so, because whea they wanna develop, das whea get all of the exotics. Most of the native stuff is on the higher elevations and stuff like that. Where they like develop all on the lower areas, it's all the African tulips, you know, not the native plants, all the junk stuff.

DD: Not the hō'io, ah? [laughs]

SK: [laughs] Yeah.

DD: Okay, okay, well going off of that, do you think the proposed development would affect access to a place of cultural significance?

SK: I don't think so, because a lot of the cultural significance over dea, is on the makai side of the road.

DD: Okay, got it.

SK: It's on the makai side where the king's trail runs, and then get Wainapanapa, the fishing village. And then you get all those old Hawaiian burial sites down there. It's all down there. Up, I don't know. You might find rare native ones, but other than that, it was like mostly farming they did. And they never went too way up, too.

DD: Okay, got it. So do you think there would be any adverse effects, any negative effects of the proposed development, in any way?

SK: You know over there too, it's the last volcano flow on this side of the island, that district, Wākiu, where the Hawaiian Homes area is. It goes right down to the ocean. You can see the last lava flow and stuff like that. But you know, Kahikinui was the last one. I think that area, only the guys that know was farmers, ranchers. They planted papaya trees and stuff like that. Yeah that's going to be the areas where they're thinking about putting the homes and stuff like that. But other than that, because it's behind of the old Wākiu housing area, I don't think there's gonna be too much problems, with roads or access. If anything, the guys might wanna have hunting access or something like that. That kine is easy because the old cinder road, you see I worked for the County on the highways, and when we mined that cinder peak up there, I was there from day one when we went open up that cinder peak. And the road going up, we maintained that road all the time. But because it's DLNR, the County, they stopped all the thing up dea already, so the Hawaiian Homes, it's not gonna go in the cinder peak area. But they might use the road that used to go to the cinder peak. Because there's one private house up there, on the edge of the property, and it's right dea where the road splits, goes to the cinder peak, and [the other road] stays on Hawaiian Homes property.

DD: Right, so maybe one thing to keep in mind is to hopefully make sure that there's always access for hunters?

SK: Gathering rights, because there's a big bamboo forest up there too, and lot of the people go harvest the bamboo shoots too.

DD: Ah I see, got it. Mahalo for that one. And then are there any other concerns the community might have regarding this proposed development? Or is there anything that we didn't talk about that you think we should kinda talk about?

SK: Well I don't think you might get too much concerns from the Locals. But down here in Hāna now, we have a lotta wannabes, and the wealthy people, they own lands all around, in Hāna and around the Hawaiian Homes area and stuff like that. They might be kinda concerned because they see that all of a sudden they going get houses next to them [both laughing]. Oh I love that.

DD: Yeah.

SK: These wealthy people down here, you know, they all high makamaka, they all to themselves. They no care about the Local people. They only worry that oh going be close to them [the DHHL development].

DD: Yeah, I know [comparing it to when the wealthy people moved into the newly made Ko Olina resort].

SK: Das how. [both laughing] That Wākiu development is not going to block anybody's view because it's mauka of the road, and it's all state-owned property all the way to the mountain. But those guys over dea [the ones near to Wākiu], I think they'll be alright, because they come to our meetings too, because they like know and stuff like that. So they get little bit concerns. But there's the one that own the property way up there, they wanna kinda be helpful.

DD: Ah, das good.

SK: Yeah.

DD: Okay, let's see, one more question, are there any other kūpuna, kama'āina, any other knowledgeable people you think we should talk story with about this?

SK: Yeah, there's some, the guys from Honokalani, but I don't know their phone number and stuff like that. Long time I neva see them too. It's the Perrys, there's Jimmy, James Perry, he's the senior. He lives over hea in Hana. He used to spend plenny time up there too because he was the County District Overseer. And we used to move our heavy equipment on the old train track road, because we neva had trailer for haul the 'dozah [bulldozer]. So we cross 'em on the road with tires and stuff, and then we went on the state property, and we use the train track road to move our bulldozahs, our heavy equipment to the cinder peak. So that's how we knew a lot of the areas. We used to use inside there a lot. And then at one point, the Purdys, Parker Purdy, he leased it from the State, so he was farming on that place. So he had some spots that he had bananas, he had sweet potatoes, he did papayas, he did oddah kine vegetables.

DD: Mmhmm.

SK: Yeah, so das why I say, that's the only thing I remembah. And then before him, or the areas that he neva use, some of the guys that live in the area over dea had cattle, you know, little bit small herds, 20, 15, like that.

DD: Okay, Purdy and Perry. Okay, well that comes to the end of our small kine kūkā, and mahalo Anakala, I really appreciate you taking the time to talk story. I will write this up, and then I will figure out a way to get this back to you so you can review 'em and make sure I got everything.

SK: Yeah, mmhmm, very good.

DD: Okay, Anakala, thank you so much, you have a good evening, aloha.

SK: Okay, mahalo. Aloha.

APPENDIX E: INTERVIEW WITH WILLIAM KALEO KINNEY

TALKING STORY WITH
WILLIAM KALEO KINNEY (WK)

Oral History for the DHHL Wākiu project by Dietrix Jon Ulukoa Duhaylonsod (DD)
For Keala Pono 11/29/2024

DD: Okay, today is Friday, November 29th, 2024, and we are sitting at the Kamehameha School Center in, Līhu‘e

WK: Līhu‘e, yeah.

DD: Yeah, and we'll be talking story with Uncle William Kaleo Kinney, Sr. We'll be talking about Wākiu and the proposal of DHHL to do a development there. And before we go any further, I just want to say mahalo nui loa to ‘Anakala for taking the time, coming all the way down here from Kapa‘a side to talk story with us. And we just really, really appreciate him taking the time. So, mahalo Uncle, and aloha.

WK: Yeah, aloha.

DD: Okay. If we could start, maybe if you could maybe say your name, where/when you were born, where you grew up, where you went to school, that kind of thing?

WK: Aloha, yeah I thought about you when you going come, so I say prayer last night, that the Father in heaven will bless our conversation here today. I was born May 16, 1941, in Hana, Hana Hospital, and then I grew up there. My father is Kihapi‘ilani William Kinney. He was born and raised in Ha‘ena, Kaua‘i. And that's where I come, I come back go look for him, I like say that I come full circle, but I always remembah my birthplace in Hana. And I was born and raised right below the hospital by the road, going down to Waikoloa. And I love this place, because I grew up like I gotta be by myself. So when I stay by myself, I run behind the house, and I go down behind our house, and it's all rainforest here. And my grandfather, he grow seven big ‘ulu trees. I always look at these ‘ulu trees, big up there. And my father was the first one, he plant the bluefield banana.

And then behind our house had one big hala tree, and we get our toilet over dea. But I go a little bit more, had one cave, but das where all our ‘ohana before me, they throw their ‘opala, but I walk along the top, the corn beef can or whateva. But they had one little bit opening [at the cave], yeah? So I look inside dea. But it took me all my whole life for realize there was one cave, and behind me, had two more cave. One cave is like, the water was crystal clear. It was cold [emphasizing cold]. Looked like had before in the old days, the mo‘o used to live inside dea. And the oddah cave had, I think all my tutu, my grandfather-dem, they used to store their canoe, their fishing canoes inside dea, so they can carry em, go outside Waikoloa, for start go holoholo. And then, on top of us, the ranch, had one big pasture, and the ranch had the pipi inside dea, and was all the bulls, the white face bulls, all the big kind bull, yeah? But I see em every aftanoon. They come eat. They go around, das how the pipi up dea. But every aftanoon they always in front us. And I know this place.

And then I went to school. But before that, befoa we move down dea, das was my mother's place, my grandfather's place. My father, he built the sugar plantation in Hana, and he built one more down dea in Kipahulu. And then he brought the ‘auwai all the way from Nahiku to go water the sugar cane down Kipahulu, come to Hana. And my father used to take my mother on the horse, and all our mules all pack up, and then they go outside, and they go build the

‘auwai. And then my father get one horse, my mother get one horse, and then they get the mules, and then they get all the workers follow him, and they go way outside Nahiku. My father was one strong man. He was one big man. He was over six feet, almost 400 pounds. But he was one smart man. He built 15 sugar plantations in his life, from Kaua‘i he start, yeah, from Kaua‘i. He even built in Kualoa, down there Ka‘awa, he built couple sugar [plantations]. And he had his sons, all his first sons, they all work in the sugar plantation, even down ‘Ewa had one braddah, half-braddah, he was a manager of one ‘Ewa sugar plantation. And they had some more braddahs. And then my father went Big Island. He built couple sugar plantations.

And befoa that was my grandfather, but my grandfather was an Irish man. He came from Nova Scotia, yeah. And he married my grandmother, Ka‘iwiho‘opilipili on Kaua‘i over here, and she was born in Ni‘ihau. They paddle the canoe from Ni‘ihau, come inside Kalalau Valley. And that's where my family started from, yeah. But this is my father's side. My mother's side come from Hana, where we talking about, this beloved place. And then my grandfather, then he sold the land, Ha‘ena land, to the group of Hawaiian families in Ha‘ena. And then he left. He went big island. And he had anoddah wife. And he built a sugar plantation, couple down dea in, and get one, the smoke stack still standing over dea in Hilo or someplace.

And so, I went to school in Hana, till about the fifth grade. Then, we left, I left, about 1950, so I going be around nine or 10 years old. Then I moved to Paukukalo, go stay with my grandma and my uncle and my oldest sister and her family. And then I went to ‘Iao School, ‘Iao Intermediate, seventh grade and eighth grade. And then I graduate eighth grade, then ninth grade I going high school, so I go to Baldwin High School. And I spent four years, but my mother and I, we live up Vineyard Street, Wailuku, till I graduated. And I went to school over there, and I graduate Baldwin High School. And then after that, I left, and I was in the Army. I joined the Army Reserve, but I only stay like couple of years because I had an old injury, my Achilles heel, I cut em, so hard for wear boots. So they gave me medical discharge, but das okay, maybe was meant for, but by the grace of our Father in heaven. And then I left the army. Then I went to college in Brigham Young University. Was the Church College of Hawai‘i in 1959. And then I went to school over there in BYU. And I spent only like three, maybe not even three years, but I left because was a hard time for get my way through college, not like today, you get planny gifts, like scholarships and stuff like that. Before, I had to go work or something, working on the grounds [school grounds] or something to support my way. But then I left, I didn't want. Then I went to Waikiki go stay with my cousin. And das where I kinda love everything. So I went go surf, I go surf out Waikiki. I go surf in the country, and I stay in the country. I know all those old surfers befoa, this is in the sixties. And then I stay over dea.

Then my friend said, “Eh we go Kauai. We go build one surf shop.” And then so we came Kauai. And ever since that time, about 1964, yeah. And then 1963, 1964, my friend took me all the way to New York City for paddle canoe in the New York World’s Fair for the state of Hawai‘i. We had one pavilion over dea. And our nation, our state actually, it was only like four years old or five years old. 1959, we became a state. So in 1964, ‘63, ‘64, I went to New York for paddle canoe. And then we paddle canoe in the World Fair, in one little lake. And then we had the tūtūs, they do all the arts and craft in the hale. And then we had famous entertainers, Sterling Mossman, play. And then we had the Hawai‘i Visitors Bureau, had like the information of the new state. And then they had a restaurant, they call it the Five Volcanoes. They had like five volcanoes going like a volcano, but it was a restaurant. Then I stayed there couple years, and then I came back. And das the first time I miss my home. Yeah.

You know when we get homesick.

So I went back to Hana. I went back Hana. And I went go down Waikoloa, I go stay with my family. I get plenny big family down dea. And then I stayed in our place over there in Niumalu. The old ahupua'a is called Niumalu. And I stayed there little while, but I was staying with all my friends in Lahaina, and this is when all the hippies started coming here to our place. But I went o' dea, stayed little while, and then my friends, they hire me for go work in a surfboard factory in Kauai. So I came Kauai, and I went work. We build a surfboard factory in Hanapēpē. And then they hire me as a grinder. I grind all the surfboards. I sand all the surfboards, And then after they make the surfboard, they come to me. And then I sand all the boards, and then I make em ready for go in the glossing room. And then the oddah guy going come gloss the board, go make em all nice. And then we used to send the boards to Interisland Surf Shop, and this was in Honolulu by the old Honolulu Iron Works. Yeah, over dea they had that road, the Interisland Surf Shop, we send our surfboards dea. And that's when I started to surf. My interest was in surfing. And then I left, only about one or two years, I left the surf shop because they going close, because the County going come close em down because of the hippies. I don't know what they call it, communal leaving. They [the County] no approve all that kine stuff. So I left, and then they shut down. So I left, and I have no place to stay.

So I walk over to Port Allen harbor, had this old fishing boat called The Bluefin. So I went up to the captain, I told Captain I like work on the boat, and I no moa place for stay. "I like come ask you if you like hire me for work on the boat." And he said, "Yeah, you go come. Come, you go work on the boat. If you get all your stuff, you go sleep in the bow over dea." "Oh, okay, okay," [Uncle William replied]. So I go in the bow, put all my stuff. And then on the boat had this oddah old Hawaiian man, his name is Bruno Kahele. a big Hawaiian man. But he come from Miloli'i, Big Island. And he live on one fishing boat. And he love me almost like his son. He no moa family. And he take me, I like his son. He used to cook for me special, and then he like go inu, he like go party. He like go in the bars ladat. But every time when he do that, he cook plenny for the other guys, but he always cook one small little pot for me. And he save em on side for me eat. And he used to take care me. And I still till today, like I told you, I remembah everything, like when even I would stay by myself. I always go back to that. And then we go dive, and sometimes we fish. We fish right around this island for akule. And sometimes we go Ni'ihau.

And then one time, we had one different captain, and then this different captain, his name is Bobby Wilson. But he took me, he wanted me to go with him, because he going bring one boat and anoddah man, and he going like me go dive with them. And then we went on this fishing boat, and then we went all the way to Ka'ula Rock. Das past Ni'ihau, das over 90 miles, almost a hundred miles. And then we went over dea, and we stayed like overnight. Then we park our boat, and then we had a skiff. And so the next morning we get up, and after we go eat breakfast, pau, and then we start loading our boat, the tanks and everything. But in the afternoon first, he wanted to go scout around the island. So he tell, "We go." So yeah, we go. So we stay on the side whea the water flat, and the water stay huki on the other side, going that side. We stay this side. And so we went wayyyy [emphasize that it's far] around the corner, and then we went dive down. And that's when I had the strangest experience in my life about how immense, like I stay in one different world, but it's not. It's our place. And the water was not blue, not green, no, was like purple.

DD: Wowwww.

WK: And I get chicken skin when I think of that time I was doing that. And then I look, yeah? I go look, ohhh nice. But no moa nothing, but the thing goes straight down.

DD: Wow.

WK: Yeah, yeah, go straight down. And the islands, they ladat, yeah?

DD: Mmhmm.

WK: So we dive, we scout enough, we scout enough. Tomorrow morning, we going to come dive now. Okay, so we go back to the boat, and then we momoe, eat, momoe, make strong. So the next morning, I get up quick. And then we had one skiff, maybe one 14-foot skiff, only enough for me and the captain. And Uncle Bruno, he going to be the one, they get a name for the one going take care you [on the boat but not diving]. And then, so we go and dive, and poom, I hit the water. And every time when I come up, like maybe six, seven times I go down, I come up, he the one, he only grab my tank. And he go put new tank and go make ready for me. And I put em on my back, and I go back down. But all the oddah guys, like the captain, they gotta make their own. [both laugh]

But then I go down, and then I dive. And then I diiiiive [emphasizing how deep it was], and I stay down, and the thing go straight down hundred feet. So I go straight down on the bottom, and I stay over dea. And then I goooo [going far], and I come back, but get all crack [on the seascape], crack about hundred piece cracks, all cracks. But das from the concussion in a row, the army or the navy, they use em for bomb like Kaho'olawe. They bomb the island. They bomb the island, so the island take the concussion. And I know, das what these cracks was, long crack, only this wide [showing a short space between his hands], only that wide. Das how the crack ladat, ladat. And I look inside the crack, but I no can even fit, even my body, I turn sideways, no can. But inside this crack, thousands of lobsters?

DD: Hooo!!

WK: Really! All ladat, all the way to the bottom. And I get my three-prong spear. And I screaming, and I get my T-bar, I load em up. PAK! Load em up. PAK! [sound effect like spearing the lobsters] PAK! Ho, my T-bar long, I feel like I get over a hundred inside. Then I come up, then Uncle Bruno grab my stuff, huli da kine right in the tub, huli em, they all slide down. And then he give em back to me, I go back down again, PAH! PAH! PAH! PAH! PAH! [like rapid fire]. Hu, fill em all up! Come back up. Going again. And then I go on the bottom, but planny shark, you know, loaded sharks, but all small kine, no moa big kine. Get planny sharks. But hey no boddah me, and I no boddah them. But get planny boulders, and big kine boulders, get big black 'uluas, big black kine. But then on the ocean floor, I look, just like all da kine bomb from the airplane, da kine big kine bomb, bigg!! Hundred-pound kine bomb. You wonder why no explode yet, and the thing so old that the 'au papa grow on top.

DD: Wow!

WK: Yeah, grow in the bomb, it's stuck, stuck in the bomb, stuck. The 'au papa, he grow over the thing, big kine bomb. I look, wow! I know, I went figure em out, das was the Americans, from their airplane.

DD: Yeah.

WK: They bomb the island. And the island, get planny thousands and thousands of birds, and they make this noise, 24/7, 24/7 [emphasis on repeating this], noise in the night. They stay flying in the night. Our boat, we stay park right next to the island, and the light on. There are thousands of birds. You can hear em all flying on the island. And you look on the island, all white. I think, I don't know what bird that, the noddy or the petrel?

DD: Yeah, yeah, yeah.

WK: And then bumbye I go, I sit down. And then I go this way [making motions], okay. I go this way. So I dive around, I diiiiive, then I come by. I see one big cave, you know, moa big than this building.

DD: Wow.

WK: A biiiiig cave. Yeah, our boat can go inside boat, our boat, big and long boat, over 60 feet. But the boat can fit in this cave. But I stay way outside. I go inside, ah? Usually like when you coming inside one canyon, you know, when you in the desert, you get this canyon, big wide opening, das the door. I come inside, I goo [swimming underwater]. I go, but no moa nothing. Yeah, no moa nothing. Then I come up, and I look ladat, I look the side, and I see just a wall, a biiiiig roof. But the 'opihi ladat [making hand motions]. Thousands! Yeah, you bring the other guys. The other guys, they go pick the 'opihi, but I no moa time. But I look this cave, and after that, I find a story about this cave. This cave was the cave where the king manō used to live.

DD: Ohhhhhh.

WK: He the one patrol Ni'ihau and Kauai. Yeah, patrol Ni'ihau, he come Kauai, patrol Kauai. He no go the oddah island, and then he go back inside this cave. And das what I found out about this king manō, he used to live in there. And he must have been a big one, over maybe 25 feet. Because now sharks only grow up to about 25 feet, and then, like the tigers, they go up to 25 feet. And das big. And then when we pau, and then we come back to Kauai. And then the captain take all the lobster, go Honolulu, go sell em, whateva. And then all us guys, we leave the boat, everybody tired already. Everybody go inside the bar, drink up, drink up! Oh man [both laughing]

But das my experience on this kine, until the captain took me go dive, and then I dive different kine, with the [scuba] tank. Black coral, like we was talking about [before the interview, Uncle was talking about diving for black coral].

DD: Yeah, yeah, yeah.

WK: And fish for the weke schools, big kine school. But our boat small, so we maybe the biggest tonnage amount we catch, maybe like 8,000 pounds ladat. Only two guys, you know, we surround the weke, and how we surround em is you see the weke swimming, but you no make any kine. So we bring the net, so he get two net, I get two net, make one fence [an underwater fence with the nets]. And then we come back, and then we come inside, and we close behind us. And then the oddah side stay close, so the weke stay inside. Okay, the weke stay inside, then we bring the bag, big bag, high! And then we anchor em, and the bag go high

up [like a purse seine?]. And then pau, then we gotta come around, come outside, go inside where we first went close the opening. We open em, and then we go inside. And then he go this side, and I go this side. And then with the 3-prong, we make like, we oosh em [push the fish all toward a certain direction], we oosh em through the bag. And soon, das the the most important part right there, you make it or you break it, but we always going make em! They come, we oosh em, then one time they see the bag, they go, wow [the fish are surprised to see they are trapped], then when they hit the other side, the end, they go come back. And das my job, by the mouth, by the waha, I grab the top of the bag, and I grab the bottom, and then one time I go ladat [making hand motions].

DD: Close em?

WK: Yeah, and I lock em. And I put my leg ladat, and I hold em. And then I grab the side over hea. I close em like one window. I close em, and then I cut the rope. I make kāwili, woppah! [sound effect with motions, like tying a bag closed].

DD: Mean!

WK: Yeah, I get me inside. Yeah, all the weke, ‘ō‘io, and then ‘enenu, you know. And the oddah one, the ‘ū‘ū, the mempachi, we used to dive outside Ni‘ihau [for the ‘ū‘ū], but deep, on the cliff. We gotta change em, yeah, we gotta chase em inside. And then, we used to spear a lot of fish, but alllll go market, all go to the market in Honolulu.

DD: So the weke and nenu and all of that is all same place all ova dea by Ni‘ihau?

WK: Yeah, Ni‘ihau and Kauai, even outside hea. Ulukoa, in my life, I think I dive right around this island, yeah, and Ni‘ihau, and Ka‘ula Rock.

DD: Wow.

WK: And I wish, I wanted to go moa, to the French Frigate Shoals, Papahānaumoku. But I neva get chance. But I always read stories, for my love for that place, because I had tūtūs, from Ha‘ena. They go with their canoe all the way to Mokumanamana.

DD: Wow!

WK: Yeah, with the canoe. But they wait for the special wind. They know when that wind going come because the wind going be that way, because das where they going. And they tack. Yeah. They tack outside, and then they go straight down. They go to Mokumanamana, because das a place where if you read, it's where the old, old people, they like go when they going make. When they know they going make, they like go over dea because das whea on the top, on the ridge of the island, Mokumanamana, they get all special like ahu, about thirty, das the the spine, they call it the spine on the back. When you go on top there, you going get light and dark. In one line, this side going get light, this side going get dark. Because das when they believe, they going to the afterlife. So I always used to think about that because I love all the stories about our people, what they do.

And then our people, they grow taro on the island, and hardly, no moa water. But he said, one day he was standing up, and he looked, he seen one bird come out of one hole. He said, “Ehhhh, how come this bird, he come out of this small hole, one cave.” But then he went

climb up, then he went go, and he went look inside. He tell me the story, “Oh, I know why, had the water, was trickling from the roof.”

DD: Wow.

WK: Yeah, the water was tricking. Das why the bird went in dea, foa drink water. I tell em, “Ho da amazing man.” You read this kine stuff, it make you feel good, you know?

DD: Yeahhh.

WK: And during that time, then I pau, and I tell myself, “Oh, I love farming.” I go huki taro with my friends down in Hanalei Valley. They ask me, go out there. I go fishing. But I love this kine stuff, what I can do with myself, because I like read, I like write, I like poetry, I like literature, I like history, I like plant flowers, I like plant mea ‘ai, all that kine stuff. And then I tell myself, “Ah moa bettah you go back school.”

So at 28 years old, I went Kauai Community College. So I tell myself I like be one welder. So I went school. And then I get paid by government, I get free tuition and everything, pay my books. I can buy my jacket. I buy all my stuff for welding. Then I went school. I went two years, yeah, I graduate. And my teacher was a nice man, and I was one of his favorite students. He used to like me because he was one Mormon. And I went Mormon school, but I no go church. But he always take me in his class, every day we start, we sit down like me and you right now, we talk story. And then I pau. Then I wanted to learn about fix cars, because what if I going buy one car? I gotta know how foa fix em in case broke, yeah?

DD: [laughs]

WK: So I went back to school again, one moa year. I went study all mechanical. Then I get all that, then I go look job. And then after that, I go be a cowboy with my cousin. He one fireman so he no can check, take care his cows, he get horses. He go tell me, “Take care all the cows while I work.” Okay, okay. And then, bumbye Princeville hire me. And then with all my like resume stuff, they hire me. So I work in the golf course, all da kine like groundsman. Then the boss go take me and stuff. He like me start mechanic helper. Yeah, okay, I start mechanic helper. Then I go inside, I work mechanic help.

DD: Yeah.

WK: About 2001, my wife pass away. And her father was the foreman of the ranch. Yeah. And das how I learn cowboy. I go work cowboy now. I get my own horse. I go work on Princeville. With my father-in-law I go work on the ranch, go chase cow, go learn everything what he learned, and just like him. Forty-five years he work on the ranch, from 14 years old, His father was one blacksmith, so he come work with his father. And then after that, 45 years, then he finally come one ranch foreman. And his daughter, I married his daughter. So I go cowboy, and then I went work Princeville almost 24 years. I retire in 2008, so almost 20 years now, I retire. So pau, and then das why now I like dedicate myself, so I go down the hui makai. Das where I go every time, go volunteer. And das where we get all involved in this kine stuff, you know, how foa take care our place, take care our ocean. And das why this comes like perfect to me, and you come.

DD: What an exciting life, Uncle, like you did everything. I think I only did a fraction of that.

WK: Yeah [laughs]

DD: Thank you for sharing that.

WK: Yeah, das why my son you going come tomorrow, he tell me, “No go get up super early.”

DD: [laughs]

WK: Old guys, we get up early, four o'clock, sometimes three o'clock, two o'clock, and I was thinking of you, you going come, and already I get the picture, and he show em to me [the picture of the DHHL development in Wākiu] and if I get any kine opposing kine view ladat, I don't have any right now. This is what would materialize, I see. And then, I happy!

DD: Oh yeah, or course. So maybe I could ask about the Wākiu area?

WK: Yeah.

DD: Could you maybe share a little about your association and your experience to this area and the ways you have learned about this area, this project area?

WK: Yeah. I only see em [the Wākiu project site] in a car when I go, but I look, you know, I looooook this side, I looooook that side. As one little boy, I was wondering. But today, it might bear fruit in this place. And I think, it is most important, really important that this place materialize and be fruitful. I know that this is a great place for our people. And with all this, like I can see em already. You can have industrial area, you can farm lots. And I always talk to my daughter about that. She like get one house where she can grow one garden. She can grow something and then maybe, like get food stand or something ladat, like I see every time in Anahola. It's a great lesson that I see this kine stuff, so I know what the stuff can do.

DD: Yeah, I see. Do you, or are you familiar with any of the other place names in this area? Or maybe any mo'olelo, like traditional stories of this area? Or maybe you have some personal stories?

WK: Yeah, I know as a young boy going through this place, but only on the road. I always wondering, because when I look at em, sometime I see, you know, different stuffs growing, you know, like banana trees or whatever. But this is like a sacred place, the hala. I just was reading about that, one little thing about this place, this used to be a hala grove. And I know it's a big place. Then like, as far I can say, because I was only a little boy when I go through there.

DD: Yeah.

WK: I always remember, and I always have picture of how this place was [talking about the Wākiu area], makai and mauka. And I know because never had too much people live here, but it was like wide open space, but had 'ohana living here, like scattered, like down Wainapanapa, had the Lono family, das my cousins down Wainapanapa. And talking about that place, das the place I used to go every time, because I used to go by the place where get that cave with the water undaneath. And then das why I feel with the stories, mo'olelos about

this place. And this little cave, the one with the pond, now you think it's all infiltrated by how many people go there. Before, when you go inside there, it's dark, just like Waikoloa, all the trees grow ova. When you go inside, dark, you know, black.

But when I go by this cave, I remember the story about had this girl, the princess, and she had a lover. They used to go in there, swim. But had a jealous suitor. He come ova dea, and he jealous. And then he kill her. And he probably kill the lover. And he kill em. And das why every time when the April rains come, the pond come all red like blood. But it's a mo'olelo, because das all the small shrimp, the orange, the red shrimp, get thousands all lay up on the bottom, they look like blood. And then when you go inside, you swim, the rock come ova hea. But you dive undaneath and you go inside, and you come up, and they get one chair, one slab, one rock flat. And you just come up, you turn your body around.

DD: Ho mean!

WK: Yeah, and then, my mother used to tell me the story. Das why I no forget. Like I tell you, in real life, all this happened. And I used to go down there all the time, and I used to have the family over there. And before, the family is like this one family, the Perry family. And then get the Lono family, das my family, and they get like maybe 10, 15 kids. Like my mother, she had 16 of us. My father maybe had 24 of us, with all different kine wife. But my mother, she had three different husband, but they all passed. Yeah, one passed, they married, then the second one passed, and she married, and my father was the last. But my father, he was the first Irish born Hawaiian, because of my grandma from Ni'ihau.

But when I go back to this [the Wākiu project], right now, I don't have no qualms about everything that goes on here, because I've seen it already [previous DHHL development]. I've seen it in Paukukalo. I just hope, because our people, they were clean people. My mother always told me, "The old people, they was clean people." Only thing, they got brainwash by the capitalism, you know, colonizers. And I believe that I'll never be like, I never come like them. And I never was in my whole life, but my whole life was taking care. Always, my mother said, always told me, "You can go out, and you can't get your friends, but something happen to you, they going run away. And what you going to do? What you going to do? You going run home to us." And I always remember that. And that's why my mother always told me, "You no hang around with the bad guys." And I always remember the 'ohana, the family.

DD: Yes. Life lessons, Uncle, so much wisdom that you've been sharing, just priceless.

WK: You know, I wanted to tell you I used to dance hula too. I like dance hula.

DD: Yeahhhhh [both laugh]

WK: And I used to be a fighter in the ring. Baldwin High School, be a boxer, all Hawai'i champion, featherweight.

DD: Oh wow! You all around, Uncle, paniolo, diver, fisherman, dancer, everything! [both laugh]

So at Wākiu, do you know if there's any traditional sites or burials or gathering practices that might be affected by this project?

WK: Noooo, no, because I no can see em, yeah? Because like I told you, like was like open, like all like forest, like hala and everything. But like I said, [nowadays] the buffalo grass or whatever grass, but I don't know what undaneath. But I know that get caves. But like when I come to something like that, I no go inside. I no maha'oi, the old Hawaiian style, no maha'oi. You stay outside. It's not yours. But if it's yours, you can go inside.

DD: Right, right,

WK: Yeah, because I know it was all open country, and far, like right where I said, we come around the turn [pointing to the map on the table], there's Kawaipapa. And then from hea, it's all open country. And it was nice. But maybe today they get residents now. I see people come and go there, and they buy lot, and they live there now. And that, we no can chase them out. But this is Hawaiian homeland [referring to the Wākiu project], this is for our people.

DD: Yeah no doubt. So if anything, they should be careful, DHHL, when they're doing construction, be careful.

WK: Yeah.

DD: If they do come across

WK: Iwi

DD: Iwi, lava tube, or caves, then they should be careful around that.

WK: Like go around and leave em.

DD: Yeah, Makana.

WK: And then my tūtūs went up there, they do that, and they get the special wood. They get a special tree for that. And then the thing hollow, and they got carry em on their back. And then some places, the thing [the trail narrows] only wide like this. And das almost like 800 feet down.

DD: Ho!

WK: Almost 800 feet down! You no can stand up walk, even I no care from hea to dea [pointing out a short distance]. But what they do, they crawl, they go down on their knees, and then they crawl. They crawl till they find the place where they going throw the stuff [fireballs]. And they wait. And then all the 'ohana from the community, they all come by dea in the front, by the ocean. And befoa, no moa nothing trees ova dea, Ha'ena, only sand dunes, big sand dunes. And so what they do is they face the mountain, and they make the mat, or the hala mat, hāli'i. And so they all lie down like this. They kind of slant [lying down on an incline]. They not like flat, kinda li'dis, kinda ladat [making motions]. And you look straight up [at the mountain], and they say up there already, then they say they would light em. And when they , but throw em, when they go do em, gotta get a special wind, come from the makai. Because when that wind come, the thing stay straight up ova 1000 feet, straight up, so when the wind hit from the bottom, 'foop!' and the thing [the fireball] go up. And so when they throw the stuff, the wind catch em, and the thing go ladat. Some go down, but some, he go out all the way to the ocean. And then when you look, just like one jet engine, you going

see the flame come out through the back. I told you the wood was hollow, but they stuff em with the coconut. Then when they light em, the wind catch em, and the thing, you can see em going just like one jet engine. Even our Queen Lili‘uokalani, when she came visit this island, das where she wanted to go, with her luxury yacht. They wanted to see this. And I think so they did that.

But what I do is when I come to this kine stuff, I walk [the land]. I walk because I feel, sometimes you feel when you walk, yeah?

DD: Yeah.

WK: Just no can go anykine. You walk. Because you don't know sometimes, you going fall down, get one hole, go get one hollow, you going fall, and you don't know how deep. Some no moa end down dea. Just like in Big Island, I know get planny guys make. ‘Cause why? They walk any kine. When they go in the mountain, they grow pakalolo, or whateva.

DD: Yeah.

WK: Yeah.

DD: Okay, well just a couple more questions, Uncle. Thank you for sharing all of that, a really good depiction that I can just see. I can feel everything.

WK: Yeah.

DD: So I know you're saying that this is good, this will be fruitful. But do you think there will be any bad effects of any kind from this development? Any adverse effects on any places of cultural significance?

WK: I no think so because as I said before, we get like superstitious here. But like my father always say, he no fear no man, but he fear Akua. So I always believe in that. So you might think, going get some people, because before get planny kahuna, you know, get all kine different kine kahuna.

[Uncle shares a story about his family’s interaction with a bad kahuna]

Then right where you go in the house, the thing go right through the house, because the old people, they believe das one trail. The old people going come from mauka. They going come through because they going down to the ocean. They going holoholo.

DD: Yeah.

WK: So das why, maybe when we go hea, we have to walk. And I think the lava is ‘a‘ā, sharp, no matter how many years, thousands of years. But yeah, I was thinking maybe it was one of the last flows from Haleakalā. But most of the last flows from Haleakalā stay way down Kahikinui, by the Kaupo Gap. Get two gaps, Kaupo Gap, and get Ke‘anae, Ke‘anae get one gap. And from outside dea, you can walk through the gap, and you can come inside Haleakalā. When I was small, we go in inside dea, I was one Boy Scout. We go ova dea. For us pass our badges, we had to walk inside.

DD: For real? [both laughing]

WK: Yeah, walk the whole crater. The next day, we gotta walk way inside. And then you go all the way by the end, then you gotta go five miles on the switch back trail foa come back up top, foa go home. And see, all that kine experience, build up with me my whole life, about how foa take care.

DD: Definitely. definitely.

WK: Can be objects, can be stuffs they made, and even stuff they find, like the water calabash, or the stone, like in Waikoloa, das where they get all the 'ili'ili, from ova dea.

DD: Yeah, the 'ili'ili. Okay, Uncle, are there any other concerns that we didn't talk about that you think we should talk about regarding this development?

WK: No, I just think we should go right ahead. I know we will take a considerable amount of time to build this. And like I said, very simply, go right ahead. But yeah, just be extra careful. We just hope we have special people that can deal with this kine stuff and then talk to em. The other one concern is about the Hana Ranch because I don't know about them.

DD: Okay, Uncle, are there any other people that you think we should talk to regarding the Wākiu development?

WK: Uh, yeah, I know have people over there, but because I've been away for a long time, almost like 60 years, when I left there, 1950, this is over like 60 years, almost 70, and I don't have too many years left, so I'm giving all this, all my mana'o and my blessings for this project. And I talk to Mia, and we just have the little place that we have to take care of, our family grounds, right ova hea [pointing on the map]. But I can envision this whole thing in this whole place. Yeah, yeah.

DD: Well, that pretty much concludes our talk story then, Uncle. I just thank you so much. I really enjoyed talking story with you and just hearing all the stories of before.

WK: Yeah, mahalo.

DD: So we wanna say mahalo ia 'oe, Uncle, for sharing. God bless, take care, and Aloha.

WK: Thank youuu. Mahalo. Aloha.

APPENDIX F: INTERVIEW WITH MIA SADO-MAGBUAL

TALKING STORY WITH
MIA SADO-MAGBUAL (MS)

Oral History for the DHHL Wakiu project by Dietrix Duhaylonsod (DD)
For Keala Pono 11/20/2024

*Note that Mia Sado-Magbual submitted a written response to our request and invitation to consultation.

1) To start please tell us about yourself...Name? Where/When you were born? Where you grew up? Where you went to school?

Mia Kaulana Sado-Magbual. Born in 1981 in Wailuku, Maui. Raised in Pukalani, Maui. Attended Pukalani Preschool, Pukalani Elementary, and King Kekaulike HS. Graduated at Ka'ahumanu Hou Schools in 1999. Completed AS in Human Services at UH Maui in 2015 and BA in Interdisciplinary Studies at UH Manoa in 2022. My current career is in social work managing family strengthening services for families in need.

2) Could you tell us about your 'ohana/family background?

My mother is from Weymouth, MA. She moved to Maui in 1978 with my two older brothers. My father was born and raised in Wananalua, Hana. His family moved to Hamakuapoko when he was 2 years old. My paternal grandfather is from Ilocos Norte and moved to Hawai'i in 1910. My paternal grandma, Nancy Kaleo was born and raised at Wananalua in Hana. She is the youngest of James and Louisa Kaleo, direct descendants of Ka 'Ohana Kaleo. Tutu James Kaleo and his father Aimoku Kepoo Kaleo was born and raised on this kuleana land.

3) What is your association to the Wākiu area (family land, workplace, etc.)?

Tutu James' brother John Kepoo Kaleo married Makaole who descends from Kahananui. Ka 'Ohana Kahananui original kuleana land is Wakiu. My dad's cousin, Uncle Kaleo "Blue" Kinney, is one of their children, and a living heir of that 'aina.

4) What are the ways you have acquired special knowledge of this area (from your 'ohana, personal research, specific sources)?

My mana'o comes from my connection with my 'ohana. My dad's cousins, Uncle Kaleo Kinney and Orpha Kinney Kaina, have shared their oral history with me. I have also done personal research as I have connected with distant cousins.

5) Could you share any personal anecdotes about Wākiu, or any traditional mo'olelo, mele, oli, place names, connected to the area?

None that I know of.

6) As far as you remember and your experiences, how has the area changed? Could you share how it was when you were young and how it's different now?

I would visit Keanae every summer with my church for camp. We would frequent Hana to swim and enjoy the outdoors. I didn't visit Hana often with my 'ohana.

7) Do you know of any traditional sites or historically significant buildings which are or were located on the Property site--for example: cultural sites, archaeological sites, historic structures and/or burials?

Our 'ohana had kuleana in Kawaipapa which is Next to Wakiu.

8) Are you aware of any traditional gathering practices at the Property area and/or within the

surrounding areas both past and ongoing?
None that I know of.

9) Do you think the proposed development would affect any place of cultural significance or access to a place of cultural significance?

If that is what the kanaka in Hana that are eligible for homeland wants.

10) As development continues, what could be done to lessen the adverse effects on any cultural resources or ongoing cultural practices in the area?

Working carefully and Having archaeologist on site would help to recognize cultural sites.

11) Are you aware of any other cultural concerns the community might have related to cultural practices within or in the vicinity of the Property site and its surrounding areas?

None

12) Do you know of any other kūpuna, kama'āina, cultural/lineal descendants, or other knowledgeable people who might be willing to share their mana'o of the Wākiu area?

Uncle Kaleo Kinney (Daughter: Chelsea Kinney)

Anjo Hoopai-Waikoloa

Christy & Genesis Ho'opai

Maydoria Malaikini

Claire Kamalu Carroll

Varnell Kai-Souza

APPENDIX G: INTERVIEW WITH JADE ALOHALANI SMITH

TALKING STORY WITH
ALOHALANI SMITH (AS)

Oral History for the DHHL Wakiu project by Dietrix Duhaylonsod (DD)
For Keala Pono 10/1/2024

DD: Aloha, today is Tuesday, October 1st, 2024, and we are on a Zoom meeting. I am in Honokai Hale, O'ahu, and I'll be speaking with Alohalani Smith. Are you in Maui right now?

AS: Yes.

DD: Okay. We're talking story with Alohalani Smith on Maui. And before we begin, I just wanna say mahalo to Alohalani for taking the time to talk story about east Maui and so aloha.

Maybe if we could start, if you don't mind maybe saying your name, where, when you were born, where you grew up, where you went to school, that kind of thing?

AS: Okay. Well, my name is Jade Alohalani, was Brewster, but I married Smith of Hāna. I was born in California. My dad was in the Army, and once he was done and discharged, he came back to Maui. And lo and behold, we moved back to Hāna. He was born and raised in Hāna, and from there he took us out. We went into the southern end of Maui, into Kīhei, or Kula Kai is the proper place name. And so we learned a lot going from tropical to desert. [laughs] But I attended the Hāna Elementary at the time, and then the Kīhei Elementary, the old one down by the Suda store. So those were the two, and then I went Baldwin, which was the district that I would go into because I live in Kīhei, but it's in Wailuku. [laughs]

DD: [laughs] Those [school] district boundaries, okay mahalo for sharing that. Is there anything else you would like to share about your 'ohana background?

AS: Oh, well yeah, so my grandmother's side, her mama comes from Honokalani, so we're all down 'Ula'ino, Honokalani side, Ka'elekū. History was very, how do you say, we grew up for the moment, and we loved it. Our backyard was, you know, the Wainapanapa cave, beaches. Midnight, we'd go with the 'ukuleles and sing our hearts out and just love that type of life. 'Ula'ino, same thing, we'd walk from the road downwwwn to the muliwai and just sing our hearts out, enjoy, grabbing some 'awapuhi, you know, the shampoo, and all that stuff for the next day, so we could bathe and whatnot. So it was really nice at the time. Wow, what would I say? I mean, most times we stayed on that end, we really didn't venture into Wananalua side, or more where my grandmother's other side came from, Hāmoa side. But we stayed more in that [Honokalani/'Ula'ino] area, and it's because there was a lot of caves. We were creative back then. We could, you know, hide-n-seek and all that, that was a big deal, right? [laughs], the hide-n-seek type of stuff, but yeah, we grew up just loving nature and staying close to learn our resources, and how to protect it, how to give back when you take from the land. That was very sacred to my family. We would get lickers if we neva.

DD: Yeah.[laughs]

AS: You know, we were kids, we'd just like raid all the, what's that, the watercress. But we take time, we had to put back and plant and, we neva like do that, we was lazy, right? We just wanna play and eat. [laughs] But we learned real fast that we had to do that in order to continue having fun and eating it. So yeah, we were raised like that.

DD: Aw, nice, and I can imagine, especially as kids ah? Exploring, there's so much to explore in the countryside.

AS: Yeah, right?

DD: Must have been so nice.

AS: Yeah. So when we lived there, we lived in our family's property, the Kanekoas, at the corner house of Honokalani, and that was a two story home at the time. And we would run across and go into Wākiu. We knew there was the tracks, the railroad tracks, but we would play. We had no idea, you know, just property and more land, so we went and explored in that section as well. So, yeah, so many things I could tell, like kids are hungry, we go to the pantry, go take the Vienna sausage, and run back in the pasture and go eat 'em, It was just a highlight of that time.

DD: Yeah, what a nice upbringing.

AS: Yeah.

DD: I think, actually that leads into the next question because I wanted to ask, how you're connected, and about your memories of the Wākiu area. Maybe you could elaborate a little bit more on that?

AS: Oh yeah, because in that area, it has a lot of history of even the time of war, you know, how our ali'is and how that section was a place where it had underground lava tubes. So it was very useful when times [of war] came like that. And I was too young to even know the details, but to just venture and look into some of these, not too much caves or lava tubes on the bottom, it's more up on the top end. But yeah, I didn't even realize that, hey, that's Wākiu all up above that area. It's just overly vegetated, that section. I'm sure back in the days, when the railroads was going through, it was cleared up and you could see the landscape. But that was 1970, it was in the early '70s that we lived in Hāna. And it was trees, especially the African tulips, boy that sucker, yeah it grows so big. But yeah, we used to just venture in and go explore the trees, climb up the trees, look down. We see formations, but we have no clue. Nobody's teaching us [specifically about the landscape]. Yeah, so I was just kind of happy that, wow, back then and now today, and here we are trying to get more history and, and our people, on the land.

DD: Yeah.

AS: Yeah.

DD: I mean, small kid time, yeah, you just like, you observing everything, right, like seeing formations [on the landscape] or anything. Was that train track like a dividing line? I noticed you said that you crossed the train track into Wākiu. Was that kind of like a line to cross in your folks' mind?

AS: Yeah.

DD: Okay.

AS: Well, I mean, we knew that that was the train because we had photos from my tūtū man-them. Hāna Bay, they had the train tracks go all the way up to the wharf.

DD: Oh, wow.

AS: So they could take all the, whatever they were harvesting or whatever they had to ship out, to small boats and take it out to the ship. So we knew that was a part of it, and how far it came out, all the way to our side. But yeah, didn't pay attention, just like, okay, you know, have fun, try to pull some off, you know? Try to make use, ah, recycle. [laughs]

DD: Yeah. [laughs] Yeah, well, could we maybe talk about some of the ways that you learned about the area? I mean, when you're kids, you know, observing, maybe you learned some things later on as you got older, or from family, or anything like that?

AS: Ohhh my gosh, so of course when we are young, we pay no attention. That was boring stuff. Now that I grew into adulthood, I do genealogy for our family. And as I learned history, as I learned the families, to me it's beautiful. I mean, you gotta say it was brutal too, at the same time, right? Because everybody's fighting, for control and power and so forth, but just the beautiful stories in between, I find very interesting. I remember when I was 18, I was with my father, and we're having the family meet together for the property that was mauka, it's the Makapu'u ahupua'a. And the family owned 50 acres that was three veins came into one by the hill, by the pu'u, and then fed down. OHA had gotten involved with us at the time because we were trying to claim that land, because EMI [East Maui Irrigation] took over that, right?

DD: Mmhmm.

AS: And so I remember even then we were trying to gather it. We had a bank account. We had families that was issued konohikis, I think it was Eric Kanaka'ole and Kaiwi, one of our uncles. Anyway, it was in full process, and all of a sudden the lease got given, right? The 30 year lease got given to EMI. And that was it.

DD: Wow.

AS: And so, it has a lot of history. We were all meeting down at the family's, Pi'ilani's hale, down there. So there's the house way at the corner. So we would have all the families gather and sit down and talk. So just getting outta high school, accompanying my dad, again not paying attention because I was in love at the moment, but now I reflect back, and I'm like, why did I not eat all that knowledge, the mana'o, the 'ike that everybody had at the time, and the stories that we have. Our families were from 'Ula'ino side. We knew that the Kamehamehas, their ship came into our bay, because we family to them. So they came, it was their retreat down there. And so they came into the village. Whatever they did, they did. But just knowing that for a fact, it's like, wow, we were that close to it. Opunui, which I believe is Kamehameha the third's oldest son was the one that owned, who is our tūtū man too, he had the property up at where the three veins come to the pu'u and so forth. And I mean, just learning all that, wow, but if I had taken it more serious, I would've had more knowledge from our kupuna. Now, even for Wākiu, we wanna know, but there's no one here to tell us. So we missed out. We missed the mark at the time. So we just try to pick up what we can. But history was so rich and so real. And every time I go back, to that place, it's like you sit down, you can sit down by the muliwai and just sit in there and just hear things, feel it, smell it, and just imagine it with your kupunas there.

But my grandmother and her sister, I remember one time I had to go watch them. They had to go bathe, and it was nighttime, so we had to go a little bit further up. It was so much fun to watch them. They were like little girls, and they're in their seventies, [but like] little girls swimming in the cold water talking Hawaiian. And I sat there going, "Oh, look at that. They're having fun." And I'm like, I wouldn't, it's so cold. But now I reflect again, and it's like they're going back to their childhood days. And you can make the conversation now, because I know some Hawaiian, and it was just talking about, "Hey, you remember when we used to throw the pōhaku, and, you know, they just remembered a lot of things. Things would come up, and then they would say 'em all in Hawaiian. And I would be like, wow, that's so cool. And again, I wish I really took that serious, other than just sitting there and like, okay, what else I going do? I would've been like, "So Tūtū, how was it when you guys was young? Where the place you guys used to go up hea." You know, all that kind. And like the bird nest, you remember the bird nest, the Hawaiian bird nest, they call it? But it's really the fern that grows high in the tree. And it's huge. And they would say how they used to like, try to get the biggest one. But that means the highest one, right? So that was a game that they played back in the days, and it's like, oh, I wouldn't do that. I might break a leg or something. But there was no boundaries back then, and I'm sure they were more tough than we are today.

DD: Yeah, what a nice familial, multi-generational connection, to be able to witness that with your grandma-them, your tūtū-them, like, it [the place] must have had so much meaning for them, and you got to witness that as well. I think we all, we all look back and say, "Oh, if only I went ask more questions." [laughs]

AS: [laughs] Right?

DD: That's so nice, you got to see some of that. And do you have any personal stories of Wākiu, that you remember growing up or when you got older?

AS: Oh, I really have none, to tell you the truth. I just understand today as I'm learning about it. It was a very productive side of the island where they had sweet potatoes, there were wet and dry land 'uala and kalo in that area. Now if you go back into the times of war, then yeah, there's stories. I don't know the whole thing, so I won't share. But I know that a lot of them had cave systems that they could get from one to the other side, one way or the other. So when war came, they went into the mountains, but some of them went down under and showed up in certain areas. And that was so awesome. Our people are so smart. They study the land.

DD: Yeah. They knew the land.

AS: They knew. Now imagine, if you're gonna grow 'uala, or sweet potato, you're gonna kind of grow it over a cave, um, doorway, not doorway, but you know, the opening of it.

DD: Mmhmm.

AS: Then you're gonna conceal it so that nobody knows. Can you imagine how they did that and made sure that whoever farmed there is like, "Keep this one green, don't let it get old and always make sure everything's covered"? I mean, to that strategist part of that time period, I mean, I sit down again, and I wonder how it was. When you read the stories, and then when you hear the stories of your kupunas of old, it's like, "Wow, so that's what he was in charge of. Oh, okay. Now I see why." Like my tūtū man O'opa, Moses O'opa, he was a canoe

builder. And so it was interesting, like whea he got all the trees to build them? But back then you go straight up into the mountains. In Kaupō, there's a place that is known to go up into the forest up there, and they would get it, the koa wood for the canoe. So there was only certain places that they would go into, but all these needs and resources, where did they get it all? I mean, they had it no doubt. And I understand even the stones were very, it was like bullets, right? because they used them in the slings, right?

DD: Oh, yeah.

AS: So the particular stone was found in Wākiu too.

DD: Oh wow.

AS: Yeah. I forgot what they call what kind of stone there was. But yeah, they looked for these, to shape it, make it round. But yeah, that was the area. And there's a lot of blue rock on the top section. You never saw the place, like, it was just grass and pasture. It was always with invasive species. So in my lifetime, I've never seen the mountain side, but I'm sure back in the days, it was beautiful.

DD: Yeah, I mean, you give some good visuals too. I'm picturing the 'uala all over and being productive. And then, like you said, the vines covering the cave. And then the cave systems themselves too, like definitely a productive land, a lot of resources over there. Thank you for painting that picture. And then, for people to have to know where to get the sling stone, where to get the wood, like you said, like they knew, they knew the 'āina that good.

AS: Yeah and many more. I wish they shared. [laughs]

DD: [laughs] As far as you remember, could you share maybe how the place has changed? How it used to be, how it's different now?

AS: How it used to be, [pause and thinking] now the population, I think the population is what, 7,000 plus in Hāna? I mean, back when we were [young], lucky if was even a thousand, but it was really nice. It was peaceful, no problem. Everybody knew each other. Everybody bartered. That's one thing I learned. Because even when we moved out to Kīhei, my father always bought things from Kīhei to barter with the family there [in Hāna side]. And so we call it shopping, where we would go, "Okay, we're going Hāna for the weekend." But when we go, we picking up fruits, ferns, along the way. He barter, they get fish and so forth. By the time we go home, the truck is full with food. Yeah but that's how it was back in the days.

I'll tell you, this is a funny thing. But how we used to wash clothes, there was six of us. My dad had six of us, and of course, electricity and all that, very seldom in places. But we used to pack 'em [the laundry] all in the drums, you know, 55 gallon drums, load the clothes up 'cause we're all muddy. We're always in the mountain, in the mud. We wash 'em at the streams. But we throw 'em inside, and as the truck goes around the turn, it's washing our clothes. [laughs]

DD: Oh, yeah, yeah, [laughs] shaking 'em up.

AS: Right, right. So mom not mad because they all stain, but we would wash our clothes going through that road. And then, either way, either we're soaking the clothes, washing it, or we're rinsing it out. And then we get home, everybody gotta go outside, squeeze and hang 'em

up, and then we're done. So those were the kinda life that we had, the population again, everyone depended on each other. We did have some, back in the days, of course we had people that came with the railroad and the sugarcane, all that. So it was for me, I don't know anything before them, but I could only hear the families that had "Tsā!" You know how they go, "Tsā," like they didn't like it because life changed for them. So by the time we got there, we had to get accustomed to new ways. And I had fond memories growing up there. You know, just go Aunty's house, go Uncle's house, and then we go into town, it's the same thing. You know everybody. And okay, we're gonna sleep over. It was not a problem. And I think we still carry that today in Hāna, but now we come into the present time, and it's totally different. You know, like the invasive species is one horrendous problem for us in Hāna, takes a lot from our native plants and so forth, but it just grows. You know, miconia, we went up and there was a fortress of it.

DD: Wow.

AS: And they're tall. Their seeds are so fine that you just touch 'em, they go poof. Now all the seeds are spreading. And so when those are all introduced, even the African tulip, it's like, pohō, right? Tsā! But we're stuck now with so much of that and so much different people, actors come in, right? They bring their friends in. And it's beautiful. It's not only our land, it's everybody's. But the dynamics that change, it's everything, whether it's your culture, whether it's the traditions. So you learn to miko, yeah? You learn to miko with everybody. But, till today, I just say it's still beautiful Hāna. It's still beautiful. And, you know, different people, it doesn't matter, everybody gets along, so far that I know.

DD: Yeah, I can imagine back then, with everybody knowing each other if, I mean, if you're not related, you still got close relationships, you know, back then.

AS: Yeah.

DD: With the invasives, I mean, as far as Wākiu, did they have sugarcane or pineapple in that area too? Do you remember?

AS: I think at once upon, they were trying. Sugarcane? Yes.

DD: Okay.

AS: I just don't know where it was planted. We saw like, pictures, and sections, and Wananalua, I know there was a lot over there in that area. We have one of the old pictures for that one. But yeah, Wākiu till today, not much people. Nobody knows the history there. I think it was all lost. But, if you think about it, there was an awesome strategic cave system. Wouldn't the ali'i say, "Eh kapu. No can [trespass]."

DD: There's a reason, yeah?

AS: Yeah. Only the farmers who knew that they had to cover the hole, or however, were permitted up there. We walked there maybe about three months ago. We walked through, by the railroads. We didn't see much structures in that section, but further off, I would think, is a lot, like a village. You could see somewhat of remnants that was kind of going up. And we looked at it, "What was it up here?" But all good feeling, no moa 'uhane, you know? You get the sense, yeah, when you walk [other] places, and it's like, "Ohhh [sounding unpleasant],

okay, it's not good up over here." But no, it was all good going in there. Actually. I felt really good.

DD: So you're saying that there's some traditional sites, remnant sites from before, on the landscape then?

AS: Yes, there is.

DD: Okay. And for the sake of archaeology, do you know if there's any other, maybe post-contact buildings or anything on the landscape, that kinds of things?

AS: Not at all. And we went up with the archaeologist because she wanted to know. Tanya Greig.

DD: Oh yeah, yeah, yeah.

AS: She was saying that they couldn't find any information whatsoever. But in the back of my mind, I'm kind of like, "Yeah, I think know why."

DD: Kapu?

AS: Yeah, it was kind of kapu, and they didn't want just anybody learning, right? I mean, look at Ka'elekū, they have the underground hike, like they have people go in. They get tours. So it's like, hmm okay. But yeah, I really don't know. And that's why I wouldn't say anything, because I'm not sure.

DD: Yeah. I mean, but going back to what you shared earlier too, it's nice to hear that despite the changes, you folks continued, some of the old practices ended up continuing on to more contemporary times, especially like the bartering, because you know, that was the old days style. And to hear that you folks were like, "Okay, we going Hāna, let's see what we going come back with," you know, trade-trade and all that. That's really nice.

AS: [laughs] Yeah.

DD: What about any traditional gathering practices? Have you heard of any traditional practices in the Wākiu area? Have you heard of any in that area?

AS: None. Even when they did the homesteads there, even back then, they didn't know much about the area. There was a family, can't remember, I think Uncle Sam [Kalalau] will help you realize who is the family.

DD: Okay, okay.

AS: I don't wanna say bumbye I get the name wrong. But yeah, there was a family that did own land there, but I don't think they know much of the history too. Like, you own the land, you going back on the land, but, you know, the kupunas gone and all that. But yeah, even I would love to hear if anybody has history about that place, but no.

DD: Yeah. There's all that disconnect that we're all familiar with throughout our islands, with the passing of time.

AS: Right.

DD: Well, with the proposed development from DHHL, do you think the development would affect a place of cultural significance, or access to a place of cultural significance?

AS: I don't think so.

DD: Mmhmm.

AS: I don't think so, because I mean, it's gonna be the time to explore, for one thing. Because none of us know anything about that area, well not anything, I should say, we know some. But as we unravel what's going on there, at least we will have that history to know. When the Mahele came, my tūtū man was the one that was granted the royal patent there, my great-great-grandfather. It shifted, moved, and everything. It's under the state and all that. But anyway, I'd like to know how that happened, right?

DD: Yeah.

AS: Or if and when he had the place, did he make use, and so forth. So that was interesting. But I can't find any history on that one as well. I was like [when I found out], "Wait, wait, what?"

DD: Yeah, I wonder it's over there in the Bureau of Conveyances somewhere.

AS: Ah, yeah, you know what? I gotta go over there and go look, because I know it'll just open doors for me.

DD: Yeahhh. They got so many books over dea. You have to go through everything.

AS: I know, so much. But again, I think it would be, I think it's needed, especially for the people of Hāna. Like Hawaiian Homes, of course, is under, but we are trying hard to have only those who live and work in Hāna, with the genealogy of at least three generations back, to be awarded land there.

DD: Nice.

AS: You know, we all from Hāna. We gotta be related down the line, through that place, back and forth and upside down and on the ground, right? [laughs]

DD: Yeah.

AS: And I think that that is the best way to go because we have connections to the land. We have history with the land versus others that just come, and then they like make change and cause trouble or don't respect what is there. We see that, you know, in different homesteads. So we're hoping that we can find a way that Hawaiian Homes would allow that to happen, because we want the change. We need the homes. It would be so wonderful. I mean, I would think that just that place alone, the [housing] association, when it comes, they could just do a whole study on Wākiu itself. You know what I mean?

DD: Yeah, that would be nice.

AS: Bring that to life. And if it's pīlau, then no bring 'em to life, right?

DD: Mmhhh, yeah, yeah. You know, I think it really does tie into the next question, which is about adverse effects, because there's more than just the physical effects of a project. But one way to bring about good effect, you brought up a good point, like honor the connections that the Hāna families already have to the area. And then going further than that, do a study on Wākiu that can be shared with the community. Am I kind of like saying it in the right way there?

AS: Yeahhh! Right.

DD: Okay, thank you for sharing that. Regarding the effects of the project, whether positive, negative, or neutral, are there any other things that you would suggest that could be done as mitigation, to make good as part of this development process?

AS: Hmm, to make good. I would think to spearhead the history of Wākiu is the best thing we can do for all of us. Our website, we even welcome people, or our beneficiaries, if they have any history about Wākiu, and lo and behold, nobody really have anything. And with Tanya-them [the archaeologist], I'm anxious to see what she finds as well. She knows that there's hardly anything. So for her work, she has a lot ahead of her. You know what I mean?

DD: Mmhhh, yeah, she's excellent.

AS: Yeah. But working on the committee to get the history to help people understand the area, the only thing is, of course, is maybe try not to teach them about the cave system underground. Bumbye they maha'oi somebody else's place, yeah?

DD: True, yeah.

AS: [laughs] What I'm thinking, but you know, it's like, "Hmmm [outsiders thinking], I wonder if they went close 'em up or what." But yeah, that place is heavily like that. So, you know, I don't know what else to say, but other than why not us work on getting this more history.

DD: Yeah. I mean, there's also ways to do as much research as possible, but at the same time, you let the community, you let you folks be the gatekeepers of that knowledge, and then you can decide what you wanna share with the community on your website and keep some stuff hidden and decide what to keep kapu and whatnot.

AS: Right.

DD: So yeah, there's ways to research and yet put, you know, precautions going forward.

AS: Yeah.

DD: And especially going back to what you're saying about the connections to the families as opposed to people coming in, and even though you might have good or bad people coming in, I think that's super important, as you mentioned, about the connections that the families

already have there, and honoring that.

AS: Correct. Right. So yeah, they have that, the focus sites of Maui, and they have legends of the area, stuff like that, it doesn't give much. It does name Wākiu as one of the areas as well. So now more so we wanna know what went on over there besides what we know, right? [laughs] The landscape can tell you the history, but until Tanya-them gets to that, we'll see.

DD: It's even more mysterious, when you think about like, wow, there hasn't been a lot published about it, maybe it was kapu that we don't know why.

AS: Yeah. Right, right, that's why. And then we had a gentleman that went up and he did a drone flight over it. And he said that there was one particular area there that was a big, huge black hole.

DD: Oh wow.

AS: And he tried to describe it, but it's hard to see 'cause he could only tell from the colors of how the reading came out. And he said it's huge.

DD: Interesting, wow.

AS: A huge sinkhole. So when he said that, I was like, "Hmm, I wonder what that's all about."

DD: That's really interesting.

AS: Yeah. So we are anxious to find out where that is. It's within the 647 acres more on the mauka, I mean like, more above. So I am very interested in knowing what is that. And what if you find one nother city down there, with artifacts? Yeah. I mean, the sky's the limit. But when he said that, I was like, I don't know what to say. "Humongous," he says, so it's not just one hole, one sink hole, maybe one acre. He said it's huge.

DD: Wow.

AS: But when you think about that, okay there goes the land. Now we have that much land to play with, right?

DD: Yeah, it's on the property, yeah?

AS: Yeah, it's on the property.

DD: And a lot of times too, it's those gulches that have escaped the destruction, the bulldozers on top. So yeah, that would be interesting.

AS: Yeah, I think the, they, they call it the cinder hill above, they were getting the cinders, but also, blue rock. But I don't think it's due to man. It's like the creation of the mountainside. It's like Kaupō, when you look up towards the gap. I live right by the gap. You look above, you see the majestic Haleakalā. It's at an elevation. Then you see the gap. And then right next to it, you see a crater, huge crater, where there's waterfalls. So it's like huge. And I went over, I used to work for the National Park, and we went over with the helicopters, and it is so deep, like so amazed, so beautiful. And you saw all the goats all alongside the walls, actually just

hanging out

DD: Wow, climbahs, yeah? Das some climabahs.

AS: Yeahhh. It's unreal. But you know, I'm envisioning that, because I see it right there in my backyard. And I'm like, I wonder if that's [the mauka sinkhole] just like another, a vent that came out of Haleakalā?

DD: Oh wow, interesting, with all the caves too.

AS: So we gotta know what that is, in time.

DD: Mmhmm, mmhmm. Are you aware of any other concerns the community might have related to cultural practices and things within the vicinity of the property? Or are there any other concerns or recommendations that we haven't talked about that you think maybe we should talk about?

AS: A lot of people don't know anything, so it's kind of hard to start creating something that you are unaware of or don't have enough information. I think the history will give us ideas of what can or cannot be done, in time. Hāna, believe me, we are very culturally sensitive. So to protect that area is our number one goal. Because it's under the state, so then you got a different criteria that you gotta meet. So it all depends. And that's why I'm saying that the association there would have every right to figure out what they wanna do when the time comes. If it's gonna be supported, for culture and history and all that, I believe the community will support it. But you gotta know the Hāna community. They're very vocal and very, how do you say it? [laughs] I mean, I get involved too, but sometimes I have to watch myself.

DD: Engaged.

AS: Yeah, we really get engaged. Yeah. Hands on, feet on, everything, because we are very passionate about protecting Hāna as a whole, you know? So that's from Hāna all the way to Kaupō, the whole district. And because all of our families own lands in between, you know, and like, there's some in Kaupō, there's some in Kīpahulu, there's some in Hāna. But now you like know, "How they got these lands in different sections of Hāna?" Right? Was it the alcohol times? Or did they barter certain things? But when you really look at it, it's the families, they're very protective.

DD: Yeah. Rightly so.

AS: Yeah. And sometimes if you're not accepted, you'll have a hard time in Hāna. I mean, word of mouth goes far in a small little town. And if you're a troublemaker Mm-Hmm. [affirmative], the whole Hāna chain is gonna know.

DD: No can make trouble in one small community like that where everybody close. [laughs] Better not.

AS: Yeah, and you know what is so funny? So the state wants to put in more comfort stations right down at Wainapanapa, and our family, because we have a lot of burials there, and ancient burials, all the way from the airport, down to the caretaker's place and beyond, going

towards Hāna, and we're very protective about it, so we had a testimonial time to come before the Hāna Advisory Commission. And then it went up to the planning commission, and we had the meeting in August, and we were all, like 35 of us was online, ready to testify all this and that. And the commission just couldn't, they couldn't find it, to approve for the State Park to go forward with the project, because there was a lot of legal issues that was never addressed. And we dug it out, you know? And that's how passionate the family will go to the extremes.

DD: That's good.

AS: Yeah. And this is the same family, [passionate] about the water with EMI. So it's like we had a lot of land and a lot of rights to the water. And here it is, gets ripped out, from the state. And so where we stand now, is they said, "Okay, you know what? Maybe we, we defer. And we'll come back, and we'll listen to the testimonies again." Because again, it's gonna be a legal battle. And so that's what I'm saying. With the families out there, we're so passionate to protect. And when Covid was here, the family shut down that road going down to Wainapanapa State Park [Honokalani Road]. So it's like, it's just being akamai and vigilant, to say, "Hey, we're so tired of you guys trying to make the money off of us in our land." And then when time comes, that place is horrendous. I went there to collect rocks for hula. So the hālau said, "Oh, you can go get rocks." So when I go, I gotta pray, right?

DD: Mmhmm.

AS: I prayed for protection. So I sat there with one umbrella over me, and I was just picking up like one tourist, but I was picking up and someone came and said, "Oh, you know you cannot collect yeah?" I said, "I'm sorry, but this is our land, and I doing this for my cultural practice. Mm-Hmm [affirmative]. I said, "I don't know if they educated you guys about that, but I'm doing my own thing. I'm not bothering any of you guys. And if you excuse me." And then I went tilt the umbrella 'cause I no like be bothered. You know, I'm over there digging, I'm trying to look the size, and they keep coming. And I got so irritated. So when I walked back up, when I looked at the whole landscape, it looked like cows, just herds roaming all over the place, and I actually started crying. This energy just overpowered me, and I got angry 'cause I'm like, "Look how disrespectful."

DD: Wow. Yeah.

AS: All for the money, you know, and this was our backyard. And all our tūtū man and tūtū wahine are still buried there. And I'm looking at it, and they're so maha'oi, and it's too much. So I look at that, and I was like, oh my gosh, it was such a sad feeling when I left there, and I no like that. So when the family closed it up, I was like, "Yeah, you guys do it. We behind you guys, but of course we couldn't be there 'cause it was Covid, we could not go.

DD: Yeah, shame on them, to not even know and then try and judge you for doing your cultural practice, and like, that's really not the right way to go about things.

AS: I know. I was like, "Oh, the nerve. I not telling you, 'You no belong here.'" You know what mean? Get off the beach.

DD: Yeah. So from what you're sharing, regarding the cultural concerns, that will be revealed as more studies are done. If anything, at least make sure to keep the engagement with the community. Keep in communication.

AS: Yes.

DD: Am I saying it correctly?

AS: Yes. We always wanna know what's going on.

DD: Okay. Well that kinda leads us to the next question. Are there any other kūpuna, kama'āina, familial descendants or other knowledgeable people you think that we should be talking to regarding Wākiu?

AS: I know we've been trying to get it for G70 and so forth. My aunty is like 97 years.

DD: Oh wow.

AS: Still sharp, but now when I talk with her, she's kind of slow now, where I can't get information. And it's sad because again, I wish I took advantage of that time, for her. But she was instrumental, my dad's sister. She was so instrumental because on the Hāmoa side, with the, we call it Haole beach, and that's the one the ranch has. And they were digging for a septic tank, and they came upon iwi. And they were saying it was inadvertent. No, liar, because it was known that there was bones over there, so I had to hurry up and call my aunty because we had to go and testify before the burial council. And she told me, "No, Bebe, that was where the graveyard was." The tombstones that was there went out with the tidal wave that came, back in, was that '46? 1946? So she said, "So all of them got mixed up. They didn't know who," including my kūpuna. She said, "Yeah, after that tidal wave, it took a lot of the tombstones out. So that place has a lot of burials all over." And so I could go confidently and say, "Hey, my tūtū," who was 92 years old at the time, "She told me." The Hana Hotel came across bones before and knew of burials in that area before. So when they dug to install septic tanks, they claimed it was an inadvertent find and that they only now found iwi. Liars, they knew had bones from before in the past development of the pavilion because it's in the report. A Cousin witnessing this Hewa jumped in the hole with the iwi and halted the work. This was when the family came down and said, "You guys not digging. This is my kupuna right here."

DD: Yeah.

AS: So you see how the family is. And that's when we were all summoned to be at the burial council to testify and protect. Until today they still have the orange netting around. They're not touching it at all, majority of it is closed down.

DD: Wow, invaluable to get that kind of kupuna knowledge, you know?

AS: I know. Imagine that. And I told them, my aunty is still alive. Do you guys want any confirmation? She says that had graves over there. So yeah, trippy. [both laughing] But I don't have any other ancestors, they all perished, my dad too. And a lot of us, look at me, I'm only 58, and we're like, we're the next one.

DD: Yeah.

AS: We're the ones going carry the torches. Like aiyah, we donno everything, right? So that's

why we're all still close because we kinda help each other understand what's going on in the sections of Hāna, so that we can continue to protect it. Our generation different though now.

DD: But you have shared a lot. There's that modesty that I'm hearing from you, that the kūpuna are gone, but you shared a lot, so yeah, thank you, thank you for that.

AS: Oh, good, good. At least I can help some.

DD: Yeah, definitely. So with that then we'll conclude the talk story. And I want say mahaaalo nui loa again to Alohalani Smith for taking the time to talk story today.

AS: Alright. Thank you too for your time.

DD: Okay, aloha.

AS: Aloha.

Appendix F

Hawai'i Wildlife Management Organization Memo



65-1279 Kawaihae Rd. Ste 211, Kamuela, HI 96743

(808) 885-0900

hawaiwildfire.org

June 2023

To: Group 70, % Kawika McKeague and team

Re: Wildfire Hazard Considerations Memo, DHHL East Maui Master Plan

Please find the attached document, which has been written to satisfy the memo portion of our proposed work for the Ke'anae, Wailuanui, and Wākiu areas in the DHHL East Maui Master Plan.

We invite continued discussion related to these findings and wildfire risk reduction for the East Maui Master Plan.

Thank you,

A handwritten signature in blue ink, appearing to read "Elizabeth Pickett".

Elizabeth Pickett
Co-Executive Director

ASSESSMENT METHODS

A field trip was taken with Group 70 representatives on February 24, 2023. A rapid assessment of several large-scale wildfire hazard-related factors was conducted in the field, followed by a supplementary analysis using available maps, models, and datasets.

Several documents and plans that Group 70 representatives provided were also consulted, most relevant to this assessment were:

- Aerial base maps of Ke‘anae-Wailuanui & Wākiu
- Ke‘anae-Wailuanui & Wākiu figures provided after site visit
- Ke‘anae-Wailuanui & Wākiu [Webmap](#)

Several external informational resources, models and maps were also used to complement the field-based assessment:

- [Wildfire ignition density Maps for Hawai‘i](#)
- HWMO-UH dataset and analyses of fire occurrence 2000-2022 (in process of being published)
- Statewide fire fuels classification (unpublished, Trauernicht, et al. maps provided below)
- [Cost of government commission- Report on wildfire prevention and cost recovery on Maui. July 2021](#)
- [Online Rainfall Atlas of Hawai‘i](#): Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delaparte, 2013: Online Rainfall Atlas of Hawai‘i. *Bull. Amer. Meteor. Soc.* 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1.

DISCUSSION

Wildfire hazards and level of risk are determined by many factors, and our detailed in subsequent sections:

- Likelihood that a fire will be ignited, based on ignition history (IGNITIONS section)
- Anticipated fire behavior based on the fire environment (FIRE ENVIRONMENT section)
- Anticipated efficiency and capacity of wildfire suppression response (FIREFIGHTING section)
- Human awareness and engagement in wildfire prevention/mitigation (EDUCATION section)

Following a brief summary (overall and per parcel), a more itemized and detailed discussion follows.

OVERALL SUMMARY

Although East Maui, including Ke‘anae, Wailua Nui, and Wākiu, and the surrounding regions, face less of a wildfire risk than leeward areas of the island of Maui, the risk for wildfire is not zero. While wildfires are less common in East Maui compared to drier regions, they can still occur under certain circumstances. Several wildfires have required a firefighting response in the last decade in the area, although none grew to become large or significant fire events.

East Maui generally has a higher humidity level due to its high levels of precipitation and fuel moisture, which can help mitigate the risk of large-scale wildfires. However, it is important to note that the risk can

still vary across both space and time. Areas with grasses and finer vegetative fuels are susceptible to rapid desiccation, leading to higher wildfire ignition and spread risk during dry periods. Additionally, human activities, such as campfires, driving over vegetation, agricultural practices, or accidental ignitions, have contributed to wildfires. It is essential, even in this windward area, to mitigate wildfire risk in both the built and natural environments and through public wildfire prevention education, since wildfire hazards can and do exist here.

Finally, climate change models predict variability in precipitation patterns in the future. The change may come in alterations to when the rainfall comes, as well as in how it falls. For instance, more intense rainfall events may occur, with more significant drying in between, yielding a pattern seen already in other windward areas of the state, where heavy rains contribute to vegetative growth that then desiccates and becomes a fire hazard during the extended dry period. When those areas ignite, the amount and continuity of vegetation can lead to extreme fire behavior, which surprises many who think of the area as generally “wet” with little to no wildfire risk. Much of what we discuss below speaks to the current level of wildfire threat, which is fairly low for all the parcels assessed.

However, please note that with rainfall and climate projections showing increased periodic drought conditions, and with the addition of more people and human use of the areas, wildfire threats may substantially increase. Planning for areas to be wildfire-safe from the start, with adequate access and suppression infrastructure (roads, water, communications), as well as planning for wildfire prevention and mitigation by those who will live in and use the areas under discussion is prudent, and probably necessary.

BRIEF SUMMARY PER PARCEL:

The coastal property of Ke‘ana, near the shoreline, has the highest likelihood of human ignitions when proximity to major roads and level of public use are both considered. That threat is mitigated by its easier access for firefighting, and availability of water for suppression use via a running stream and nearby ocean.

The mauka property of the Ke‘anae tract has minimal human-caused ignition risk, but there is potential for ignitions from equipment sparking and/or agricultural burning, once agricultural practices are numerous and ongoing. It should be noted that the conversion/removal of forested areas frequently leads to replacement by grasses in areas left untended, which increases wildfire risk due to more rapid drying by this fuel type during dry periods. Ignition potential will also increase as more vehicles are used to access the area and as more people, in general, are present. These risk factors are mitigated during wet periods by the high levels of precipitation and high moisture content of the vegetation and ground. However, as noted elsewhere, it is important to anticipate variability in rainfall amounts and patterns, because a high potential for drier-than-usual periods exists, which increases wildfire threat, especially to areas with dense and contiguous fuels. Overall, wildfire risk ranges between low during wet periods and moderate-high during extended dry periods.

The Wailua Nui property, with its long history of taro cultivation and current land use, is at a low-moderate risk of wildfire ignitions. Currently, the vegetation is weighted toward finer fire fuels and grasses as opposed to large-trunked woody species. The current vegetation types (outside of cultivated agriculture) dry out quickly, ignite easily, and can spread fire rapidly during dry conditions. For this reason, current wildfire risk ranges between low during wet periods and moderate-high during extended dry periods.

The Wākiu tract has a relatively high amount of fine fire fuels and will likely experience an increased risk of wildfire ignitions once there are fully operational community, commercial, industrial, and agricultural uses in full operation. Whenever residential areas are developed and more people are present, the human activities that may ignite fires also increase. Additionally, of the three primary areas being assessed, this tract has the highest history of wildfire starts in the last decade, the fuel type most likely to ignite, and the most complex set of future human uses. The current risk is low-moderate, but that will increase with increased use and periods of drought.

A note on the use of fire for agricultural clearing: During the field visit, it was shared by the taro farmer who oriented us to the Wākiu area that many farmers use fire as a clearing tool. He shared that the burning methods that farmers use vary, as well as the precautionary measures they take to avoid escaped fires. During most conditions, high humidity and vegetative moisture content will mitigate wildfire risk during burns. However, in anticipation of changing rainfall patterns and variable conditions that could include dry spells, it is recommended that agricultural operators become supported with education and training toward increasing precautions taken during burning operations.

IGNITIONS

Historically, the primary cause of fires in East Maui, as well as other parts of Hawai'i, has been human activities. The causes of fires in and near the areas being assessed in East Maui have included:

1. **Agricultural practices:** Traditional practices such as slash-and-burn agriculture, also known as "huli," have been used for centuries in Hawai'i. These practices involve clearing land by burning vegetation, which can sometimes result in uncontrolled fires if not properly managed.
2. **Campfires and recreational activities:** Careless or improperly extinguished campfires, fireworks, and other recreational activities can accidentally start fires, especially during periods of dry weather.
3. **Arson:** Intentional acts of arson can occur, where individuals deliberately set fires for various reasons.
4. **Utility equipment or power lines:** Malfunctioning or poorly maintained utility equipment, such as electrical power lines, can cause sparks that lead to wildfires.
5. **Natural causes:** While less common, natural causes such as lightning strikes can also ignite wildfires in East Maui, particularly during thunderstorm activity.

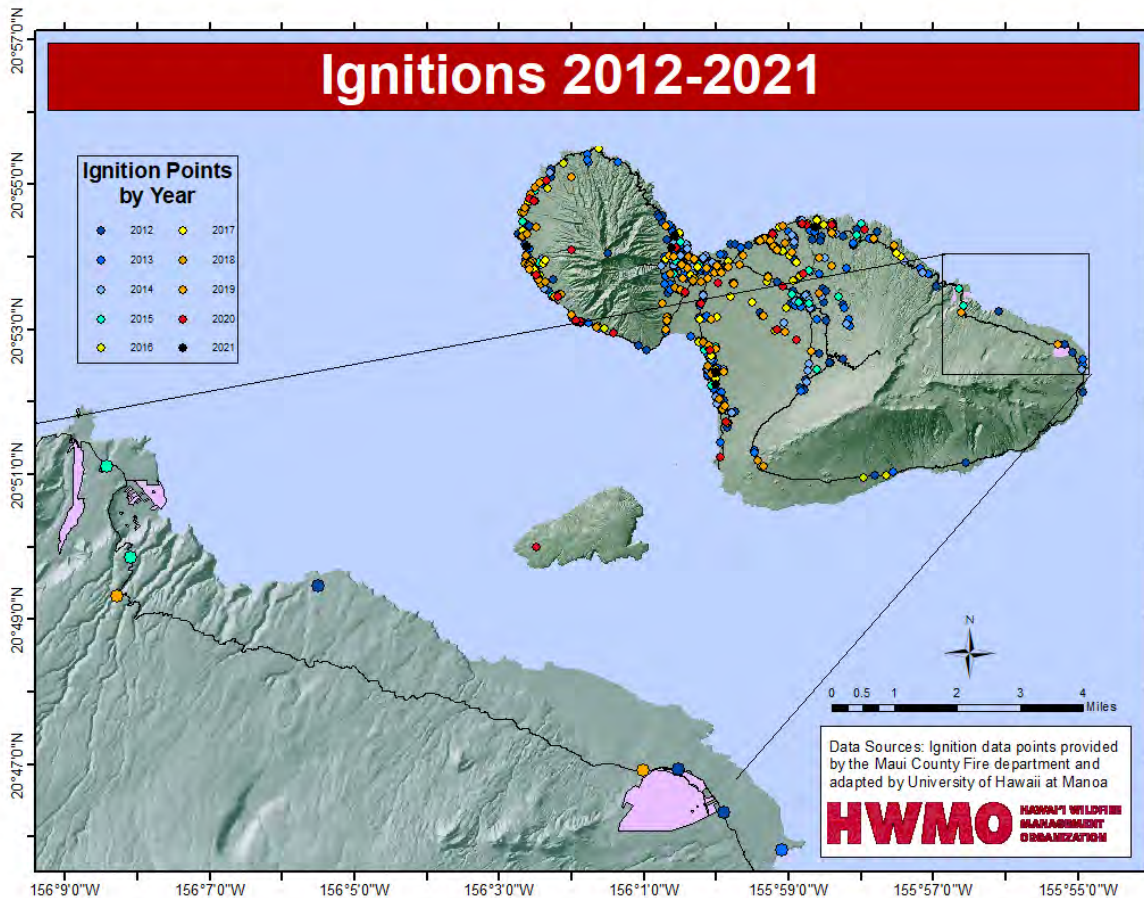
To assess the likelihood of future fire occurrence in an area, it is helpful to understand its fire history as an indicator of human fire-starting behavior and natural ignitions in the area. A review of fire history in

the East Maui area indicates that the area is at moderate risk for fire starts, on a low-moderate-high scale.

In the last decade, there have been several fire starts that have required a fire department suppression response. For large-scale wildfires to occur, ignition and dry vegetation are all that is needed.

Despite public belief that wildfires are rare in the area, this area does have a history of ignitions, particularly along the road, and in both residential and agricultural areas. These fires likely remained small due to high moisture content in the vegetation and conditions favorable to suppression. However, during drier periods, future ignitions like these have a high spread potential due to the availability and continuity of fuel in the region.

See Map 1 below for wildfire ignitions over the past (approximate) decade.



Map 1. Wildfire ignition history, 2012-2021 in area of discussion.

As an area becomes more developed and new areas are made more accessible, its fire ignitions increase. For the DHHL East Maui Master Plan area, it will be important to consider and mitigate this dynamic as new areas become accessible and traversed by residents and visitors, trees cleared and replaced/invaded by more fire-prone grasses if left unmanaged, etc. Additionally, general wildfire prevention education

and training on best practices for avoiding escaped fires during agricultural and/or trash burning are recommended.

FIRE ENVIRONMENT

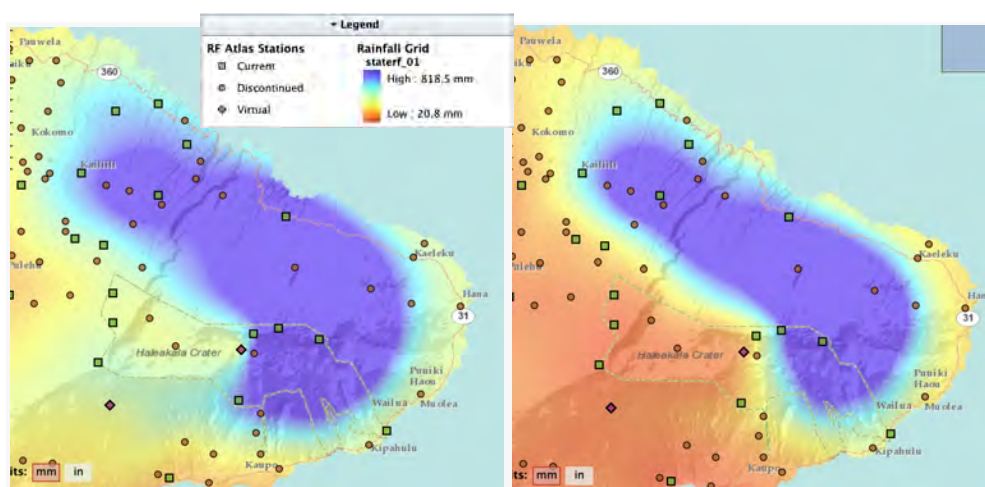
Understanding the fire environment is important for anticipating the behavior, intensity, and impact of wildfires that are ignited in an area. There are several factors to be considered— climate, weather, wind, rainfall, topography, seasonal fluctuations and drought, and vegetation (type, density, and structure). For the DHHL East Maui areas, key considerations are provided below.

Weather and climate

East Maui has generally high levels of precipitation compared to other parts of the island. However, it's important to note that specific precipitation trends can vary based on factors such as elevation and microclimates within the region, with varying implications for wildfire hazards.

Rainfall: East Maui receives some of the highest amounts of precipitation on the island. The rainfall is typically influenced by the prevailing trade winds that bring moist air from the northeast. The distribution of rainfall is influenced by topography and elevation. The higher elevations tend to receive higher amounts of rainfall due to orographic effects. This results in a relatively wet climate compared to other parts of the island.

A review of monthly rainfall averages demonstrates the decrease in precipitation seasonally, most notably at lower elevation areas, underscoring the importance of wildfire mitigation and awareness in planning for the lower elevation and coastal sections of the East Maui Master Plan, particularly in the dry season.



Maps 2 and 3. Wet Season and Dry Season rainfall averages for East Maui. Note the relative drying out of the lower elevation and coastal sites. Source: Online Rainfall Atlas of Hawai’i, cited above.

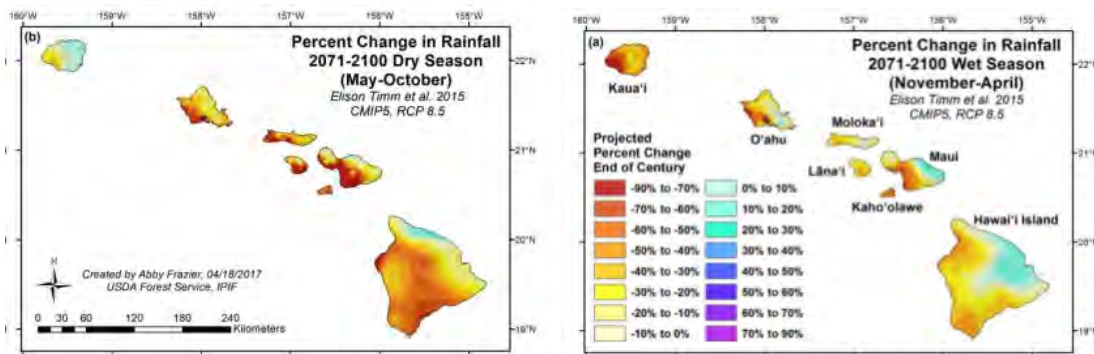
Absent other additive considerations, such as periodic dry/drought episodes, human-caused ignition history, and fuel type, precipitation levels in all three areas fall into the low, or seasonally low-moderate, wildfire risk category for its precipitation component.

However, climate change is expected to have an impact on the climate of East Maui and the Hawaiian Islands as a whole. Warmer temperatures and changing rainfall patterns could lead to alterations in the distribution and intensity of rainfall in East Maui. Some studies indicate that certain regions in Hawai'i, including windward areas, may experience increased rainfall variability, including more intense rainfall events and longer dry periods in between. In this case, the average numbers for precipitation may persist, but the patterns at which rain falls could lead to higher fire risk and post-fire hazards. For example, a long period without precipitation can create conditions dry enough to yield a significant wildfire event that, when followed by intense rainfall, will lead to significant post-fire erosion and flooding.

Note: In other areas in Hawai'i that are already experiencing this dynamic, HWMO and partners have started to identify post-fire erosion potential by conducting GIS analyses. By layering and identifying areas with highly erodible soils, steep slopes, grass-heavy fuel, and close proximity to roads and human areas (ignitions sources), we can prioritize mitigation activities in those areas, as well as aim toward conducting post-fire stabilization treatments when there is a fire.

Wet and Dry Seasons: East Maui experiences a wet and dry season pattern. The wet season currently occurs from November to March, characterized by more frequent and intense rain showers. The dry season spans from April to October, with relatively less rainfall and more stable weather conditions.

Some climate models and projections show that over the next century, rainfall patterns are projected to shift, increasing the wildfire hazard in the broader East Maui area. This underlines the importance of planning for fire-prone conditions and incorporating hazard reduction measures in the formative stages of this project. In some areas, the wet season will get wetter, and the dry season will get even drier. In other areas, there is a reversal of wet-dry months. For the areas assessed in East Maui, models indicate that the seasons will be more extreme, with rainfall decreasing by 10-30% in the dry season, significantly increasing wildfire risk.



Maps 4 and 5. Percent Change in Rainfall Dry Season and Wet Season 2071-2100.

Source: Abby Frazier, USDA Forest Service, Institute of Pacific Island Forestry, 2017.

Topography

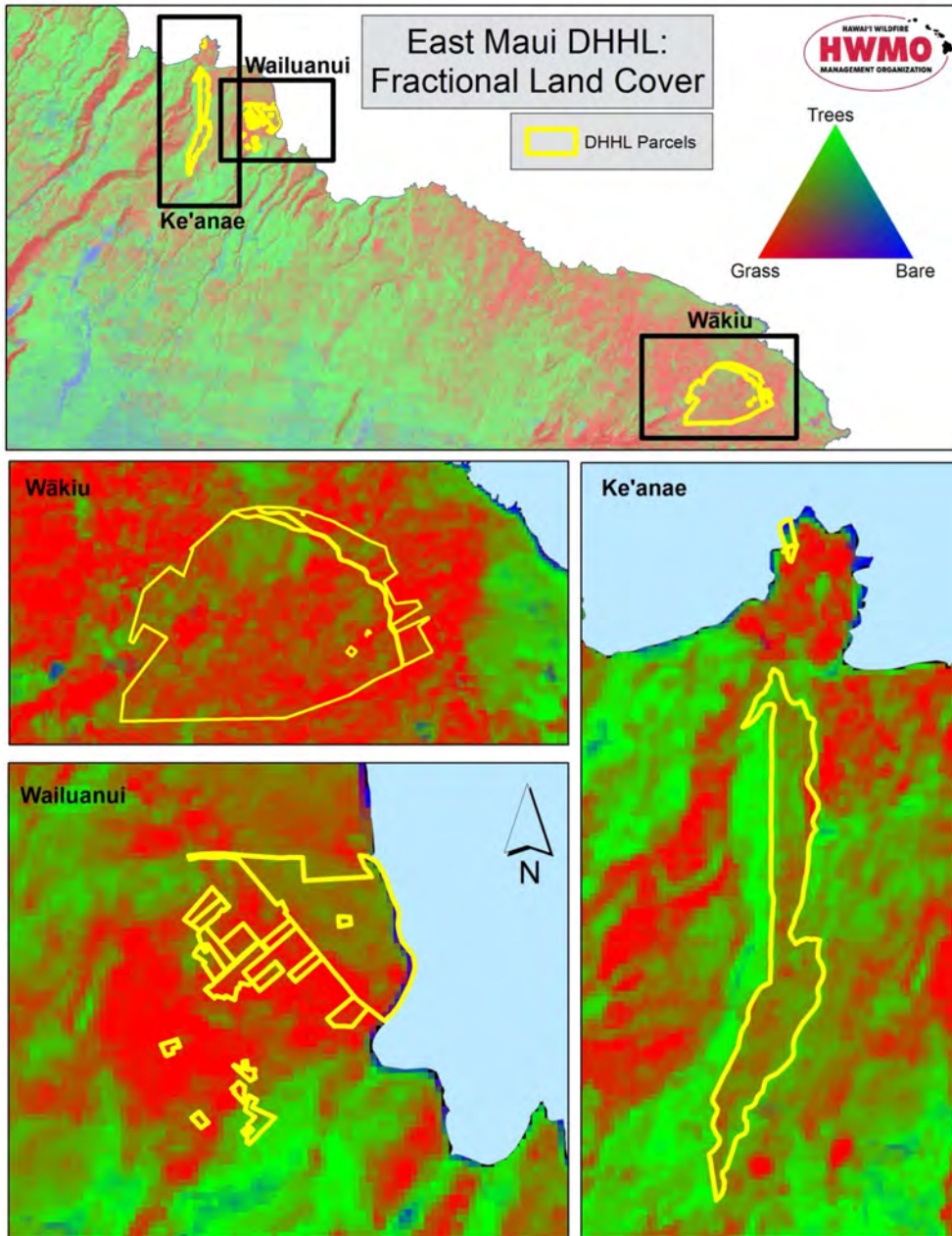
The mauka portions of Ke‘anae and Wākiu have specific topographical challenges that affect wildland fire hazards. The topographical features that may adversely affect fire behavior and make firefighting challenging include steep slopes, gulches, ravines, and stream channels. The overall slope of the area is a concern because wildfires travel more quickly uphill. Flames from wildfires can pre-dry vegetation on the slope ahead of the firefront, curing and directing fire spread, often into areas with more and more challenging access for firefighting. This dynamic could be exacerbated by the predominant wind direction that could also spread wildfire in an upslope direction. Gulches, ravines, and stream channels may also create challenges to firefighting when they impede access or intensify wildfire spread.

Fuels

The vegetation in the East Maui Master Plan areas plays a significant role in wildfire risk in the region. While the majority of vegetation maintains its moisture content thanks to relatively wetter climate patterns, certain factors related to the vegetation can contribute to the potential for wildfires. Here are the considerations for how vegetation in the area can impact wildfire risk:

1. **High Biomass:** The vegetation in the areas assessed includes dense forests, grasses, and shrubs, which can have a high biomass or fuel load. This means there is a significant amount of vegetation that can serve as potential fuel for wildfires. In the event of a fire, the abundant vegetation can contribute to the intensity and rapid spread of the flames. This poses a high hazard during dry periods.
2. **Invasive Species:** East Maui, like many other parts of Hawai‘i, has been impacted by invasive plant species. Invasive plants, such as strawberry guava (*Psidium cattleianum*) and ginger (*Alpinia* spp.), can alter the native ecosystem, creating dense and highly flammable vegetation. These invasive species can act as fuel sources, increasing the risk and intensity of wildfires.
3. **Leaf Litter and Dead Fuels:** Accumulated leaf litter, dead vegetation, and fallen branches can create a layer of dry and flammable material on the forest floor. This organic matter can serve as fuel for fires, contributing to their spread and making it more challenging to control or suppress them.
4. **Fire-Adapted Species:** Some plant species in East Maui have adaptations that make them more prone to fire. For example, those with oils or resins in their leaves have an increased vulnerability to ignition and can facilitate fire spread.
5. **Topography and Fuel Arrangement:** The diverse topography in East Maui, including steep slopes and valleys, can impact the arrangement and continuity of vegetation. Clustering of vegetation and the presence of vegetation in narrow valleys can allow fires to spread more easily, particularly when combined with dry weather conditions and strong winds.
6. **Drought and Climate Factors:** Extended periods of drought or drier weather can increase the flammability of vegetation. Reduced soil moisture and dry vegetation create favorable conditions for fire ignition and spread. The weather and climate section above notes that rainfall variability and extended dry periods are expected in the future.

Map 6 was generated in-house and was used to assess wildfire risk based on fuel types as they relate to fire hazards.



Map 6. Analysis of Fractional Land Cover indicative of fire fuel type.

Source: Custom analysis by HWMO using unpublished data from Trauernicht, et al. at UH.

In terms of vegetation type, Wākiu has the highest level of fine fire fuels. These fuels, mostly grasses and herbaceous species, dry out rapidly, ignite easily, and contribute to high fire risk. Wailua Nui has mixed vegetation but does exhibit a prevalence of higher fire-danger grasses and grass-tree mixed vegetative

communities. Ke'anae is dominated more by trees, which take a longer time to dry out, but burn for longer and with higher intensity once they do ignite.

FIREFIGHTING

Response Jurisdictions

Initial response to wildfires, as well as all medical and other emergencies, is the responsibility of the Maui Fire Department (MFD). The Department of Land and Natural Resources Division of Forestry & Wildlife (DLNR-DOFAW) responds to wildfire events on State lands and provides additional wildland firefighting assistance when State lands are threatened and/or mutual aid agreements are invoked.

Map 6 below was developed by DLNR-DOFAW and demonstrates the independent and shared response zones of each agency. MFD provides an initial response to all areas. DOFAW responds to fires in the pink areas and responds to fires in the white areas only under specific conditions, i.e. extreme threats to public safety, local resources fully committed, extreme fire behavior, etc., and through the appropriate channels and only if its resources are available. In order for DLNR-DOFAW to respond to fires in the white area, the request for assistance must come from the County Civil Defense/Emergency Management Agency through the Hawaii Emergency Management Agency (HI-EMA). Overall, the primary responder to the areas assessed will be MFD.



Maps 6. Fire Response Zones on Maui. Source: DLNR-DOFAW

Response Capacity

Emergency response capacity is high in terms of training and equipment; however, East Maui has challenging conditions and circumstances for firefighting. Adequate firefighting access, defensible space, and multiple evacuation routes are key factors to address for human safety, efficient wildfire suppression, and limited wildfire impacts on the landscape.

Firefighting Challenges

Several factors make this region of Maui more challenging for firefighting. Some can be offset with adequate planning and preparation. Here is a discussion of those challenges:

1. **Terrain:** In general, the topography of East Maui can present challenges for firefighting efforts due to its diverse and rugged landscape and remote location. Steep slopes, deep valleys, and rugged terrain can impede access for firefighting personnel and equipment, making it challenging to reach and effectively combat wildfires in certain areas.
2. **Accessibility:** The dense vegetation and rough terrain can make certain parts of East Maui inaccessible to firefighting crews. This can limit their ability to directly attack fires or establish containment lines, leading to difficulties in controlling the spread of wildfires. For this reason, all developments and agricultural areas are safer when there is more than one ingress/egress.
3. **Roads:** Areas with narrow and winding roads make it difficult for fire engines and large firefighting vehicles to navigate and respond quickly to fire incidents. Limited road access can hinder the rapid deployment of resources to affected areas. It is recommended that all roads established adhere to a minimum width and grade for fire trucks and provide adequate vertical clearance and turnaround space. Areas with road conditions that are only seasonally traversable by fire trucks need to alert those using the area that emergency response capacity may be limited.
4. **Remote Locations:** Fire incidents that occur in isolated areas that have limited access or communication can delay the arrival of firefighting personnel and equipment. Adequate communications infrastructure is essential to timely emergency response. Response time is longer than in urban and suburban areas. The nearest fire stations are:
 - a. **Hā'īku Fire Station:** Hā'īku Fire Station is located in the community of Hā'īku, which typically serves the Hā'īku-Paia area and is approximately 15-20 miles from Ke'ānae.
 - b. **Hāna Fire Station:** Hāna Fire Station is located in the town of Hāna, which is a nearby community to Ke'ānae. It serves the Hāna area and is approximately 10-15 miles southeast of Ke'ānae.
5. **Wind Patterns:** The prevailing trade winds, which often blow from the northeast, can influence the behavior and spread of wildfires. The interaction of winds with the complex topography of East Maui can cause fire behavior to be unpredictable, making it challenging for firefighting efforts.
6. **Water Source Accessibility:** Firefighting requires a reliable and sufficient water supply. In some parts of East Maui, accessing water sources for firefighting purposes can be challenging due to the terrain and limited availability of hydrants or water reservoirs.
7. **Vegetation Continuity:** It is primarily the arrangement of the vegetation that can be a concern in unmanaged and/or mauka sections of East Maui. The combination of grasses, shrubs, and trees

creates a “ladder fuels” situation, in which ground fires can easily travel up to the tree canopy. These fires often require aerial suppression and are much more difficult to suppress, allowing fires to travel faster and farther, and impact a larger area. Additionally, the continuity of vegetation yields a high hazard in the area. In drought conditions in areas of contiguous vegetative fuels, a fire could spread rapidly, even gaining spread because of the lack of interruption.

Given these factors, firefighting in East Maui requires specialized tactics and resources. Fire agencies and emergency responders in the area often employ a combination of aerial firefighting techniques, ground crews, and strategic positioning to manage wildfires effectively in challenging conditions.

EDUCATION & COMMUNITY ENGAGEMENT

In all areas across the state, wildfire is becoming an increasingly important and relevant topic to consider, discuss, and address. Given the nature of the activities planned for these East Maui areas, the following education is recommended for those who will live and work in Ke‘anae, Wailua Nui, and Wākiu:

- General wildfire awareness and ignition prevention
- Wildfire preparedness around homes and yards
- Best practices for wildfire-safe agricultural operations
- Fire prevention and safety in natural areas and fieldwork
- Fire planning for small farms
- Evacuation preparedness and planning, including establishing communications between community members and ensuring consistent and reliable communications with emergency response agencies

***All place names are spelled in accordance to *Place Names of Hawaii* by Pukui, Elbert, & Mookini.**

Appendix G

Honuaiākea and Beneficiary Workshop Reports



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Honuaiākea no Wākiu

Kapu and Kānāwai of Wākiu, Hana

The purpose of this document is to report the findings of the Honuaiākea workshop designed to develop a foundation of kapu (things/elements to hold sacred) and kānāwai (protocols in which to hold the kapu) that will become the guide for the planning and building of the Wākiu Hawaiian Homestead community housing. The intention of the workshop is to create sets of guidelines, protocols and laws that utilize the perspectives and knowledge recorded by our Hawaii ancestors on how to live in accordance with their ecological conditions.

Process

As proprietary intellectual cultural property under the auspices of the Edith Kanaka'ole Foundation, this Maoli-based process is a communal tool that utilizes Ancestral Ecological Knowledge (AEK) and various expert perspectives to analyze indigenous knowledge collections that will be identified in the cultural and natural resource studies. The purpose of conducting this process will be to draw out specific *kapu* (natural laws to hold sacred/follow) and *kānāwai* (prohibitions/guidelines to preserve the *Kapu* set forth) that identify what natural elements and resources that are important in this ecosystem and how best to apply an indigenous place-based approach to the effective management of the Wākiu areas and to also create the foundation of establishing a more substantive *'Ike Kupuna* (ancestral knowledge) based educational format in utilizing the area. This session will include two (2) meetings (*Honuaiākea* Meetings #1 and #2) be conducted over a weekend on-island by the CONTRACTOR and its consultants. A summary report will be provided and integrated into the planning design.

The Honuaiākea process involves working with participants to dissect and analyze oli and ka'ao that have been researched and specifically chosen for the process. Analyzing and interpreting the information together helps develop the kapu and kanawai with all stakeholders and participants agreeing that the knowledge gathered is the knowledge of the kupuna, which makes the kapu and kānāwai structure cohesive and coherent to follow.

The oli and ka'ao that were utilized is as follows:

- *Hulihia ke au ka papahonua o ka moku (oli)*
- *Mele no Kapo (oli)*
- *Puhi o Laumeki (ka'ao)*

The selected oli and ka'ao were based on place names, natural resources available in the area, and the elements that the people live with in the Wākiu. The sources of the oli and ka'ao come from the Papakilo Hawaii Newspaper Collection search data base. . *Hulihia ke au ka papahonua*



o ka moku is an oli that connotes the process of the landscape going through a process of growth, healing of a scarred land, and biological organisms adapting to the changes. This oli pays close attention to the elements that are necessary for growth to occur. *Mele no Kapo* is an oli that observes the elemental inner workings and function. This oli was brought to this workshop specifically to look at the function of water and the recognition of environmental changes. *Puhi o Laumeki* is a ka'ao or story that speaks of a legend of Laumeki that takes place and acknowledges many of the place names located in and near Wakiu that helps the community identify and relate with the different place names .

The oli are collections of raw environmental observational data that share both general and dynamic perspectives. It is the responsibility of the participants to draw out the meaning that have the most adaptability to the landscape and the culture of the community. The goal of these interpretations is to see the oli for what they are, which is environmental observations, and utilize the perspectives of our ancestors to guide how we create modern programs and operations that are more connected to health and change to the land.

Product/Utilization

The kapu established by the community participants are listed here with the corresponding Kanawai. In terms of the planning and development of the Wakiu housing community, the Kapu developed through the analyzation of the AEK (Ancestral Ecological Knowledge) found from the oli and ka'ao must NOT be compromised, and the corresponding k n wai are protocols to uphold the principle and sacredness that is the kapu. Essentially, the kapu and k n wai are rules and protocols dictated by the community, founded by the AEK. Please see the following as your guide:

Kapu Kawahikaua-Kawaipapa

From the Ka'ao Puhi o Laumeki, kapu Kawahikaua-Kawaipapa will ensure the constant and uninterrupted flow of natural waterways. The continuous flow of water from the po'o wai to the muliwai or from the pahu a Kanaloa (aquifer) to the punawai (springs) in Hana is held sacred and will be preserved.

- ***K n wai Keiki 'ehu a Kanaloa***

This k n wai or resource management law insists upon knowledge of the origin of the waterways, the exit, and the path in between. This K n wai will ensure that development does not interrupt waterflow and is a focus point when water issues such as wastewater and water diversion become prevalent.

- ***K n wai ka 'ele ke 'eke o Hina***



This kānāwai or resource management law will ensure that water sources are abundant with food and needed nutrients for land and kanaka. Passing down the knowledge of the habitats of the fish and limu to the next generation through place based experiences and mele such as ‘Oli helu - counting the names of the waterways in a mele.

- *Kānāwai pua ‘a hiwa a Kāne**

This kānāwai or resource management law insists on the preservation of the natural water cycle of Hana. Managing the activities that are happening ma uka affect the community i kai. Therefore, prevention of contamination, deforestation, and water draining invasive species are first priority issues that must be addressed. Kanu or replanting, ceremony to restore the natural water cycles are elevating activities that lend to accountability towards this Kānāwai.

Kapu Pōhaku Kū

From the mele Hulihia ke ao ka papa Honua o ka Moku imbedded in the Pele and Hi‘iaka mythology, the Kapu Pōhaku Kū affirms the sacred identity of the pōhaku, or the earth based objects such as pu‘u (hills), pōhaku (stones), heiau, cliff sides etc. These will be decided by the community moving throughout the project. The acknowledgement of what “pōhaku” needs to be preserved should be refer to the practical and also sacred function of the pōhaku in question.

- *Kānāwai Leho**

This kānāwai or resource management law prohibits the tampering of pōhaku based natural phenomenon or man made ancestral structures.

- *Kānāwai kuhikuhi*

This kānāwai or resource management law establishes the importance and a framework of education and information on pōhaku based phenomenon in Hana.

Kapu Hina i‘a e ke Kina‘u

From the mele no Kapō this literally translates to fish school of the young aku and affirms the sacredness of natural cycles, cyclical, lunar, and seasonal changes. Planning



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should not hinder seasonal environmental phenomenon, but enhance its delivery of change.

- *Kānāwai Kulia*

This Kānāwai or resource management law will establish the balance between natural growth and ecosystems and man-advanced development.

Kapu Hoakalei

From Mele no Kapō, this translates to a lei of reflections or shadows. This kapu holds genealogy and the passing down of knowledge sacred. The passing of generational knowledge should not be hindered, and rather, should be encouraged in newly formed community.

- *Kānāwai Kahalaowaka, Kahalaoweke*

This kānāwai affirms a framework of family practice and knowledge perpetuation and succession.

- *Kānāwai Hale Ko'a*


This kānāwai creates a physical space to provide for this kapu by gathering community and family in a central hale or kauhale. A creation of a central space to practice is suggested.



HAWAIIAN HOME LANDS
HAWAIIAN HOMES COMMISSION · DEPARTMENT OF HAWAIIAN HOME LANDS

DHHL East Maui Master Plan & Environmental Assessment
Wākiu: Beneficiary Planning Workshop #1
Sunday, September 10, 2023
10:00 am – 2:00 pm
Hāna High and Elementary School Cafeteria

1



Introductions


DHHL, Planning Office:
Andrew Choy, Administrator
Julie-Ann Cachola, Project Manager

G70:
Kawika McKeague, Planning Principal
Rene Matsumura, Architecture Principal
Ryan Char, Civil Engineering Principal
Kai Akiona-Ferriman, Civil Engineer
Jeff Seastrom, Project Manager
Michele Leong, Project Manager
Pi'ilani Smith, Planner

1

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Purposes of Meeting

- Review Hawaiian Homes Commission Act
- Identify DHHL East Maui lands
- Share DHHL planning process
- Share East Maui Master Plan & EA process
- Establish a cultural foundation
- Share maps of existing conditions
- Gather input from YOU to identify vision components for our Master Plan
- Build a relationship with community members

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Agenda

❖ Introduction to DHHL	(10 min)
❖ Transfer of DHHL East Maui Lands	(10 min)
❖ Introduction to DHHL Planning System	(5 min)
❖ Introduction to East Maui Master Plan & EA Process	(10 min)
❖ <u>BREAK</u>	(10 min)
❖ Cultural Layer: ‘Ike kupuna	(30 min)
❖ Sharing of Existing Conditions Maps & Gathering Input	(30 min)
❖ <u>LUNCH</u>	(30 min)
❖ Visioning Exercise (Small Group) & Sharing (Large Group)	(80 min)
❖ Project Timeline & Next Steps	(5 min)

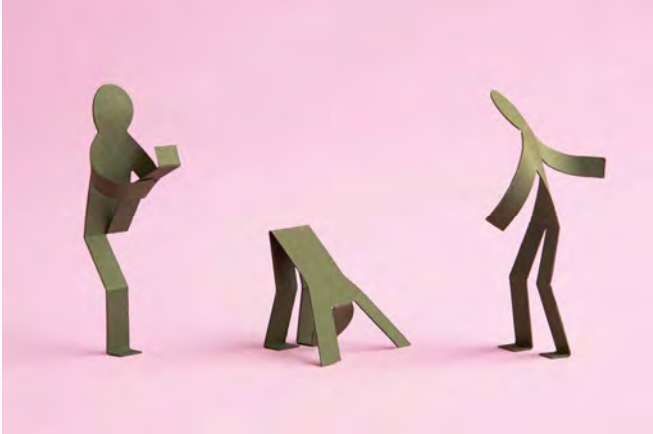
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Housekeeping & Ground Rules

- Sign-in Sheets
- Handouts
- Cell phones
- Bathrooms
- Stand up/stretch
- Questions?
- Lunch



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5

Connection To 'Āina

INDIVIDUALLY

- Land was the center and basis of life; our relationship to land is directly related to the health and well-being of native Hawaiians
- Land gives us a sense of identify. Land is foundational, fundamental.
- Our 'ohana lived and worked on the land, they put their energy into the land and the land provided sustenance and life...and in the end, their spirits return to the land...generation after generation. Just as we aloha our 'ohana, we aloha 'āina.
- Aloha 'Āina is expressed by the work we put into the land, attitudes of respect, returning gifts to the land, beautifying it, and using it properly.
- 'Āina is that which feeds; it provides spiritual and material sustenance – food, shelter over your head, and a place to plant your feet and stand firm.
- CARING FOR THE LAND RESTORES THE DEEP CONNECTION THAT NATIVE HAWAIIANS HAVE TO THEIR ANCESTRAL LANDS.

AS A HOMESTEAD COMMUNITY

- Our actions on the land connect the past and the present in place.
- Our actions on the land provide opportunities for us to work together, in the sprit of cooperation; our communities are strengthened through our interdependence.
- Our actions on the land provide opportunities to transmit cultural knowledge to future generations. It provides space where residents can adapt traditional modes of subsistence, organize action, and practice the arts, hone skills.

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6

Prince Kūhiō's Life and Times

- Prince Kūhiō was born 100 years after Cook when the impacts on native Hawaiians were clear. Population declined to 20,000.
- Both of his parents were from ali'i lines. He was orphaned when he was 13 years old and hanai'd by his Aunt, Queen Kapi'olani and her husband, King Kalākaua. As one of the heirs to the throne, Kūhiō was sent to good schools in the mainland and abroad.
- He was 22 years old when the Kingdom was illegally over-throned.
- In his lifetime, he faced the urgency and despair of his people on the brink of extinction.

TENEMENT AT PALAMA, HONOLULU.

Prince Kūhiō
(1871-1922)
Congress
(1902-1922)

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7

Kūhiō's "Rehabilitation" Plan


THE LOGIC OF THE ACT

- The Hawaiian race was facing extinction. The situation required intervention, or "rehabilitation."
- Kūhiō rallied the Hawaiian leaders of the time around a "rehabilitation" plan. "After extensive investigation and survey...it was found that the only method in which to rehabilitate the race was to place them back upon the soil."
- The Hawaiians didn't belong in tenement housing—they were a seafaring and agricultural people—they thrived outdoors.
- Kūhiō believed that Hawaiians had a profound connection to the land; if that connection to the land was restored, it would restore the people.
- Hawaiians needed land, but they couldn't own it because Hawaiians were too generous and naïve to the concept of private property. Lands needed to be inalienable.
- The HHCA created the Hawaiian Home Lands Trust (>200,000 acres) as a land base for Hawaiians in perpetuity.
- "By placing the Hawaiians upon the soil, it is certain that they will again retain their former vitality and in the course of years the race will increase and become a majority element in the land of their birth."


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Special Status of HHCA



The Admissions Act

- As a condition of statehood, the Admissions Act required the adoption of the HHCA as a provision of the State Constitution.


State Constitution, Article XII (Hawn Affairs)

- Section 1: Adopts the HHCA as a law of the State (Legislature to provide “sufficient sums”)
- Section 2: The State and its people accept, as a compact with the United States:
 - That the HHCA was made a part of the State Constitution; and
 - The State and its people further agree and declare that the spirit of the HHCA—the continuance of Hawaiian Homes projects for the further rehabilitation of the Hawaiian race shall be faithfully carried out.

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1921 Hawaiian Homes Commission Act


- Passed by Congress on July 9, 1921, the HHCA provides for the rehabilitation of the native Hawaiian people through a government-sponsored homesteading program.
- Native Hawaiians are defined as individuals having at least 50 percent Hawaiian blood.
- DHHL provides direct benefits to native Hawaiians in the form of 99-year homestead leases at an annual rental of \$1.
- In 1990, the Legislature authorized the Department to extend leases for an aggregate term not to exceed 199 years

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Transfer of DHHL East Maui Lands



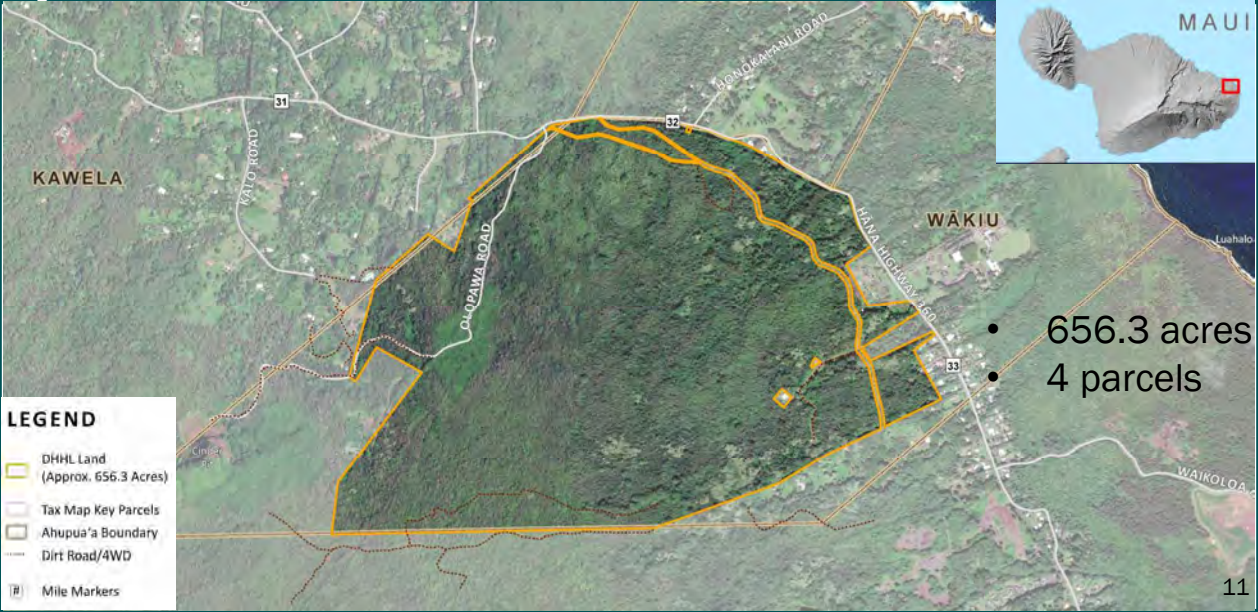
- Since 1921, there has been a long history of use and misuse of DHHL lands
- Governor Waihe'e wanted to resolve the controversies and claims surrounding the Territory & State's unauthorized and uncompensated use of DHHL lands
- A 1995 settlement of claims sought to "make the trust whole" again by transferring 16,815 acres from the State to DHHL's land inventory
- Wākiu, Ke'anae, and Wailuanui lands were included in this transfer
- Lineal descendant preference is a concern.

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DHHL East Maui: Wākiu

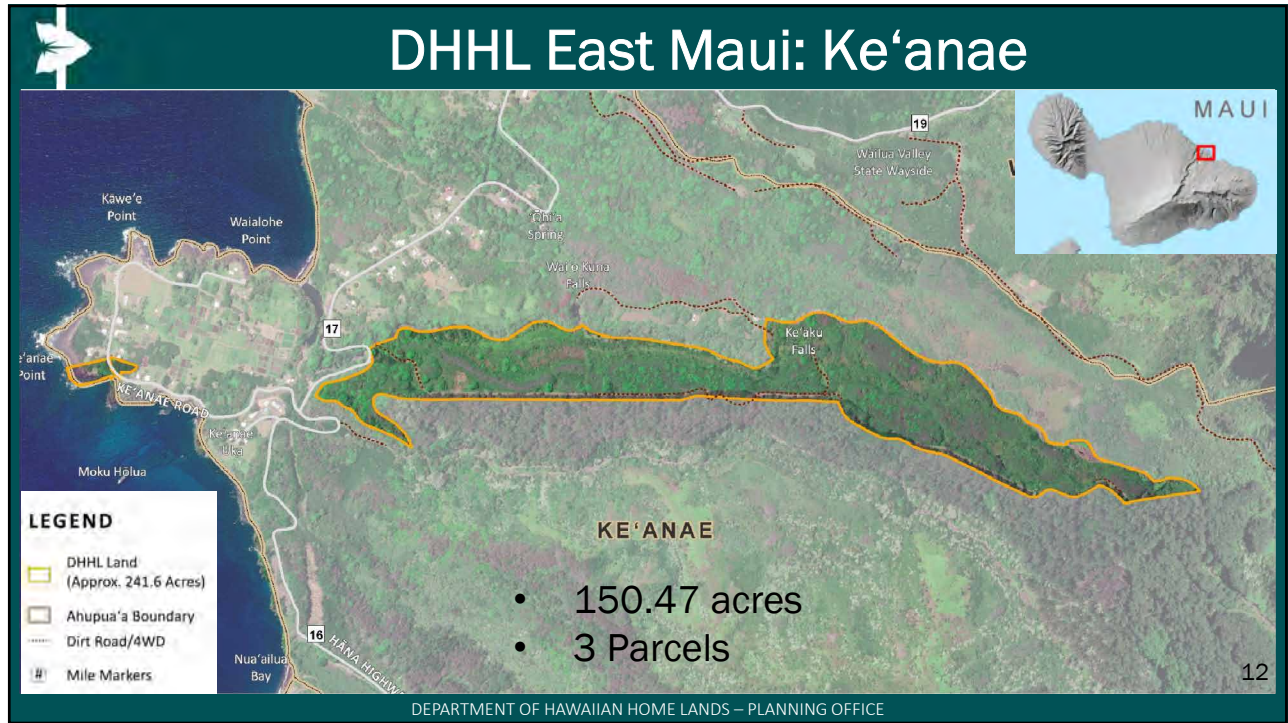


- 656.3 acres
- 4 parcels

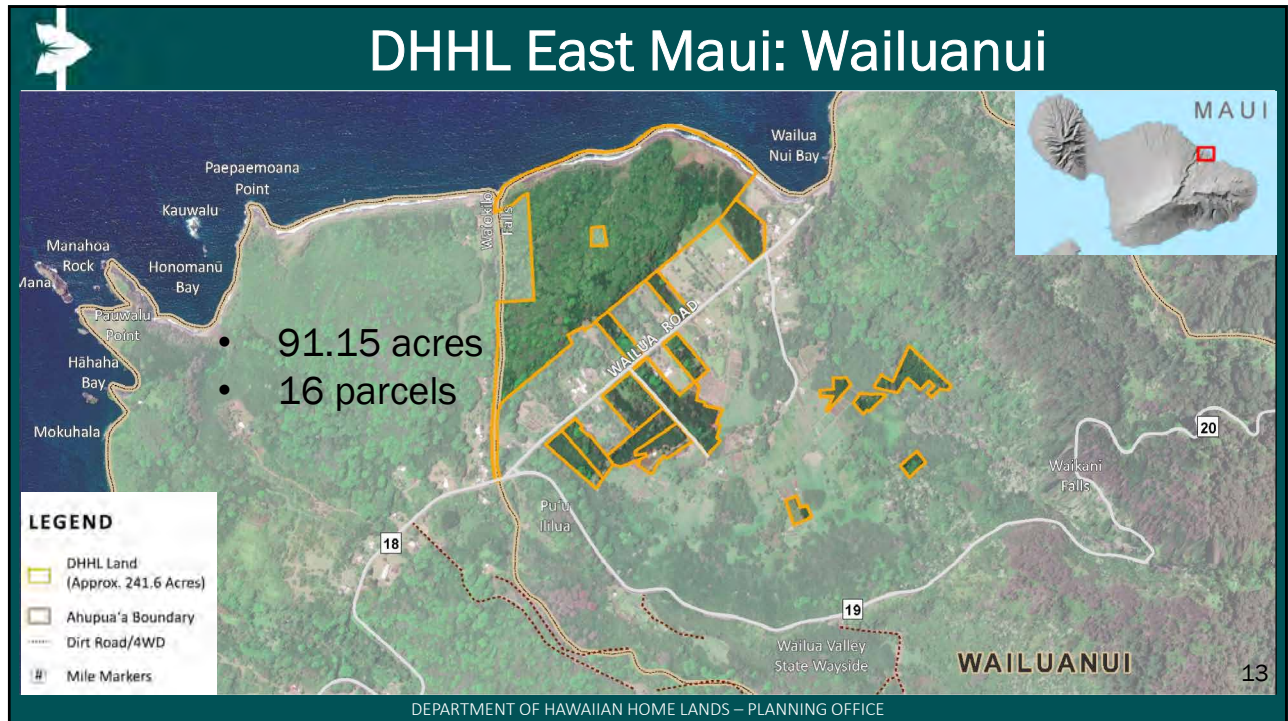
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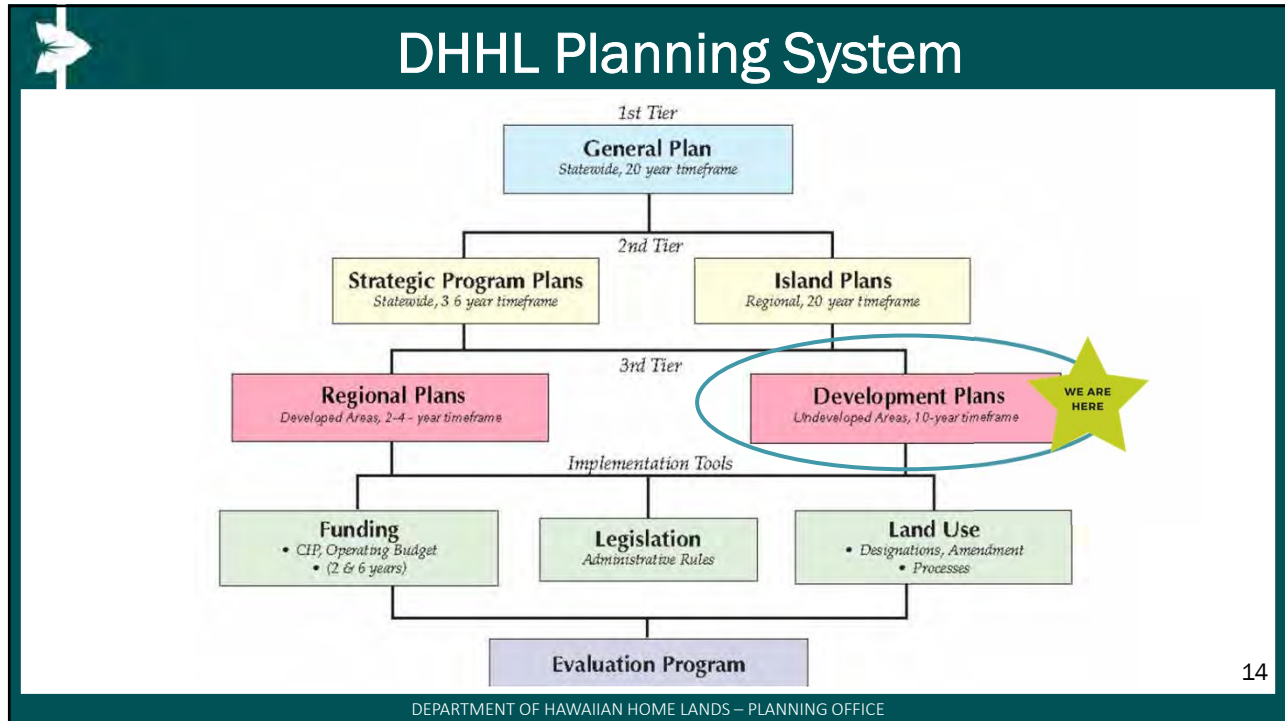
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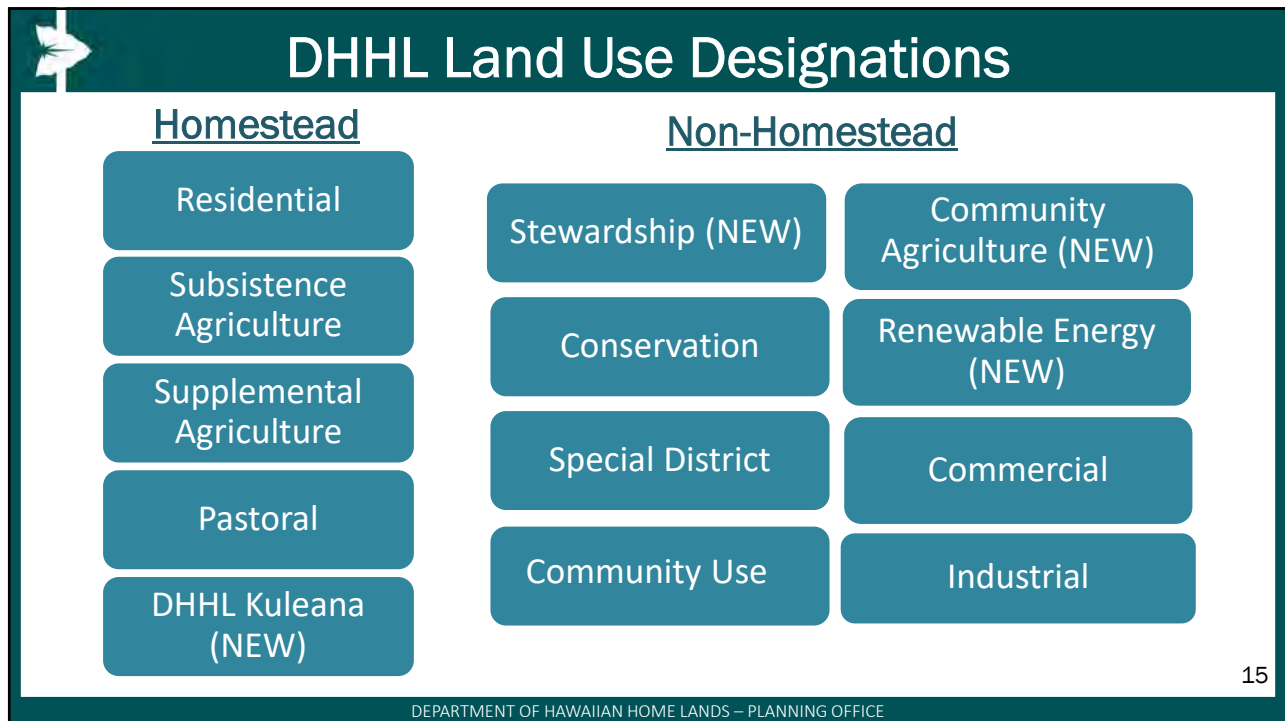
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DHHL East Maui Master Plan & EA

Master Plan:

- Master Plan will assess existing conditions; identify developable lands; engage beneficiaries to identify land uses, and homestead lot type, size, and configurations.
- Master Plan outcome will be a land use map.

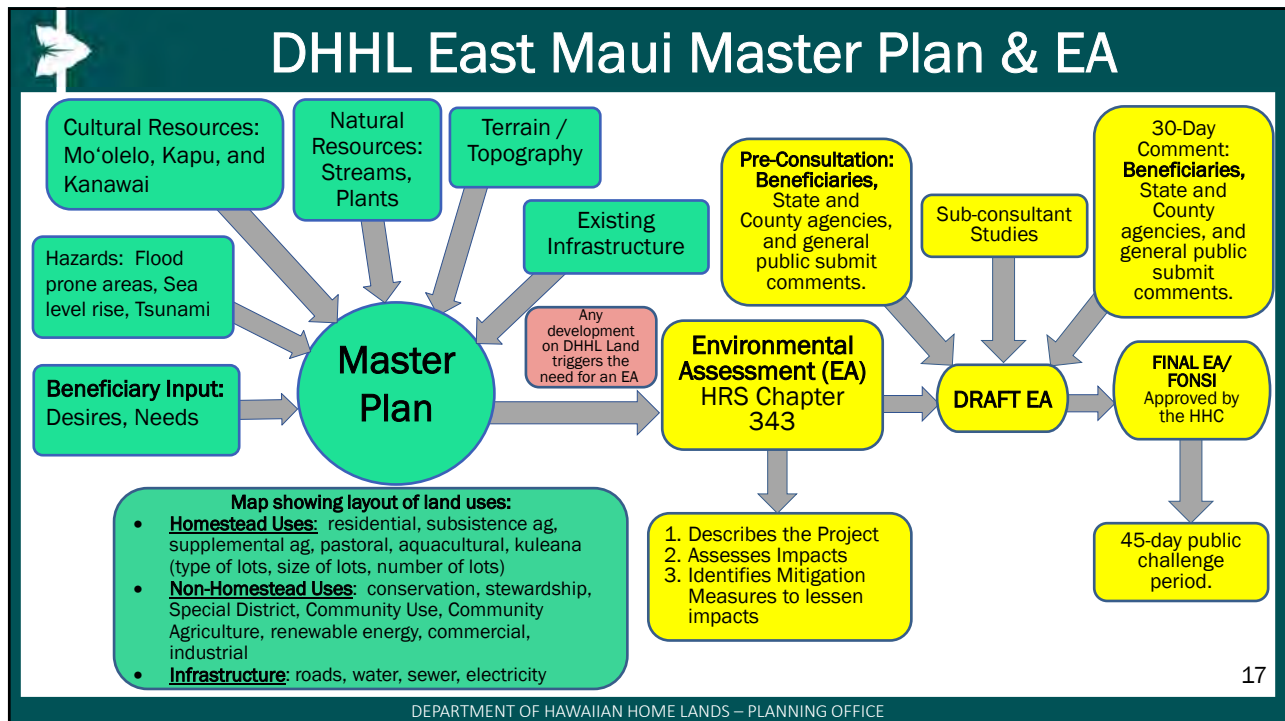
Environmental Assessment (EA):

- The EA is required per Hawai'i Revised Statutes Chapter 343.
- Disclosure document that identifies potential impacts from the Project and proposes mitigation measures to lessen those impacts.
- Federal, State, County agencies, and public can comment during a 30-day public comment period.
- Requires HHC Approval of Master Plan and EA.

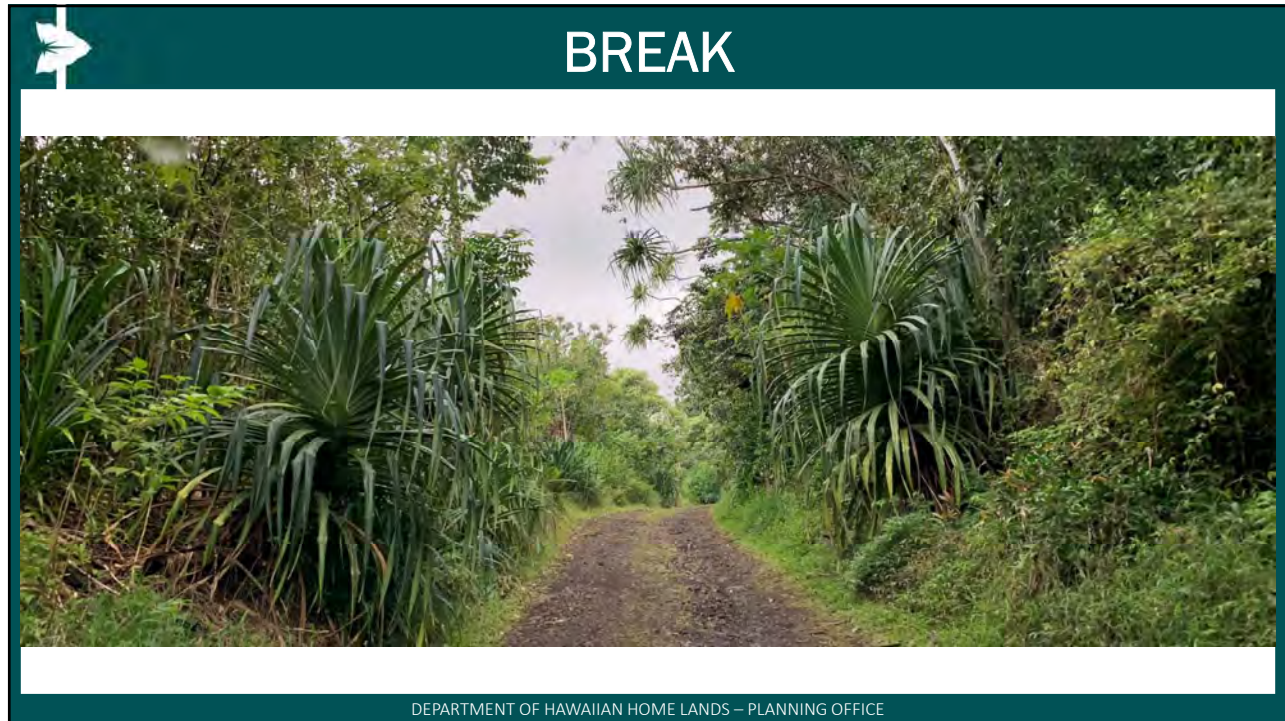
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19


The Cultural Layer - 'Ike Kupuna

- Edith Kanaka'ole Foundation (EKF)
- Honuiaiākea Process
 - Researched indigenous knowledge collections to identify
 - Oli (Chants); Ka'ao (Legend, a tale of ancient time), Mele (song)
 - Snap-shot of natural systems—raw data of Ancestral Ecological Knowledge, 'Ike Kupuna
 - Current resource managers (farmers, fishermen), kupuna
 - Pull out relevant information; add current information
- Kapu and Kānāwai
 - Kapu = the natural elements that are so important in this ecosystem, that we hold them sacred. Since they are sacred, they cannot be changed.
 - Kānāwai = the guidelines, the protocols, the laws that utilize 'ike kupna to live in harmony with our ecological conditions to uphold the principles and sacredness that are the Kapu.
 - How to apply indigenous place-based approach to effective management of critical resources that sustain life in Wākiu. Foundation of 'Ike Kupuna.

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‘Ike Kupuna (Ancestral Knowledge) Sources

- **Hulihia ke au ka papahonua o ka moku** is an oli that connotes the process of the landscape going through a process of growth, healing of a scarred land, and biological organisms adapting to the changes. This oli pays close attention to the elements that are necessary for growth to occur.
- **Mele no Kapo** is an oli that observes the elemental inner workings and functions. It was selected to look specifically at the function of water and the recognition of environmental changes.
- **Puhi o Laumeki** is a Ka’ao or story that speaks of a legend of Laumeki that takes place and acknowledges many of the place names located in and near Wākiu that helps the community identify and relate with the different place names.

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KAPU – SACRED KUPUNA DIRECTIVES	KĀNĀWAI – RESOURCE MANAGEMENT LAWS
<p><u>Kapu Kawahikaua-Kawaipapa:</u> The continuous flow of water from the po’o wai to the muliwai or from the pahu a Kanaloa (aquifer) to the punawai (springs) in Hāna is held sacred and will be preserved.</p>	<ol style="list-style-type: none"> 1. Need to know the origin of the waterways, water cycles, the path of water to the exit. 2. The natural water cycle of Hāna needs to be preserved. 3. Development must not interrupt waterflow. 4. Ensure that water sources are abundant with food and needed nutrients for land and kanaka. 5. It is important to pass down the knowledge of the habitats of the fish and limu to the next generation through place-based experiences and mele such as ‘Oli helu – counting the names of the waterways in a mele. 6. Activities that are happening ma uka affect the community ma kai. Therefore, prevention of contamination, deforestation, and water draining invasive species are first priority issues that must be addressed. Replanting, ceremony to restore the natural water cycles are activities that help to address accountability.
<p><u>Kapu Pōhaku Kū:</u> Affirms the sacred identity of the pōhaku (stones), or the earth based objects such as pu’u (hills), heiau, cliff sides, etc. The pōhaku that needs to be preserved should refer to the practical and sacred function of the pōhaku.</p>	<ol style="list-style-type: none"> 1. Prohibit the tampering of pōhaku based phenomenon or man-made ancestral structures. 2. It is important to establish a framework of education and information on pōhaku based phenomenon in Hāna. <p style="text-align: right;">20</p>

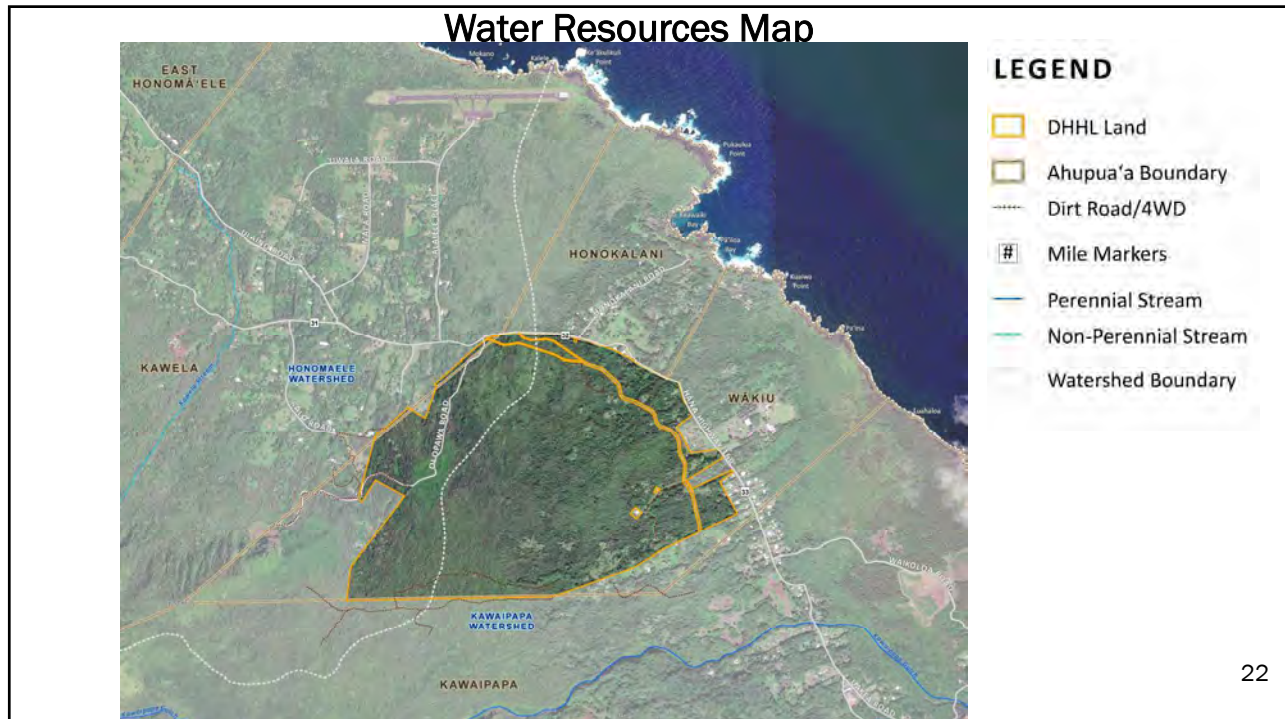
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KAPU – SACRED KUPUNA DIRECTIVES	KĀNĀWAI – RESOURCE MANAGEMENT LAWS
<p><u>Kapu Hina l'a e ke Kina'u</u> Schools of the young aku affirms the sacredness of natural cycles, lunar cycles, and seasonal cycles. Development should not hinder seasonal environmental phenomenon.</p>	<ol style="list-style-type: none"> 1. Establish the balance between natural growth and ecosystems and man-advanced development. 2. Resource management information should flow from generation to generation without divergence or obstruction. 3. Natural connections of this area needs to be established and affirmed, such as: connections from the shoreline to Ha'aluea; connections between ma uka and ma kai; and connections between life stages of fish, limu, trees
<p><u>Kapu Hoakalei</u> a lei of reflections or shadows. Genealogy and the passing down of knowledge is sacred. The passing of generational knowledge should not be hindered; it should be encouraged in newly formed communities.</p>	<ol style="list-style-type: none"> 1. Establish a framework of family practice and knowledge perpetuation and succession. 2. Create a central physical space to support community gathering and family in a central hale or kauhale.

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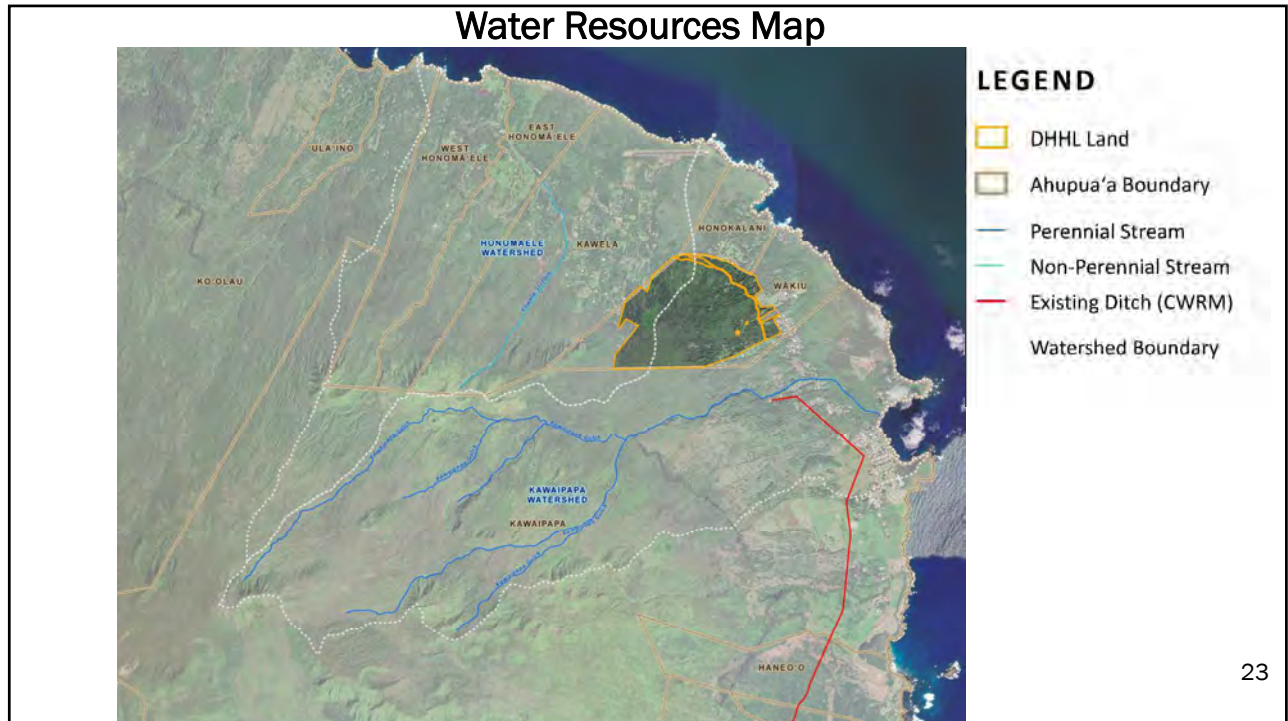
DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE

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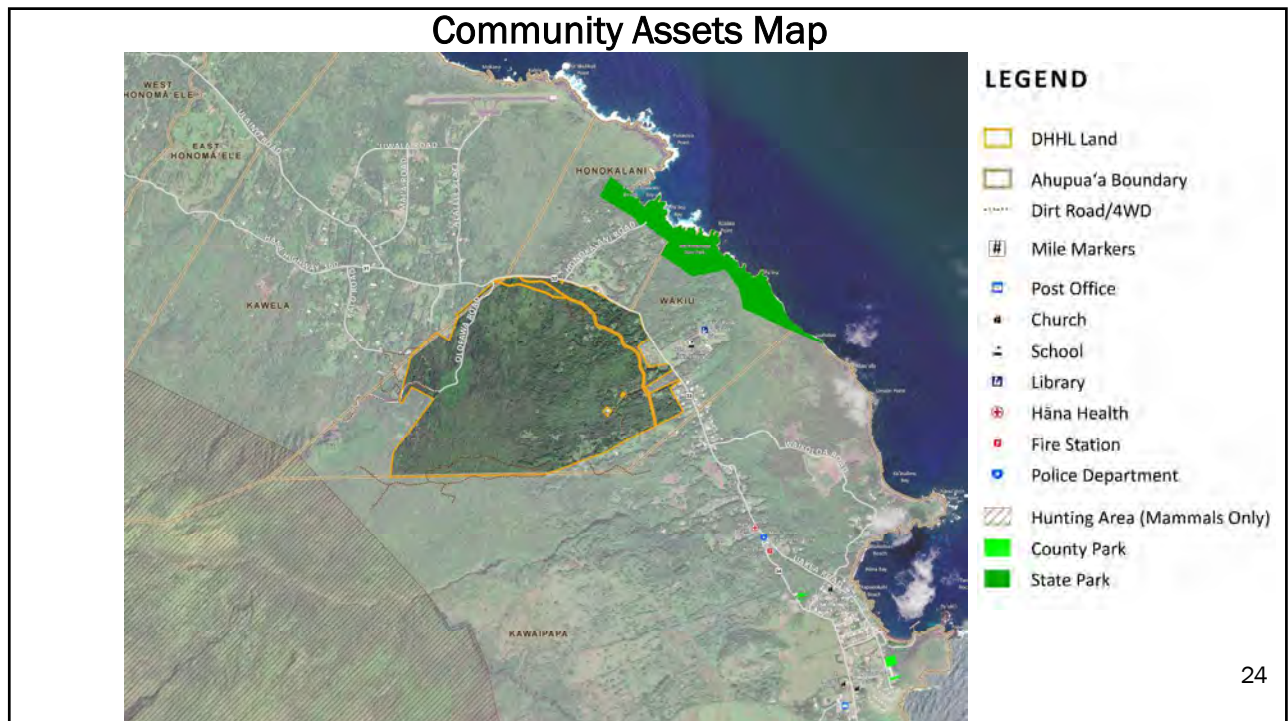


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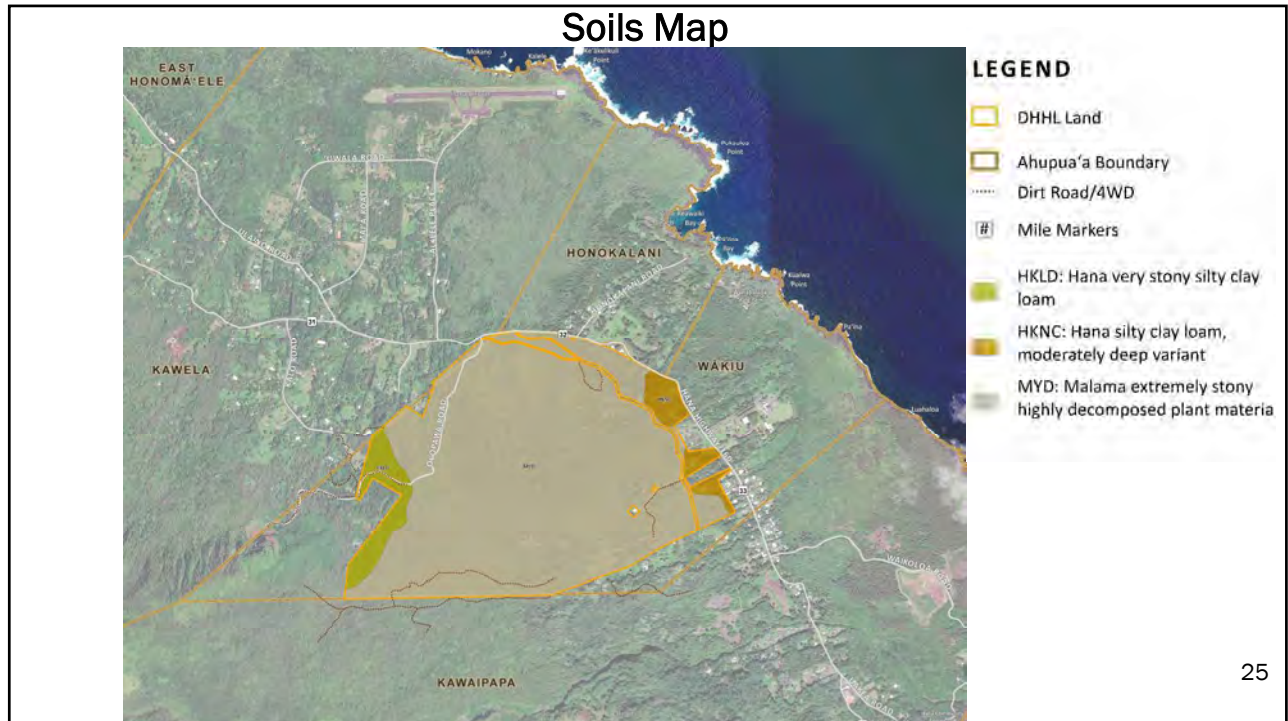
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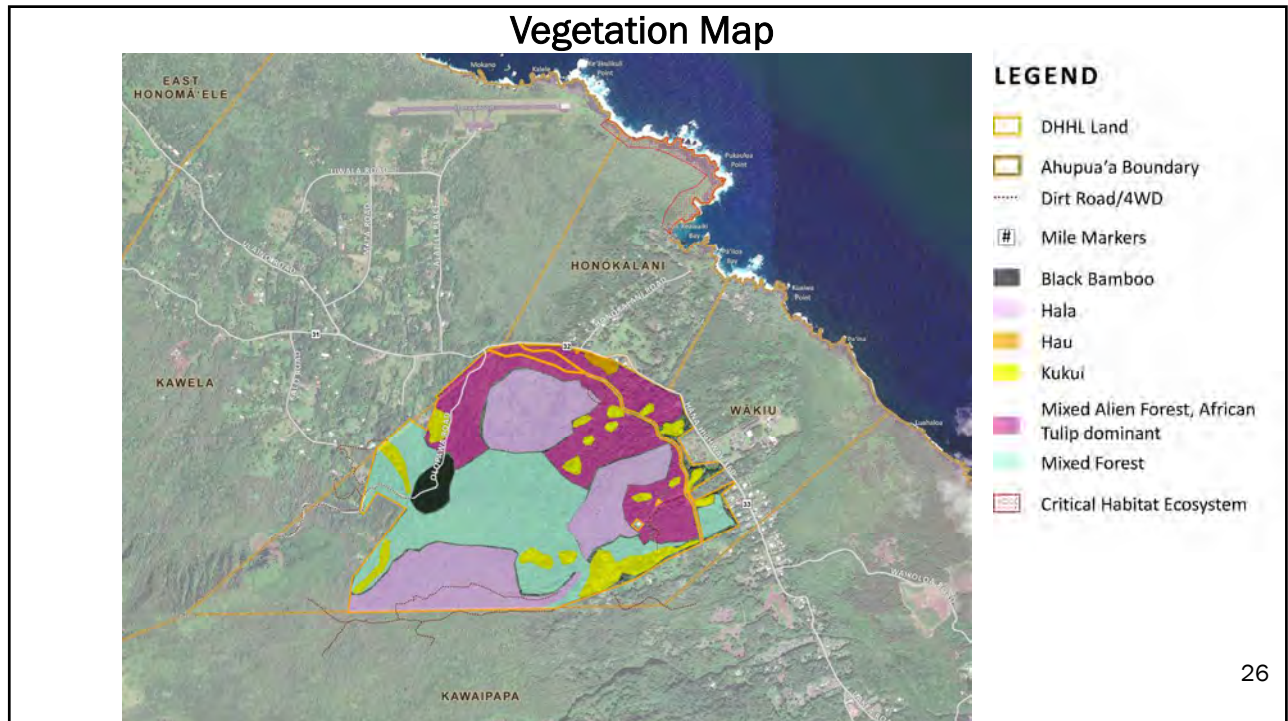
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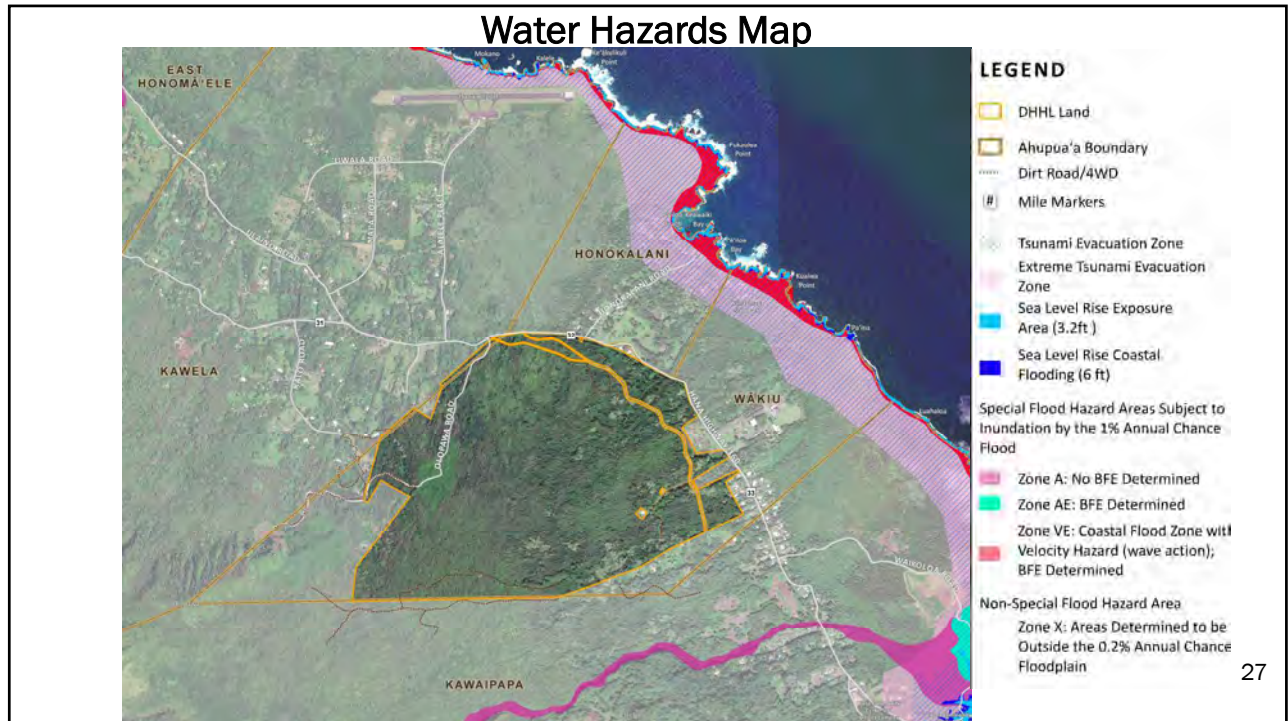
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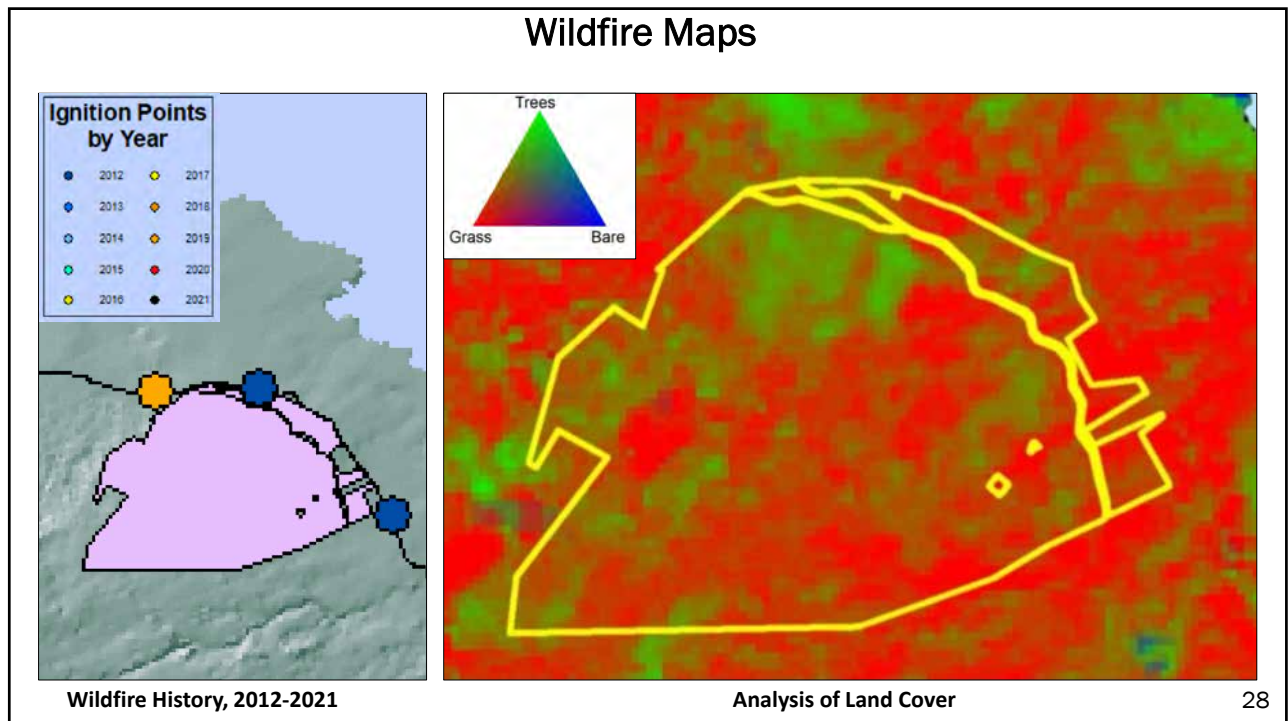
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 **LUNCH**



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 **Master Plan: Visioning Exercise**


Question #1:

- What do you envision for Wākiu in 10-20 years?

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Master Plan: Visioning Exercise


Question #2:

- What are the special qualities of Wākiu that you want to protect and preserve?

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Master Plan: Visioning Exercise

Question #3:

- What are the concerns about change for Wākiu?

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DATE	MEETING / CONSULTATION TYPE	TOPIC
Sept. 9-10, 2023	Planning Session #1	Introduction to Planning Process, Existing Conditions, Visioning
Oct. 15, 2023	HHC Meeting #1 <i>Community Meeting in Hana</i>	Master Plan Update Presentation
Oct. 28-29, 2023	Planning Session #2	Design Charette for Master Plan Alternatives
Jan. 27-28, 2024	Planning Session #3	Share Proposed Draft Master Plan
Jan. 2024	Beneficiary Consultation <i>30-Day Comment Period</i>	Proposed Draft Master Plan Review
Feb. 2024	HHC Meeting #2	Present Proposed Draft Master Plan

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Project Timeline

DATE	MEETING / CONSULTATION TYPE	TOPIC
May 2024	Draft EA Early Consultation <i>30-Day Comment Period</i>	Scoping
Nov. 2024	HHC Meeting #3	HHC Authorization to publish DEA-AFONSI
Dec. 2024	Draft EA Publication <i>30-Day Comment Period</i>	Notice of Availability to Comment on DEA
March 2025	HHC Meeting #4	HHC Approval of Master Plan and FEA-FONSI
April 2025	Final EA Publication	FEA-FONSI Publication

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DEPARTMENT OF HAWAIIAN HOME LANDS – PLANNING OFFICE

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Contact Us



DEPARTMENT OF HAWAIIAN HOME LANDS

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G70 Team:

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CONFERENCE REPORT

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TO:	DHHL		
FROM:	G70		
DATE:	September 10, 2023	LOCATION:	Hāna High School Cafeteria
PROJECT:	DHHL East Maui Master Plan and EA	PROJECT NO:	222033-01
SUBJECT:	Planning Session #1 – Wākiu	NO. OF PAGES:	3
THOSE PRESENT:	G70: Kawika McKeague, Rene Matsumura, Michele Leong, Jeff Seastrom, Pi'ilani Smith DHHL: Julie Cachola	Community members: 54	

SUMMARY:

The Planning Session #1 for Wākiu was held on September 10, 2023 at Hāna High School Cafeteria. The meeting began at approximately 10:16am. Julie opened the meeting and Uncle Sam Kalalau gave the pule. Julie confirmed that this is not a one-off meeting, but a series of meetings. She turned it over to Michele who provided introductions to DHHL and G70. She discussed the purposes of the meeting:

- Review Hawaiian Homes Commission Act
- Identify DHHL East Maui lands
- Share DHHL planning process
- Share East Maui Master Plan & EA process
- Establish a cultural foundation
- Share maps of existing conditions
- Gather input from YOU to identify vision components for our Master Plan
- Build a relationship with community members

Michele then discussed the agenda and housekeeping then turned it over to Julie. Julie began with a discussion on the connection to 'Āina. What is our relationship to 'āina? How we love our family is how we love our land. It's in our DNA. All of us are descendents of those Hawaiians that survived the population decrease.

Julie discussed the life of Prince Kuhio and his Rehabilitation Plan, which paved the way for the creation of the Hawaiian Homes Commission Act (HHCA). She discussed the Special Status of HHCA and its adoption into the State Constitution. She discussed the administrative rules and the desire for lineal descendents to remain on their lands. Julie then covered how DHHL obtained East Maui Lands via a transfer from the State in 1995. This included lands in Ke'ānae, Wailuanui, and Wākiu. She then walked through maps of East Maui lands:

- Ke'ānae: Three (3) parcels totaling 150.47 acres.
- Wailuanui: Sixteen (16) parcels totaling 91.15 acres.
- Wākiu: Four (4) parcels totaling 656.3 acres.

Julie then started a discussion on the three-tiered planning system at DHHL. This project is a Development Plan, a second-tier plan. As DHHL is allowed to zone their own lands, Julie covered the various land use designations at DHHL. Land use designations are split into two categories: Homestead uses, and non-homestead uses:

- Homestead uses:
 - Residential
 - Subsistence Agriculture
 - Supplemental Agriculture
 - Pastoral
 - DHHL Kuleana (NEW)

- Non-Homestead uses:
 - Stewardship (NEW)
 - Conservation
 - Special District
 - Community Use
 - Community Agriculture (NEW)
 - Renewable Energy (NEW)
 - Commercial
 - Industrial

No need qualification letter for subsistence agriculture because housing is not a requirement. Kuleana lands are a “fast track” to getting on the land faster, but with less DHHL intervention.

- **Where does churches and parks and stuff come under?**
 - Usually under community use.

Julie turned it over to Michele, who introduced the Project. First part is the Master Plan, which is more of the fun and creative part. These sessions will result in a land use map. The second part is the Environmental Assessment (EA), which is a more technical document that assesses potential impacts.

- **The Master Plan that G70 is doing, it's already in the Maui Island Plan. Why is DHHL spending all this money to redo something that's already been done?**
 - The Maui Island Plan was finalized in 2004, which is nearly 20 years ago. While it can definitely be used as a basis, it doesn't provide a deep dive into East Maui lands.
- **So where was the consultation in 2004?**
 - Blossom: When they came to Maui in 2004, had several beneficiary consultations. There, we tell the dept what we want to see on our 'aina. Very high level. In 2004, people from Hana, and Maui.
 - Now we talk about the development plan. This is the nitty gritty discussion. Where the water come from, where community use, maybe you like one kupuna services.
 - If we took this process to Lahaina, would it look the same?
 - So thats what we're doing now. Do a serious dive into what you want to see in YOUR community. It's important for you to come to the meetings and contribute.

The first planners of this land were Hawaiians. For this plan, DHHL wanted to lay a cultural foundation first. 'Ike Kupuna is embedded in our oli, ka'ao, and mele. This is developed via the Honuiaiākea Process through EKF. The 'ike kupuna reveals how the 'aina and resources were in a particular area hundreds of years ago. The process results in Kapu and Kānāwai. Kapu are the natural elements that are so important in this ecosystem, that we hold them sacred. Since they are sacred, they cannot be changed. Kānāwai are the guidelines, the protocols, the laws that utilize 'ike kupuna to live in harmony with our ecological conditions to uphold the principles and sacredness that are the Kapu. This process examined three sources of 'ike kupuna and produced kapu and kānāwai unique to Wākiu.

BREAK FOR LUNCH (30 mins)

Following lunch, participants were separated into three groups, each with a facilitator and notetaker. They were asked to discuss three questions. Following the exercise, each group selected one speaker to share mana'o from the breakout sessions.

1. Question 1: What do you envision for Wākiu in 10-20 years?

- a. Group 1: Keep Hana ohana in Hana; enough room to farm for supplemental income or to give away; community center for events or parties; enough acreage for multi-generational houses or ohana units; self-sustainability re: water catchment/PV; food hub and community gardens; educational spaces for preschool to college age; library; media/business center w/ fast internet; medical services;
- b. Group 2: New striving community, a mix of agriculture and community center; playground; walk-in fridge and freezer; ice house; swimming pool & gym; business & economic center; built to standards so it's an emergency shelter; housing for 7 generations; kupuna care; child care; kauhale-style living; ohana community sense of place, but individual living; gardening and farming for bartering, giving and self-sustaining; priority for

East Maui and displaced Ohana who can come back home; job creation to stay in Hana and not drive out to town; off-the grid PV/water catchment houses; conservation of terraces & bringing back so it's functional and repurposing the area.

- c. Group 3: community center which has space for cultural practices, farming, production of value-added products; utilizing nature = wind, rain for energy production; slaughter house; medical services; Hana creates their own policy to tell HHC this is what Hana expects.

2. Q2: The fulfillment of this vision will require a strong community, how will the community come together?

- a. Group 1: need leaders; financial support; transparency; resiliency; respect & aloha; input into the DHHL general plan, multi-generational resources to protect Kupuna and keep lineal descendants in Hāna.
- b. Group 2: terraces, transparency equals trust, resiliency is the ability to stay in hana, respect and aloha for each other, lineal descendants in Hana, Ma ka hana ka 'ike, local resources and programs, governance, work with state/county/federal to make selves known
- c. Group 3: Wakiu CDC, space to hold events, transparency, pilina to this place, meetings

3. Q3: What are the special/important qualities of Wākiu that you want to protect and preserve?

- a. Group 1: sharing resources with each other, respecting each others opinions even if we don't agree, hala products; mamaki tea; train track; native plants and birds. Cultural and historical practices/institutions
- b. Group 2: awa & kalo terraces behind the hala along Hana Highway; community gatherings; ma ka hana ka ike;
- c. Group 3: wai; hala groves; iwi kupuna; train tracks that are historic; heiau; educate keiki for unwritten knowledge; fisherman knowledge; kupuna should be interviewed to capture knowledge.

After the shareback, Rene discussed the Master Planning Process. The results from today's exercise will be worked into themes, which will inform vision and goals. Then will be exercises for determining programming and land use, in conjunction with analyses on site opportunities and constraints. This will inform a physical plan which will be the basis for the Master Plan and EA. Michele discussed the project timeline for the Master Plan and EA, which is expected to finish in Early 2025. Contact information for the team was provided and the meeting ended at approximately 2:20pm.



CONFERENCE REPORT

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TO:	Department of Hawaiian Home Lands (DHHL)		
FROM:	G70		
DATE:	October 29, 2023	LOCATION:	Hāna Elementary and High Cafeteria
PROJECT:	DHHL East Maui Master Plan & EA	PROJECT NO:	222033-01
SUBJECT:	Planning Meeting #2 Wākiu	NO. OF PAGES:	7
THOSE PRESENT:	G70: Kawika McKeague, Rene Matsumura, Ryan Char, Jeff Seastrom, Kahealani Winchester, Pi'ilani Smith	Participants: 25	

SUMMARY:

Planning Meeting #2 Wākiu for the DHHL East Maui Master Plan and EA project was held on October 28, 2023 at Hāna Elementary and High Cafeteria. The meeting began at approximately 10:14am. Aunty Lehua provided the pule.

Jeff began with introductions of the DHHL and G70 teams. He discussed the purpose of the meeting and general housekeeping. Julie discussed the DHHL planning system and the DHHL East Maui lands. She introduced the Honuiaiākea process and Kawika discussed the kapu and kānāwai from Wākiu.

Jeff discussed the existing studies that were completed to date: biology, hydrogeology, archaeology and cultural genealogy, wildfire, etc. Kawika discussed the shared goals/values that emerged from the first workshop.

1. Provide for lineal descendants
2. Perpetuate cultural practices
3. Promote Connectivity
4. Restore the 'Āina/Protect Natural Resources
5. Develop Agriculture

Q: Can we get a copy of the powerpoint?

A: Yes, it will be available on the website, and if we have your email address from the sign in sheet, we can send you a copy.

Rene discussed the planning process and different DHHL land use designations. There are homesteading and non-homestead uses. Julie discussed the Kuleana homesteading program. Ryan provided information on the infrastructure involved with certain types of land use designations.

BREAK FOR LUNCH

A polling exercise was conducted during lunch. Each participant was given seven (7) sticky dots and asked to use their dots to vote on the following:

1. Non-Homestead Use (3 dots):

- | | |
|--------------------------|------|
| a. Community Use | (24) |
| b. Community Agriculture | (19) |
| c. Renewable Energy | (21) |
| d. Conservation | (1) |
| e. Commercial | (4) |
| f. Industrial | (3) |

2. Community Uses (3 dots)

a. Meeting Facilities	(2)
b. Park/Playground	(18)
c. Technology Center	(3)
d. Farmer’s Market	(2)
e. Commercial Kitchens	(8)
f. Food Hub	–
g. Emergency Services	(12)
h. Adult Education	–
i. Gathering/Event Space	(14)
j. Youth Activities	–
k. Kupuna Programs	(8)
l. Charter School	(4)
m. Childcare	–
n. Cultural Education	(2)
o. Fitness/Wellness	(2)
p. Other?	(Shopping Center, Youth Employment Hub, Industrial-Boat/Truck Yard, Visitor’s Hub, Gas Station)

3. Land Use and Lot Size (One dot)

a. Residential (Half Acre)	(1)
b. Residential (One Acre)	(7)
c. Subsistence Agriculture (Half Acre)	(1)
d. Subsistence Agriculture (One Acre)	(15)
e. Subsistence Agriculture (Two Acres)	–
f. Subsistence Agriculture (Three Acres)	(16)
g. Pastoral (Five Acres)	–
h. Pastoral (Ten Acres)	(2)
i. Pastoral (Fifteen Acres)	–
j. Pastoral (Twenty Acres)	–

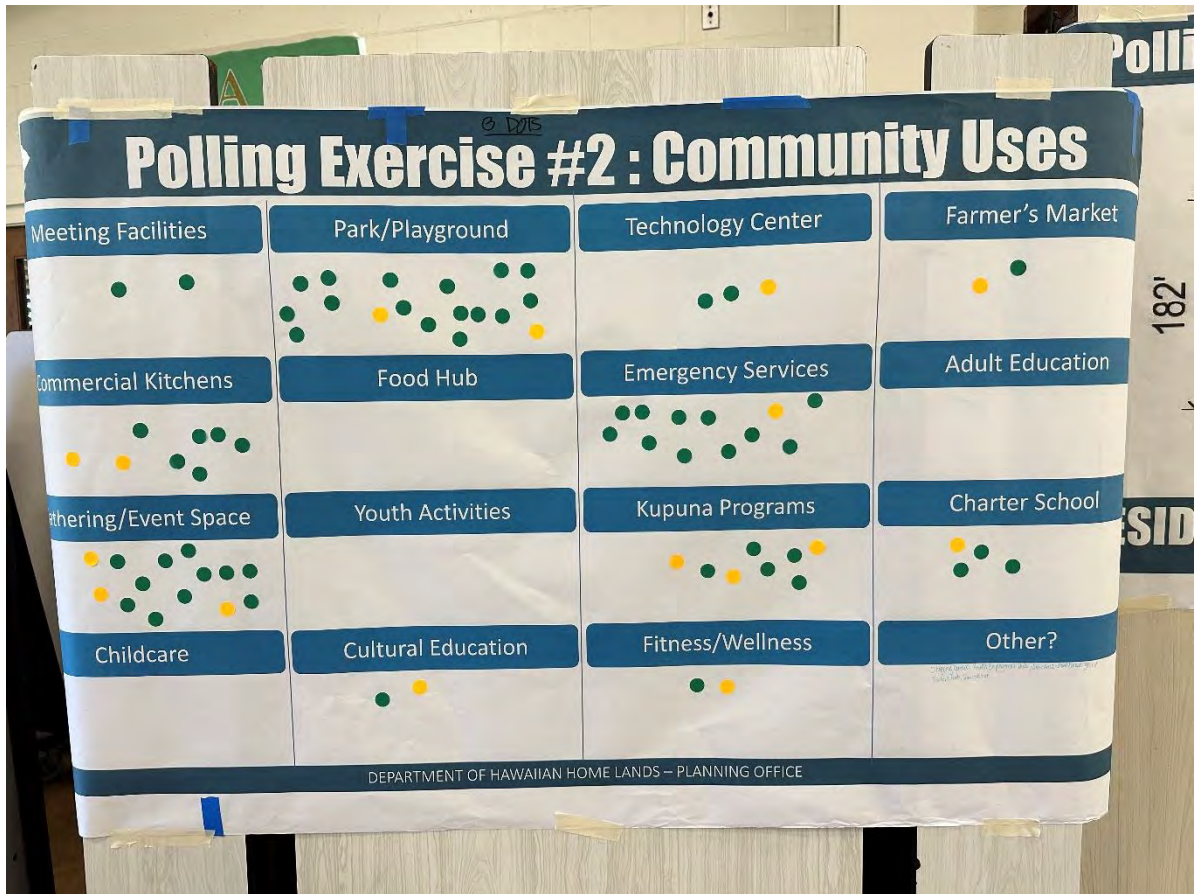
Following lunch, Rene provided the instructions for the group exercise. The room was split into three groups and each group was provided two maps of the DHHL parcels. Foam tiles representing land use designations of varying size were distributed to each group, and the groups were tasked with arranging the tiles to plan their community on the maps.

Following the exercise, each participant visited the maps produced by the other groups. A spokesperson from each group described their process and vision for the exercise. Following each presentation, Kawika discussed the project timeline going forward.

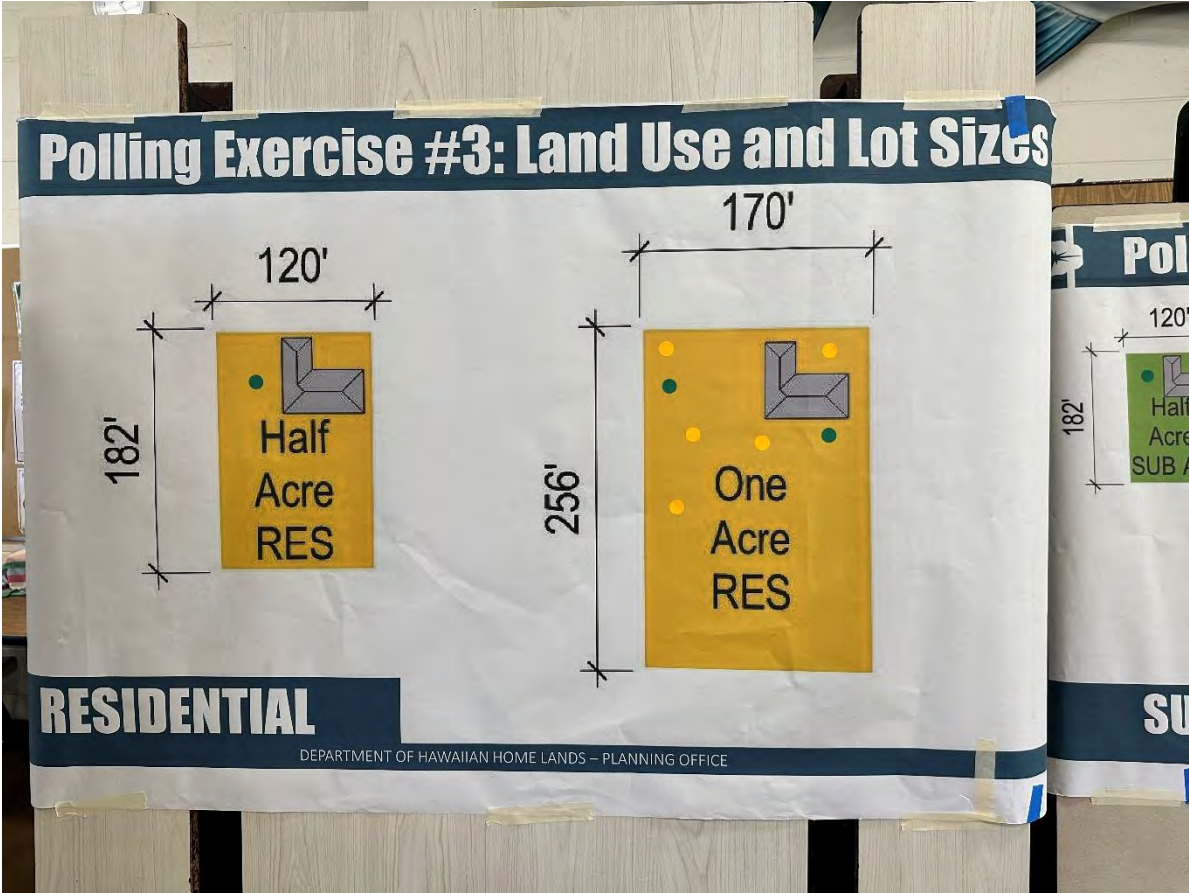
The meeting ended at approximately 2:10pm.



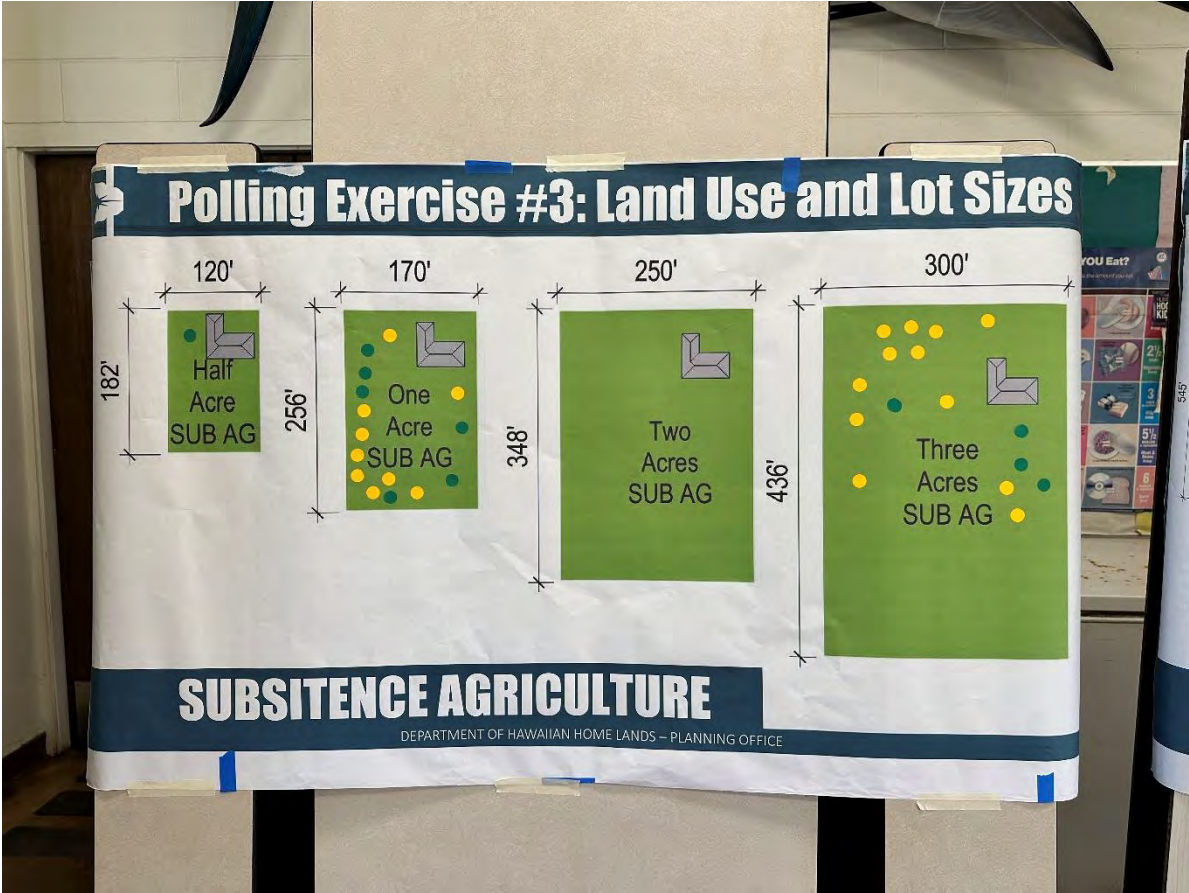
Polling Exercise #1 Results



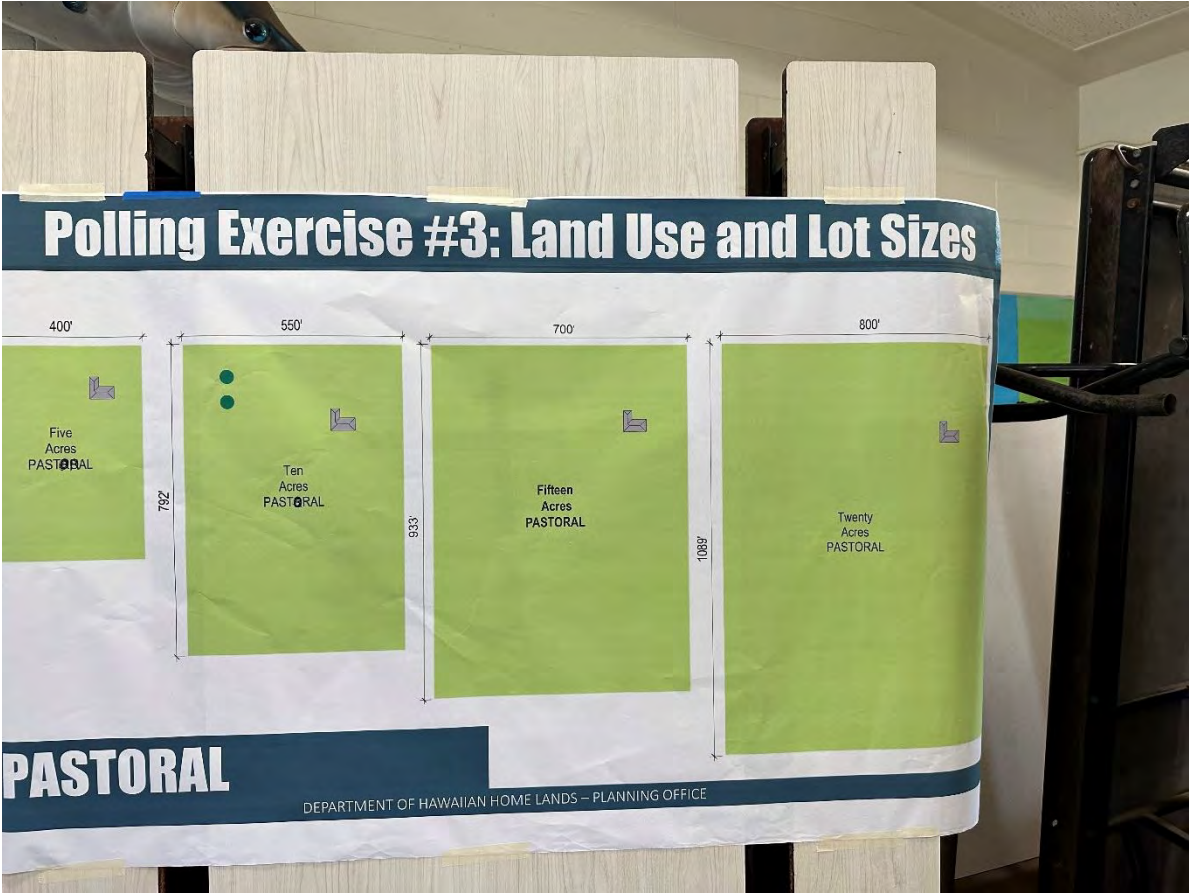
Polling Exercise #2 Results



Polling Exercise #1 Results, Part 1



Polling Exercise #1 Results, Part 2



Polling Exercise #1 Results, Part 3



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TO:	Department of Hawaiian Home Lands		
FROM:	G70		
DATE:	January 28th, 2024	LOCATION:	Hana Elementary and High Cafeteria
PROJECT:	East Maui Master Plan and EA	PROJECT NO:	222033-1
SUBJECT:	Beneficiary Workshop #3 – Wākiu		NO. OF PAGES: 10
THOSE PRESENT:	DHHL: Andrew Choy, Julie Cachola G70: Rene Matsumura, Jeff Seastrom, Ryan Char, Pi'ilani Smith	Participants: 28	

SUMMARY:

The third beneficiary workshop for Wākiu was held on January 28th, 2024 at the Hāna Elementary and High Cafeteria. The meeting began at approximately 10:28am. Alohalani Smith provided the pule.

Julie began with introductions of the project team. Jeff discussed housekeeping and the purpose of today's meeting, which was to present concept plan options which was derived from beneficiary input from the past two workshops. Beneficiaries were also asked to select a preferred plan from the options shared and provided feedback for further refinements. Pi'i discussed the Honuaiākea Process and Jeff described the results of Beneficiary Workshop #1 and Beneficiary Workshop #2. Jeff then presented each of the four land use plans created by the community in Workshop #2:

Rene presented how the land use plan alternatives were synthesized from the four land use plans that the beneficiaries created in Workshop #2. The plans were further refined with existing site features, topography, infrastructure, kukui and hala groves, access, etc.

The makai area was generally defined by the availability of water service based on the elevation of the land to the existing water tank. Having readily serviceable water, this area of approximately 150 acres was identified for Residential Homesteads and Non-Homestead uses such as Commercial, Industrial, and Community uses. Areas above the serviceable water elevation and further away from the water tank were identified for Subsistence Agriculture Homesteads in 1- and 3-acre parcels. The railroad that bifurcates this area is proposed as a greenway with options for gardens, walking and/or biking paths. This produced two mauka options and two makai options:

- **Makai Option 1:** Locates intensive uses near the highway (Industrial, Commercial, Residential Homesteads, Community Use, kupuna housing, parks, etc.). Provides connections between makai and mauka land areas, but hides and protects the Residential Homesteads using the railroad as a buffer.
- **Makai Option 2:** Locates Community Uses further mauka, and into the heart of the site. Park, Community Uses, kupuna housing. Commercial and Industrial Uses are sited by the highway. One proposed access point comes from airport road. It also provides connections between makai and mauka and uses the railroad as a connecting greenway.

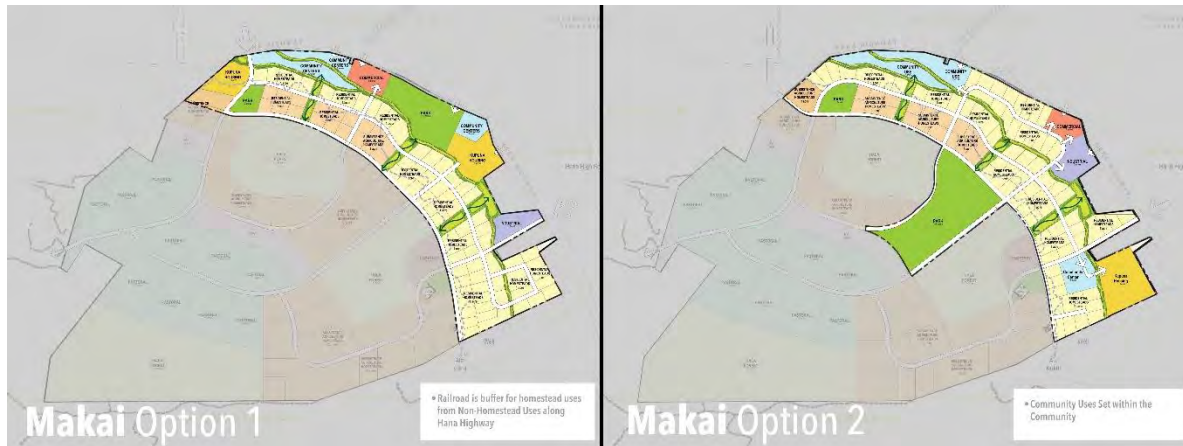


Figure 1. Makai Option 1 and 2 presented to Beneficiaries

Mauka areas lack water infrastructure but have high rainfall and natural resources. Larger parcels were used based on the opportunity for water catchment. Mauka options started with the preservation of the hala forests, as outlined through the Honuaiākea Process. Mauka lands options had the most variation on the number of homesteads in Wākiu. Pastoral and Subsistence Agriculture Homestead uses were contemplated for mauka lands. To mitigate runoff, Pastoral Homesteads were located mauka of Renewable Energy Uses or Conservation Uses.

- Mauka Option A: Conservation areas were defined by the existing native forests, and Homestead uses were fill in around them. A mixture of Pastoral and Subsistence Agriculture Homesteads were programmed. Additionally a cemetery was identified adjacent to the Hala forest.
- Mauka Option B: This lower development option preserved the most mauka lands in Conservation, extending beyond areas of existing native forests. Pastoral Homestead uses were located in the middle elevation of the site. This option assumed no Subsistence Agriculture Homesteads within this area. Additionally, a cemetery was identified adjacent to the Hala forest.

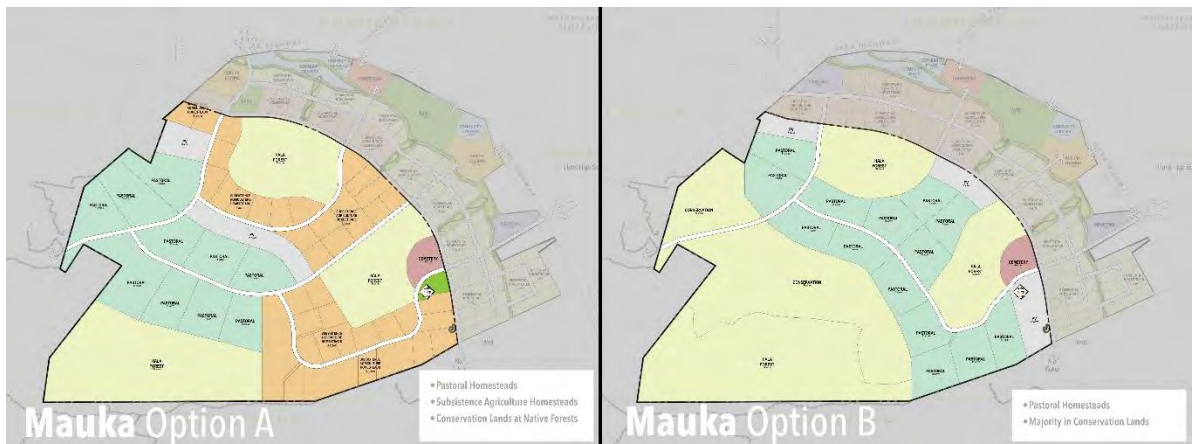


Figure 3. Mauka Option A and B presented to Beneficiaries

- **Is there a possibility of creating an option that both co-exist? For example, Option B has more conservation, but Option A has more homes. Can there be a middle option?**
 - o That is what we will discuss today in small groups. You folks will get a chance to shift, refine, define, etc. the preferred plan.

Voting exercise: Vote for one (1) preferred mauka plan and one (1) preferred makai plan:

- **Makai Option 1: 25 votes**
- Makai Option 2: 2 votes
- **Mauka Option A: 20 votes**
- Mauka Option B: 5 votes

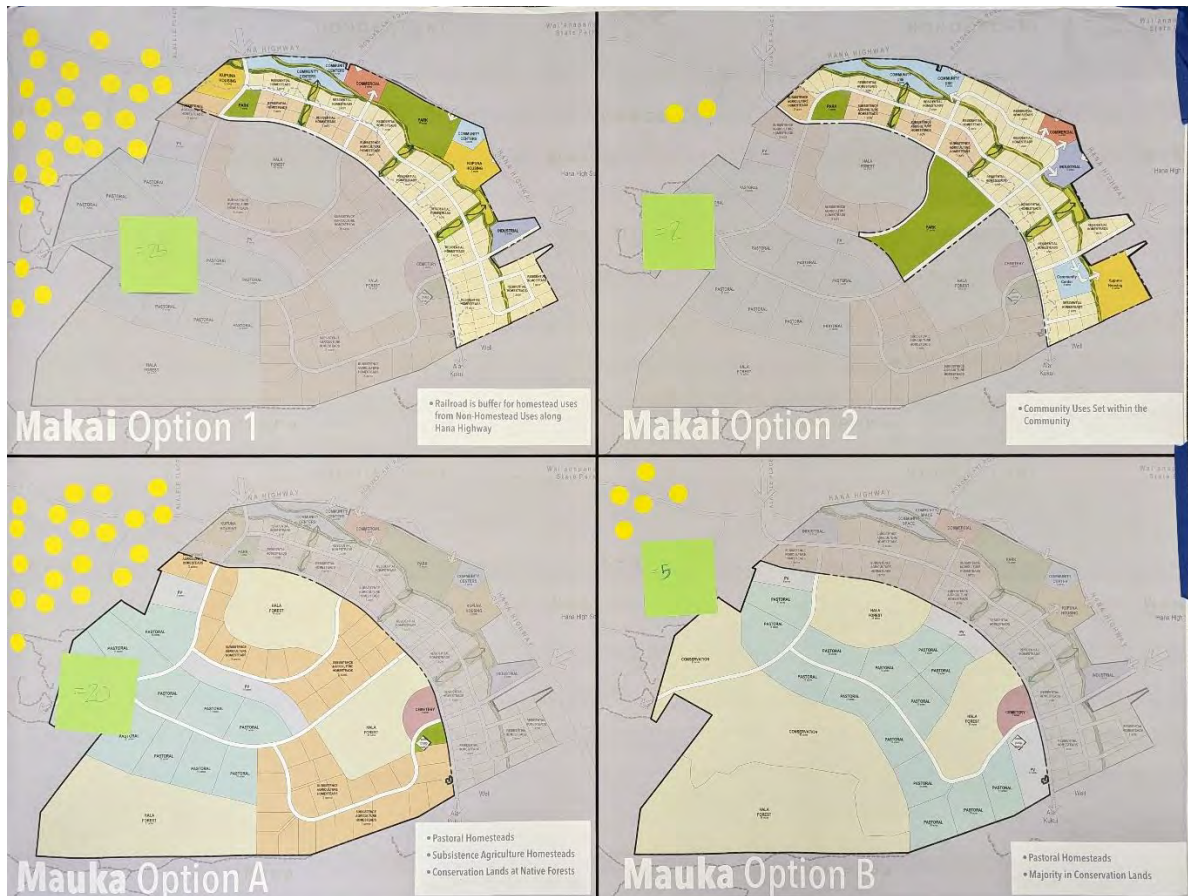


Figure 3. Polling Results of Preferred Mauka and Makai Options

Preferred Plan 1A was shared which combined the two preferred options for mauka and makai areas. The plan has a total of 146 Homesteads broken down in the following amounts:

- Subsistence Agriculture 3 acres 48
- Subsistence Agriculture 1 acre 18
- Residential 1 acre 70
- Pastoral 10- to 20-acres 10

Non-Homestead Uses were provided in the following amounts:

- Kupuna Housing: 15 acres
- Commercial: 5 acres
- Industrial: 5 acres
- Community Center: 14 acres
- Conservation: 160 acres
- Open Space/ Community Garden: 18 acres
- Park: 19 acres
- PV: 22 acres
- Cemetery: 7 acres

Ryan discussed infrastructure constraints and the possibility of having Kuleana Homesteads (if so desired by the community). He mentioned that industrial, commercial uses require access to water. A water tank can be installed up mauka and water pumped from DWS system. This would open up water in the mauka portion, but would be a future infrastructure project from DHHL. The proposed plan started with one acre lots for Homesteads as a minimum to allow for enough land area to accommodate independent water systems. Ryan mentioned that if smaller Homesteads were desired, it may trigger the need for a sewer treatment plant.

- **Does DHHL have loans for people who want to install IWS?**
 - o At the current time no, but there are other (non DHHL) avenues to obtain funding for IWS. Some of these are income-based. The DHHL needs to look at cesspool conversion by 2050, which will impact those on older homesteads.
- **Why are we paying tax on sewer systems when we don't have one here? It's not fair.**
 - o I understand your concern. I'm not quite sure how the county comes up with the assessments. For the mauka portions, we prefer to make the level of service satisfactory so that the county can take it over.
- **How do we know the future generation will be able to afford the residential?**
 - o In "traditional", DHHL covers the cost of infrastructure.
 - o DHHL also provides vacant lots – provide water, infrastructure, etc. but no house
 - o DHHL also partners with Habitat for Humanity
- **For vacant lots, do they have to follow county rules as to what kind of home they build.**
 - o Typically DHHL wants homesteads to be built to county codes, mostly for health and safety of beneficiaries.
- **You mentioned, people in your team that went to examine where possible driveways could be? What do you mean they looked?**
 - o We did an aerial flyover with topography survey. We located roads based off of slope.
 - o What we know of the land area, a lot of the land area is lava, that will effect the cost of the lots. The flattest part is where the park is in Makai option 2. It's going to take a lot more than bulldozing. It's gonna take people to walk the mountain and survey.
- **Who on your team is going to be ON THE SITE doing the survey? Will you have locals who know the land best.**
 - o We are absolutely open to doing that. If there is a team or group that is knowledgeable and willing, please let us know.
- **Is it possible to get the preferred plan sent to our emails?**

- Yes, we can send the materials out.

Participants were split into two groups to discuss and refine the preferred master plan for 35 minutes. After reconvening as a large group, one speaker from each group presented the results of their discussion.

Group A with Jeff, Ryan, and Andrew discussed the following:

- Third main access between industrial and park
- Access around perimeter of forested areas
 - Firebreak
 - Easement through Pastoral
- Access up mauka
- Land use impacts on forests, water flow
- PV: Power ? Agreement
 - Underground Powerlines?
- Number of lots
 - Less pastoral (only the 4 upper mauka)
 - Move PVE up, add more 3 acre sub ag
 - Some of the lower sub-ag may have to change due to terrain
 - Mauka may be kuleana due to lack of water availability
 - Less Infrastructure
- Types of Park Uses:
 - Baseball/Basketball/Soccer/Football/Swimming Pool
 - Distinct field lines to separate sports
 - Different sized fields for different ages
 - Do not lease to County, lease to non-profit (CDC)
 - Solar/PV covered parking
- Kupuna Housing
 - Mix of assisted living, 1-2 bedroom cottages (duplex)
 - Skilled nursing facility
 - 1 story (not three story)
 - Something like waimanalo (connected individual units)
 - 20 units to 30 units
 - East Kupuna to return to residential (only one main kupuna area)
 - Buffer from community center
- Laundromat

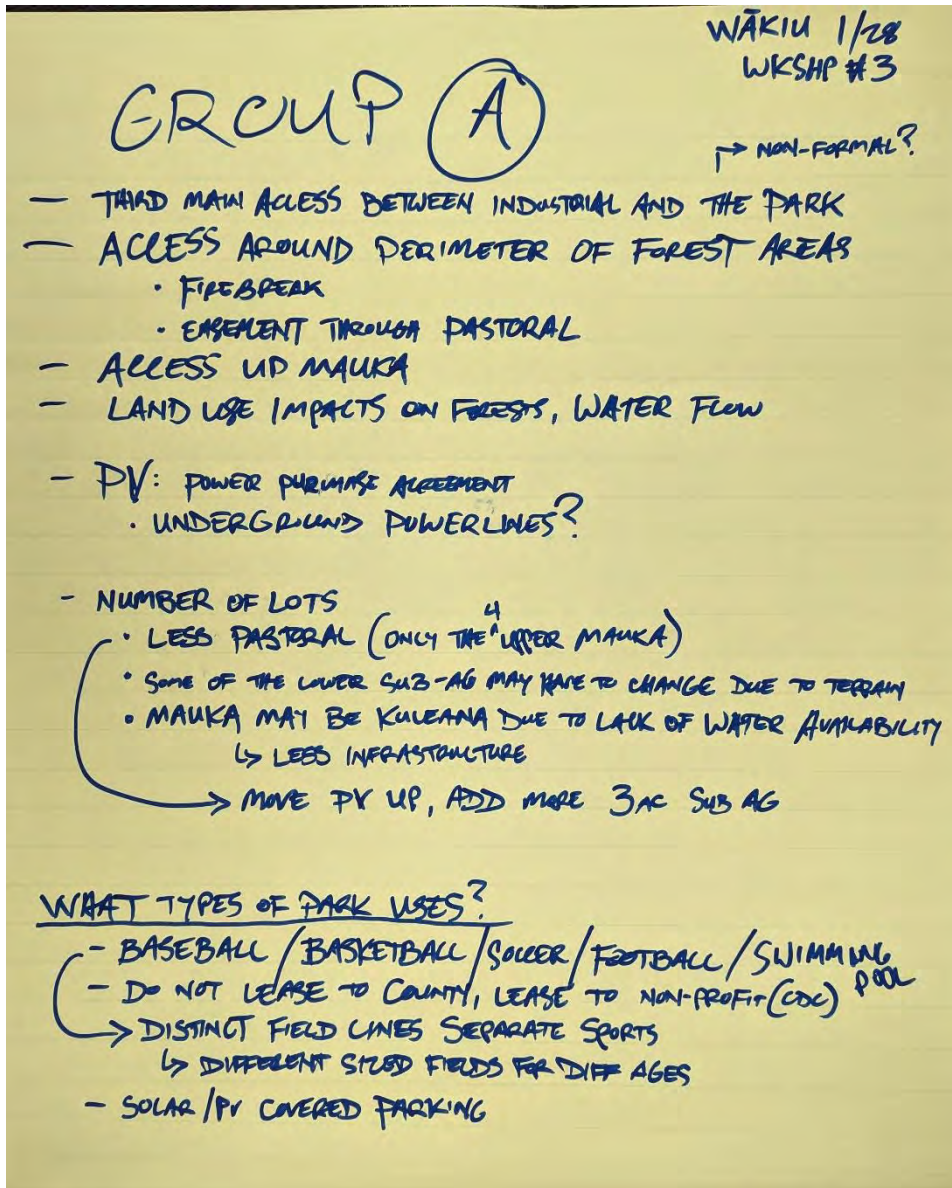


Figure 4. Chart Paper Notes from Group A

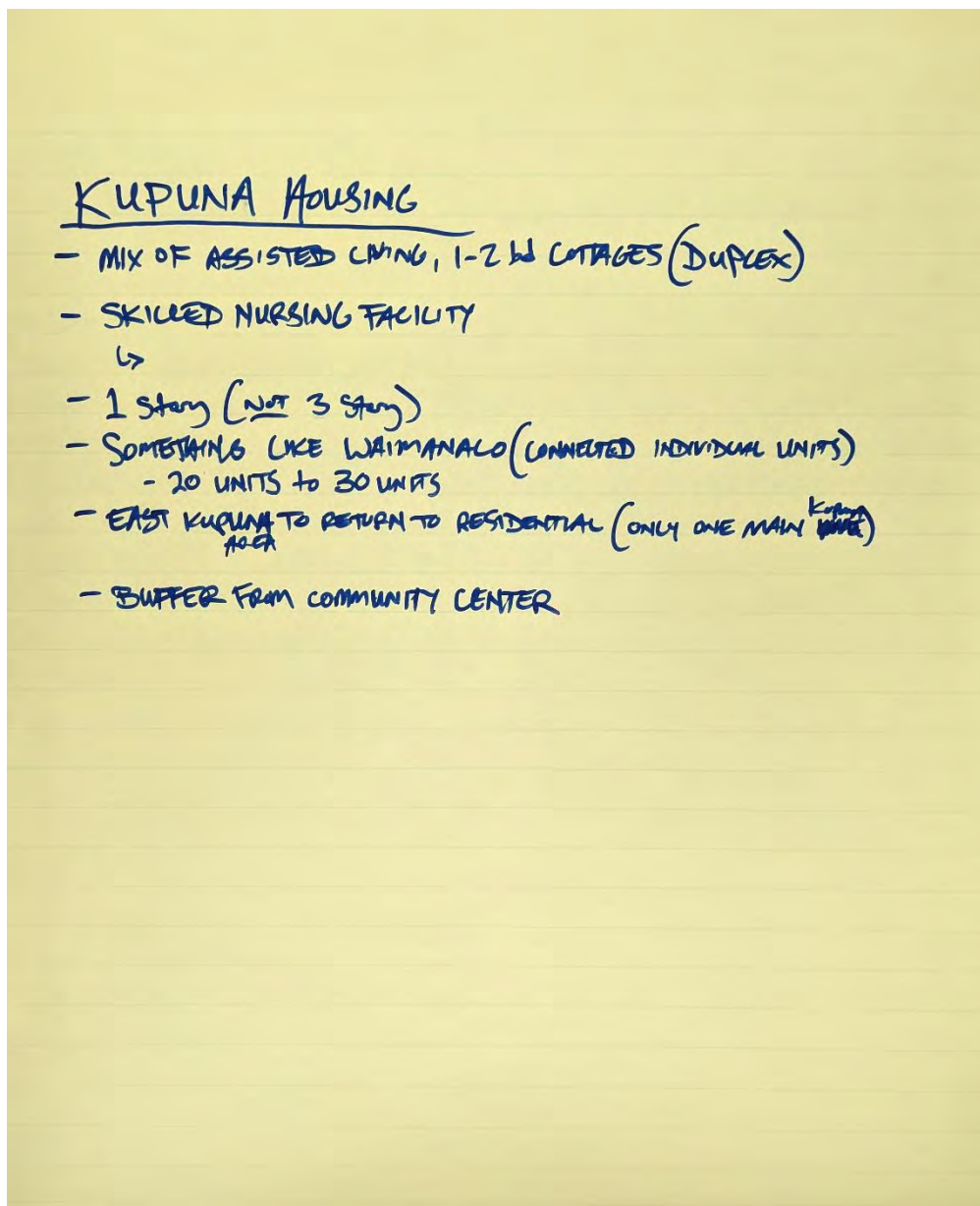


Figure 5. Chart Paper Notes from Group A (cont.)



Figure 6. Map Notes from Group A

Group 2 with Rene, Julie, and Pi'ilani discussed the following:

- Kuleana Homesteading (in some areas) – options for kuleana parcels
- Community pasture
- Pastoral Areas → change to sub ag
- Kupuna Housing
 - Should be away from loud and congested areas
 - Unrealistic for kupuna to live on their own
 - Relocate to eastern side of parcel
- Keep commercial areas centralized to reduce traffic impact
- Park
 - Playground, activities/programs
 - Swimming pool
 - Swimming training and activities
 - Hana park is sufficient for numerous activities
- Ambulance/fire/medical by kupuna
 - Need helipad for hospital service
- Charter School
- Area for food trucks

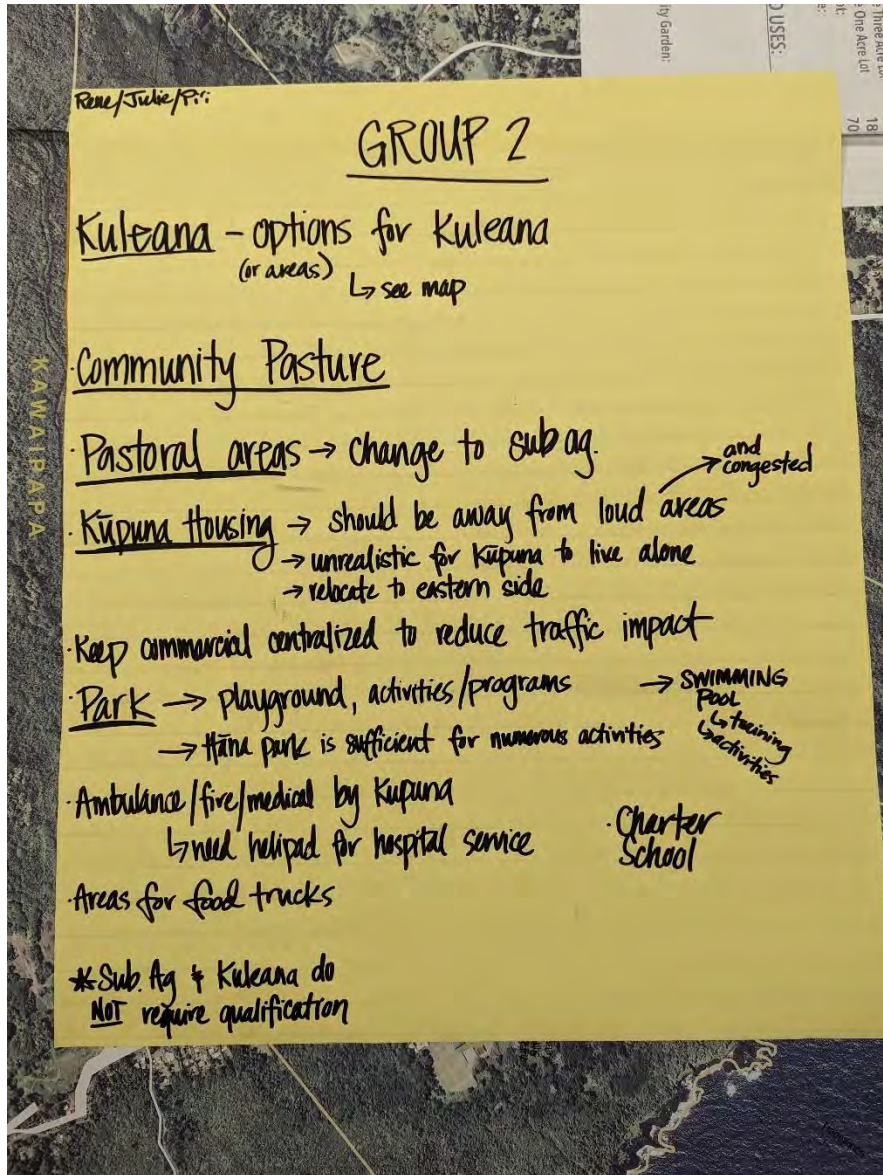


Figure 7. Chart Paper Notes from Group 2



Figure 8. Map Notes from Group 2

Based upon this discussion, beneficiaries identified a strong desire to redefine some of the Sub-Ag lots as Kuleana. There was also less interest in pastoral lots, and pastoral areas could be reduced and/or may be better provided as community pastoral.

Julie discussed the next steps in the planning process. G70 and DHHL will revise and produce a final master plan based on workshop results and begin working on the EA. The master plan and EA will be presented to beneficiaries for input at a later beneficiary consultation meeting.

The meeting ended at approximately 2:10pm.



CONFERENCE REPORT

111 S. King Street
 Suite 170
 Honolulu, HI 96813
 808.523.5866
 www.g70.design

TO:	Department of Hawaiian Home Lands (DHHL)		
FROM:	G70		
DATE:	April 13, 2024	LOCATION:	Hāna High and Elementary Cafeteria
PROJECT:	DHHL East Maui Master Plan and EA	PROJECT NO:	222033-01
SUBJECT:	Planning Workshop #4 – Wākiu Share-out	NO. OF PAGES:	2
THOSE PRESENT:	G70: Rene Matsumura, Ryan Char, Thomas Pi'ilani Smith DHHL: Andrew Choy	Participants: 13	

SUMMARY:

The Wākiu Draft Final Master Plan Share-out was held on Saturday, April 13 at the Hāna High and Elementary School Cafeteria. The meeting began at approximately 10:25am. Pi'ilani Smith opened the meeting and Alohalani Smith provided the pule. Pi'ilani introduced the project team and the purpose of the meeting – to share the draft final Master Plan for Wākiu.

A short update on the DHHL Administrative Rule Change was provided by Andrew. The Department is currently working on a draft that identifies “cultural kipuka”, places such as Hāna, Ke’anae, Wailuanui, and King’s Landing, that have a strong presence of generational families and communities with genealogical ties to the ‘āina. These cultural kipuka have the ‘ike, the know-how, and the knowledge of place that allow them to be successful homesteaders in their ‘āina.

A break for brunch was taken at 11:15.

Rene resumed the meeting once food was distributed and reviewed past workshops and outcomes. She demonstrated key points of the planning process that integrated the kapu, kānāwai, and shared community values as developed by the community.

Rene discussed the Draft Final Master Plan and its various attributes. Ryan then discussed the infrastructure aspects of the project and how a phasing model would ideally play out. One participant raised a question regarding rent to own options and providing an assisted living facility for kupuna. Andrew said those are possible options that can be explored at a later stage of the process. Andrew provided an overview of the next steps for the project and thanked participants for their time.

The meeting ended at approximately 12:00pm

Participant List:

Melody Cosma-Gonsalves

Roxanna Smith

Samuel Kalalau III

Lambert Castro

Charla Konohia

Alton Castro

Noe Lecker

Mapuana Kalaniopio-Cook

Alohalani Smith

Kenneth Davis

Doria Lind

Loretta M. O'Hara

Mikomi Yoshikawa



**DHHL East Maui Master Plan & EA
Beneficiary Planning Workshop #4: Wākiu
April 13th, 2024**



PLEASE SIGN IN: (PLEASE PRINT)

	Name	Mailing Address	City/Zip Code	Email
21.	Melody Cosma-Gonsalves	P.O. BOX 64 B	Hāna 96713	hana.ku93@gmail.com
22.	Roxanna Smith	P.O. Box 531	Hana 96713	Supervisormom@gmail.com
23.	Samuel Keolu III	P.O. Box 882	Hana 96713	
24.	LAMBERT CASTRO	P.O. Box 334	HANA 96713	
25.	Charla Konohia	2924 E. Lelekeuna Pl. Haiku, HI	Haiku 96708	charlkonohia@gmail.com
26.	alton castro	P.O. Box 334	hana HI 96713	
27.	Noe Lecker	PO Box 113	Hana 96713	noelecker@yahoo.com
28.				
29.				
30.				

DHHL East Maui Master Plan & EA
Beneficiary Planning Workshop #4: Wākiu
April 13th, 2024

PLEASE SIGN IN: (PLEASE PRINT)

	Name	Mailing Address	City/Zip Code	Email
1.	Mapuana Taniopio-Goff	RB 428	Hana 96713	Mapuana123@yahoo
2.	Aiohalani Smith	POB 1269	Kula 96790 (Kaupo)	Kaukaulani@gmail.com
3.	Kenneth Davis	HCI Box 132	96713	hawaiianDavis808@gmail.com
4.	DORIS LIND	P.O. BOX 147	96713	dorialind@yahoo.com
5.	Loretta M. O'Hara	P.O. Box 1072	96713	lorettaohara1@gmail.com
6.	Mikomi Yoshikawa	P.O. Box 88	96713	Mikomikaelani@gmail.com
7.				
8.				
9.				
10.				

DHHL East Maui Master Plan & EA
Beneficiary Planning Workshop #4: Wākiu

COMMENT FORM

Name (Optional): _____

Comments: _____

Consider rent to own options.

Consider assisted living facility for Kupuna.

Fire station
Hub

Presentation in a 656
few months - 178 homes

Pastoral - Homes? (Yes)
Habitat - 10% Where?
(not ready yet)

Water sprinkler station?
(Working on it.)

Appendix H

Early Consultation Comments



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

Subject: IPaC generated official species list for the Pacific Islands Fish and Wildlife Office

Dear Action Agency or Applicant:

The Pacific Islands Fish and Wildlife Office (PIFWO) is transitioning to the Information for Planning and Consultation (IPaC) online portal, <https://ipac.ecosphere.fws.gov/> for federal action agencies and non-federal agencies or individuals to obtain official species lists, including threatened and endangered species, designated critical habitat, and avoidance and minimization measures to consider in your general project design. IPaC has been used by continental USFWS offices to provide official species lists and avoidance and minimization guidance since 2017. Using IPaC expedites the process for species list distribution. Obtaining a species list in IPaC is relatively straightforward and takes minimal time to complete. Step by step instructions are included below.

Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of your species list should be verified after 90 days. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change the species list. Verification can be completed by visiting the IPaC website at regular intervals during project planning and implementation. An updated list may be requested through the IPaC system by completing the same process used to obtain the initial species list.

We hope this process provides efficiencies to our partners in obtaining a species list. For federal action agencies, it also opens additional IPaC functionality that the PIFWO office is still working on, such as the use of Determination Keys for informal section 7 programmatic consultations. We will let our agency partners know when that functionality becomes available.

If you have questions about a species list obtained through the IPaC system or need assistance in completing an IPaC species list request, please contact the Service at 808-792-9400 or via email at pifwo_admin@fws.gov. We appreciate your efforts to conserve listed species across the Pacific Islands.

INTERIOR REGION 9
COLUMBIA-PACIFIC NORTHWEST

IDAHO, MONTANA*, OREGON*, WASHINGTON

*PARTIAL

INTERIOR REGION 12
PACIFIC ISLANDS

AMERICAN SĀMOA, GUAM, HAWAI'I, NORTHERN
MARIANA ISLANDS

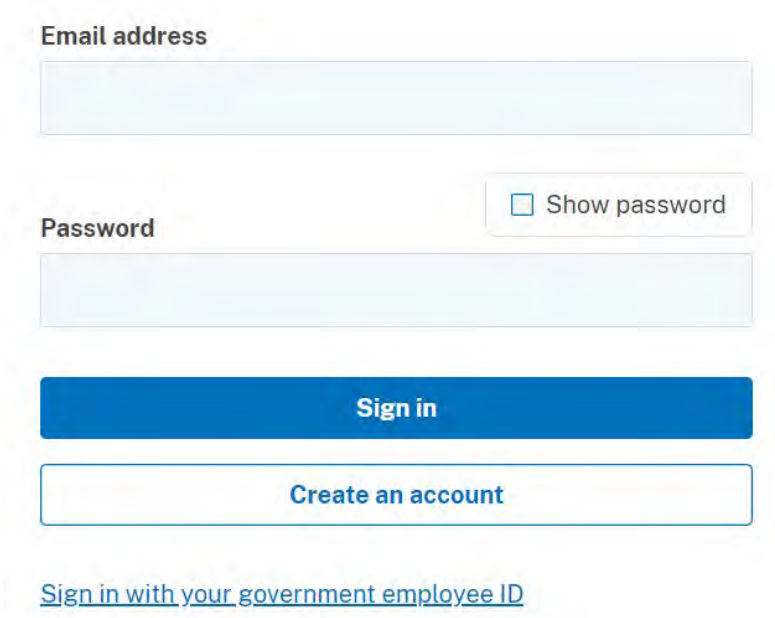
Instructions for Action Agencies and partners to obtain an official species list in IPaC

- Navigate to <https://ipac.ecosphere.fws.gov/>
- You can get an unofficial species list without logging in. However, if you want an official species list you will need to log in first using your Login.gov account. If you don't have an IPaC account, they are easy to create.



The screenshot shows a 'Log in' dialog box with a close button (X) in the top right corner. Below the title, it says 'LOGIN.GOV LOGIN' and provides instructions: 'You can use your Login.gov profile as your IPaC account. You will need to allow IPaC to read your basic profile information.' There is a prominent button labeled 'LOG IN WITH LOGIN.GOV'. Below this, it says 'IPAC LOGIN' and includes a link: '> Why do I need an IPaC account?'

Select Log in with Login.gov and sign in using your email and password.



The screenshot shows a sign-in form with the following elements:

- Email address**: A text input field.
- Password**: A text input field with a 'Show password' checkbox to its right.
- Sign in**: A blue button.
- Create an account**: A white button with a blue border.
- [Sign in with your government employee ID](#): A link below the buttons.

If you have a PIV or CAC card, you can sign in using that method as well.

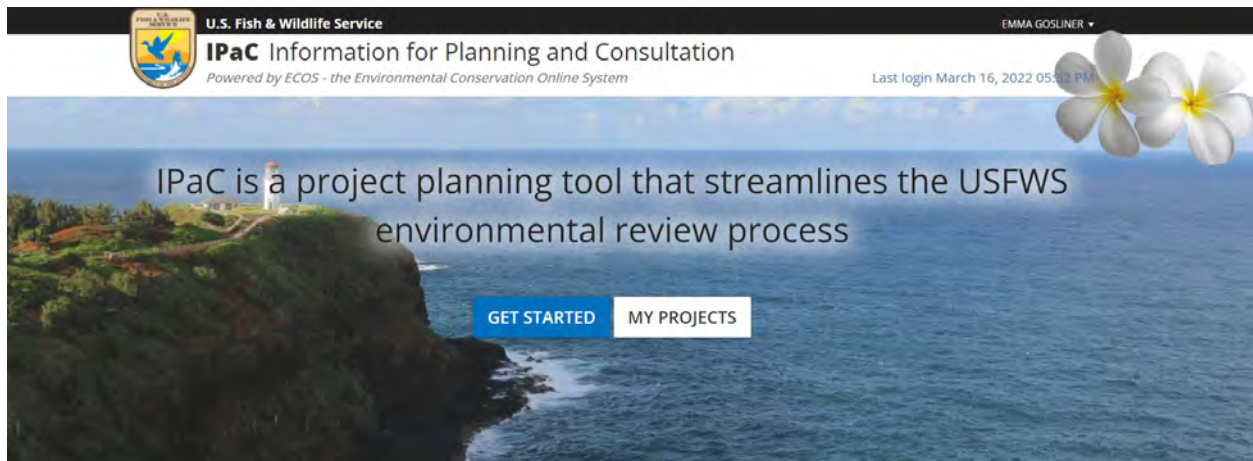
Sign in with your PIV or CAC

Make sure **you have a Login.gov account** and **you've set up PIV/CAC** as a two-factor authentication method.

Insert your PIV/CAC

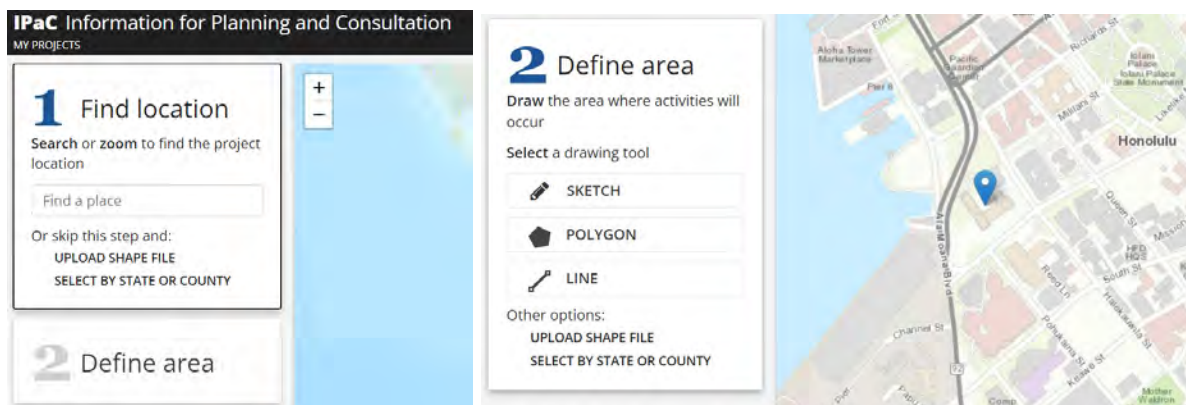
[Cancel](#)

- Once you log in, select “Get Started”.

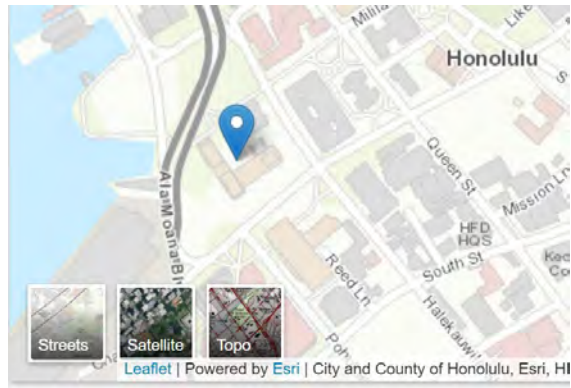


The image shows the landing page for IPaC (Information for Planning and Consultation). At the top, there is a navigation bar with the U.S. Fish & Wildlife Service logo, the text "U.S. Fish & Wildlife Service", and the user name "EMMA GOSLINER". Below this is the main header "IPaC Information for Planning and Consultation" with the subtext "Powered by ECOS - the Environmental Conservation Online System". A login timestamp "Last login March 16, 2022 05:33 PM" is visible. The main content area features a scenic background image of a coastline with a lighthouse. Overlaid on this image is the text "IPaC is a project planning tool that streamlines the USFWS environmental review process". At the bottom of this section are two buttons: "GET STARTED" (highlighted in blue) and "MY PROJECTS".

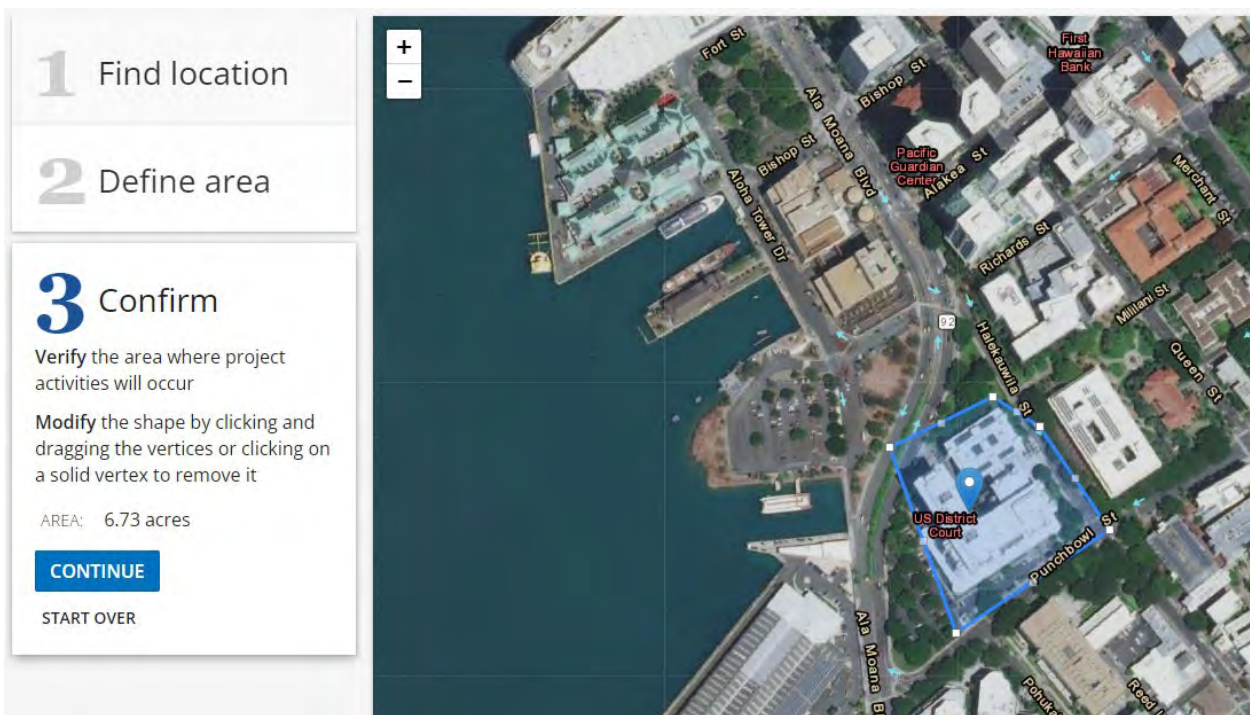
- Define the action area: Identify the location of the proposed action by uploading an existing shapefile or by entering an address or coordinates of the action area. Once identified on the map, you can manually draw the action area using the drawing tools.



The image displays the "Define area" interface within the IPaC application. The interface is divided into two main sections. On the left, under the heading "1 Find location", there is a search box labeled "Find a place" and options to "UPLOAD SHAPE FILE" or "SELECT BY STATE OR COUNTY". Below this is a "2 Define area" section. On the right, under the heading "2 Define area", there is a map of Honolulu with a blue location pin. Below the map, there are drawing tools: "SKETCH", "POLYGON", and "LINE". At the bottom of this section, there are "Other options": "UPLOAD SHAPE FILE" and "SELECT BY STATE OR COUNTY".



To help identify your action area you can choose between multiple base maps available.



Press continue when you have finished drawing or uploading the action area location.

- The species information on the page that follows is not official. However, it identifies the project County, local Fish and Wildlife Field Office, species covered under NOAA Fisheries as well as Migratory Bird Treaty Act species. The list can be viewed in Thumbnail or List format.
- Once the species list populates you will see images of the species that may occur on, near, or transgress across your project. Click on SPECIES GUIDELINES on your top right to see Avoidance and Minimization measures to incorporate into your General Project Design Guidelines.

Explore location
 LOCAL OFFICE: PACIFIC ISLANDS FISH AND WILDL. OFC

LOCATION: Honolulu County, Hawaii
 CHANGE LOCATION

Resources

- ENDANGERED SPECIES 20
- MIGRATORY BIRDS 5
- FACILITIES
- WETLANDS !

PRINT RESOURCE LIST

What's next?
 Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.
 DEFINE PROJECT

Endangered species

Listed species (1) and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries (2)).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).


Additional information on endangered species data is provided [below](#).

The following species are potentially affected by activities in this location:

THUMBNAILS LIST SPECIES GUIDELINES

Mammals

Endangered



Hawaiian Hoary Bat
Lasiurus cinereus semotus
 Wherever found

- Continue with the following steps to comply with the requirements of ESA section 7 to obtain an **official species list**.
- Select Define Project

What's next?
 Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.
 DEFINE PROJECT

Define project
 Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.

Project name: _____

Project description: Describe the location, size, scope, and timing of the project.


SAVE CANCEL

Enter the Project Name and a brief description of the project (a description is not mandatory, but recommended for future coordination with the Service). Click SAVE at bottom of page.

- At the bottom of the What's next box on the right, click Request Species List

Test Project

Testing



LOCATION Honolulu County, Hawaii
CREATED March 17, 2022

1 MEMBER 2 DOCUMENTS

What's next?

ESA REVIEW
Review this project's effects on listed species pursuant to the Endangered Species Act (ESA), as part of the overall regulatory review.

[START REVIEW](#)

SPECIES LIST
Requesting an official species list is now part of IPaC's ESA Review.

[REQUEST SPECIES LIST](#)

Local office

Pacific Islands Fish And Wildlife Office

- on the following screen, click Yes, Request Species List

Endangered Species Act Review

[← BACK](#)
[EXIT REVIEW](#)

1 Request an official species list

2 Evaluate determination keys
No Dkeys for project.

3 Analyze project (optional)

4 Download documentation

Step 1: Request an official species list

An official species list is a letter from the local U.S. Fish and Wildlife Service field office that assists in the evaluation of potential impacts of your project. It includes a list of species that should be considered under [Section 7](#) of the Endangered Species Act, a project tracking number, and other pertinent information from the field office.

Does this project require an official species list?

Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action" ([Section 7](#) of the Endangered Species Act).

This requirement applies to projects that are **conducted, permitted, funded, or licensed** by any Federal agency.

YES, REQUEST A SPECIES LIST

SKIP / DOES NOT APPLY

- Fill out the contact information for yourself or your agency. Contractors, state partners, and any other project proponents may request a species list and should be covered using the dropdown menus.

Tell us about the project and your organization or agency

Is this project being conducted, permitted, funded, or licensed by a Federal agency?

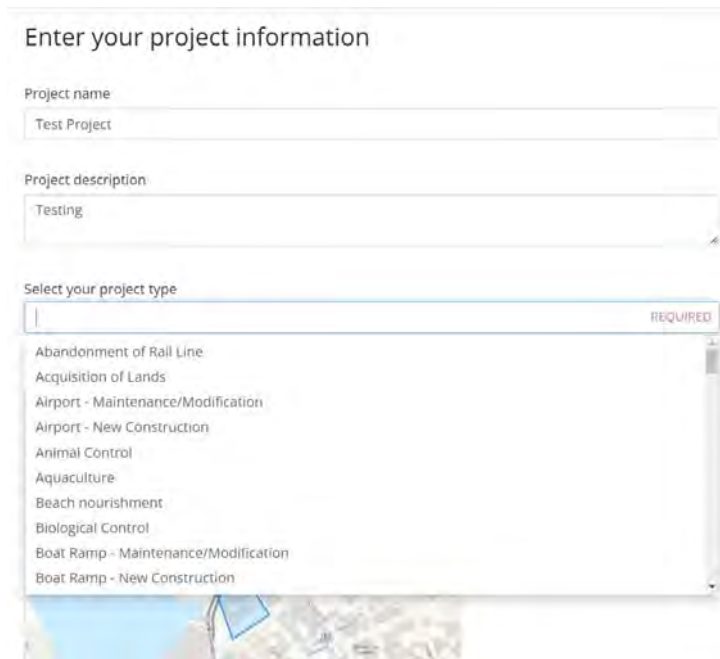
- Yes
- No

What kind of organization are you working for directly?



The screenshot shows a dropdown menu with the following options: Federal Agency, Tribe (highlighted in blue), State Agency, Federal Agency, Territory Agency, City, County, and Non-Governmental Organization.

- From the pull-down menu for Classify Type of Project, select the project type that best fits the proposed action.



The screenshot shows a form titled "Enter your project information". It contains three main sections: "Project name" with a text input field containing "Test Project"; "Project description" with a text input field containing "Testing"; and "Select your project type" with a dropdown menu. The dropdown menu is open, showing a list of project types: Abandonment of Rail Line, Acquisition of Lands, Airport - Maintenance/Modification, Airport - New Construction, Animal Control, Aquaculture, Beach nourishment, Biological Control, Boat Ramp - Maintenance/Modification, and Boat Ramp - New Construction. A "REQUIRED" label is visible in the top right corner of the dropdown menu.

- Once all required sections are filled out, press **SUBMIT OFFICIAL SPECIES LIST REQUEST**

Location



[SUBMIT OFFICIAL SPECIES LIST REQUEST](#)

- An Official Species List should be generated and available for download in a couple of seconds.
- If you need additional information on a species, click on their name that is hot-linked to their species information page. A brief overview of the species' status, description and critical habitat will appear as well as a link to their ECOS species profile.

A screenshot of a web application interface. On the left is a sidebar with a 'Resources' section containing 'ENDANGERED SPECIES 20', 'MIGRATORY BIRDS 5', 'FACILITIES', and 'WETLANDS !'. Below this is a 'What's next?' section with a 'DEFINE PROJECT' button. The main content area displays information for the 'Liiwi' (Drepanis coccinea), featuring a photo of a bright red bird. Below the photo, the 'STATUS' is 'Threatened; A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.' The 'DESCRIPTION' states: 'The liwi is an Hawaiian forest bird in the endemic honeycreeper subfamily of the Fringillidae (finch family). liwi are medium-sized forest birds (total body length is approximately 14 centimeters (cm) (5.5 inches (in)) with bright scarlet feathers, black wings and tail, and a small white patch on the inner secondary flight feathers. The bill is long, deeply'. To the right of the main content is a vertical panel with a photo of a person holding a bird and the text 'Endangered' and 'Hawaii Akepa Drepanis coccinea wherever found'.

Aloha,

The US Army Corps of Engineers (Corps) received your request for comments on the proposed 656.3-acre residential development in Hana, Island of Maui, HI.

The Corps' regulatory authorities are based on Section 10 of the Rivers and Harbors Act (RHA) of 1899 and Section 404 of the Clean Water Act. Section 10 of the RHA of 1899 prohibits the obstruction or alteration of any navigable water of the U.S. (WOTUS) without a Department of the Army (DA) permit. Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into WOTUS without a DA permit. For projects that are being developed, we ask that you identify areas that may fall within the Corps jurisdiction as WOTUS such as streams, rivers, and wetlands.

If you determine that your project would need a permit from the Corps, then we would require an application to be provided. We must also evaluate the project for any impacts to resources such as threatened or endangered species, historic properties, and/or essential fish habitat, and consult if necessary. If applying for a permit, include detailed plans/drawings of the proposed project where streams or wetlands are present. Include a clear line indicating the ordinary high water mark (OHWM) in your plans and also include the amount and type of fill that would be placed below the OHWM.

A permit is not required if all work being done is located in uplands.

Please visit <https://www.poh.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits/> to find more information about our program and to apply for a permit. Email permit applications to CEPOH-RO@usace.army.mil, as we have gone paperless.

Feel free to contact me with any further questions.

Mahalo!

David Rojek

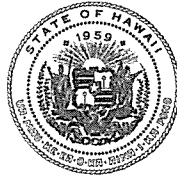
Biologist, Regulatory Branch

US Army Corps of Engineers, Honolulu District

Mobile: 808-459-0179



JOSH GREEN, M.D.
GOVERNOR
KE KIA'AINA



KEITH A. REGAN
COMPTROLLER
KA LUNA HO'OMALU HANA LAULĀ

MEOH-LENG SILLIMAN
DEPUTY COMPTROLLER
KA HOPE LUNA HO'OMALU HANA LAULĀ

STATE OF HAWAII | KA MOKU'ĀINA O HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES | KA 'OIHANA LOIHELU A LAWELAWÉ LAULĀ
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)24.171

AUG 12 2024

Mark Kawika McKeague, AICP
Group 70 International, Inc. dba G70
111 S. King Street, Suite 170
Honolulu, Hawaii 96813

Dear Mark Kawika McKeague:

Subject: Early Consultation - Draft Environmental Assessment
Department of Hawaiian Home Lands
Wakiu Master Plan
Wakiu Ahupuaa, Hana District, Island of Maui
TMK No. (2) 1-3-004:011, 012, 017 (por.), 018

Thank you for the opportunity to comment on the subject project. We have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

If you have any questions, your staff may call Dora Choy-Johnson of the Planning Branch at (808) 586-0488.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Wood".

GORDON S. WOOD
Public Works Administrator

DC:mo

Thank you for your notice regarding Early Consultation for DEA on Wakiu Master Plan. We have updated our system and our policy.

Please find CAB website including our standard comments for Land Use Reviews below:

<https://health.hawaii.gov/cab/clean-air-branch/standard-comments-for-land-use-reviews/>

Thank you so much for your understanding.

Clean Air Branch

Hawai'i State Department of Health | Ka 'Oihana Olakino

2827 Waimano Home Road #130 | Pearl City, HI 96782

Office: (808) 586-4200

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DISABILITY AND COMMUNICATION ACCESS BOARD

1010 Richards Street, Rm. 118 • Honolulu, Hawai'i 96813
Ph. (808) 586-8121 (V) • Fax (808) 586-8129 • (808) 586-8162 TTY

July 23, 2024

Mr. Mark Kawika McKeague, AICP
Principal
G70
111 South King Street
Suite 170
Honolulu, HI 96813

Regarding: Early Consultation for Chapter 343, Hawai'i Revised Statutes (HRS)
Department of Hawaiian Home Lands (DHHL)
Wākiu Master Plan
Wākiu Ahupua'a, Hāna District, Island of Maui
Tax Map Key: (2) 1-3-004:011, :012, :017, :018 (por)

Dear Mr. McKeague:

The Disability and Communication Access Board (DCAB) received the request for the above-referenced project requesting an environmental review of the proposed homestead area. Thank you for your consideration, however, DCAB does not review environmental issues and therefore has no comments regarding this project proposal. DCAB does provide accessibility-related technical assistance and would welcome the opportunity to provide informal assistance prior to the official submittal for the above-referenced project.

Should you have any questions, please feel free to contact Rodney Kanno, Facility Access Coordinator at (808) 586-8121.

Sincerely,

KIRBY L. SHAW
Executive Director



July 19, 2024

JUL 22 2024

111 S. King Street
Suite 170
Honolulu, HI 96813
808.523.5866
www.g70.design

Subject: Early Consultation for Chapter 343, Hawai'i Revised Statutes (HRS)
Draft Environmental Assessment (EA)
Department of Hawaiian Home Lands (DHHL)
Wākiu Master Plan
Wākiu Ahupua'a, Hāna District, Island of Maui
Tax Map Key (TMK): (2) 1-3-004:011, :012 :017, por. :018

KS
RK

Dear Participant,

On behalf of the State of Hawai'i, Department of Hawaiian Home Lands (DHHL), G70 is preparing a Draft Environmental Assessment (EA) for the "Wākiu Master Plan" (Project). The project is proposed on approximately 656 acres of DHHL land in Hāna, Maui. The Draft EA will be prepared according to Hawai'i Revised Statutes (HRS), Chapter 343, and Hawai'i Administrative Rules (HAR), Chapter 11-200.1.

The 656.3-acre Wākiu Project area is between Mile Marker 31 and 33, about 4,500 feet from Hāna airport and 12.6 miles from the nearest Hawaiian Homestead in Wailuanui. Wākiu is a rural community with agriculture, residential areas, public facilities, and small businesses. The Project area is mauka of Hāna Highway, east of Hāna High & Elementary School, and south of Honokalani Road. The Project aims to create a new homestead area in Wākiu, Hāna, Maui, balancing natural ecosystem preservation with low-density residential, agricultural, and pastoral development, in keeping with the surrounding Hāna community.

Proposed homestead development includes one-acre residential lots, one- and three-acre subsistence agricultural lots, pastoral lots, and kūpuna housing. One-acre residential lots, making up 88.5 acres or 78 lots, will be located closer to Hāna Highway. One- and three-acre subsistence agricultural lots, totaling 143.8 acres or 65 lots, will be awarded as subsistence agricultural homestead leases, focusing on land cultivation for beneficiary families, with the construction of a home as optional. Four pastoral lots will cover 41.9 acres, and 6.5 acres will be set aside for 30 units of kūpuna housing.

A portion of the Project will include DHHL Kuleana Homesteading and under that program offer Subsistence Agricultural lots for approximately 31 three-acre agricultural homesteading lots. Under this unique designation, DHHL is required only to provide a metes and bounds description and an unpaved right-of-way to the lots. Awardees will have immediate access, but DHHL is not obligated to provide any improvements.

Non-homestead uses for the project include a community use area for greenways and community gardens (11.6 acres), a charter school and community garden (12.6 acres), a cemetery (7.7 acres), a community center and park along Hāna Highway (18.3 acres), and a second community center (2.46 acres). Approximately 32.3 acres are designated for a photovoltaic solar energy system. The commercial area will host retail, convenience, and food trucks, while the industrial area will support the lifestyle needs for boating and machinery care. Additionally, 138.8 acres will be dedicated to conserving hala and kukui groves already established and are significant to the Hāna community. Access to the project area will be via Olopawa Road at the northern end, a midpoint road aligned with the new access to Waianapanapa State Park, and an existing dirt road used by the Department of Water Supply on the southern end.

A state environmental review under HRS Chapter 343 is required due to the project's use of State lands and funds. Pursuant to HAR, Chapter 11-200.1-18, DHHL is conducting this early consultation to seek input from agencies, citizen groups, and individuals who may have jurisdiction, expertise, or may be affected by the Project to guide the scope and preparation of the Draft EA. Various technical studies have been completed for the Wākiu Master Plan, with additional studies to be completed prior to the Draft EA publication. These include a:

- Biological Assessment
- Honuaiākea Community/Cultural Engagement Report
- Wildfire Risk Assessment
- Archaeological Literature Review and Field Inspection (ALRFI)
- Cultural Impact Assessment
- Hydrogeology Report
- Preliminary Engineering Report
- Traffic Assessment Report

Please send comments via U.S. mail or email to the G70 contact information below, no later than August 19, 2024.

G70
111 S. King Street, Suite 170
Honolulu, HI 96813-4307
Attn: Mark Kawika McKeague, AICP
Phone: (808) 523-5866
Email: dhhleastmauimp@g70.design

Thank you for your participation in the early consultation for this project's environmental review process.

Sincerely,

GROUP 70 INTERNATIONAL, INC., dba G70



Mark Kawika McKeague, AICP
Principal

Enclosures: Figure 1 – DHHL Land Use Table
 Figure 2 – Wākiu Illustrative Plan
 Figure 3 - Wakiu Master Plan Land Uses

DHHL LAND USE DESIGNATIONS (ZONING)

HOMESTEAD LAND USES	1. RESIDENTIAL	Residential lot subdivisions built to County standards in areas close to existing infrastructure. (1 acre or less)
	2. SUBSISTENCE AGRICULTURE	Small lot agriculture in areas close to existing infrastructure. Lifestyle areas intended to allow for home consumption of goods. (3 acres or less)
	3. SUPPLEMENTAL AGRICULTURE	Small lot agriculture in areas close to existing infrastructure. Lifestyle areas intended to allow for home consumption of goods. (40 acres or less)
	4. PASTORAL	Large lot agriculture specifically for pastoral uses. Ranch plan and fencing required. (1,000 acres or less)
	5. DHHL KULEANA*	Raw (without infrastructure) lots intended for "off-grid" subsistence lifestyles. (no lot size determined)
NON-HOMESTEAD LAND USES	6. STEWARDSHIP*	Land not currently used for homesteading. Allow uses that maintain or enhance the value and condition of the land to the benefit of beneficiaries and the Trust. May serve as an interim use until opportunities for higher and better uses become available.
	7. CONSERVATION	Environmentally sensitive areas. Lands with watersheds, endangered species, critical habitats, sensitive historic and cultural sites, other environmental factors. Very limited uses.
	8. SPECIAL DISTRICT	Areas requiring special attention because of unusual opportunities and/or constraints. <i>Subdistricts include: hazard areas, open spaces/greenways, cultural resources.</i>
	9. COMMUNITY USE	Common areas for community uses and public facilities. Includes space for parks and recreation, cultural activities, community based economic development, utilities, and other public facilities and amenities.
	10. COMMUNITY AGRICULTURE*	Common areas for the cultivation of fruits, vegetables, plants, flowers, or herbs by multiple users. The land must be served by a water supply sufficient to support the cultivation practices used on site.
	11. RENEWABLE ENERGY*	Lands suitable for siting projects for the generation and transmission of renewable energy.
	12. COMMERCIAL	Lands suitable for a concentration of commercial activities.
	13. INDUSTRIAL	Lands suitable for processing, construction, manufacturing, transportation, wholesale, warehousing, and other industrial activities.

*New Land Use Designation, created in the November 2022 General Plan Update

Figure 1. DHHL Land Use Table

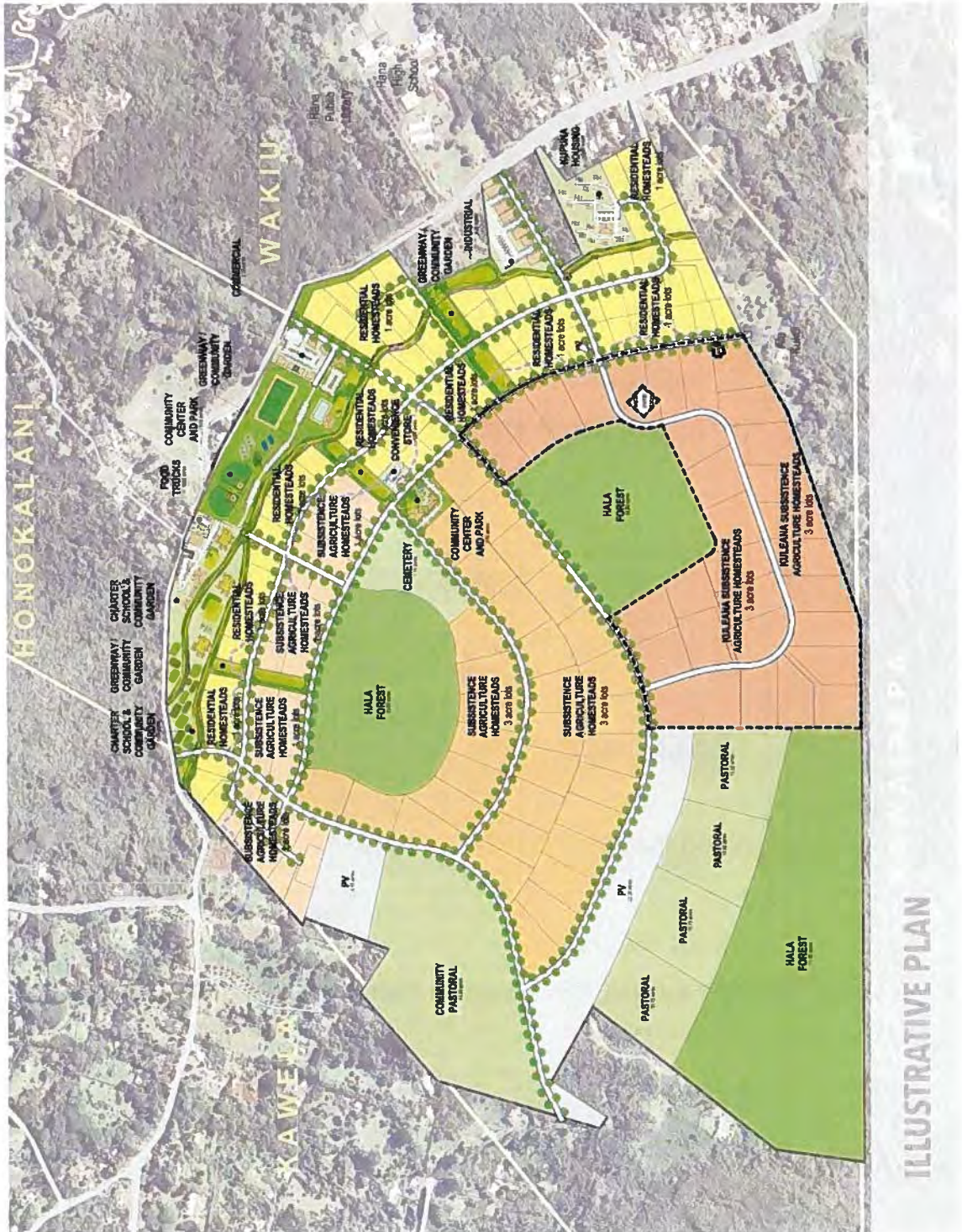


Figure 2. Wākiu Illustrative Plan with Aerial Imagery

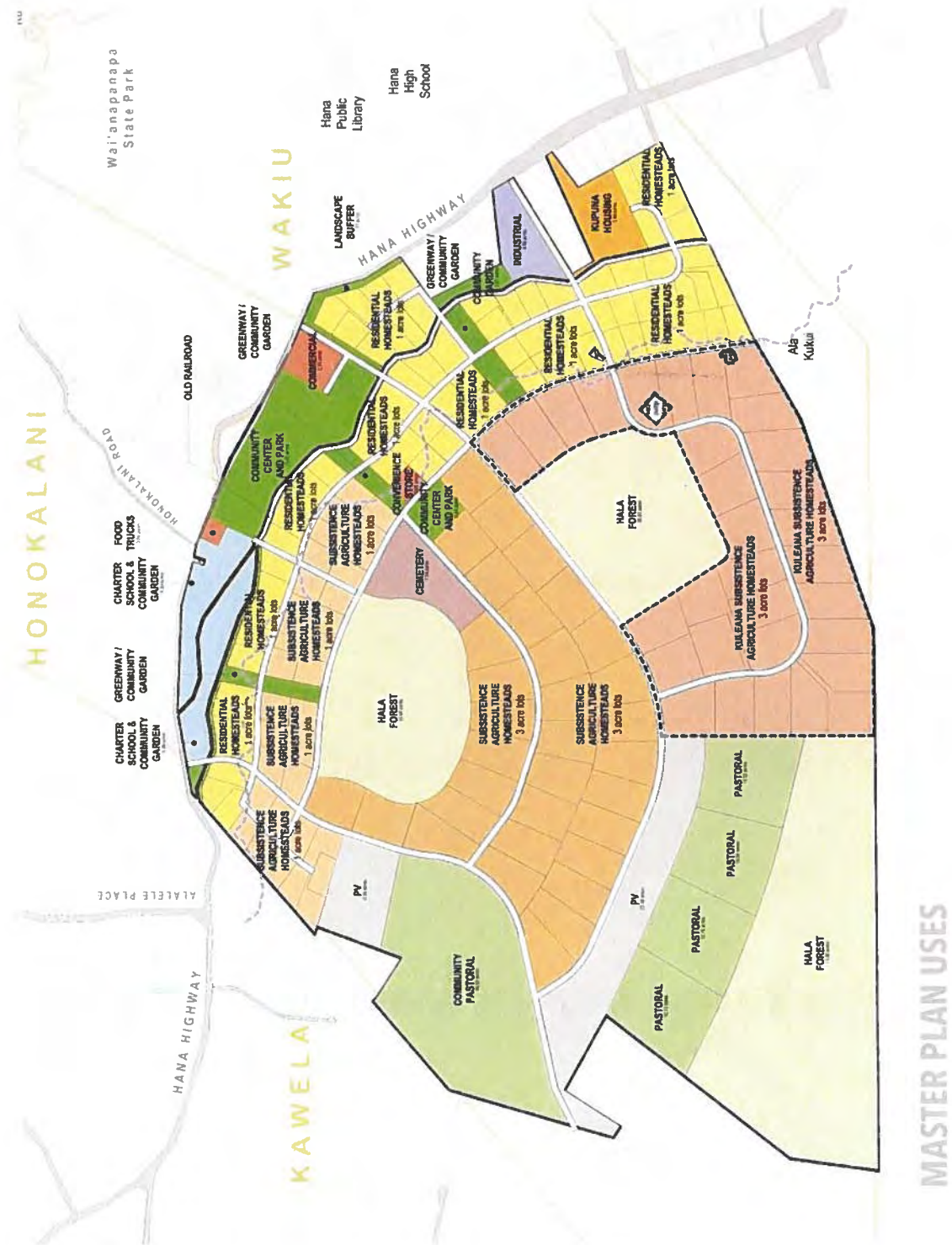


Figure 3. Wākiu Master Plan Land Uses



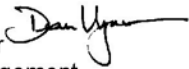
STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA 'OIHANA KUMUWAIWAI 'ĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

DEAN D. UYENO
ACTING DEPUTY DIRECTOR

Aug 05, 2024

REF: RFD.6304.6

TO: Mark Kawika McKeague, AICP
G70

FROM: Dean D. Uyeno, Acting Deputy Director 
Commission on Water Resource Management

SUBJECT: Early Consultation for DEA re DHHL's Wakiu Master Plan Project

FILE NO.: RFD.6304.6
TMK NO.: (2) 1-3-004:011, (2) 1-3-004:012, (2) 1-3-004:017, (2) 1-3-004:018

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://dlnr.hawaii.gov/cwrmm>.

Our comments related to water resources are checked off below.

1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EAP as having high water efficiency can be found at <http://www.epa.gov/watersense>.
5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://planning.hawaii.gov/czm/initiatives/low-impact-development/>
6. We recommend the use of alternative water sources, wherever practicable.
7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at <http://energy.hawaii.gov/green-business-program>.
8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf.

- 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
- 11. The Hawaii Water Plan is directed toward the achievement of the utilization of reclaimed water for uses other than drinking and for potable water needs in one hundred per cent of State and County facilities by December 31, 2045 (§174C-31(g)(6), Hawaii Revised Statutes). We strongly recommend that this project consider using reclaimed water for its non-potable water needs, such as irrigation. Reclaimed water may include, but is not limited to, recycled wastewater, gray water, and captured rainwater/stormwater. Please contact the Hawai'i Department of Health, Wastewater Branch, for more information on their reuse guidelines and the availability of reclaimed water in the project area.
- 12. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.
- 13. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
- 14. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
- 15. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- 16. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a steam channel.
- 17. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
- 18. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- 19. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.
- OTHER:

If you have any questions, please contact Ryan Imata of the Regulation Branch at (808) 587-0225 or Katie Roth of the Planning Branch (808) 587-0216

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

July 23, 2024

MEMORANDUM

FROM: ~~TO:~~

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division** (DLNR.ENGR@hawaii.gov)
- Div. of Forestry & Wildlife (rbyrosa.t.terrago@hawaii.gov)
- Div. of State Parks
- Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
- Office of Conservation & Coastal Lands
- Land Division – Maui District (dlnr.land.maui@hawaii.gov)
- Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: **FROM:**

Russell Y. Tsuji, Land Administrator *Russell Tsuji*

SUBJECT:

Early Consultation for DEA re DHHL's **Wakiu Master Plan** Project

LOCATION:

Wakiu Ahupua'a, Hana District, Island of Maui; TMKs: (2) 1-3-004: 011, 012, 017, and por. 018

APPLICANT:

G70 on behalf of Hawaii Department of Hawaiian Home Lands

Transmitted for your review and comment is information on the above-referenced subject matter. Please submit any comments by **August 16, 2024**.

If no response is received by the above date, we will assume your agency has no comments. Should you have any questions about this request, please contact Darlene Nakamura at darlene.k.nakamura@hawaii.gov. Thank you.

BRIEF COMMENTS:

- We have no objections.
- We have no comments.
- We have no additional comments.
- Comments are included/attached.

Signed:

Carty S. Chang

Print Name:

Carty S. Chang, Chief Engineer

Division:

Engineering Division

Date:

Jul 25, 2024

Attachments

cc: Central File

**DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION**

LD/Russell Y. Tsuji

Ref: **Early Consultation for DEA DHHL's Wakiu Master Plan Project**

Location: Wakiu Ahupua'a, Hana District, Island of Maui

TMK(s): (2) 1-3-004: 011, 012, 017, and por. 018

Applicant: G70 on behalf of Hawaii Department of Hawaiian Home Lands

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR, Chapter 1, Subchapter B, part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (fhathawaii.gov) could also be used to research flood hazard information.

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai: County of Maui, Department of Planning (808) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4896.

The applicant should include water demands and infrastructure required to meet project needs. Please note that all State projects requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.

Signed: 
CARTY S. CHANG, CHIEF ENGINEER

Date: Jul 25, 2024

JOSH GREEN, M.D.
GOVERNOR



KEITH T. HAYASHI
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
KA 'OIHANA HO'ONA'AUAO
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF FACILITIES AND OPERATIONS

August 19, 2024

Mr. Mark Kawika McKeague, AICP
G70
111 South King Street, Suite 170
Honolulu, Hawaii 96813

Re: Early Consultation for Chapter 343, Hawaii Revised Statutes (HRS), Draft Environmental Assessment (EA), Department of Hawaiian Home Lands (DHHL), Wakiu Master Plan Wakiu Ahupuaa, Hana District, Island of Maui, Tax Map Key (TMK): (2)1-3-004:011, :012, :017, por.:018

Dear Mr. McKeague:

Thank you for your letter dated July 19, 2024. The Hawaii State Department of Education (Department) has reviewed the information provided and has the following comments on the Department of Hawaiian Home Lands Wakiu Master Plan (Project).

Based on the proposed location, the Department has determined that the schools affected by the Project include Hana High and Elementary. As residential and potential school proposals are further developed, the Department would appreciate timely consultation to better determine the impacts upon the existing campuses.

Should you have any questions, please contact Cori China of the Facilities Development Branch, Planning Section, at (808) 784-5080 or via email at cori.china@k12.hi.us.

We appreciate the opportunity to comment.

Sincerely,

A handwritten signature in blue ink, appearing to read "Roy Ikeda".

Roy Ikeda
Interim Public Works Manager
Planning Section

RI:ctc

c: Facilities Development Branch

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

STP 00550.24
STP 8.3810

August 19, 2024

VIA EMAIL: dhhleastmauimp@g70.design

Mr. Mark Kawika McKeague, AICP
Principal
G70
111 South King Street, Suite 170
Honolulu, Hawaii 96813

Dear Mr. McKeague:

Subject: Early Consultation for Chapter 343, Hawaii Revised Statutes
Draft Environmental Assessment (EA)
Department of Hawaiian Home Lands (DHHL)
Wakiu Master Plan
Hana, Maui, Hawaii
Tax Map Key: (2) 1-3-004: 011, 012, 017, 018 (portion)

Thank you for your letter, dated July 19, 2024, requesting the Hawaii Department of Transportation's (HDOT) review and comments on DHHL's Wakiu Master Plan. HDOT understands that DHHL is proposing to develop the new Hawaiian Homestead on approximately 656.3 acres of land in Hana, Maui. The new homestead will be a rural community with agriculture, residential areas, public facilities, and small businesses. Access to the project will be via Hana Highway (State Route 360).

HDOT has the following comments:

1. A Traffic Assessment Report is proposed for the Draft EA; however, we recommend a Traffic Impact Assessment Report and a Multimodal Transportation Assessment, prepared by a licensed transportation engineer, be included in the Draft EA.
2. Describe strategies to reduce carbon emissions from the project, if any. Suggestions include:
 - a. Alternative modes of transportation: Incorporate elements that encourage and enhance the use of multiple types of transportation to reduce carbon emissions.

- b. Energy Efficiency: Implement energy-efficient technologies and practices, such as LED lighting.
 - c. Sustainable Materials: Use sustainable, recycled, or low-emission materials in construction and manufacturing.
3. The proposed development project is approximately 0.8 miles from the property boundary of Hana Airport (HNM). All projects within 5 miles from Hawaii State airports are advised to read the Technical Assistance Memorandum (TAM) for guidance with development and activities that may require further review and permits. The TAM can be viewed at this link: http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOTAirports_08-01-2016.pdf.
4. The project site is approximately 4,750 feet from the end of Runway 26 at HNM. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9, if the construction or alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. Construction equipment and staging area heights, including heights of temporary construction cranes, shall be included in the submittal. The form and criteria for submittal can be found at the following website: <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>. Please provide a copy of the FAA response to the Part 77 analysis to the HDOT Airport Planning Section.
5. Due to the project's proximity to HNM, the applicant and future residents should be aware of potential single event noise from aircraft operations. There is also a potential for fumes, smoke, vibrations, odors, etc., resulting from occasional aircraft flight operations over or near the project. These incidences may increase or decrease over time and are dependent on airport operations.
6. If a solar energy photovoltaic (PV) system is going to be installed, be aware that PV systems located in or near the approach path of aircrafts can create a hazardous condition for pilots due to possible glint and glare reflected from the PV panel array. If glint or glare from the PV array creates a hazardous condition for pilots, the owner of the PV system shall be prepared to immediately mitigate the hazard upon notification by the HDOT and/or FAA.

The FAA requires a glint and glare analysis for all solar energy PV systems near airports. The www.sandia.gov/glare website has information and guidance with the preparation of a glint and glare analysis. A separate FAA Form 7460-1 will be necessary for the solar energy PV system. After the FAA determination of the Form 7460-1 glint and glare analysis, a copy shall be provided to the HDOT Airport Planning Section by the owner of the solar energy PV system.

Solar energy PV systems have also been known to emit radio frequency interference (RFI) to aviation-dedicated radio signals, thereby disrupting the reliability of air-to-ground communications. Again, the owner of the solar energy PV system shall be prepared to immediately mitigate the RFI hazard upon notification by the HDOT and/or FAA.

7. The proposed project shall not provide landscape and vegetation that will create a wildlife attractant, which can potentially become a hazard to aircraft operations. Please review the [FAA Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants On Or Near Airports](#) for guidance. If the project's landscaping creates a wildlife attractant, the developer shall immediately mitigate the hazard upon notification by the HDOT and/or FAA.

Please submit any subsequent land use entitlement related requests for review or correspondence to the HDOT Land Use Intake email address at DOT.LandUse@hawaii.gov.

If there are any questions, please contact Mr. Blayne Nikaido, Planner, Land Use Section of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at blayne.h.nikaido@hawaii.gov.

Sincerely,



EDWIN H. SNIFFEN
Director of Transportation

Good morning Mark Kawika McKeague,

Thank you for including the Hawaii Documents Center at Hawaii State Library in the early consultation for the Wākiu Master Plan, in advance of preparing the project's draft environmental assessment.

This comment is in regard to the regulatory requirements outlined in the Hawaii Administrative Rules (HAR) §11-200.1-5 Filing Requirements for Publication and Withdrawal. It has been our experience that many agencies and applicants are unaware that the HAR directs that a paper copy of a draft environmental assessment be deposited with both the library nearest the project location and the Hawaii Documents Center, concurrent with filing the document with the Office of Environmental Quality Control for publication in *The Environmental Notice*.

We appreciate having this opportunity to call attention to this administrative rule, so it is not accidentally overlooked or a surprise to anyone in this process. We look forward to receiving a paper copy of the draft environmental assessment when it is prepared.

A list of library locations can be found at the Hawaii State Public Library System website:
<https://www.librarieshawaii.org/visit/branches/all-branches/>

The mailing/delivery address for the Hawaii Documents Center: 478 S. King Street, Honolulu, HI 96813.

Best Regards,

Kristin Laitila

Library Technician

Hawaii Documents Center

Hawaii State Library - Hawaii & Pacific Section

Hawaii State Public Library System

478 South King Street, Honolulu, HI 96813 | (808) 586-3544

Email: ohsdoc@librarieshawaii.org | Web: librarieshawaii.org



STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
L.T. GOVERNOR

MARY ALICE EVANS
DIRECTOR

235 South Beretania Street, 6th Floor, Honolulu, Hawai'i 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawai'i 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: <https://planning.hawaii.gov/>

DTS202407230905NA

Coastal Zone
Management
Program

August 13, 2024

Environmental Review
Program

Land Use Commission

Land Use Division

Special Plans Branch

State Transit-Oriented
Development

Statewide Geographic
Information System

Statewide
Sustainability Branch

Mr. Mark Kawika McKeague
Group 70 International, Inc., dba G70
111 South King Street, Suite 170
Honolulu, Hawai'i 96813

Dear Mr. McKeague:

Subject: Early Consultation for Chapter 343, Hawai'i Revised Statutes, Draft Environmental Assessment for Wākiu Master Plan, Wākiu Ahupua'a, Hāna District, Maui, Hawai'i; Tax Map Key: (2) 1-3-004: 011, 012, 017 (por.) and 018.

The Office of Planning and Sustainable Development (OPSD) is in receipt of your early consultation request, received July 23, 2024, on the preparation of an Environmental Assessment (EA), for Wākiu Master Plan, Wākiu Ahupua'a, Hāna District, Maui.

According to the early EA consultation request, the proposed Wākiu Master Plan will cover approximately 656 acres of Department of Hawaiian Home Lands (DHHL) land in Hāna, Maui. The project area is mauka of Hana Highway, east of Hana High & Elementary School, and south of Honokalani Road.

The Project aims to create a new homestead area in Wākiu, Hāna, Maui, balancing natural ecosystem preservation with low-density residential, agricultural, and pastoral development, in keeping with the surrounding Hāna community.

The proposed homestead development includes one-acre residential lots, one- and three-acre subsistence agricultural lots, pastoral lots, and kūpuna housing:

- One-acre residential lots, making up 88.5 acres or 78 lots, will be located closer to Hana Highway.
- One- and three-acre subsistence agricultural lots, totaling 143.8 acres or 65 lots, will be awarded as subsistence agricultural homestead leases, focusing on land cultivation for beneficiary families, with the construction of a home as optional.
- Four pastoral lots will cover 41.9 acres, and 6.5 acres will be set aside for 30 units of kūpuna housing.

Portion of the Project will include DHHL Kuleana Homesteading, which offers Subsistence Agricultural lots for approximately 31 three-acre agricultural homesteading lots.

Non-homestead uses for the project include a community use area for greenways and community gardens (11.6 acres), a charter school and community garden (12.6 acres), a cemetery (7.7 acres), a community center and park along Hana Highway (18.3 acres), and a second community center (2.46 acres). Approximately 32.3 acres are designated for a photovoltaic solar energy system. The commercial area will host retail, convenience, and food trucks, while the industrial area will support the lifestyle needs for boating and machinery care. Additionally, 138.8 acres of land will be dedicated to conserving hala and kukui groves already established and are significant to the Hāna community.

The OPSD has reviewed the subject request, and has the following comments to offer:

1. The EA shall discuss all triggers of the subject EA set forth in Hawai'i Revised Statutes (HRS) Chapter 343, and list all required permits and approvals for the proposed shoreline stabilization project.

The Hawai'i Coastal Zone Management (CZM) Law, HRS Chapter 205A, requires all state and county agencies to enforce the CZM objectives and policies. The subject EA should include an assessment with mitigation measures as to how the proposed action conforms to each of the CZM objectives and supporting policies set forth in HRS Chapter 205A-2, as amended.

Pursuant to Hawai'i Administrative Rules (HAR) § 11-200.1-18, the EA needs to consider alternatives to the proposed action, and assess their potential impacts respectively.

2. The OPSD recommends that the subject EA discuss whether the proposed Wākiu Master Plan will involve any lands that are located within the county designated Special Management Area (SMA).

According to Attorney General Opinion No. 72-21 and the legal memorandum dated October 23, 1987, the OPSD acknowledges that the SMA Permit requirements do not apply to Hawaiian Home Lands that are deemed required for the purpose of the Hawaiian Homes Commission Act (HHCA) of 1920. However, if the DHHL through its Commission deems that Hawaiian Home Lands are not required for the purpose of the HHCA of 1920, then such lands may be subject to SMA permit requirements.

3. To assess potential impacts of sea level rise on the property area, the OPSD suggests the EA refer to the findings of the Hawaii Sea Level Rise Vulnerability and Adaptation Report 2017 and its 2022 update, accepted by the Hawaii Climate Change Mitigation and Adaptation Commission. The Report, and Hawaii Sea Level Rise Viewer at <https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/> particularly identifies a 3.2-foot sea level rise exposure area across the main Hawaiian Islands which may occur in the mid to

latter half of the 21st century. The OPSD suggests that the EA provide a map of the 3.2-foot sea level rise exposure area in relation to the properties, and assess whether there will be potential impacts of 3.2-foot sea level rise on the areas under the Master Plan.

4. The EA shall provide and discuss the site-specific Best Management Practices (BMPs) in detail to prevent any runoff, sediment, soil and debris potentially resulting from associated construction activities from adversely impacting the coastal ecosystems and the State waters as specified in HAR Chapter 11-54.

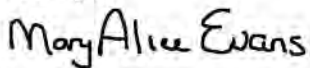
The OPSD has developed a Low Impact Development (LID) Practitioner's Guide for Hawai'i. This LIP Guide includes discussions of new and updated LID site design strategies and BMPs and provides guidance for selecting the most appropriate LID for a development or redevelopment project.

OPSD recommends the subject EA refer to the following LID Guide when developing mitigation approaches for runoff control at https://files.hawaii.gov/dbedt/op/czm/ormp/ormp_implementation/2023LIDPractitionersGuide.pdf.

5. In enacting Act 224, Session Laws of Hawai'i 2005, the legislature found that light pollution in Hawai'i's coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. Pursuant to HRS §§ 205A-30.5 and 205A-71, exterior lighting and lamp posts associated with the proposed action shall be cut-off luminaries to provide the necessary shielding to mitigate potential light pollution in the coastal areas and lessen possible seabird strikes. No artificial light from the proposed action shall be directed to travel across the property boundary toward the shoreline and ocean waters.

If you respond to this comment letter, please include DTS 202407230905NA in the subject line. For any questions regarding this letter, please contact Shichao Li of our office at (808) 587-2841 or by email at shichao.li@hawaii.gov.

Sincerely,



Mary Alice Evans
Director

RICHARD T. BISSEN, JR.
Mayor

KATE L. K. BLYSTONE
Director

ANA LILLIS
Deputy Director



DEPARTMENT OF PLANNING
COUNTY OF MAUI
ONE MAIN PLAZA
2200 MAIN STREET, SUITE 315
WAILUKU, MAUI, HAWAI'I 96793

September 3, 2024

Mr. Mark Kawika McKeague, AICP, Principal
PBR Hawai'i Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-4307

Dear Mr. McKeague:

SUBJECT: EARLY CONSULTATION COMMENTS FOR PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL) WĀKIU MASTER PLAN IN HĀNA, ISLAND OF MAUI, HAWAI'I; TMK: (2) 1-3-004:011, 012, 017 AND 168 (POR.) (RFC2024-00072)

The Department of Planning (Department) has reviewed the above-referenced project. For preparation of the Draft EA, we offer the following comments:

- 1) The subsistence agricultural homestead areas are all proposed to be one-acre in size, which we note would be considered "substandard," according to Maui County Code, Chapter 19.30A.030. We acknowledge that DHHL is exempt from various land use controls, so one-acre lots are acceptable. Because the lots proposed will be smaller than the two-acre lots typically on Agricultural land, please address how many farm dwellings will be allowed per lot and the prospective dwelling sizes.
- 2) The Department would like to see more information on the proposed kupuna housing. Will there be a property manager and will there be an affordable housing agreement in place? Please provide qualification and income requirements, if any.
- 3) Since the August 2023, wildfires, the Department is being more cautious about any potential fire concerns. We recommend coordinating with the Department of Fire & Public Safety's Fire Prevention Bureau on project development, specifically access to water source, roadway configuration to enable adequate vehicle turn-around throughout the region and possible fire

breaks between proposed uses such as forest area, pastoral, agricultural and residential lots. In addition, because the photovoltaic areas are shown in close proximity to housing and pasture, the Department is concerned that this could pose a greater fire concern due to any reflecting light on dry land.

- 4) In the Draft EA, Department would like to see more information about the proposed photovoltaic areas, such as any collaboration with a public utility. Please address whether the system will serve the entire Hāna region and if farm animal grazing will be allowed amongst the panel areas. Also, please provide information on a decommissioning plan, if there will be one. It would be helpful to see a photo simulation of the panels amidst the project area. Will they be shielded by a landscape buffer from other surrounding areas?
- 5) We recommend that sidewalks be installed on both sides of roadways to enable multi-modal access throughout the site. Additional multi-modal paths incorporated throughout the project area is preferable.
- 6) Please provide more information about the proposed commercial and industrial uses. The Department understands that DHHL often leases space to people who are not necessarily beneficiaries. Will there be a property manager and will there be any specific types of industrial businesses such as light industrial vs. heavy industrial, and any proposed mitigation, as the area will be located adjacent to residential homestead lots.

We look forward to reviewing the Draft EA. Should you require further clarification, please contact Staff Planner Tara Furukawa at tara.furukawa@mauicounty.gov or at (808) 270-8205.

Sincerely,



KATE L. K. BLYSTONE
Planning Director

Copy to: Jordan E. Hart, Planning Program Administrator (PDF)
Jacky Takakura, Planning Program Administrator (PDF)
Scott Forsythe, Administrative Planning Manager (PDF)
Wilton Leauanae, Staff Planner (PDF)
Tara K. Furukawa, Staff Planner (PDF)

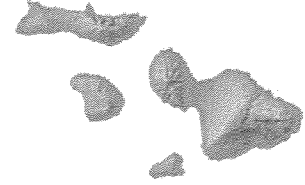
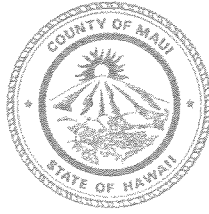
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RICHARD T. BISSEN, JR.
Mayor

KATE L. K. BLYSTONE
Director

ANA LILLIS
Deputy Director



DEPARTMENT OF PLANNING
COUNTY OF MAUI
ONE MAIN PLAZA
2200 MAIN STREET, SUITE 315
WAILUKU, MAUI, HAWAII 96793

October 3, 2024

Mr. Mark Kawika McKeague
G70
111 South King Street, Suite 170
Honolulu, Hawai'i 96813-4307

Dear Mr. McKeague:

SUBJECT: AMENDED EARLY CONSULTATION COMMENTS FOR PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL) WĀKIU MASTER PLAN IN HĀNA, ISLAND OF MAUI, HAWAII; TMK: (2) 1-3-004:011, 012, 017 AND 168 (POR.) (RFC2024-00072)

The Department of Planning (Department) issued the previous letter dated September 3, 2024 in error, with incorrect contact information. This letter shall supersede the previous version. For preparation of the Draft EA, we offer the following comments:

- 1) The subsistence agricultural homestead areas are all proposed to be one-acre in size, which we note would be considered "substandard," according to Maui County Code, Chapter 19.30A.030. We acknowledge that DHHL is exempt from various land use controls, so one-acre lots are acceptable. Because the lots proposed will be smaller than the two-acre lots typically on Agricultural land, please address how many farm dwellings will be allowed per lot and the prospective dwelling sizes.
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Mr. Mark Kawika McKeague
October 3, 2024
Page 2

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- 5) We recommend that sidewalks be installed on both sides of roadways to enable multi-modal access throughout the site. Additional multi-modal paths incorporated throughout the project area is preferable.
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We look forward to reviewing the Draft EA. Should you require further clarification, please contact Staff Planner Tara Furukawa at tara.furukawa@mauicounty.gov or at (808) 270-8205.

Sincerely,



KATE L. K. BLYSTONE
Planning Director

Copy to: Jordan E. Hart, Planning Program Administrator (PDF)
Jacky Takakura, Planning Program Administrator (PDF)
Scott Forsythe, Administrative Planning Manager (PDF)
Wilton Leauanae, Staff Planner (PDF)
Tara K. Furukawa, Staff Planner (PDF)

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Aloha Mr. McKeague,

We received the attached letter today. Please be advised that the Department of Housing & Human Concerns (DHHC) no longer exists as the DHHC has bifurcated into two separate departments effective 7/1/24: Dept. of Housing and Dept. of Human Concerns. I know it will take some time for everyone to get used to this, myself included.

Mr. Richard Mitchell is currently the acting Director of Housing and Ms. Lori Tshako is the Director of Human Concerns.

As such, I wanted to inform you that our office will not be responding to this early consultation request as Housing is no longer under this department's purview. That said, may I kindly suggest that you resend a letter to the Department of Housing's Acting Director, which can be addressed to him at 2065 Main Street, Ste. 108, Wailuku, HI 96793.

Best regards,

Kim

RICHARD T. BISSEN, JR.
Mayor

JOSIAH K. NISHITA
Managing Director

PATRICK S. MCCALL
Director

SHANE T. DUDOIT
Deputy Director



DEPARTMENT OF PARKS AND RECREATION
COUNTY OF MAUI
700 HALI'A NAKOA STREET, UNIT 2
WAILUKU, MAUI, HAWAII 96793
www.mauicounty.gov

July 29, 2024

Mark Kawika McKeague
G70
111 S. King Street, Suite 170
Honolulu, HI 96813-4307

Dear Mr. McKeague:

SUBJECT: EARLY CONSULTATION FOR CHAPTER 343, HAWAII REVISED STATUTES (HRS) DRAFT ENVIRONMENTAL ASSESSMENT (EA), DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL), WAKIU MASTER PLAN, WAKIU AHUPUA'A, HANA DISTRICT, ISLAND OF MAUI, TAX MAP KEY (TMK): (2) 1-3-004:011, :012 :017, por. :018

Thank you for the opportunity to review and comment on the subject project. The Department of Parks and Recreation has no comment at this time.

Should you have any questions, please feel free to contact me or Samuel Marvel, Chief of Planning and Development, at samual.marvel@co.maui.hi.us or (808) 270-6173.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick S. McCall".

PATRICK S. MCCALL
Director of Parks and Recreation

c: Samuel Marvel, Chief of Planning and Development

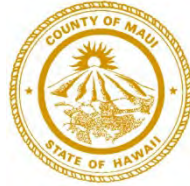
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RICHARD T. BISSEN, JR.
Mayor

JOSIAH K. NISHITA
Managing Director

JOHN STUFFLEBEAN, P.E.
Director

JAMES A. LANDGRAF
Deputy Director



DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
<http://www.mauicounty.gov/water>

December 3, 2024

Mr. Mark Kawika McKeague, AICP
Principal
G70
111 S. King Street, Suite 170
Honolulu, Hawaii 96813

SUBJECT: Wakiu Master Plan Early Consultation

Dear Mr. McKeague,

The Department of Water Supply (DWS) received your request for early consultation dated July 19, 2024, regarding the Wakiu Master Plan. The Department reviewed the water demand estimates prepared by your office as well as the overall site plan, and provides the following responses:

Water Demand Estimate

The worksheet appears to be consistent with the assumptions of the County of Maui Water Use and Development Plan (WUDP), Table 17-21, where applicable, and the 2002 Water System Standards. DWS concurs with the estimated average day, maximum day, and peak day water consumption.

Infrastructure

The existing 6" water main in Hana Highway, fronting the proposed development, will likely require upsizing to 12" to accommodate fire flow necessary for the proposed land use. The main will also likely be required to extend past the Charter School and Community Garden property before looping through the development.

The proposed changes in land use appear to decrease projected daily consumption expectations; therefore, the development is not anticipated to be a nexus for additional source. Per WUDP Chapter 17, a system specific analysis will be required to assess capacity and source development needs.

"By Water All Things Find Life"

Page 2

Additional storage will be required at an elevation sufficient to serve the higher elevations of the development with adequate system pressure under the average day demand and fire flow scenarios.

Should you have any questions regarding this early consultation response, please do not hesitate to contact me at 808-270-7669 or james.jensen@co.maui.hi.us . Mahalo for your time and consideration.

Respectfully,

James L. Jensen, P.E.
Engineering Program Manager

Cc: John Stufflebean, P.E., Director
Eva Blumenstein, Planning Program Manager
Piyalerg Kongsil, P.E., District Engineer, Central District

HAWAII LAND USE GROUP LLC
PO BOX 880779 PUKALANI HI 96788

July 16, 2024

RE: Request for Information and Consultation
Wākiu Homestead Project, East Maui

TO: DHHL Planning Office @ Julie-Ann.Cachola@Hawaii.gov
Group 70 International (Design and Planning) @ DHHLEastMauiMP@G70.design

Aloha,

I'm representing the owners of a ~24.1-acre property located at 3128 Olopawa Rd Hana HI 96713, TMK (2) 1-3-004:013, which is located above the Wākiu Homestead Project. The landowners (Griffith Et al.) have legal access to their property via a gravel road (Olopawa Rd.) which runs through DHHL's parcel (2) 1-3-004:012, the 590+-acre parcel that comprises the bulk of the Wākiu Homestead Project.

The Wākiu Project will change the means and location of access to the landowners' property and will necessarily change the environs of the region. At this time there are no objections or concerns about Wākiu Project, but the owners have some requests for information in general, and to determine how the project may affect their plans to construct a second dwelling on the property and divide their respective interests through subdivision.

We respectfully request that the landowners become a consulted party in your compliance with Hawaii's environmental review process. Similarly, we request that the landowners be notified of any new developments, meetings, and publications advancing the Homestead Project. Please provide such notices to the following:

Robb Cole, Planner
Hawaii Land Use Group
PO Box 880779, Pukalani HI 96788
(808) 298-7622 R Cole@HawaiiLandUseGroup.com

We have reviewed PDF document provided as part of the April 2024 "Wākiu Share-Out"; we request your clarifications and answers to the following questions about the Project and its permitting and processing:

1. EA Process
 - a. Do you have an anticipated publication date for the Project's Draft EA?
2. New Roadways
 - a. Can you clarify when and/or at what stage DHHL will be selecting a future roadway plan from the various options presented
 - b. Does DHHL intend to retain ownership of the roadways or convey them to Maui County?

- c. The PDF from the Share-Out shows two forms of Maui County Code compatible streets. Is the implication that the roadways within the Homestead Project will comply with either the Residential Minor Street (rural) or Agricultural Minor Street specifications?
 - d. Is there any information you can provide at this time that would address how the subject landowners will retain access to their property as the Wākiu Homestead Project is constructed.
 - e. With the understanding that timelines will change, what is the current outlook for the construction dates of the various project stages?
3. Subdivision Process
 - a. Will DHHL be processing the ultimate layout of Homestead roadways and developable lots through Maui County's Subdivision Process?
4. Fire Infrastructure
 - a. Per the "Infrastructure" slide in the PDF, we note the location of a new 8" waterline on contour with the lower portion of the Project. How will the various uses (Agricultural Homesteads, Pastoral, etc.) proposed in the mauka portions of the Project provide for individual Fire Protection needs?
 - b. Will the dwellings and structures in the Project need to undergo County Building Permits or another means of review by Maui County's Fire Prevention Bureau?

Thank you for your time and consideration of our requests,

Respectfully submitted,

Robb Cole, Hawaii Land Use Group

Dear Mr. McKeague

Thank you so much for the information you sent regarding development of the State Land in Hana, Maui. I am a neighboring property of this land and am so pleased that there are plans regarding this beautiful property. I have owned and loved my little farm for fifty years and have managed to keep Miconia and other invasives off my land and have tried hard with the help of the MISC to keep Miconia off the State Land when I would see it moving forward. I bring up this because it affects the land to be developed and also all the land downwind of the State Land. Also, there are waterways on that Land - some active, and some not so active. I would like to meet up on site and show and discuss some of these problem areas. I know that you are very capable in what your tasks are, but I feel that it is a duty to tell you what I know from all those years of observation.

Therefore I am requesting a meeting on site, if possible, to discuss the invasives, the egress on my property - an easement - access to my farm, and my land on the Hana side of that easement, which is vague to say the least on the maps you sent.

I am looking forward to helping you realize this plan and think it is good for the community. I will do all I can to help you move forward and to give you any information that I have.

Warm Regards,

Cheryl Maysels

ph: 310 780-0526

hanacheryl@gmail.com

3096 Hana Hwy, Hana, Maui 96713

mailing address: 23717 1st St. NE

Aurora, OR, 97002

DHHL TAKE YOUR G 70 EVIL DOINGS AND GET OUT OF HANA HOW DARE YOU JACK ASS'S DO THIS TO US. WE HAVE OUR WATER TABLE, OUR PEACE OF LIVVING AND YOU COME TO US LIKE THIS. I DO NOT SUPPORT YOUR PLANS FOR HANA. WE NEED THE HAWAIIAN KINGDOM GOVERNMENT BACK YOU HAWAIIAN HOMES COMMIT GENOCIDE ON OUR HANA TOWN. GO TO HELL AND GET OUT OF WAKIU, GO BUY HANA RANCH YOU DAM CROOKS!!

YOU PILAU! ALWAYS WAS KUHIO IS PILAU TOO. NO THINK I IGNORANT LIKE MOST. PILAU GET THE HELL OUT OF WAKIU. GO BUY HANA RANCH YOU DEVILS! DESECRATION OF HANA PILAU ALL YOU KNOW IS MONEY YOU DONT KNOW SHIT ABOUT AGRICULTURE, YOUR VERY CORRUPT AND EVIL.

WITH ALL THAT AG LOTS AND THI MASSIVE DEVELOPEMENT ON OUR WATER TABLE, WHERE'S THE PROFITS IN AGRICULTURE, CO OP TO BENEFIT STATE TAXS YOUR IDIOTS. WHERE'S THE TREATY OF ANNEXATION, EVIL

WE LIVE HEAR IN PEACE, HANA. ALL OF YOU I WISH YOU TO HELL*

YOU KNOW ALL OF YOU IS BIG TIME FUCKED UP. FOREST RESERVE, LAUHALA GROVE, ALL OF YOU IS FUCKIN ASS HOLES TO COME TO WAKIU WITH THIS PLAN. YOU CAN ALL GET OUT OF HANA AND GO TO HELL, DHHL YOU AND THE FAKE STATE IS EVIL. GO TO HANA RANCH YOUR CONSULTANTS. YOU NO NEED EIS, YOU ABOVE THE LAW!!

YOU KNOW WHAT FUCK ALL OF YOU. THIS IS A FULL ON COMMERCIAL OPERATION YOU HAVE IN YOUR SCAM FOR HANA. ITS ALL PRESERVATION IN HANA OPEN SPACE. THIS G70 IS A FEDERAL BULL SHIT WITH YOU HAWAIIAN HOMES AND THE STATE OF HAWAII. PILAU, GO TO HELL!! AG LOTS, YOU LIERS THIS IS A FULL ON HOUSING COMMERCIAL AREA ON OUR WATER TABLE. WHERE YOUR TREATY OF ANNEXATION!!?? STATE OF HAWAII. YOU AND THE FEDERAL ACT LIKE BULLYS! HAWAIIAN HOMES YOUR PUPPET!

DHHL AND THE STATE BULLYS. GO TO LAHAINA WITH THESE PLANNNS, GO GET THE HELL OUT OF HANA. WE RURAL. YOUR EVIL IDEAS IS COMMERCIAL, GO LAHAINA

your G 70 letter is very disruptive to the environment of Hana, evilish. Take your Wakiu Plan To Lahaina and your money to. YOUR G 70 PLAN IS VERY DISRESPECTFUL TO OUR RURAL COMMUNITY you folks vibe is Bullying

August 16, 2024

G70

111 S. King Street, Suite 170
Honolulu, HI 986813-4607

ATTN: Mark Kawika McKeague, AICP
Phone: 808-523-5866
Email: dhhleastmauimp@g70.design

Subject: Wakiu Project, Maui County, Hana, HI

Mr. McKeague:

My sister and I own property directly across from the Wakiu Project proposal at the corner of Honokalani Road. As typical of the DHHL reputation amongst indigenous Native Hawaiians, this project is not likely to benefit the local people who live in the Hana area. The income levels will not allow most who live there take advantage of this project, a project that is turning Hawaiian agricultural land into a housing project to be homestead and non-homestead tracts. It appears that once again Hawaii is using Native Hawaiian land to bring outsiders to live on Maui. Money, as usual with the State of Hawaii, will speak the loudest and have the most influence over those who are supposed to be looking out for the Native Hawaiians. Recently we heard that residents in Ke'anae are primarily white, foreigners and fewer Native Hawaiians. If this is true, this is the fate that our current government is allowing to happen in communities across Hawaii. It is sad to see, but unfortunately inevitable given the power of the State of Hawaii and its corruption levels across its government entities.

Besides reaping havoc amongst the locals that already have to deal with disrespectful tourists and corrupt government officials, this project appears to have great benefits while it will actually in the long run only benefit outsiders. Any study of the impacts, all of them, must be honest and factual. As property owners we demand that your analysis of this project look at the impacts as they TRULY will affect the community in Hana. No lies, no bias, no focus on the money, no influence by government, and no influence by big business; analyze what is actually going to happen biologically, to the community and culture, wildlife risks, archaeological impact, water shed issues, and the incredibly horrible traffic issue that already exists without this project.

The Maui Island Plan prepared for the State of Hawaii by the DHHL in September 2004, 20 years ago, proposed the anticipated plan for Wakiu. Section 6. East Maui discusses future plans for this and other areas within the Hana Community Plan. Are any of the individuals involved with this analysis still alive? Since this analysis is EXTREMELY old and the changes in land, cost, and critical impact has been quite significant, it is VITAL that any analysis done currently for this project follow actual data and not 'adjusted' data to valid the State of Hawaii's plans. The first issue in this section of the plan is Regional Infrastructure. Hana Hwy is specifically mentioned and discussed. However, there is no mention of

improvements to Hana Hwy to handle the traffic impacts of future plans. There are NO proposed updates to Hana Hwy anywhere in this section. The only points discussed are closure impacts and project access impact onto Hana Hwy. Due to the age of this analysis, it is most important that Hana Hwy be a large focus of all projects proposed in the Hana community. Maui County has already forced bus tours be used to take tourists to Hana to ease the negative impact of individual automobiles.

The largest impact to our ancestral land is the unbelievable, unacceptable problem with the traffic and lack of consideration of owner rights by the State of Hawaii and foreigners who are visitors there. Hana Hwy has long had traffic issues that have never been addressed by the State of Hawaii. The impact of foreigners who disrespect the laws, nature, and private property is so extreme yet nothing has been done to address it. Now, a new project will only increase and exacerbate the already fragile roadway and access issues.

As an example of care the State of Hawaii has for the roads in Hana, the recent proposal for improving the Waianapanapa State Park area is set to seriously impact Honokalani Road. This access is an easement taken from the current land owners via eminent domain in 1970. Although compensation is listed in the order, it is not clear if those funds were actually paid to the land owners. My ancestors who owned the property at the time have passed and it is not possible to verify that payment was made from our end. However, according to the representative for the State of Hawaii during the meeting for the Waianapanapa State Park project, the State of Hawaii is supposed to maintain the access road. The level of traffic and automobiles that access this road is offensive, destructive and encourages foreigners to break the law all the time. True to an uncaring Hawaii government agency, historically any maintenance actually destroyed owner property and was never fully or correctly addressed. Also, Mr. Larry Pacheco of the DLNR, is aggressive, verbally condescending, and disrespectful in his approach to owner concerns and comes across as if the State of Hawaii can do whatever they want with the easement without regard to the locals who live there. He threatened the owners in the meeting that the State of Hawaii could just stop any help with the easement and move the entrance to the park to another location. Property owners along Honokalani Road would actually prefer this, but review of the possibility started MANY years ago and we just recently received an email saying that will happen in approximately two years. When asked about fixing any issues with private property during the construction, Mr. Pacheco claimed the State of Hawaii would fix any destructive impact that was perpetrated by the project. We will see if his word is real and not a lie, especially since he represents the State of Hawaii. The historical experience in Hana is that the State of Hawaii will NOT keep their word. Also, during this meeting with the Hana Advisory Committee, the traffic impact on Hana Hwy was brought up as a concern. The answer from Mr. Pacheco was that the State of Hawaii had no plans to do any road improvements along Hana Hwy to address traffic issues that have plagued property owners due to increased tourist traffic. All of this is proof, with only one project, that the State of Hawaii has no concerns over traffic, private property, or local impact to any project they bring to Hana.

Next, the police response and legal rights they have in the Hana area are also a concern. We have had to school local officers that violating private property access must follow the laws set forth in the US Constitution. If the Maui police departments can't even educate the police officers who are designated

to uphold the law, what chance do locals have when it comes to foreigners violating the laws. Trespassing by police occurs regularly. How can local land owners or residents trust that they will uphold traffic laws or laws keeping private property private from trespassing foreigners? It is currently absolutely necessary for owners and residents to put up multiple No Trespassing signs and still, foreigners visiting Maui abuse land owners' rights taking their entitled, selfish bodies onto private and protected land. They have no respect for Hawaii, the land, nature, or anything because no one stops them and the police bow down to them.

Given the history of the State of Hawaii keeping their word, backing their promises, respecting local rights, and preferring tourists over Native Hawaiians, it is doubtful that the traffic impact will really be addressed in an honest way. We are concerned that property owners will NOT be considered and their rights will be violated regarding any changes the Wakiu Project brings to the table. Our concerns regarding the Wakiu Project are as follows and the request on how to address them:

1 – Infrastructure on Hana Hwy:

- a. Widen lanes as possible with sidewalks on both sides to allow foot traffic.
- b. Resurface Hana Hwy.
- c. High-reflective identifiers marking center and sides of Hana Hwy.
- d. Maintain side edges as necessary to keep pedestrians safe.
- e. Build support structures to protect private property along Hana Hwy that are significantly impacted by traffic patterns, i.e. blind corners, sharp curves, large dips or high edges that can result in accidents destroying private property.
- f. Commitment from the State of Hawaii to property maintain the road with no cost to property owners for replacement due to destruction to private property caused by increased public traffic access from tourism and housing projects.

2 – Traffic Management:

- a. Large signs identifying NO PARKING, NO STOPPING, and NO TRESSPASSING areas.
- b. Speed bumps along potential high speed sections to slow traffic to protect lives.
- c. Police monitoring and traffic citations for violations to speed limits to protect lives.
- d. Police commitment to fairly apply the traffic laws to all who travel the Hana Hwy and not discriminate against locals.
- e. Create a daily limit on tourist access to a flat amount each day by implementing a day pass to the Hana area that must be displayed openly on each vehicle. Owners of vehicles violating the day pass limit will be charged large fines that benefit Maui County.
- f. State employee (police, parks and rec, etc.) monitor vehicles passing a specified point on Hana Hwy to observe any marker violations to the day pass limits: identifying and charging violators.

When my sister Tara lived in Hana, she was exposed to so much negative interactions with the government entities that oversee projects in Hana that we find it hard to believe that the Native Hawaiian's and local community will be a priority.

It is our hope that change is coming and the right things are done to protect Hana from bad infrastructure and inappropriate tourist management.

Sincerely,

A handwritten signature in black ink, appearing to be 'Tanya Teig', written in a cursive style.

Tanya Teig
Property Owner
Hana, HI