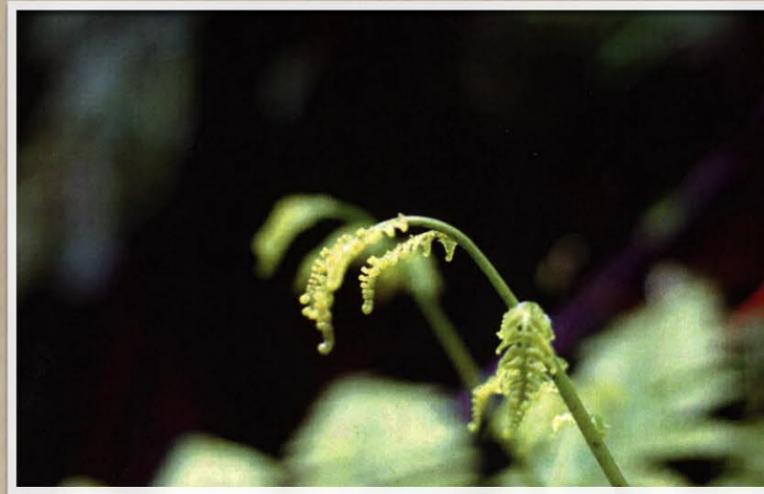


MAKU‘U



REGIONAL PLAN

December 2010



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DEPARTMENT OF HAWAIIAN HOME LANDS

KAULANA H.R. PARK

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Hawaiian Homes Commission

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CONTENTS

I. Introduction	3
Regional Plan Process	4
Partnering Benefits	5
Maku'u Farmers' Association Partnerships	6
II. Homestead Regional Profile	
Maku'u Homestead Association and Beneficiaries	7 - 8
Regional Map & Demographics	9 - 10
Elected Officials and Political Boundaries	11 - 12
History and Cultural Aspects of the Area	13
DHHL Lands	14
III. Infrastructure	
Roads	15 - 16
Water	17 - 18
Utilities	19 - 20
Public Facilities	21 - 22
Public Facilities - Development Projects	23 - 24
IV. Homestead Priorities	
Issues and Opportunities	25
Potential Projects	26
Priority Project - Maku'u Farmers' Association Community Center - Site Preparation	27 - 28
Priority Project - Maku'u Offsite Water System, Phase 2	29 - 30
Priority Project - Sustainability and Renewable Energy Initiatives	31 - 32
Priority Project - Farm Plans, Capacity Building and Promotion of Agriculture	33 - 34
Priority Project - Enforcement of Lease Provisions	35 - 36

Disclaimer: The regional plan update was developed in 2010 under the direction of the leadership identified.



I. INTRODUCTION

The mission of the Department of Hawaiian Home Lands (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. Regional plans provide the means to solidify visions and partnerships that are essential to effectively manage Hawaiian Home Lands trust lands for the betterment of native Hawaiian beneficiaries.

This regional plan is one of twenty (20) regional plans that DHHL is developing statewide. In these regional plans, DHHL takes on a leadership role in the region, working to strengthen the growth of the area, developing partnerships to leverage diverse resources and capital investment; and fostering beneficiary participation in determining the future direction of the homestead community. The regional plans provide the Department and the affected homestead community opportunities to assess land use development factors, identify issues and opportunities, and identify the region's top priority projects slated for implementation within the next three (3) years.

WHAT ARE REGIONAL PLANS?

Regional Plans are part of DHHL's three-tiered Planning System (see Figure 1). At tier one is the General Plan which articulates long-range goals and objectives for the Department. At the second tier, there are 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. Also at this second tier are the Department's Island Plans that identify the Department's land use designations per island which function similar to the counties' land use zones. The Regional Plans are located at the third tier in the Department's Planning System which focuses at the community/regional level. The Regional Plans apply the goals, policies, and land use designations to specific geographic regions. The Regional Plans are a means to:

- Identify data - people, lands, and infrastructure of homestead communities and the surrounding region;
- Identify what DHHL and other landowners are planning to do;
- Provide the primary mechanism for beneficiary input in the development of their homestead communities;
- Identify issues and potential projects; and
- Identify Priority Projects determined by the Department and homestead community.

DHHL's Planning System

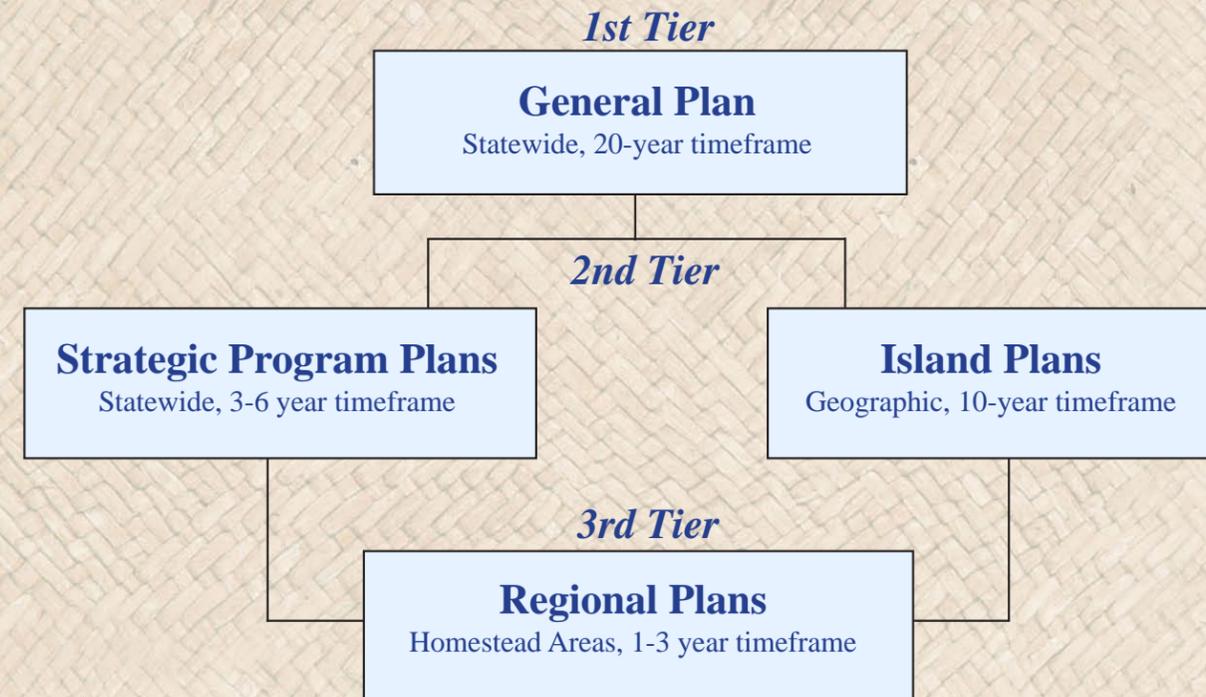


Figure 1. DHHL's Planning System.



HOW ARE REGIONAL PLANS DEVELOPED?

The regional plans are developed in conjunction with lessees of the region as well as regional stakeholders (landowners, agencies, other organizations) in a series of planning meetings as illustrated in Figure 2. During these meetings, issues and opportunities that should be addressed in the regional plan are identified and a list of potential projects is developed to address those issues and opportunities. From this list lessees determine by consensus, their top five (5) priority projects that are written up with project details, budget estimates, and other pertinent project planning information. Draft regional plans are then subject to the approval of the Hawaiian Homes Commission, which means that the Commission and Department officially support the priorities identified in the regional plan.

Upon approval, the homestead community, the Department, and other development partners can seek necessary funding and pursue the implementation of the Priority Projects. The Priority Projects is a key component of aligning support and providing focus to efforts to develop the region. Finally, since DHHL knows that regional development is a dynamic process with constantly changing opportunities and emerging issues, regular regional plan updates are built into the planning process. In this way, regional plans are updated as needed, which generally have amounted to biennial updates (one update every two years), in order to keep abreast of changing conditions and new opportunities.

HOW ARE REGIONAL PLANS USED?

As a compilation of existing plans and proposed projects for the region, the regional plan helps to coordinate the orderly development of regional infrastructure improvements. With the addition of lessee input in the process, the regional plans become a powerful tool to focus energies and efforts, align interests, and secure funding for the top priorities identified in the regional plan. In this way, regional plans have become a critical tool to unify and support our beneficiary community.



Figure 2. The Regional Plan Development and Update Process.



PARTNERING BENEFITS



Shared Costs & Multiple Financing Options

DHHL is working in partnership with other government agencies, the private sector and community organizations to develop its lands and improve community life. DHHL believes that partnerships are an effective way to leverage resources and capital investments, mitigate undesirable impacts of development, coordinate area growth, reduce risks in large scale community projects, and create broad community benefits.

These partnerships allow for better prioritization and coordination of infrastructure improvement and the development of regional and public residential facilities. This coordination helps individual organizations achieve their goals while bringing long term benefits to the community and region.



DHHL brings to these partnerships:

- Land for development in strategic locations;
- Potential use of tax-exempt financing;
- Access to legislative appropriations;
- Access to federal funding such as HUD, USDA, and SBA;
- Flexibility in the application of development standards, zoning, and design; and
- Cultural understanding and resources.

DHHL has participated in a number of successful partnerships. A few of these are highlighted here.

Public Facilities Partnership

DHHL participated in a number of partnerships involving public facilities and community resources. The most notable partnerships brought together Hawaiian agencies and non-profit organizations into a multi-service complex where a broad range of programs are housed to serve the public. Such multi-service complexes have been built on Hawaiian Home Lands in partnership with Kamehameha Schools, Queen Lili'uokalani Children's Center, ALU LIKE, Papa Ola Lōkahi, the Office of Hawaiian Affairs, Hawaiian community organizations, and the counties.

Through a series of management partnerships with DLNR and the Nature Conservancy, unique ecosystems and historic sites are being protected. Examples include the Hakalau Forest Reserve, the 'Āina Hou Management Area, the Pālā'au and Mo'omomi preserves, the Kalaupapa peninsula, and the Kamā'oa-Pu'u'eo National Historic District where koa forests, endangered plants and animals, and native species are being protected for future generations.

Infrastructure Partnership

DHHL has partnered with county governments and utility providers on infrastructure improvements that benefit the entire community. DHHL has participated in water-system development with the counties by providing funding, land easements, and access to federal and state programs. An example is the Maku'u Water System on Hawai'i.

DHHL has also provided numerous easements over its lands to electrical, water, telephone, and cable companies to service both homestead areas and the general public.

Residential Partnership

Through partnerships, DHHL has reduced the cost of homes to low-income beneficiaries. DHHL has done this by sharing in the cost of infrastructure, helping to secure tax credits, and using self-help methods of construction. Partnerships resulted in self-help home construction and the development of rent-to-own housing units on Hawai'i, Maui, Kaua'i and O'ahu. In these types of partnerships, DHHL provides the land, secures federal grants and provides access to, or assistance in, acquiring tax credits, subsidies, or other financing.

Maku'u Farmers' Association Partnerships

Each Sunday the Maku'u Farmers' Association (MFA) provides various non-profit and community resource organizations with opportunities to promote their programs at the Maku'u Farmers' Market free of charge. The MFA also supports community members by funding educational scholarships, financial literacy classes, job training and providing volunteer opportunities for youth. Other partnerships and programs developed over the last 25 years are as follows:

Partner or Program	Description
ALU LIKE	<ul style="list-style-type: none"> • Summer youth work training program
Bob's	<ul style="list-style-type: none"> • Donated time and machinery to level roadways and fill pot holes created by rain run off from Highway 130
Bryson's Cinders	<ul style="list-style-type: none"> • Donated use of front loader to distribute materials on site
Christian Liberty Charter School	<ul style="list-style-type: none"> • MFA provided fundraising opportunities at market free of charge
Council for Native Hawaiian Advancement	<ul style="list-style-type: none"> • Membership and convention scholarship • Grant training and support
Councilwoman Emily Naeole Discretionary Funds	<ul style="list-style-type: none"> • Youth intersession programs
County of Hawai'i	<ul style="list-style-type: none"> • Neighborhood Watch funds and community training • Park and Ride program • Healing Our Island grant for cultural classes
County of Hawai'i Department of Research and Development	<ul style="list-style-type: none"> • Workshop training • Grants for cultural classes
Goodwill	<ul style="list-style-type: none"> • Workforce program
Haola	<ul style="list-style-type: none"> • Grants and educational scholarships
Hawai'i Academy of Arts and Science Charter School	<ul style="list-style-type: none"> • MFA provided fundraising opportunities at market free of charge
Hawai'i Alliance for Community-Based Economic Development	<ul style="list-style-type: none"> • Board training and scholarships • Ho'owaiwai • Youth Individual Development Account program • Grants
Hawai'i Community Correctional Center	<ul style="list-style-type: none"> • Hale Nani
Hawai'i Island Teen Court	<ul style="list-style-type: none"> • Teen court
HIACC	<ul style="list-style-type: none"> • Shade house nursery and hydroponic hot houses
Intake Service Center	<ul style="list-style-type: none"> • Community restitution program
Jas. W. Glover	<ul style="list-style-type: none"> • Donated materials for storage container foundation
Ka 'Umeke Kā'eo Hawaiian Immersion Public Charter School	<ul style="list-style-type: none"> • Cultural classes at Māla site provided by MFA
Kamehameha Schools Preschool (Kea'au and Pāhoa) and K-12 (Kea'au Campus)	<ul style="list-style-type: none"> • MFA provided cultural workshops for keiki • MFA provides yearly opportunity to advertise school program free of charge
Ke Kula 'o Nāwahīokalani'ōpu'u Iki Laboratory Public Charter School	<ul style="list-style-type: none"> • MFA sponsored three scholarships for American Indian Youth Leadership Convention • Fundraising opportunity at MFA market free of charge
Kea'au Middle School	<ul style="list-style-type: none"> • Shattered Dreams - Mothers Against Drunk Driving • Life Smart program • MFA provided educational scholarship for five students and fundraising opportunity at Maku'u Farmers' Market free of charge

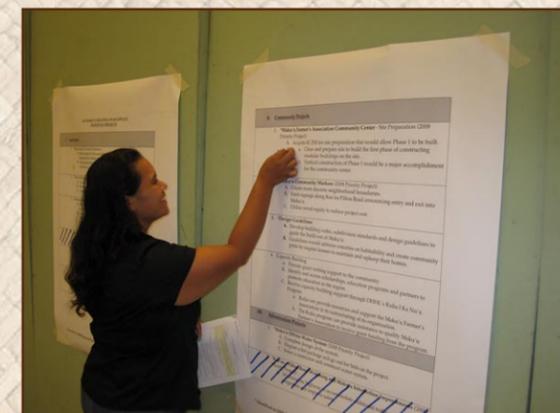
Partner or Program	Description
Kua O Ka Lā New Century Public Charter School	<ul style="list-style-type: none"> • Arbor Day Program use of MFA market site free of charge • MFA provided cultural classes, entrepreneurship and fundraising opportunities at Maku'u Farmers' Market free of charge • Youth Leadership Training Program
Kūkulu Kumuhana	<ul style="list-style-type: none"> • MFA provided scholarship and fundraising opportunities at MFA market free of charge
Matson Navigation Company	<ul style="list-style-type: none"> • Storage container
Office of Hawaiian Affairs	<ul style="list-style-type: none"> • Grant for emergency repairs to MFA market grounds and tents
Pāhoa High and Intermediate School	<ul style="list-style-type: none"> • MFA provided scholarship for various youth team sports for travel, meals, and equipment • MFA hosted fundraising dinner for Na Pua Mae'ole Ensemble to travel to Tahiti • MFA provided fundraising opportunities at market free of charge
Pāhoa Neighborhood Place of Puna	<ul style="list-style-type: none"> • MFA provide site for yearly school supply distribution
Poi Bowl - Feed the Hungry Program	<ul style="list-style-type: none"> • MFA provides program with a venue to collect donated food supplies from community once a month free of charge
Puna Fresh Foods - Taste of Puna Cook-Off	<ul style="list-style-type: none"> • MFA supported and youth working opportunities provided by Puna Fresh Food
Pūnana Leo Preschool	<ul style="list-style-type: none"> • MFA provided cultural classes, exposure for choral group at MFA market and also fundraising opportunities free of charge
Queen Lili'uokalani Children's Center	<ul style="list-style-type: none"> • Scholarships for conventions and workshop training • Yearly food allowance • Support and additional training for staff • Cultural classes
Sanford Service Center	<ul style="list-style-type: none"> • Donated use of machinery and raw materials • Donated use of low boy for stage
Stimulus	<ul style="list-style-type: none"> • Youth summer work program
Simon Enriques	<ul style="list-style-type: none"> • Backyard noni and 'awa program
State of Hawai'i Department of Business, Economic Development & Tourism	<ul style="list-style-type: none"> • Grants for board training
State of Hawai'i Department of Defense	<ul style="list-style-type: none"> • Summer youth program
State of Hawai'i Department of Hawaiian Home Lands	<ul style="list-style-type: none"> • Grants, projects and training • Educational scholarships
State of Hawai'i Department of Transportation	<ul style="list-style-type: none"> • Grant funds for widening of Highway 130, turning lanes and railings for Maku'u Farmers' Market
Tūtū & Me	<ul style="list-style-type: none"> • MFA provided site for advertisement and use of site
W.H. Shipman	<ul style="list-style-type: none"> • Kea'au Christmas parade



MAKU'U HOMESTEAD ASSOCIATION AND BENEFICIARIES



Maku'u beneficiaries: Peter Akim, Jr., Paulette P. Akim, Shirley Pedro, Pualeilani Fernandez, John Kekahuna, Melekahana Kekahuna, Azelia Kekahuna, Paula Kekahuna, Kolie Kekahuna, Alizae Kekahuna, I'oane Kekahuna, Emily Naeole-Beason, Hidi Boteilho, Kali'u Boteilho.



Hidi Boteilho votes on the priority projects.



Paula Kekahuna and Shirley Pedro vote on the priority projects.



Leadership meeting at the Farmers' Market to identify issues and opportunities and potential projects.

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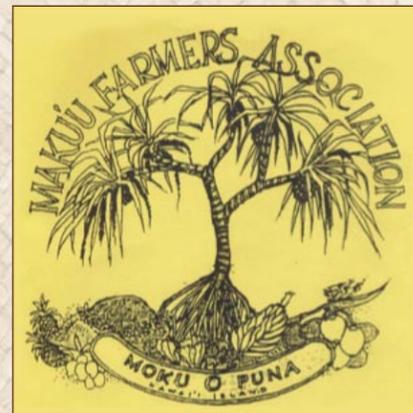


The legal basis for the establishment of the Department of Hawaiian Home Lands (DHHL) is the Hawaiian Homes Commission Act, 1920, as amended (HHCA). It was passed by Congress and signed into law by President Warren Harding on July 9, 1921 (chapter 42, 42 Stat. 108).

The lands of Maku‘u were one of the original homesteading areas included in the 1920 Hawaiian Homes Commission Act. However, leases in Maku‘u were not awarded until 1985, when it became part of the Department’s accelerated awards program. Between 1985 and 1986, 127 native Hawaiian farmers received 99 year agricultural homestead lease awards in Maku‘u. The Department’s accelerated awards program awarded leases in Maku‘u on unimproved vacant lands (no infrastructure).

The existing leases in Maku‘u are for agricultural purposes. The terms of these agriculture homestead leases included an active cultivation requirement and required compliance with a farm plan. The leases were extended to qualifying native Hawaiians with the intent of developing economic self-sufficiency through the provision of land. Lessees were expected to begin cultivation within one year, but were not required to build a residence.

Between 1985 and 1995 the lessees began working the land and creating a community. They ultimately organized themselves into the Maku‘u Farmers’ Association (MFA) to represent their interests/concerns and develop/promote community values. The MFA developed a strategic plan, engaged in community based economic development training, and in 1995 broke ground on the Maku‘u Farmers’ Market. In 2001, the Maku‘u Farmers’ Market officially opened and began providing a steady stream of income for MFA. MFA funds a number of community programs that promote Native Hawaiian culture, resource management, and training for the homestead community and the region.



Nānā ka maka, hana ka lima.

Watch with your eyes, and work with your hands.



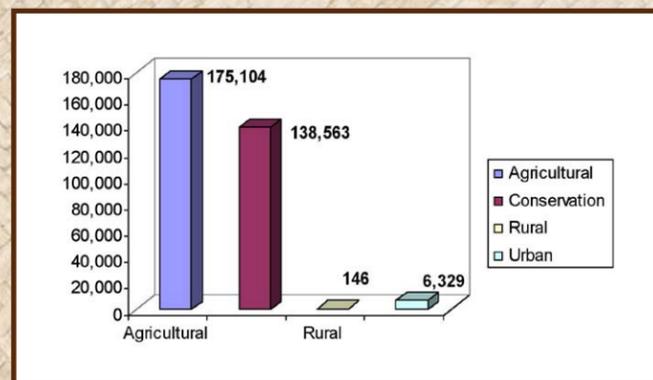
II. HOMESTEAD REGIONAL PROFILE

1 STATE OF HAWAI'I

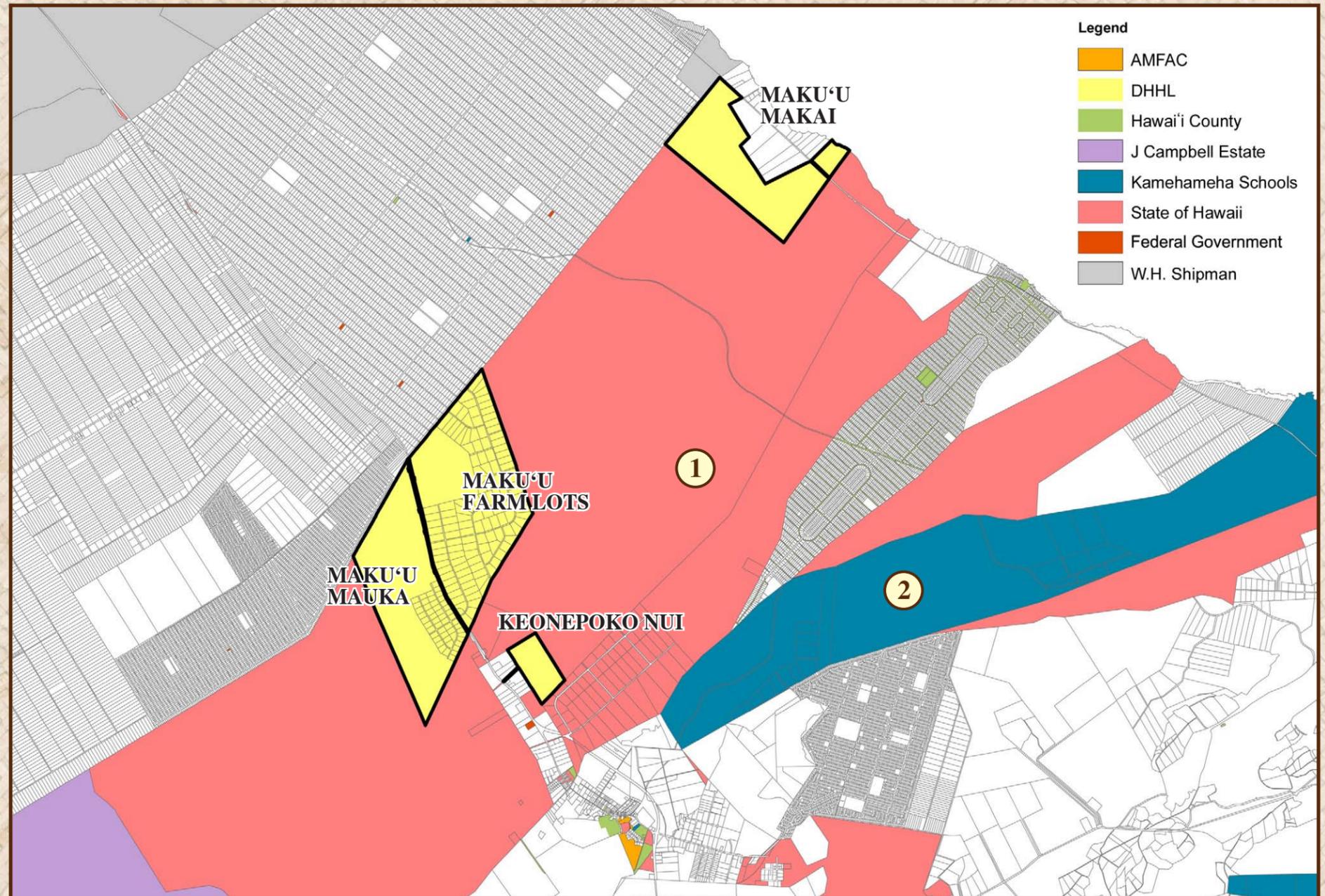
State Department of Land and Natural Resources – Maku'u Lands –approximately 5,800 acres of State Land separate the Maku'u Makai and Maku'u Farm Lots parcels. These lands remain vacant. The lands are designated as Agricultural Lands under the current State Land Use and Orchards under the County of Hawai'i's LUPAG map. The 5,800 acres have no access to the Kea'au-Pāhoa Road and limited access to the existing Ala Hele O Puna Road along the coastline. There is also limited electric, water and sewer service to these lands. DLNR has no long range plans for these lands.

2 KAMEHAMEHA SCHOOLS

Kamehameha Schools is the largest private landowner in the State of Hawai'i. Kamehameha Schools is a private, charitable, perpetual trust dedicated to the education of Hawaiian children and youth. Established in her will of 1883, the Kamehameha Schools is a legacy of Princess Bernice Pauahi Bishop, great-granddaughter and last direct royal descendant of King Kamehameha the Great. Income generated from numerous investments, and residential, commercial, and resort leases, fund the schools' maintenance and educational services.



State Land Use Acreage for the Puna District (as of May 2000).
Source: Hawai'i County General Plan, February 2005.



Regional land owners, 2010.



REGIONAL INFORMATION

- The Maku‘u Agriculture and Maku‘u Farm Lots are located on the windward side of the Big Island, within the Pāhoia Census Designated Place as designated by the Federal Government and the Puna District as designated by the County of Hawai‘i.
- The Puna District is comprised of 320,142 acres. Puna is primarily an agricultural district with approximately 175,104 acres zoned for agriculture as reported in the County of Hawai‘i General Plan. The major agricultural businesses include papaya, macadamia nuts, flowers, foliage, bananas, tropical fruits and vegetable production.
- The papaya and flower industries continue to experience moderate growth. The visitor industry has very little visible effect on the Puna district other than some roadside stands and a few visitor accommodations, such as bed and breakfast and vacation-rental operations.

POPULATION AND AGE

- The 2000 census recorded the resident population of Pāhoia at 962 persons.
- 66.1% of Maku‘u’s population is Native Hawaiian. Pāhoia and Hawai‘i County are close in percentage of Native Hawaiians, with 30.6% and 31.0% respectively.
- The Puna District will continue to experience relatively strong population growth due to the availability of relatively inexpensive lots that were created around the 1960s and as a result of employment opportunities in agriculture as well as job opportunities in Hilo.
- According to the Puna Community Development Plan, the population in Puna is expected to increase to 75,000 residents by the year 2030.
- The median age for Pāhoia residents is 40.6, in Maku‘u it is 33.5.

EDUCATIONAL ATTAINMENT

- 87.8% of Maku‘u’s residents have received a high school diploma or higher degree, as compared to 66.7% of Pāhoia’s population.

HOUSEHOLD

- The 2000 census recorded 344 housing units in Pāhoia, and 22 for Maku‘u.
- According to the 2000 Census, the median household income is lower in Pāhoia at \$33,333, compared to the Big Island’s median household income of \$39,805. In Maku‘u it is \$23,125.
- There are more residents living below the poverty level in Maku‘u. The 2000 census recorded 50% of the residents living below the poverty level, compared to the rest of the county at 11%.

HOUSING MARKET

- According to the Hawai‘i Information Service, the median sales price for a single family home in Pāhoia was \$260,000 in December 2007, compared to the median sales price for a single family home in the Big Island was \$395,000.

Characteristics ¹	Maku‘u	Pāhoia	County of Hawai‘i	State of Hawai‘i
POPULATION AND AGE				
Total population	59	962	148,677	1,211,537
Median age	33.5	40.6	38.6	36.2
Population 19 and under	16 (27.2%)	279 (29%)	42,820 (28.8%)	327,251 (27.1%)
Population 65 and over	2 (3.4%)	206 (21.4%)	20,119 (13.5%)	160,601 (13.2%)
EDUCATIONAL ATTAINMENT				
Population over 25 with high school diploma (includes equivalency)	36 (87.8%)	401 (66.7%)	82,620 (84.5%)	678,666 (84.6%)
Population 25 years and over with bachelor’s degree	0 (0%)	68 (11.3%)	21,595 (22.1%)	210,041 (26.2%)
HOUSEHOLD				
Average household size	3.28	3.06	2.75	2.92
Median household income in 1999 (dollars)	\$23,125	\$33,333	\$39,805	\$49,820
Percent of families living below poverty level	50% (7)	15.7% (36)	11% (4,084)	7.6% (22,101)
Percent of households receiving public assistance	0%	12.5% (37)	9.7% (5,158)	7.2% (28,886)
Percent of working residents 16 years and over traveling 30+ minutes to work	27.3% (3)	43.1% (162)	30.8% (18,306)	38.9% (211,336)
HOUSING MARKET				
Total housing units	22	344	62,674	460,542
Average household size of occupied housing units	3.28	3.06	2.75	2.92
Median residential price 2007 ²		\$260,000	\$395,000	

¹All data gathered from Census 2000 unless otherwise noted.
²Hawai‘i Island Board of Realtors 2006.

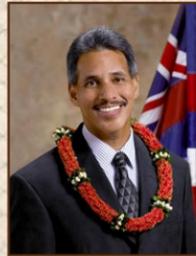
GROWTH IN POPULATION BETWEEN THE 1990 & 2000 CENSUS	
Hawai‘i County	23.60%
Puna	50.80%
South Kohala	43.70%
North Kohala	40.70%
Ka‘ū	31.30%
North Kona	28.10%
South Kona	12.20%
North Hilo	11.60%
Hamakua	10.20%
South Hilo	6.20%



ELECTED OFFICIALS AND POLITICAL BOUNDARIES



Linda Lingle
Governor



James R. "Duke" Aiona, Jr.
Lieutenant Governor



Daniel K. Inouye
U.S. Senator



Daniel K. Akaka
U.S. Senator



Mazie K. Hirono
Congressional District 2

**State,
Federal,
& County
Leaders**



Kaulana H.R. Park
*Hawaiian Homes Commission
Chairman*



Alapaki Nahale-a
*Hawaiian Homes Commission
East Hawai'i Commissioner*



Haunani Apoliona
*Office of Hawaiian Affairs
Chairperson*



Robert K. Lindsey, Jr.
*Office of Hawaiian Affairs
Trustee, Hawai'i*



Russell Kokubun
*State Senate
District 2*



Clift Tsuji
*State House of Representatives
District 3*



Faye P. Hanohano
*State House of Representatives
District 4*



Robert N. Herkes
*State House of Representatives
District 5*



Billy Kenoi
Hawai'i Mayor



J Yoshimoto
Council District 3



Guy Enriques
Council District 6

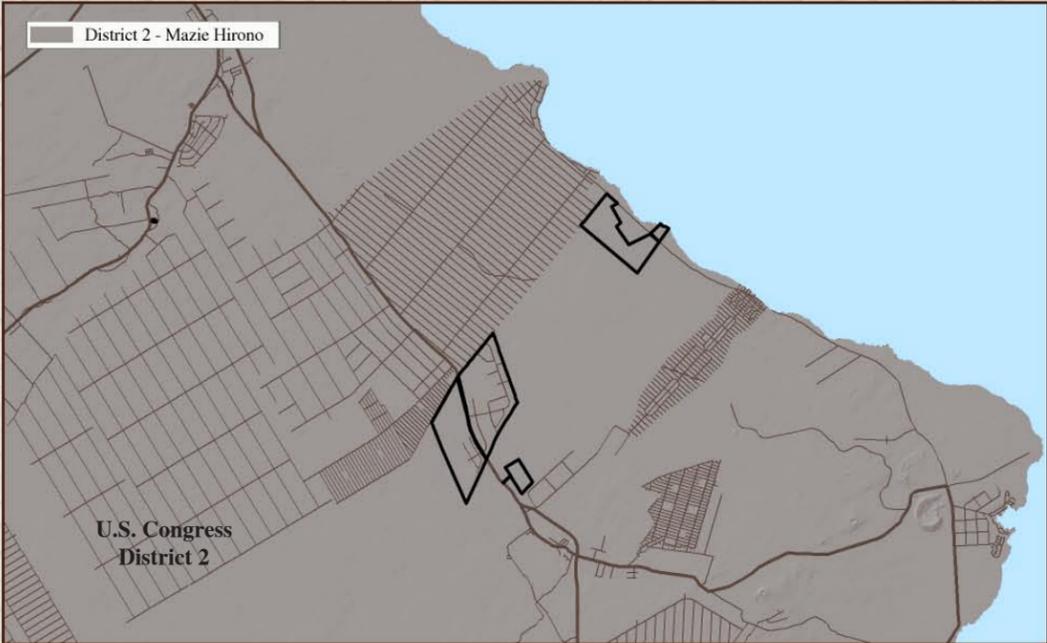


Emily Naeole-Beason
Council District 5

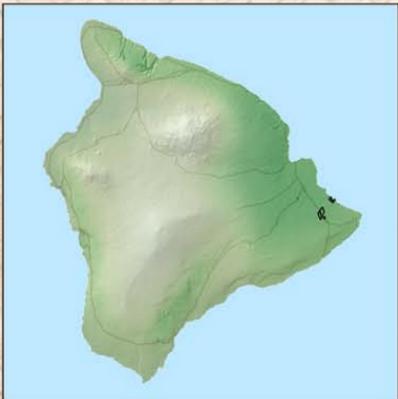
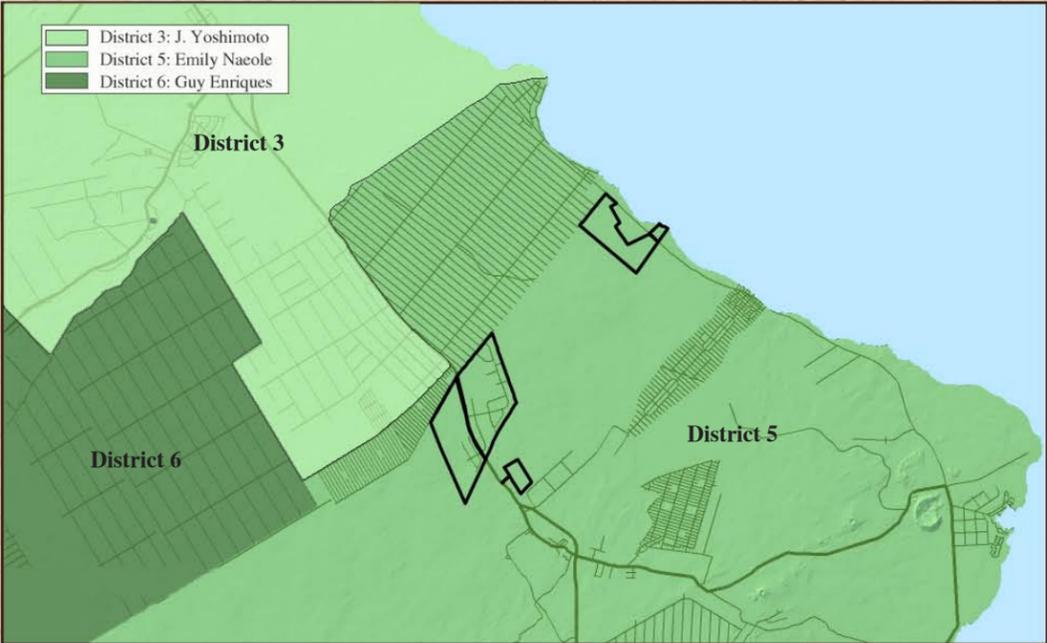
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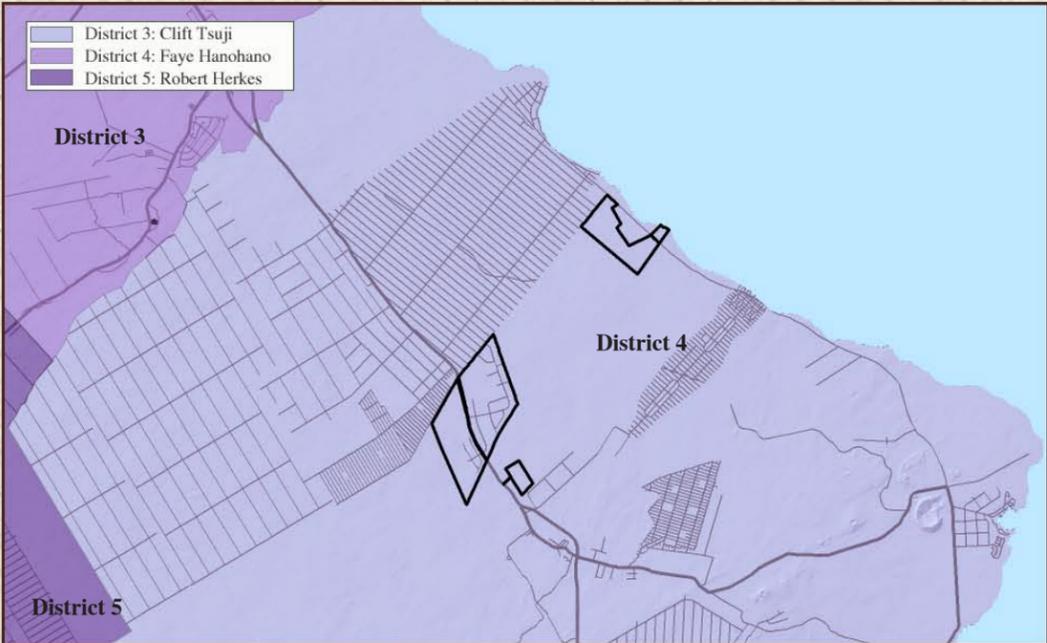
UNITED STATES CONGRESS - DISTRICT 2



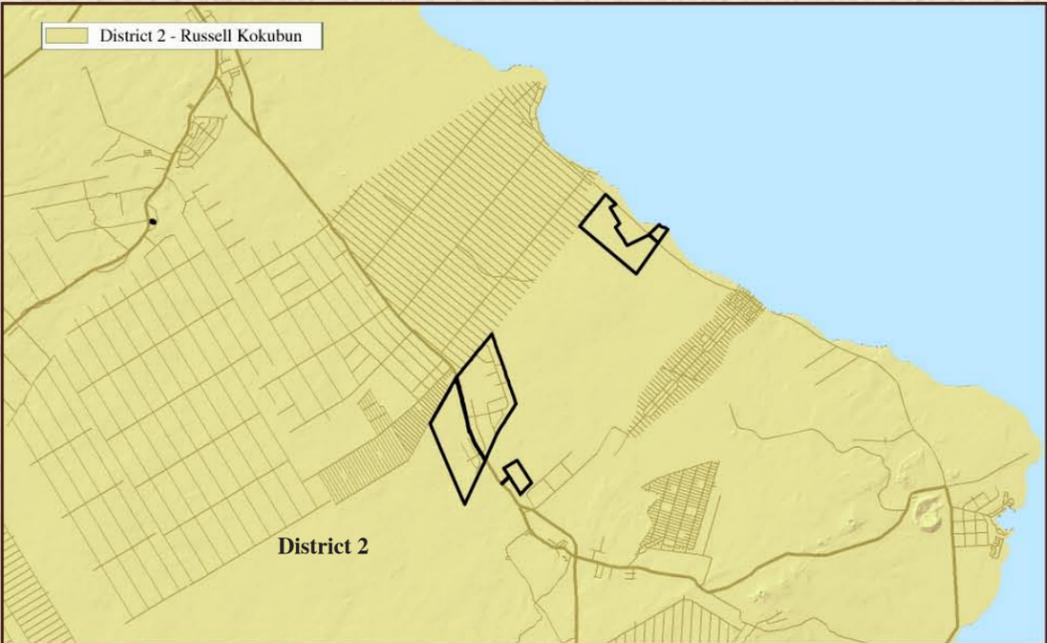
HAWAI'I COUNTY COUNCIL DISTRICTS



STATE HOUSE OF REPRESENTATIVES DISTRICTS



STATE SENATE DISTRICTS



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HISTORY AND CULTURAL ASPECTS OF THE AREA

Before The Overthrow of the Monarchy

The Puna district of Hawai'i Island encompasses an area approximately 500 square miles in size, including all Maku'u lands. In 'Ōlelo Hawai'i, the word "Puna" literally translates to "spring of water" – a name most likely given in reference to the abundant water resources in the area.

The ancient landscape of Puna was covered with forest, brush, and vegetation prior to being transformed into ranchland and sugar cane fields. Post-native settlement archaeology reveals an area rich in religious significance as evidenced by the many heiau including: Mahina Akaaka Heiau, Nuikūkahi Heiau, Kohelele o Pele, and Kūki'i Heiau. The Waha'ula Heiau is a heiau of prominence located within the Puna area of Hawai'i Volcanoes National Park. The majority of the archaeological sites located along the coast indicate a settlement pattern reliant on ocean resources. Numerous agricultural features indicate extensive cultivation of taro, sweet potato, and other traditional crops. Historically, the region supported wet and dry land taro cultivation, banana, sugar cane, sweet potato, coconut groves, and breadfruit trees. The easternmost region of Puna is the sacred site known as Kumukahi. This locality receives the first light of dawn and was a place of healing and power.

Prior to the political unification of the islands by King Kamehameha the Great, the lands of Puna were governed by his rival cousin Keoua. Keoua raided Kamehameha's villages in West Hawai'i while he was away fighting for control of Maui. In retaliation, Kamehameha pushed Keoua's armies back to Puna. On the trek back, approximately 80 of Keoua's force were caught in an explosive eruption and approximately one-third were killed as hot sulfuric gasses entered their lungs. Folklore famously describes the mass killing as a consequence for Keoua's defiance of Pele.



Joseph Nāwahīokalani'ōpu'u.

One of Puna's most notable residents was Joseph Nāwahī, also known as Joseph Kaho'oluhi Nāwahīokalani'ōpu'u. Nāwahī was a native Hawaiian legislator, lawyer, newspaper publisher, and painter. As a young man, he studied with Christian missionaries. He later became a member of the Hawaiian legislature, serving for 20 years (1872-1892), and was a member of the cabinet of Lili'uokalani. He served as an elector, successfully supporting King Lunalilo ascension to the throne. Personally active in politics, he also served as President of the Hawaiian Patriotic League and publicly opposed the overthrow of the Hawaiian monarchy in 1893 by white American businessmen.

After The Overthrow of the Monarchy

Nāwahī's efforts to perpetuate the Hawaiian community continued well after the Overthrow, including operating Ke Aloha 'Āina, a Hawaiian nationalist newspaper. Today, a Hawaiian language immersion school named in his honor is in Kea'au, Puna, Hawai'i. Ke Kula 'o Nāwahīokalani'ōpu'u educates students from grades K-12 in the Hawaiian language. In 1999, it was one of two schools that graduated high school students educated entirely in the Hawaiian language in a century.



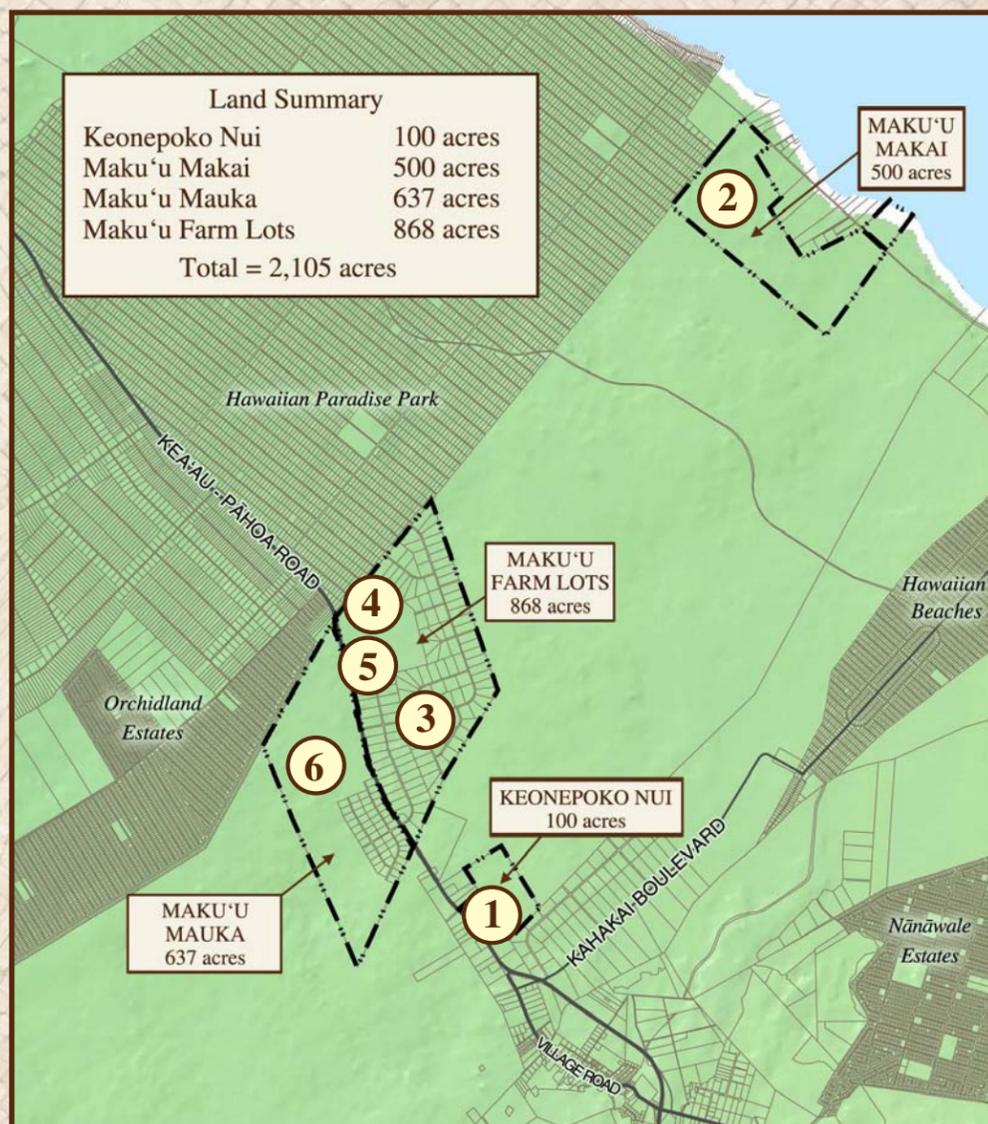
Aerial view of Maku'u

Puna has felt the negative effects of large paper subdivision activities during the 1950s through 1970s. The generation of numerous small land parcels created a situation where most landowners purchased lots for investment purposes, but opted not to construct as a result of no infrastructure and poor property conditions. The lack of development created sparsely populated communities leading to public safety issues. Recently, development in the Puna area has become more appealing due to the low cost of housing relative to other communities in Hawai'i. Plans by the State Department of Transportation to widen Kea'au-Pāhoa Road, and construct a new high

school in Kea'au are evidence of a burgeoning population in Puna. The growth in residents will inevitably lead to greater changes for the region in the future.

Beyond Puna's large subdivisions, its value as a geothermal resource has come into greater focus due to the increasing demand for alternative energy sources. Drilling for geothermal resources first began in 1976. However, the development of new geothermal wells over the past thirty years has not come without controversy. Many recent exploratory projects have faced strong opposition from residents and Native Hawaiians. Residents are concerned with outgassing of hydrogen sulfide. Hydrogen sulfide is ultimately converted to sulfuric acid and sulfur dioxide. Native Hawaiians oppose the desecration of the volcano, and the goddess Pele.

Kīlauea, the island's most visited attraction, has awed millions of tourists. However, its most recent volcanic activity has also created great destruction. Volcanic lava flows over the past twenty-five have consumed numerous residents in and around Kapoho, Kalapana, and Kaimū. Changes in the chemical composition of gases emitted from Kīlauea's Halema'uma'u have also affected the productivity of many agricultural crops.



DHHL lands, October 2010.

1 KEONEPOKO NUI
Keonepoko Nui is a 100-acre parcel located behind Keonepoko Homestead, approximately one mile southeast of the Pāhoa landing strip, and just under a mile northwest of Main Street Pāhoa. State lands border the east portion of the property, with Keonepoko Homestead to the west. Access is provided through a dedicated flag off Kea'au-Pāhoa Road.

Current surrounding uses are agricultural, despite marginal soil quality. Access limitations and parcel size are primary constraints.

2 MAKU'U MAKAI
The Maku'u Makai lands total approximately 500 acres. Most of this seaward parcel is mauka of the Beach Road extension. A portion of the property extends across the Ala Hele O Puna Road extension to the coastline. The western boundary is adjacent to Hawaiian Paradise Park subdivision and State lands lie to the south and east. The parcel is accessible via an extension of Ala Hele O Puna Road. Ka'aahi Road is adjacent to the mauka boundary.

The site is presently overgrown, predominantly with lowland shrubs and sparse tree cover. Water and sewer service is currently not available for the parcel. Water and sewer system needs and associated costs constrain priority development at this time.

3 MAKU'U FARM LOTS
Maku'u Farm Lots is approximately 868 acres and is located along the Kea'au-Pāhoa Road. The parcel is located roughly three miles from old Pāhoa Town, and 17 miles from Hilo. Tiki Gardens, Orchid Land Estates, and Paradise Park Subdivision are to the east, with State lands surrounding the northern, western, and southern boundaries. Kea'au-Pāhoa Road is west of the farm lots.

The majority of the 868-acre parcel was developed in 1998 with the development of the "Maku'u Farm Lots." This development is an agriculture subdivision with 127 five-acre lots.

Access to the farm lots is from Kea'au-Pāhoa Road. Smaller arterial streets have been developed by DHHL to provide access to the developed agriculture lots.

Approximately 29 farm lots do not have water service. The water system being developed for the proposed Hālonā-Maku'u and Pōpōkī-Maku'u subdivisions mauka of the farm lots would provide water to these lots that don't have water service.

4 FEDERAL AVIATION AGENCY
Some 181 acres of the 868-acre parcel are designated for two (2) Federal Aviation Administration (FAA) facilities. The FAA has been leasing acreage in Maku'u from DHHL since 1977 to operate beacons related to air traffic control. One beacon aids the FAA in aircraft surveillance while the other aids aircraft as they enter Hawai'i Island airspace.

In 2003, DHHL withdrew 9,034 acres from the FAA's lease and granted a license to the Maku'u Farmers' Association (MFA) for their farmer's market, proposed training facility, and community center. The FAA recently transferred an additional 29 acres to MFA in 2009.

5 MAKU'U FARMERS' ASSOCIATION AND MARKET
Approximately 38 acres of land have been withdrawn from the FAA's leased area and are licensed to the Maku'u Farmers' Association (MFA), where they operate the popular Maku'u Farmers' Market on weekends, its Māla training facility, and now propose to construct the MFA Community Center.

6 MAKU'U MAUKA
The Maku'u Mauka parcel is 640-acres and is located mauka of the existing Maku'u Farm Lots and the Kea'au-Pāhoa Road. There are three projects in the Maku'u Mauka parcel.

The first project called the "Maku'u Agricultural Lots, Unit 1" was developed in 1998. This was a 100-acre project with 50 two-acre agriculture lots. Twelve of these two acre lots will be consolidated and resubdivided into residential lots and folded into the DHHL's proposed Maku'u-Hālonā Subdivision and Maku'u-Pōpōkī Subdivision. All but one of these lots lack adequate water source from the DWS system.

The second and third projects in the Maku'u Mauka parcel are the Maku'u-Hālonā and Maku'u-Pōpōkī Subdivisions consisting of approximately 540 acres. Both subdivisions are being planned concurrently. Phase 1 is approximately 240 acres in size with 374 residential and subsistence agriculture lots.

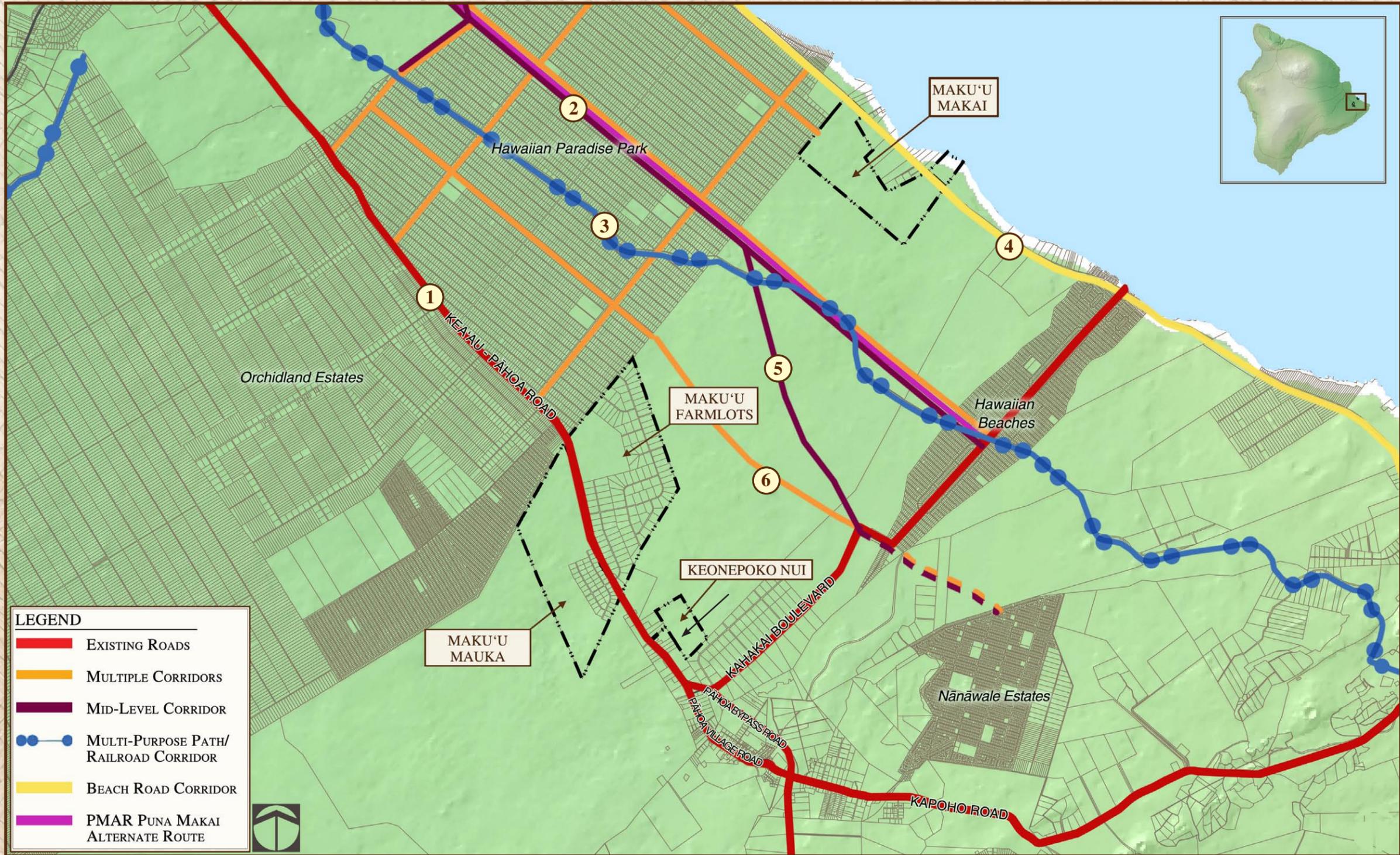
Phase 2 is approximately 300-acres in size with approximately 361 residential lots averaging 20,000 square feet and 13 agriculture lots ranging in size from 1.0 to 3.42 acres. A 12.7-acre parcel has been set aside for the development of a future park.

Site improvements for both subdivisions, include roadways, drainage system, water system, overhead electric and road lighting systems, and underground telecommunications systems.

The budget for the project, which will be funded by DHHL, is estimated to be \$15.8 million for the complete build out of both subdivisions. The estimate would be refined during the final design process.



III. INFRASTRUCTURE - ROADS



Roadways in Maku'u, October 2010.

Existing Roads

1 PRIMARY ROUTES

Primary routes within the Puna district are the Volcano Road (Highway 11), which provides access to Hilo and serves the upper Puna region; the Puna Road (Highway 130), serving lower Puna from Kea'au to Kalapana-Kaimū; the Kapoho Road (Highway 132), from Pāhoa to Kapoho; and the Puna Coast Road (Highway 137), linking Kapoho and Kalapana-Kaimū. The latter road is basically a narrow, paved cinder road. Recent upgrades have greatly improved Highway 130 from Kea'au to Kalapana and Highway 11 from Hilo to Volcano. However, the majority of the roads throughout the district are inadequate by present standards. As the only two primary routes serving the district, Highway 130 and Highway 11 are congested during the work week for Hilo-bound traffic as the population in the district continues to grow. The recently completed Kea'au By-Pass Highway re-directs Hilo- and Pāhoa-bound traffic around the town of Kea'au, avoiding the congested intersection of Volcano Highway - Kea'au-Pāhoa Road.

The Kea'au-Pāhoa Road Improvements Project - adding two lanes between Kea'au and Pāhoa - is currently in the environmental compliance stage. Design and construction is expected to commence after the final environmental assessment is completed in early 2011.

Many sections of the roads in this district have drainage systems that do not meet present standards or have sharp curves and grades without adequate sight distance. In several communities, buildings directly abut or encroach onto rights-of-way. Most private roads in large subdivisions are cinder-surfaced and deficient in layout and construction. During the development of these large, substandard subdivisions in the 1950s and 1960s, limited attention was given to proper roadway base construction and drainage. There is also a network of private old plantation roads throughout the area. *Source: Puna Regional Circulation Plan November 2005.*

Proposed Roads

The Puna Regional Circulation Plan proposes an alternate route from Hilo to Puna Makai. The alternate route concept was previously identified in several plans including the Hawai'i County General Plan (2005), the Hawai'i Long Range Transportation Plan (1998), the Puna Community Development Plan (1995), and an Environmental Impact Statement for Beach Road (1972). This Plan proposes the implementation of a Puna Makai Alternate Route (PMAR) concept. However, it identifies alternate routes to Highway 130 (Kea'au-Pāhoa Road) including several alternative alignments from Hilo to Hawaiian Paradise Park, Hawaiian Beaches, and/or Nānāwale.

2 PUNA MAKAI ALTERNATE ROUTE (PMAR)

The state has appropriated \$1.5M for FY2010-2011 for plans to conduct an environmental impact statement and preliminary engineering report to identify alignment and design criteria for the Puna Makai Alternate Route between Nanaweale Estates and Hilo with particular emphasis on identification of a corridor alignment.

The project, once completed, will improve vehicular, pedestrian, bicycle, and transit circulation and safety in the fastest growing district on Hawai'i Island. Currently, only one two-lane State highway serves the more than 25,000 existing lots in the immediate area of the proposed roadway.

3 MULTIPURPOSE PATH / RAILROAD CORRIDOR

The old Railroad Right-of-Way alignment was considered as an alternate route. According to County TMK maps, the right-of-way ranges from 20 to 40 feet wide and is owned by several landowners. This corridor is not acceptable for regular

vehicular transportation. The railroad right-of-way is best used as a pathway for non-motorized public use, with the exception of maintaining present access to area farmers and other lessees. Nevertheless, the rail road corridor could also be used as an interim emergency access route. Although high densities of traffic could not be accommodated, the route would provide one alternative for residents in an emergency evacuation situation. The route alignment from Hilo to Shower Drive could serve as a feasible bypass.

4 BEACH ROAD CORRIDOR

Many believe the coastal views would provide a scenic highway highly desirable for visitors. In 1972, an EIS was conducted evaluating an oceanfront scenic road. Major difficulties exist with this option because of hazard zones. Most of the Beach Road is within the tsunami inundation area and several sections are in the lava hazard zones. The location of the alignment through such areas would preclude Federal highway funding for the project. However, the Beach Road has the potential to qualify for designation as a Scenic Byway due to its historic quality. The route would nevertheless fail to provide emergency access during high surf or flooding conditions. According to Hawaiian Paradise Park residents, several subdivision roads near the shore have been closed due to erosion under cliffs. They believe a PMAR route must be located above the elevation of 7th Avenue. For these reasons, the Beach Road was also removed from consideration.

5 MID-LEVEL CORRIDOR

A new mid-level corridor would provide service to Puna Makai residents. The design of a new transportation corridor halfway between Highway 130 and the coastline would provide access for a variety of residents. This corridor is also away from major hazard zones. The PMAR mid-level corridor can be broken up into four sections. The need for implementing each section will have to be considered. There are several alternative alignments for each section of a mid-level corridor. Mid-level alignments include: Hilo to Hawaiian Paradise Park (HPP) (Hilo International Airport to Shower Drive or Railroad Avenue to Shower Drive, and Shower Drive Extension). Through Hawaiian Paradise Park (Shower Drive to Maku'u Drive), Hawaiian Paradise Park to Hawaiian Beaches (Maku'u Drive to Kahakai Boulevard or Maku'u Drive to Kahakai Boulevard). Hawaiian Beaches to Nānāwale (Kahakai Boulevard to Kehau Street).

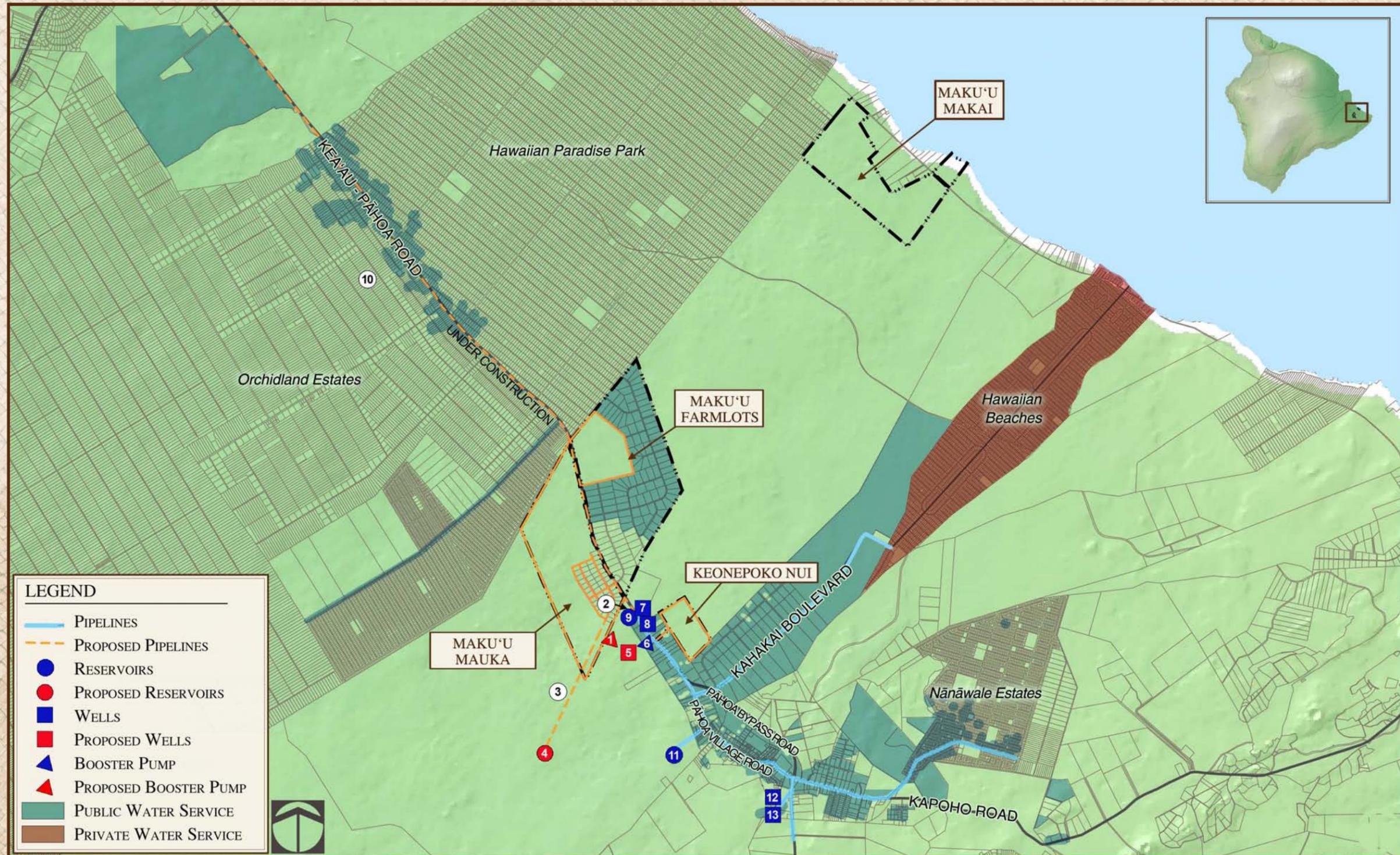
If the PMAR is intended to primarily serve Hawaiian Paradise Park, the route could connect to Kaloli Drive. Residents would use existing roads to access the alternate route. Travelers would cross on all numbered streets without any one being preferred, thus distributing traffic. The alignment at the back of parcels on 15th and 16th Avenues would continue from Kaloli Drive to Maku'u Drive. If the PMAR should continue towards Hawaiian Beaches, a main route will be needed through Hawaiian Paradise Park from Kaloli. The PMAR would continue from Maku'u Drive to Kahakai Boulevard in Hawaiian Beaches. The alternate route could take a mid-level alignment into the middle of the subdivision (3A). This alignment would be most central to residents. An alignment that instead extends up towards Keonepoko School also has the merit of serving the trip generator (3B). This alternative would serve the school and also provide options for future connections to Nānāwale. The alignment could continue to the Nānāwale subdivision from Kahakai Boulevard to Kehau Street. This alignment would avoid the State Forest Reserve and would connect to an existing County street at Kehau.

6 MULTIPLE CORRIDORS

Instead of developing a single PMAR corridor, this alternative considers development of several connections that would distribute traffic congestion more evenly. Two alignments could travel from Hilo to Hawaiian Paradise Park. A makai route from Hilo Airport could connect to the existing 5th Avenue in HPP. Similarly, a mid-level route could connect the existing Railroad Avenue to 15th Avenue in HPP. Shower Drive could be extended to meet this route. Only limited improvements to existing streets would be required. Condemnation of private property would be limited or unnecessary with this option. Each route could continue on to Kahakai Boulevard in Hawaiian Beaches.



INFRASTRUCTURE - WATER



Public and private water systems in Maku'u, October 2010.

Existing Water System

LEGEND

- ② Existing Transmission Line From Pump Station to the Subdivision
- ⑥ Existing Booster Pump 350 gpm
- ⑦ Existing Keonepoko Nui Well 1 3188-01
- ⑧ Existing Keonepoko Nui Well 2 3188-02 (DHHL Constructed)
- ⑨ Existing 0.5 mg Reservoir at Keonepoko Nui Well Site
- ⑪ Existing Pāhoa Reservoir
- ⑫ Existing Pāhoa Batt Well 2a 2986-01
- ⑬ Existing Pāhoa Batt Well 2b 2968-02

Source: Special Report #2: Water Resources Island of Hawai'i (April 2002) and Maku'u Offsite Water System Phase 2, Final Environmental Assessment and Finding of No Significant Impact (June 2004).

The Hawai'i County Department of Water Supply (DWS) Pāhoa Water System supplies potable water to Pāhoa Village, Pāhoa Agricultural Park, and Keonepoko Elementary areas. It also extends west along the Kea'au-Pāhoa Highway to Keonepoko well site. Upon completion of the transmission line on the Kea'au-Pāhoa Highway, the Pāhoa System would service the Maku'u-Keonepoko tracts. The Kaluahine Street access to the Maku'u Subdivision is about 3,000 feet from the Keonepoko well site.

The Pāhoa System pumps ground water from two well sites for its supply. The pump capacity of the two wells at the Pāhoa School site is 0.864 million gallons per day (mgd). The pump capacity of the two wells at the Keonepoko Nui Site is 2.016 mgd, including the DHHL constructed Keonepoko Well 2.

The Kea'au to Pāhoa transmission main allows water from the Keonepoko reservoir or Kea'au to supply part of the lots of the Maku'u Farm and Agricultural Lots Subdivision. However, water supply is not available to 78 of 177 lots in the Unit 1 of Maku'u Farm and Agricultural Lots from the Keonepoko reservoir. Source: Special Report #2 - Water Resources.

Currently, there are four major water systems in the Puna district: 'Ōla'a-Mountain View, Pāhoa, Kapoho, and Kalapana. The total average consumption of these systems is 1.2 mgd. The Pāhoa water system, located in the geographic center of the lower Puna region, extends from Keonepoko homesteads down along portions of the Kapoho and Pohoiki Roads to Kapoho. The present average consumption is 0.40 mgd.

The Hawaiian Beaches subdivision located in Waiakahi'ula is served by a privately owned water system. The developer had constructed this non-dedicable system. The Glenwood and Volcano areas are presently not serviced by any public water system. Many of these areas still depend on roof catchment systems. Source: 2005 Hawai'i County General Plan.

Proposed Water System

LEGEND

- ① Proposed Pump Station to Lift Water from the Well Site to a New Reservoir
- ③ Proposed Transmission Line From Subdivision to the Reservoir
- ④ Proposed Reservoir Above Maku'u Mauka
- ⑤ Proposed Well at Keonepoko Nui
- ⑩ Proposed Transmission Line on Kea'au-Pāhoa Highway

Source: Special Report #2: Water Resources Island of Hawai'i (April 2002) and Maku'u Offsite Water System Phase 2, Final Environmental Assessment and Finding of No Significant Impact (June 2004).

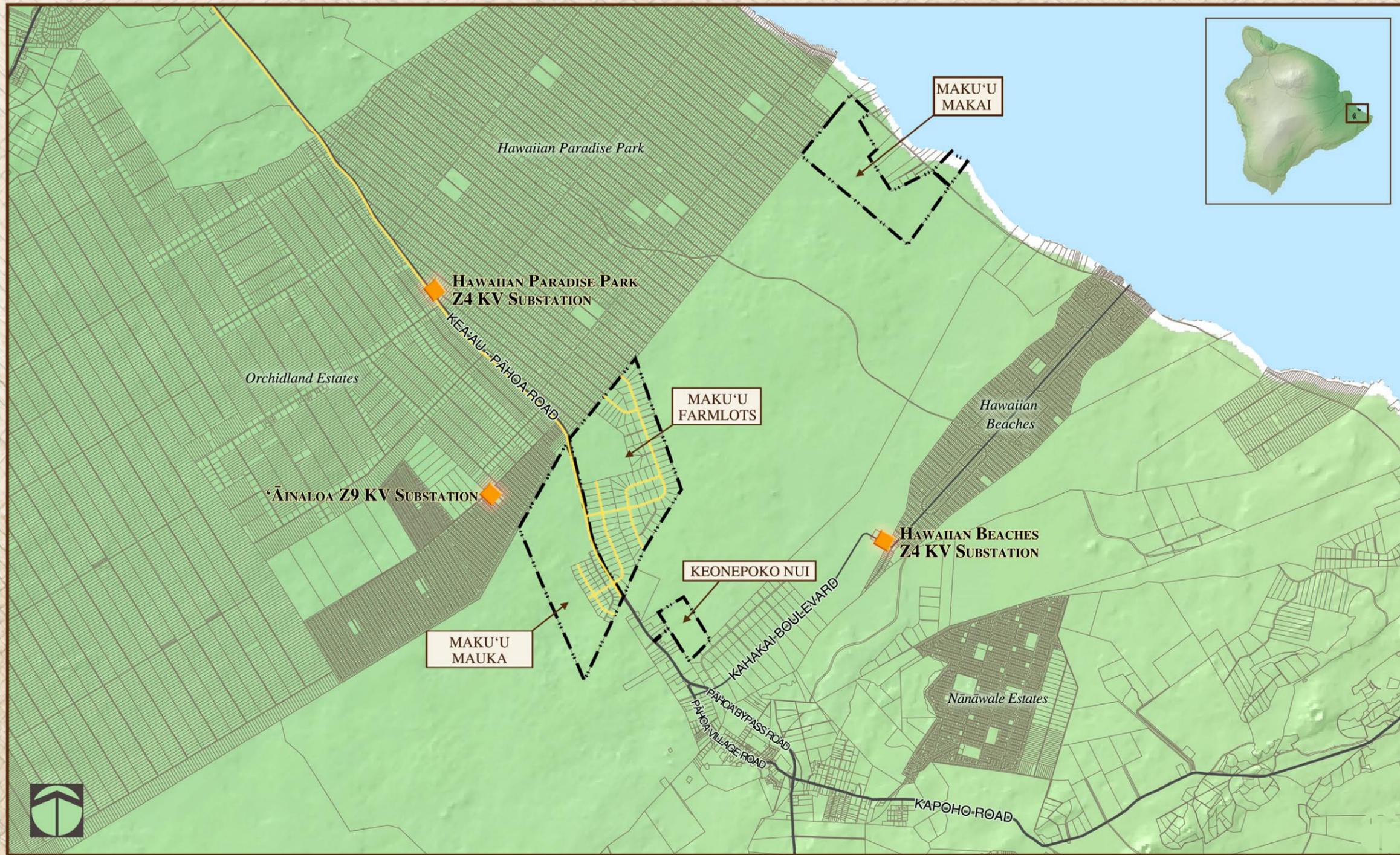
The need for additional water for Maku'u Farm and Agricultural Lots (Maku'u Subdivision) has been identified by the Hawai'i State Department of Hawaiian Home Lands, Master Plan Water System Study, Maku'u Farm and Agricultural Lots. The existing reservoir system facilities can provide adequate water pressure per DWS standards to Lots at or below the 523 elevation. However, for the lots above that elevation, no DWS water service is available. The proposed water system improvements are required to provide water service to lots above the 523 feet elevation.

The proposed water system will include the construction of an exploratory well/production well, and construction of a 1.0 million gallon (mg) reservoir. In addition, the project will include the construction of a gated access road to the site, a pipeline from the reservoir site to the existing Keonepoko Nui 2 Reservoir, as well as the installation of electrical poles and lines from along access road, a new booster pump at the Keonepoko Nui 2 Reservoir, and other appurtenant facilities.

The ground elevation at the well will be approximately 824 feet above mean sea level (msl) capable of servicing the Maku'u Mauka lots and the unserviced Maku'u Farm and Agricultural Lots. Upon completion of the proposed 1.0 mg reservoir above Maku'u 2, the remaining lots in Unit 1, and other lots in the proposed land use sections of Maku'u can have water service. The pump capacity is expected to be 700 gallons per minute (gpm). The well will be integrated into the DWS water system via the 1.0 mg reservoir to be built above Maku'u 2. The gated access road and pipeline will lead from the well site to the mauka edge of the Maku'u Subdivision and thence to the Keonepoko Nui 2 Reservoir.



INFRASTRUCTURE - UTILITIES



Utilities in Maku'u, October 2010.

Electrical Service

The Hawai'i Electric Light Company, Inc. (HELCO), supplies electricity for the County. HELCO purchases a total of 112 megawatts of firm power from three privately-owned companies Hilo Coast Power Company (coal at 22 megawatts), Hamakua Energy Partners (60 megawatts) and Puna Geothermal Venture (geothermal at 30 megawatts). These companies' power plants are located at Keahole, North Kona; Waimea, South Kohala; Waiākea Peninsula and Kanoelehua, South Hilo; and Kea'au, Puna. HELCO owns four hydroelectric units and a wind farm that provide energy to the system.

There are two levels of transmission voltages to transfer power between areas on the Big Island. The main transmission voltage is 69kV. HELCO has four 69kV cross-island transmission lines. One line is the southern line connecting the Kanoelehua substation to West Hawai'i via the Keālia substation along Highway 11 through the Puna and Ka'ū Districts. The other transmission voltage is 13.8kV that includes three tie-lines in Hilo connecting the Shipman and Kanoelehua power plants. HELCO uses 34.5kV as a sub-transmission voltage and three lines are used to service the Puna, Ka'ū and North Kohala areas. The existing distribution system consists of several different voltage levels: 2.4kV, 4.16kV, 7.2kV, 12.47kV and 13.8kV. Distribution substations, which transform voltages to distribution voltages, are also located island-wide in proximity to communities and other developments.

The Maku'u Farm and Agriculture lots are supported by a 12.47 kV distribution substation located in the Hawaiian Paradise Park Subdivision. The electrical lines within the Maku'u Farm and Agriculture lots are single-phase, 7.2 kV voltage levels; however there are no electrical lines past parcel 11, therefore likely supported by generators.

Gas

Propane gas is widely used in residential and commercial facilities on the island of Hawai'i. In some rural areas of the County, gas is the only source of the power. The Public Utilities Commission (PUC) regulates 67 miles of gas mains and service lines on the Big Island. Most of these lines are located in Hilo. Gas service is also provided by tank or cylinder. This type of service is not regulated by the PUC.

Telephone Service

The Maku'u Farm Lots are currently serviced by Hawaiian Telcom. They provide regular phone service and dial-up Internet connection to the community. Fiber-optic cable is not available within the Farm Lots. Several lessees have inquired with Hawaiian Telcom regarding DSL access. Although Hawaiian Telcom has DSL capabilities along Kea'au-Pāhoa Road, they are unable to service the community without upfront payment to cover the costs to install infrastructure necessary for high speed Internet access. It is anticipated that the installation cost would be in excess of \$30,000. Sandwich Isles Communications, Inc. (SIC) currently provides fiber-optic telephone service and high speed Internet to new developments on DHHL land-holdings. SIC is not currently authorized by the utilities commission to provide service to homesteads developed prior to 1998. Due to the establishment of the Maku'u community in the mid 1980s, service via SIC is not available.

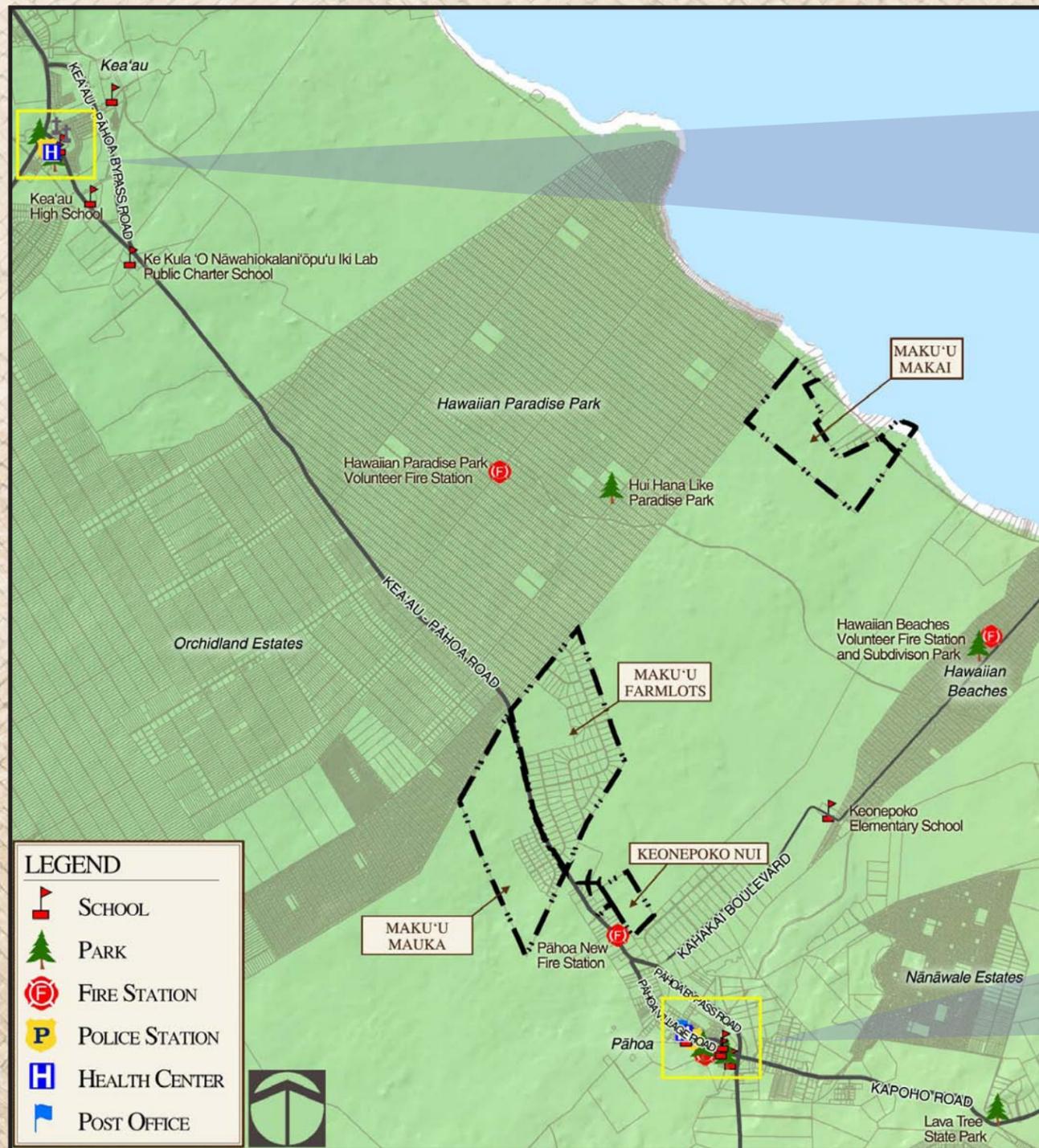
Cable Television Service

The Puna district is within the Oceanic Time Warner Cable (Oceanic) service area. However, the Maku'u farm lots are not currently serviced by Oceanic. Twelve families indicated their desire to connect to Oceanic service. Oceanic has indicated that more than 12 families are necessary for connection to be provided.

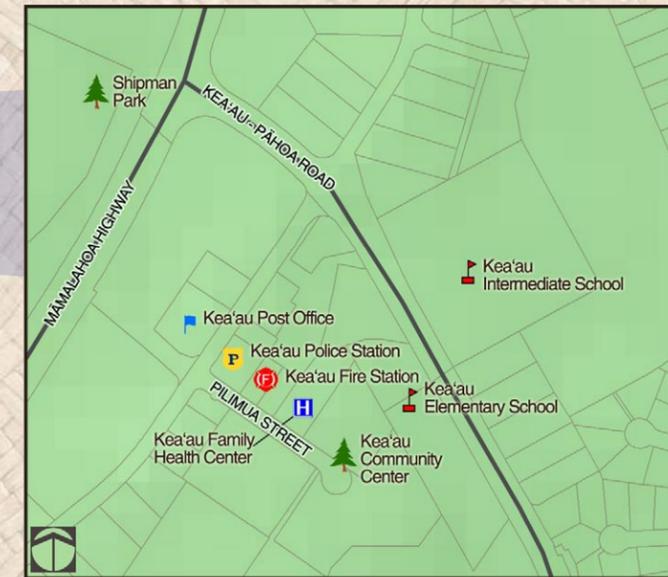
Existing Sewer System

At present, most residents in the Puna district are served by individual sewerage systems. The use of cesspools and individual household aerobic treatment units will probably be continued until such time as increased population distribution and densities make it economically feasible to install municipal sewerage systems. Residences near the coastal areas are much more vulnerable to unsatisfactory results with individual disposal systems due to the influence of tidal surges on the ground water table. The close proximity of the groundwater table reduces the efficiency of individual disposal systems because there is less filtration that can occur before the effluent reaches the ground water. This reduced efficiency may also affect the quality of near shore waters due to the reduced filtration. The Maku'u Farmers' Association has indicated they are against the installation of a municipal wastewater treatment plant within DHHL lands in the region.

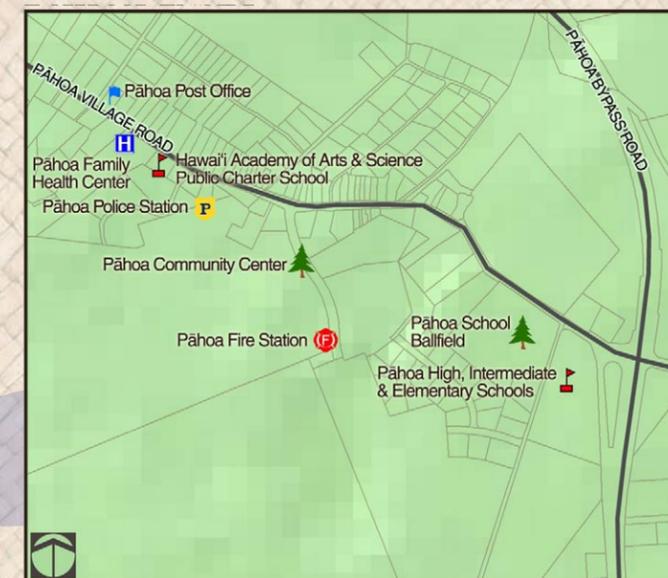
INFRASTRUCTURE - PUBLIC FACILITIES



Regional services, October 2010.



Kea'au Inset



Pāhoa Inset

Schools

	Private / Public	Grades	Actual Enrollment 2009-2010	Actual Enrollment 2010-2011	Student:Teacher Ratio
Kea'au School Complex					
Mountain View Elementary School	Public	Pre K-5	521*	536*	Not available
Kea'au Elementary School	Public	Pre K-5	803	785*	23-25:1
Kea'au Middle School	Public	6-8	621*	602*	Not available
Kea'au High School	Public	9-12	946	929*	Not available
Waters of Life New Century PCS	Charter	K-6	82	74*	8-10:1
Pāhoā School Complex					
Keonepoko Elementary School	Public	Pre K-6	614	592*	17:1
Pāhoā Elementary School	Public	Pre K-6	416	421*	18:1
Pāhoā High & Intermediate School	Public	7-12	720	736*	29:1
Hawai'i Academy of Arts & Science	Charter	K-12	465	445*	15:1
Ke Kula 'O Nāwahīokalani'ōpu'u Iki Lab PCS	Charter	K-8	208	210*	Not available
Kua O Ka Lā PCS	Charter	K-12	130	132*	Not available
Private Schools					
Kamehameha Schools Hawai'i Campus	Private	Pre K-12	1,120	1,120	Not available
Montessori Country School	Private	Pre	49	49	8:1
Christian Liberty Academy of Kea'au	Private	K-12	288**	Not available	Not available
Mālamalama Waldorf School	Private	Pre K-8	96**	Not available	Not available

The public school complexes in the Puna District include the Kea'au School Complex and Pāhoā School Complex. The Kea'au School complex includes Kea'au High School, Kea'au Middle School, Kea'au Elementary School, MountainView Elementary School and Waters of Life New Century PCS. The Pāhoā School Complex includes Pāhoā High and Intermediate School, Pāhoā Elementary School, Keonepoko Elementary School, Hawai'i Academy of Arts & Science and Ke Kula 'O Nāwahīokalani'ōpu'u Iki Lab PCS. The Pāhoā Complex continues to experience increased pressure on its educational facilities due to population growth and an influx of people moving into the subdivisions in the area. Several private schools located in Kea'au include Kamehameha Schools Hawai'i Campus, Montessori Country School, Christian Liberty Academy and Mālamalama Waldorf School.

The Kea'au, Mountain View and Pāhoā branch libraries are joint community-school facilities. The Kea'au facility has a collection of 30,000 volumes. The facilities located at Pāhoā and Mountain View house 34,000 and 23,117 volumes, respectively. The size of the Pāhoā and Mountain View facilities are inadequate to meet the student and community needs. Insufficient adequate pedestrian access and parking at these facilities continue to be an ongoing problem.

Higher Education

University / College	Private / Public	Level	Actual Enrollment 2009-2010	Projected Enrollment 2010-2011	Student:Teacher Ratio
University of Hawai'i, Hilo	Public	University	3,974***	4,180***	19.6:1 lower undergrad*** 14.8:1 upper undergrad***
Hawai'i Community College	Public	2-Year College	3,275***	3,670***	18-19:1***

The University of Hawai'i System has two campuses within proximity of Maku'u servicing the higher education needs of East Hawai'i: The University of Hawai'i at Hilo, and Hawai'i Community College.

The University of Hawai'i at Hilo offers baccalaureate degrees through an arts and sciences curriculum. Although it emphasizes education in the liberal arts tradition, it also offers advanced degrees in indigenous languages and natural sciences. The campus also hosts the only accredited pharmacy school in the state. The institution is also home base to many of the astronomy consortiums operating on Mauna Kea (18 miles away by car).

Hawai'i Community College focuses on providing access to those seeking a higher education. The college's curriculum centers around cultural competency, environment, Hawaiian culture and values, and workforce development. The college also offers the only known degree program in the ancient art of Hula (18 miles away by car).

Fire / Emergency Medical Services (EMS)

The Hawai'i County Fire Department has 20 regular fire stations and 22 volunteer fire stations. Pāhoā has a fire/EMS operation that serves the Pāhoā-Paradise Park and Kalapana-Kapoho areas. Kea'au has a 24-hour fire/EMS facility. Hawaiian Beaches, Hawaiian Paradise Parks, Hawaiian Acres, Fern Acres, Fern Forest and Wa'a Wa'a subdivisions have 24-hour volunteer facilities.

Police Facilities

The Hawai'i County Police Department is in charge of enforcing all Federal, State, and local laws in Hawai'i County, the State's largest county in terms of land mass. Hawai'i County has a main police station in each of its eight districts. The main police station for the entire Puna district is located in the Kea'au public office complex which also houses fire and courtroom services. The Puna district's police substation is located in Pāhoā. Based on population, the average is about 2.5 officers per 1,000 residents islandwide. The Puna district is significantly below this average with only 1.1 officers per 1,000 residents. There is one correctional facility located in East Hawai'i: Hawai'i Community Correctional Facility in Hilo.

Medical Care

There are currently no comprehensive medical facilities within immediate vicinity of Maku'u.

HILO MEDICAL CENTER (21 miles distance by car)

A 264-bed facility, Hilo Medical Center is the largest acute care facility in Hawai'i County. The center offers 24-hour emergency care, surgical care, and a variety of other out-patient services. With 951 employees, the medical center is one of the largest employers in Hilo and part of the state-administered Hawai'i Health Systems Corporation.

KA'Ū HOSPITAL (57 miles distance by car)

Located in Pahala, Ka'ū Hospital and Rural Health Clinic is a 21-bed critical access hospital providing both acute and long term care including 24-hour emergency services and a Family Practice medical clinic. The hospital is also part of the Hawai'i Health Systems Corporation.

National Park

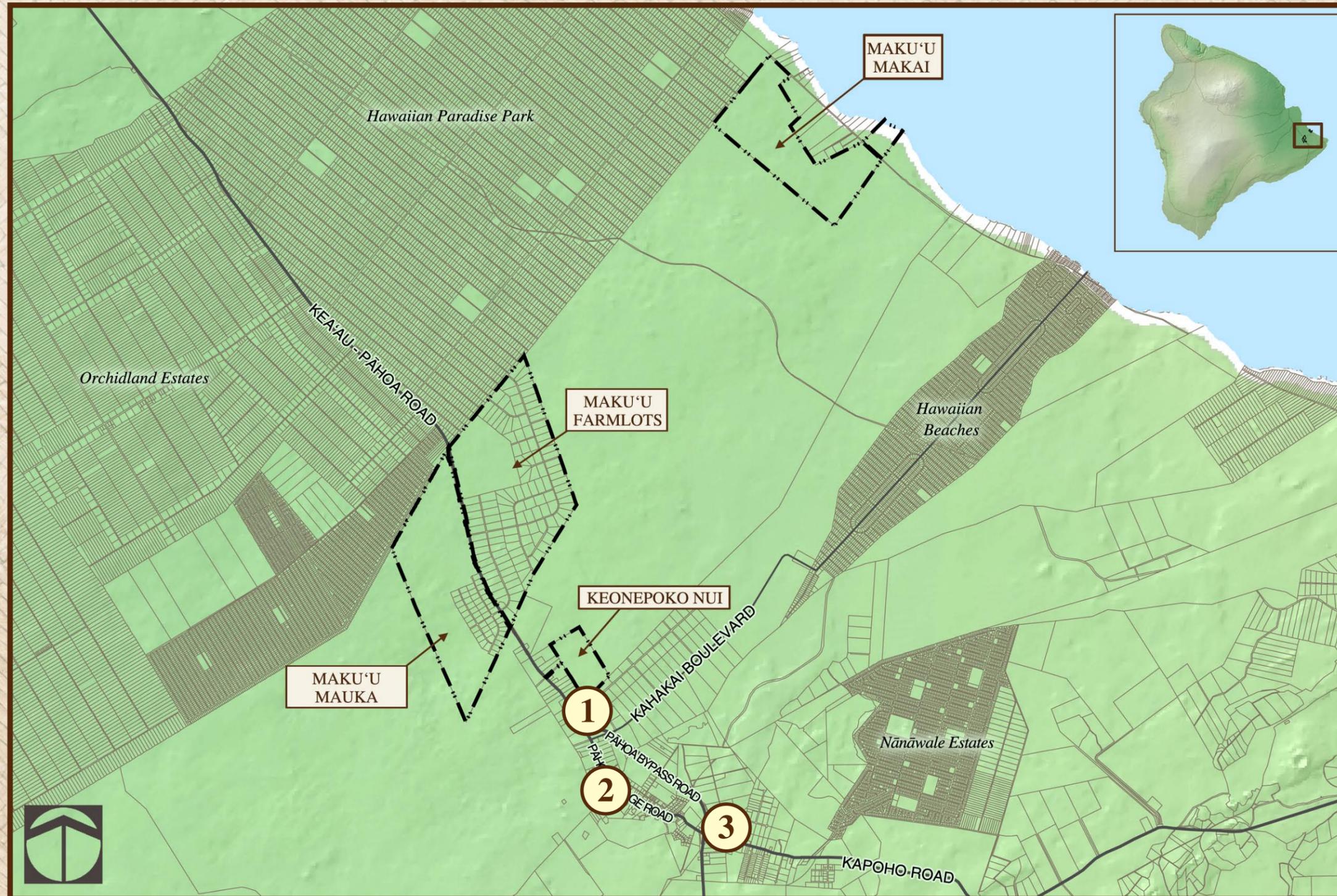
HAWAI'I VOLCANOES NATIONAL PARK (32 miles distance by car)

Hawai'i Volcanoes National Park was established through an Act of Congress in 1916. The park is the island's most visited attraction, with over 2.6 million visitors passing through the park gates annually. The park encompasses 333,000 acres and includes the state's two active volcanoes: Kilauea and Mauna Loa. The park is a full service recreational facility of the National Park Service, including lodging, concessions, interactive visitor centers, and numerous trails.

Source: *DOE Web site, **County of Hawai'i Data Book, ***Institutional Research Office.



PUBLIC FACILITIES - DEVELOPMENT PROJECTS



Development projects, 2010.

PUNA POLICE STATION

This project consists of planning, design, and construction of a new police station including refueling station and a radio tower to replace an existing inadequate facility. Funds being sought during this fiscal year will initiate the process in this project, providing for plans and design of the station. \$500,000 in appropriations has been designated for this project.

The Kea'au Police Station, which services the entire Puna District, is grossly inadequate in size and antiquated in construction. The building was first constructed in 1969, and expanded to its present size in 1986. At the time expansion was completed, it housed thirty-three (33) sworn personnel and one clerical position, and even then, conditions were cramped. Since then, the manpower for the Kea'au Police station has increased to fifty-three (53) sworn personnel and three (3) civilian positions. In any event, the size of the facility must be sufficient to house a command, which is projected to include seventy (70) sworn personnel and four (4) civilian employees. *Source: County of Hawai'i Part II The Proposed Capital Budget and Six-Year Capital Improvements Program FY 2010-2011 dated March 1, 2010.*

1 PĀHOA POLICE STATION

This project consists of planning, design, and construction of a new police station and radio tower on a 19.4-acre parcel that houses the new Pāhoa Fire Station. \$4.5 million in appropriations have been designated for this project.

2 PĀHOA FIRE STATION

The new \$5.3 million 8,000 square foot Pāhoa Fire Station opened in December 2009. This station replaces the one located off Old Government Road in Pāhoa. The new fire station is located on a 19.4-acre parcel on the makai side of Highway 130 and features living quarters, classrooms and an equipment-storage area complete with a workshop and possibly the addition of a water tanker in the future.

PĀHOA TRANSFER STATION

This project consists of \$3.9 million in renovations and upgrades to the existing Pāhoa Transfer Station and will be replicated at the 20 other transfer stations on the island. Upgrades include roof installation, better drainage, covered trash chutes (three total) and recycling areas, recessed recycling bins and a building where people can discard items for resale. Solar panels will generate electricity for a new office that will also serve as an area to drop off hazardous items like car batteries; and for exterior lighting, pump compactors, water-pumping system and septic system. Rainwater will be reused for the staff bathroom and by the Fire Department for firefighting activities. *Source: Hawai'i Tribune-Herald, July 8, 2010.*

PĀHOA PUBLIC SCHOOL AND LIBRARY

\$583,034 in general obligation bond funds was designated for accessibility, health and safety improvements at Pāhoa Public and School Library.

3 PĀHOA HIGH AND INTERMEDIATE SCHOOL

Seven projects received capital improvement project (CIP) funding totaling \$2,727,000 for a variety of school improvements including replacing fans, replacing light fixtures, improving drainage, renovating tennis courts, replacing white boards, replacing freezer doors and electrical upgrade.

PĀHOA ELEMENTARY SCHOOL

Funds have been allocated through state CIP funding totaling \$1,038,598 for seven projects including installing a ramp, ramp roof, electrical upgrade (construction funds have not yet been appropriated, but they have been allotted), termite tent and treatment and other roof installation work.

KEONEPOKO ELEMENTARY SCHOOL

\$454,000 in CIP funds was designated for installing a bird screen at Keonepoko Elementary School.

KEA'AU PUBLIC AND SCHOOL LIBRARY

\$253,653 in general obligation bond funds was designated for accessibility, health and safety improvements at Kea'au Public and School Library. Other additional monies were designated to retrofit to energy efficient light fixtures and install protective window tint at the library.

KEA'AU HIGH SCHOOL

\$804,000 in CIP funds was designated for multiple projects at Kea'au High School including football field maintenance, track maintenance, campus grubbing, gym floor repair work, air conditioning repair, replacing lamps and installing additional lights, gym light maintenance, and stadium maintenance.

KEA'AU MIDDLE SCHOOL

\$3,995,515 in CIP funds was designated for multiple projects at Kea'au Middle School including replacing electrical conduits, panel upgrade, restroom and locker room repair, whole school renovations (2007), repair/refinish gym floor, electrical upgrade, health room installation, resurfacing basketball court, and termite treatment.

KEA'AU ELEMENTARY SCHOOL

\$465,000 in CIP funds was designated for second access to the school and other improvements projects.

MOUNTAIN VIEW PUBLIC AND SCHOOL LIBRARY

\$124,185 in general obligation bond funds was designated for CIP projects at Kea'au, Mountain View, Nā'ālehu and Pāhala Libraries, including retrofitting to energy efficient light fixtures and installing protective window tint.

MOUNTAIN VIEW ELEMENTARY SCHOOL

Mountain View Elementary School received \$2,057,900 in CIP funds for the installation of a campus boundary fence, drainage improvements, installing a bird screen and an electrical upgrade (construction funds have not yet been appropriated or allotted for the electrical upgrade).

Source: State of Hawai'i CIP Task Force, updated 5/14/10 (unless otherwise noted).

Maku‘u beneficiaries met with DHHL staff to discuss regional issues and opportunities. Topics discussed were varied, including policy, infrastructure, community, and agriculture. The key points have been summarized and are categorized below:

INFRASTRUCTURE

- DHHL should notify beneficiaries of future and pending projects through beneficiary consultation meetings.
- USDA funding for the offsite water system is important and is a major factor in determining potential uses at Maku‘u Mauka.
- Developing a lower roadway connection with the adjacent community would be useful for emergency access by County and State emergency response vehicles, and not intended as a public thoroughfare.

COMMUNITY

- The proposed residential mauka development should also include agricultural uses.
- Protection of the aquifer should be considered before developing the mauka residential lands.
- Cohesive design guidelines would assist in the development of Maku‘u homesteads.
- There is a need for transitional housing in the region. In a down-turned economy, transitional housing can provide shelter to the working poor and those that cannot afford rent but do not qualify for other services. The Maku‘u Farmers’ Association (MFA) indicated its primary concern is with DHHL beneficiaries and not with transitional housing for the County.
- Occupied homesteads are surrounded by numerous lots that are unimproved and are not being utilized for agriculture purposes. Lessees feel safety is compromised because more than half of the lots are vacant.
- Assess FAA’s lease with DHHL prior to expiration in 2015.
- A bulldozer/rock crusher should be purchased to clear land. This could be utilized by absentee lessees, to help them move onto their homesteads. The equipment would be available to all lessees.
- The Department should not to sell its lands. In addition, income generated (from commercial leases, etc.) on Hawai‘i should be retained on island. Lease income does not seem to equate to beneficiary projects.
- DHHL’s annual report should clearly state the entities that receive monies in the region.
- DHHL should consider offering leases that are set to expire to beneficiaries prior to extending the lease.
- Beneficiaries should be included in stakeholder meetings.
- Take steps to integrate the Maku‘u Regional Plan into the Puna Community Development Plan.

AGRICULTURE

- Lease provisions should be enforced on the agriculture leases that have been awarded, but are still vacant. These leases should be revoked and re-awarded to those willing to pursue agricultural activities.
- DHHL should consider developing the 300 acres of vacant land at Maku‘u Mauka in the near future.
- The MFA Māla is a good example of how farming can be successful in Maku‘u.
- Establish relationships with organizations like USDA that can provide agriculture training.

ENERGY AND ECONOMIC DEVELOPMENT

- Developing an employment base is necessary for the community.
- Renewable energy projects such as the windmill pilot project at the Māla should be developed to generate energy for homesteads.
- Develop and hold workshops on various energy projects and systems. Utilizing anaerobic waste water systems for energy generation is one type of system that could be developed.
- Find ways to limit mortgage payments to approximately \$1,000 per month.
- Securing grant funding is important in the development of community projects. The community would like assistance in grant writing and proposal development.
- MFA is initiating an organizational structure change creating a for-profit entity and a not-for-profit entity at the recommendation of DHHL’s Kūlia i ka Nu‘u program.

Potential Projects

The numerous issues and opportunities identified by community members were consolidated into a list of potential projects. Utilizing this list, the community decided by consensus on the top priorities for their community. Beneficiaries were provided with dots to show their support of up to five potential projects. The table below includes all of the potential projects, and identifies those elevated as priority projects based on community consensus. The details for the five priority projects described on the following pages were evaluated and expanded upon by DHHL, their consulting team, and key stakeholders. These priority projects were then reviewed and approved by the community prior to submission to the Commission for approval.

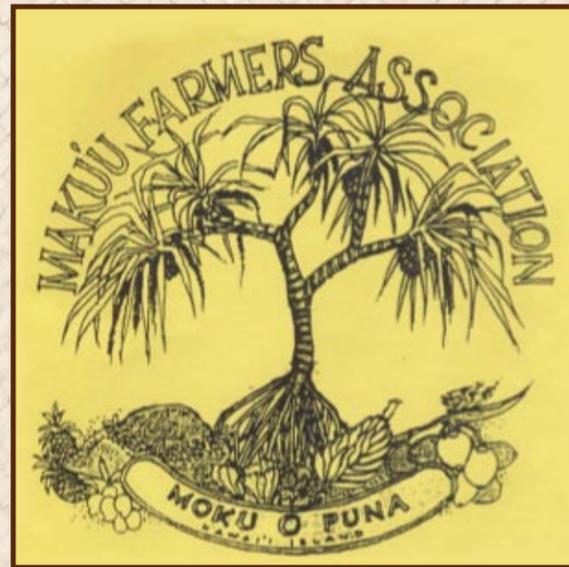
Potential Project	Community Discussion
**†Farm Plans and Capacity Building	Many lessees do not have realistic expectations or adequate training to operate successful farms. A capacity building program should be initiated to help lessees develop realistic farm plan and implement them.
**†Promotion of Agriculture	Maku'u is an agricultural community. Agriculture should be expanded and promoted in Maku'u utilizing potential resources like USDA.
Shared Equipment Program	Much of Maku'u is located on blue rock which is difficult to remove as the ground is prepared for farming. High costs to purchase equipment (to grade and clear land) prohibit many farmers from getting started. A shared equipment cooperative could provide farmers with access to appropriate farming tools and equipment such as bulldozers and tractors to aid in the clearing and cultivating homesteads.
Develop Design Guidelines for Maku'u	Currently there are no standards for the development of Maku'u homesteads. Guidelines that include building codes and subdivision standards should be utilized in the build out of Maku'u. These guidelines should also be designed to maintain appearance and habitability while creating community pride. The guidelines should require lessees to maintain and upkeep their homesteads to a standard developed by the community. The Maku'u Farmers' Association (MFA) does not find design guidelines to be economically conducive to the needs of the beneficiaries, and could be too costly and only add to the burden of developing the agriculture lots for farming.
**Enforcement of Lease Provisions	Leases were awarded to beneficiaries with the provision that homesteaders engage in active agricultural activities within one year of the award. However, many farms lots in Maku'u remain vacant and undeveloped for agriculture. Lease provisions should be enforced on the agriculture leases that have been awarded, but are still vacant. These leases should be revoked and re-awarded to those willing to pursue agricultural activities
**Maku'u Farmers' Association Community Center	Development of a community center was a priority project in 2008. While some of the entitlements have been completed, no site work has been conducted. This project would include the acquisition of funding for site preparation, clearing of land, and the construction of more affordable modular buildings.
Native Hawaiian Homeless Shelter	Lands for transitional housing are needed. In a weak economy, transitional housing can provide shelter to the working poor and those that cannot afford rent but do not qualify for other services. The idea is to help people transition from homelessness to productive members of society that are not dependent upon a government safety net. DHHL could work with the State and County to provide lands for the development of transitional homes that benefit native Hawaiians in the region. The MFA indicated its primary concern is with DHHL beneficiaries and not with transitional housing for the County.
Maku'u Community Markers	People often drive through the Maku'u and are unaware of the community. To improve visibility, create discrete boundaries, and promote community pride, signage announcing Maku'u as people enter and exit the subdivision should be developed. Sweat equity could reduce the costs.
**†Maku'u Farmers' Association Capacity Building	Building the capabilities of the community members and the association is important in developing a self-supporting community. DHHL's Kulia i Ka Nu'u Program can provide capacity building support. It can provide resources, support organizational restructuring and provide grant writing assistance. Capacity building programs developed for Maku'u could also identify and access scholarships, education programs and partners to promote education in the region.
Ensure Integration of the Maku'u Regional Plan into the Puna Community Development Plan	The County's Puna Community Development Plan (CDP) is being amended. Currently the Maku'u Regional Plan is not reflected/identified within the CDP. Integration of the Maku'u Regional Plan into the County plan is necessary to create cohesive planning in the region.
Kea'au-Pāhoa Road Widening	Widening Kea'au-Pāhoa Road would reduce traffic congestion in the region.
Proposed Puna Parkway	An alternate route connecting south Hilo and Puna would alleviate congestion throughout the Puna region.
**Maku'u Offsite Water System	Offsite water is necessary for the development of the remaining agriculture lots in Maku'u. It is also necessary for the development of the mauka lands. The design of the water system is almost complete. Advocacy for the construction the system is necessary.
Maku'u Access and Circulation Improvements	Developing a road that provides a secondary, alternate access route into and out of the homestead in emergencies is critical. Building a roadway that connects the Maku'u Farm Lots to the Hawaiian Paradise Park subdivision could provide an alternate access route.
Develop Employment Opportunities Based on the Economic Structures of Puna	New employment opportunities that match up with Puna's workforce should be explored.
**Sustainability and Renewable Energy Initiatives	Implementing DHHL's Energy Policy in the pursuit of renewable energy in Maku'u could improve self-sufficiency and sustainability. Energy options like the pilot wind project at the Māla or energy generation through anaerobic waste water systems or recycling should be explored.

** By consensus, the community voted to elevate these potential projects to priority projects.

† Due to their similarity, these potential projects were consolidated into a single priority project.



PRIORITY PROJECT - *Maku‘u Farmers’ Association Community Center - Site Preparation*



Background

Every Sunday, the Maku‘u Farmers’ Association (MFA) opens their gates and hosts hundreds of residents and visitors at the infamous Maku‘u Farmers’ Market. The MFA operates a successful farmers market providing over 150 local merchants and artisans with opportunities to market their products and services in a fun, friendly, and clean environment. In addition to produce and food, a wide variety of new and recycled products including crafts, plants, jewelry, clothing, books, and records/CDs are sold. The Farmers’ Market typically has live music and entertainment which adds to the ambiance of the market. In many ways, the Maku‘u Farmers’ Market has become the “thing to do,” the “place to be” on Sunday morning. On average, the market hosts approximately 1,500 people when they open their gates.

The farmers’ market started on just a few acres, however, as more and more people became familiar with the Farmers’ Market, MFA has had to expand the market, making room for booths/tents, parking, and has had to constructed a restroom facility in order to accommodate its growing customer base. As the MFA proved their ability to manage the area appropriately, and in order to support their booming market enterprise, the Department responded by expanding their market/community center parcel to nine acres, and a few years later, this was expanded to 38 acres under a license agreement with the Department.

Building upon the successes of the Farmers’ Market, MFA developed a vision to expand its operational capabilities, creating a community center to meet the needs of the beneficiaries and those in the greater Puna region. MFA worked with architects and planners to develop their community center concept. This community center project was identified as a priority in the 2008 Maku‘u Regional Plan. The community identified a wish list of facilities that could be included on their community parcel including kūpuna housing; a visitor center with overnight quarters; a child care center; playfields; a social agency center; commercial/retail space; and a comprehensive health center to serve the greater Puna region. The objective of the 2008 priority project was to complete Phase 1 of the community center development. Phase 1 included conducting a land survey and obtaining FAA concurrence, and completing a land use plan. It also included obtaining county zoning and environmental approvals, forming a for-profit entity Maku‘u Farmers’ Market Corp., and executing a license agreement with DHHL.

In 2010, the beneficiaries revisited the community center plan and identified the facilities that could reasonably be developed by MFA. At full build out, the community center project would include public and private certified kitchens, office facilities, and several multi-purpose facilities built utilizing modular buildings to reduce cost. It would also include a lawn, imu pit and incorporate the existing lavatory facilities. The community is ready to move forward with the preliminary phase of development, site preparation on a more realistically scoped project.

This priority project will focus on acquiring the funding to move forward with the preparation of the site for construction of Phase 2. Preliminary estimates for clearing and preparing site for construction is \$1.2M. The construction of the proposed Phase 2 modular buildings hinge upon the community’s ability to acquire the funds necessary for site preparation and therefore should be the primary focus.

Status

Task	Status
Conduct land survey and obtain FAA concurrence	Completed.
Complete land use plan	Completed, but being revised to reduce costs.
Complete permitting and entitlements	Ongoing.
Obtain environmental approval	The project is currently being evaluated for environmental compliance with the National Environmental Policy Act and Hawai‘i Revised Statutes, Chapter 343. Development of the Draft Environmental Assessment is currently underway.
Execute license	Completed.

Priority Project - Maku'u Farmers' Association Community Center - Site Preparation

Next Steps / Project Milestones

- Complete draft environmental assessment (EA) – Winter 2010
- Complete permitting and entitlements – Spring 2011
- Finalize EA – Spring 2011
- Acquire funding – Spring/Summer 2011
- Construct Kaluahine Street connection – Spring/Summer 2012
- Site work – Spring/Summer 2012
- Construction of modular buildings – Fall 2012

Estimated Cost

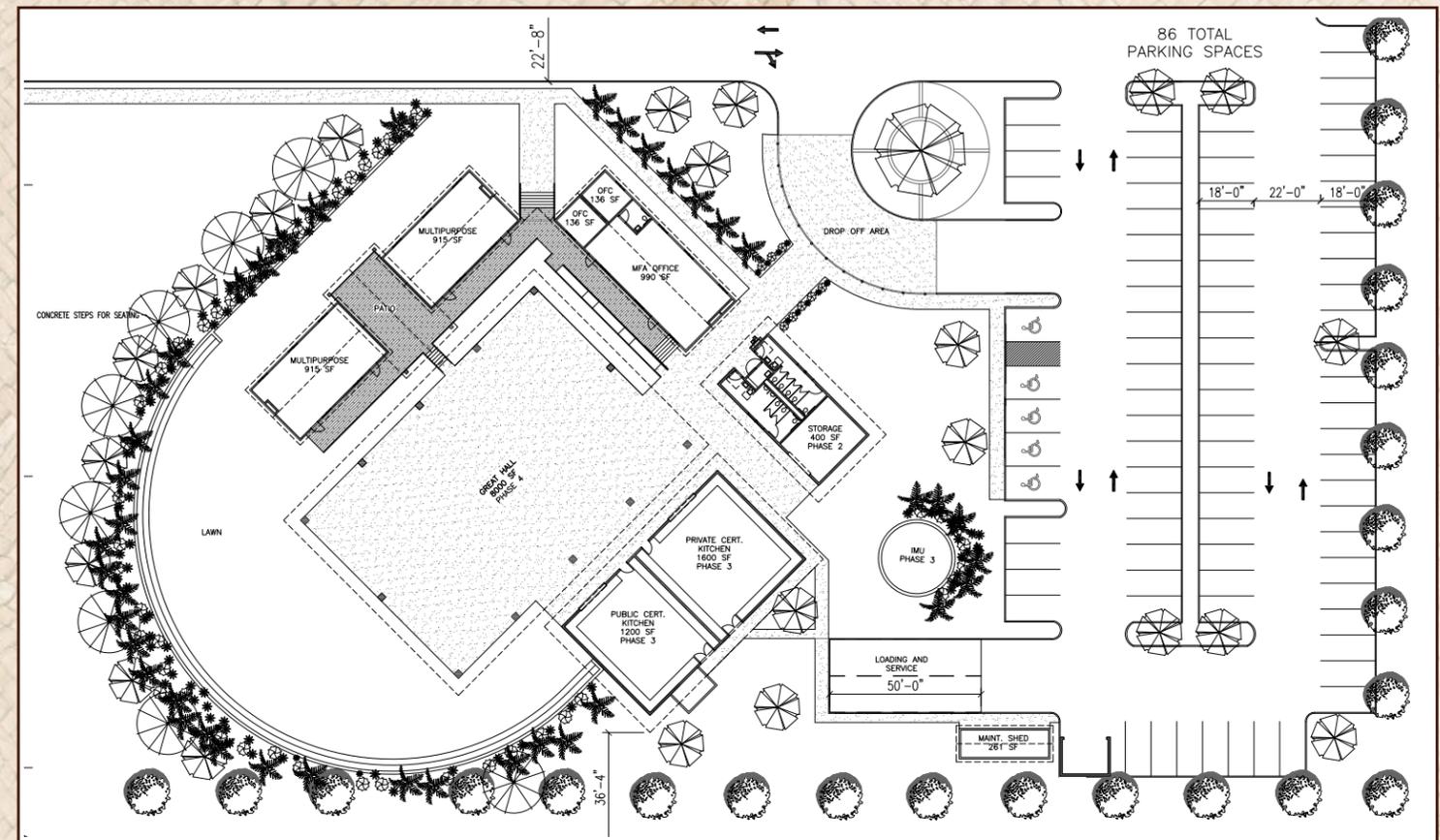
\$1.2M for site preparation.

Potential Partners & Stakeholders

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development

Sources of Funding

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development
- State of Hawai'i Department of Transportation
- United States Department of Housing and Urban Development
- Private sources



Maku'u Community Center Site Plan, CDS International, November 2009.



Maku'u Farmers' Market, August 2010.



PRIORITY PROJECT - *Maku‘u Offsite Water System, Phase 2*

Background

The residents of Maku‘u have expressed that all awarded lots should receive reliable water service. Seventy-eight of the Maku‘u Farm lots are not serviced by the water system currently due to low water pressure. This priority project aims to provide dependable water service to the 78 farm lots, as well as the the Maku‘u Farmers’ Market/Community Center site and the Maku‘u Mauka subdivision.

The Kīlauea aquifer services all Puna communities, including Maku‘u. The Hawai‘i State Commission on Water Resource Management (CWRM) has set the sustainable yield of the Kīlauea Aquifer at 618 million gallons per day (mgd). The Kīlauea Aquifer holds ample water resources to support total use of all DHHL Maku‘u land holdings.

However, given the overabundance of water resources in the area, the overwhelming majority of residents in the area still rely on catchment systems for their potable needs. Catchment systems can be an unreliable source of potable water. It is often unappealing to potential residents looking to construct a dwelling on their land because of the uncertainties relating to both water quality and quantity. The area also lacks an adequate source of water for irrigation, inhibiting large scale farming activities on homesteads.

A portion of Maku‘u receives potable water from the Hawai‘i County Department of Water Supply’s well and reservoir site at Keonepoko Nui. These facilities currently provide water to only those lots below the 523-foot elevation. The farm lots above the service elevation, the proposed Maku‘u Mauka subdivision, and the planned community center are not serviced by the Keonepoko Nui system. Construction of a new well, storage and delivery infrastructure at a higher elevation would expand potable water service into these areas.

The proposed well, reservoir and appurtenances will occupy 1.503 acres of land currently under the jurisdiction of the State of Hawai‘i, Department of Land and Natural Resources (DLNR). The ground elevation of the proposed well is approximately 824 feet above sea level. The well will have a depth of approximately 900 feet. Construction elements include:

- Drilling of an exploratory well (completed)
- Testing the well for capacity and water quality (completed)
- Conversion of the well to production
- 1.0 million gallon reservoir
- Gated access road to the site
- Pipeline from the reservoir site to the existing Keonepoko 2 reservoir

- Installation of electrical poles
- Installation of new booster pump
- Ancillary facilities

In 2004 the Department of Hawaiian Home Lands conducted an environmental assessment for the project pursuant to Chapter 343, Hawai‘i Revised Statutes, and issued a Finding of No Significant Impact (FONSI). In 2009, an Environmental Summary was prepared to meet the federal requirements of the National Environmental Policy Act. It was submitted to the United States Department of Agriculture Rural Development for review and approval.

The installation of a dedicated system for Maku‘u would provide reliable water service for homesteads in the area, allowing more Hawaiians to live on and use their land.



Priority Project - Maku'u Offsite Water System, Phase 2

Proposed Timeline

Complete design and engineering – Fall 2010
 Prepare bid package, request for proposals, contractor selection – Spring 2011
 Construction – Fall 2011

Partners & Stakeholders

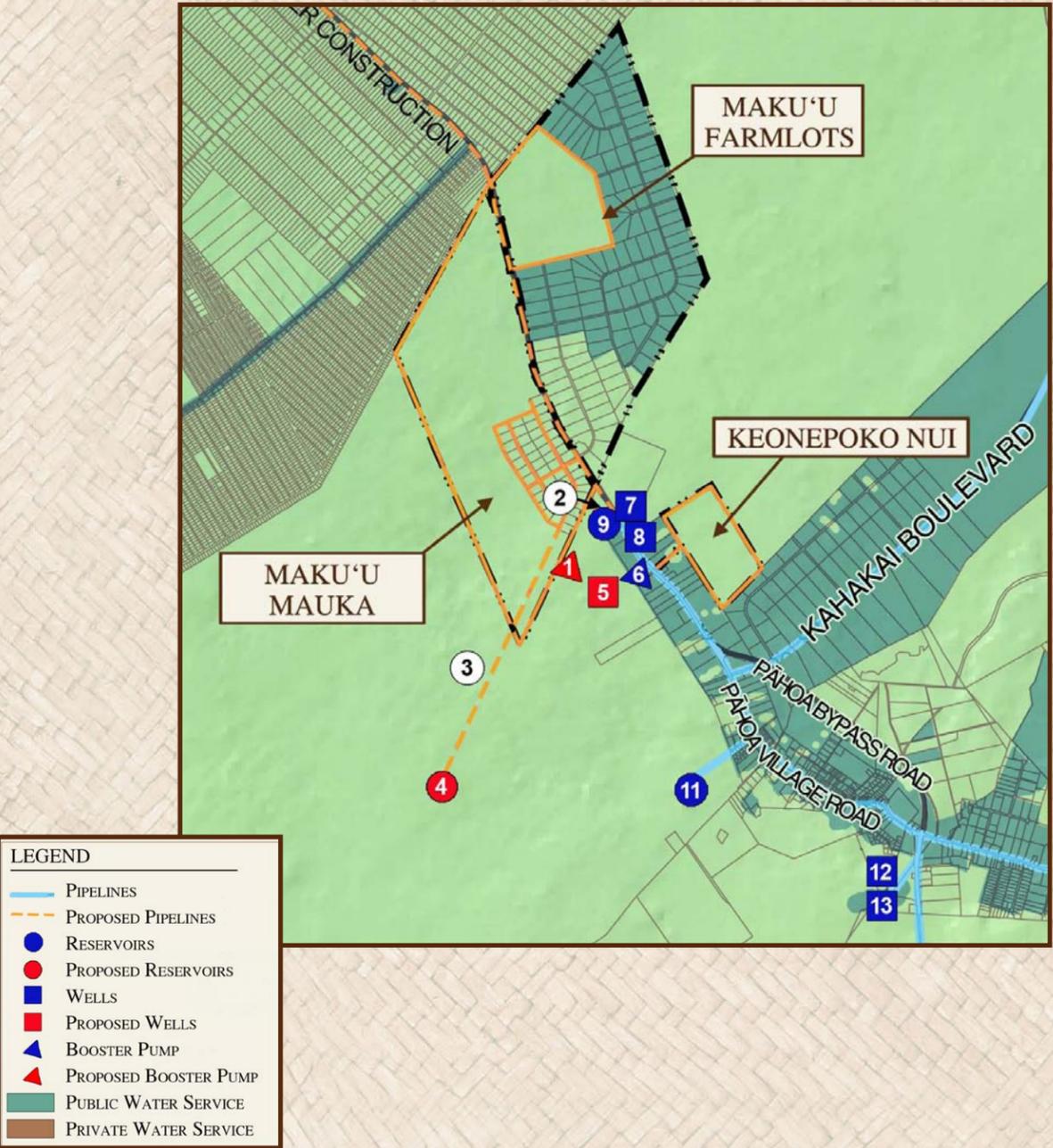
- Department of Hawaiian Home Lands
- County of Hawai'i
- United States Department of Agriculture Rural Development

Costs

Permitting, engineering and design	\$ 558,018
Construction	\$8,200,000
TOTAL	\$8,758,018

Sources of Funding

- Department of Hawaiian Home Lands (approximately 7-10%)
- United States Department of Agriculture Rural Development grants and loans



PRIORITY PROJECT - *Sustainability and Renewable Energy Initiatives*

Background

According to the Hawai'i Clean Energy Initiative (HCEI), imported oil supplies 90 percent of Hawai'i's energy. The goal of the HCEI - an initiative of the U.S. Department of Energy and the State of Hawai'i - is to meet 70 percent of Hawai'i's energy needs by the year 2030 through energy efficiency and renewable energy.

Hawai'i is the most oil-dependent state in the country and has the highest electricity rates. Residents on the island of Hawai'i pay more than 33 cents per kilowatt hour, which is five cents more than the state averaging at 28 cents per kilowatt hour and almost three times more than the nation averaging at about 12 cents per kilowatt hour.

In January 2009, in response to the HCEI, the Department of Hawaiian Home Lands (DHHL) adopted an energy policy, Ho'omalūō. Ho'omalūō is designed to enable native Hawaiians and the broader community to work together and lead Hawai'i's effort in achieving energy self-sufficiency and sustainability. One of the policy's objectives is to facilitate the use of diverse renewable energy sources.

Hawai'i's oil dependency and high electricity costs have long been concerns of the Maku'u Farmers' Association (MFA). Last year the MFA initiated a renewable energy pilot project to harness wind power through a locally manufactured windmill located at the Māla. The windmill produces 1,200 watts of electricity, which is enough to power all of the buildings at the Māla. Ideally, the MFA would like to power individual homes at a small-scale application level. In addition to expanding on this innovative project, Maku'u beneficiaries would like to explore other alternative energy options as follows:

- Solar
- Recycling
- Anaerobic wastewater systems

The overall goal of this project is to reduce energy consumption and costs through conservation and the development of renewable and recycled energy. MFA will seek partnerships for funding and access to state-of-the-art technologies that would assist in the development of the renewable and recycled energy resources.



Windmill located at the Māla.

Proposed Steps

- Determine a strategy that will meet objectives for lowering beneficiary energy cost while ensuring consistency with DHHL's energy policy
- Engage in discussions with renewable energy entities; determine what type if any large scale energy production will be pursued
- Engage in discussion regarding direct benefits to Maku'u beneficiaries and financial compensation to DHHL
- Secure a land lease from DHHL if necessary
- Engage in discussion with HELCO and HECO
- Obtain entitlements (environmental/zoning/subdivision)
- Complete the planning and design process
- Begin construction

Priority Project - Sustainability and Renewable Energy Initiatives

Potential Partners & Stakeholders

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development Rural Utilities Service
- United States Department of the Energy
- Hawai'i Electric Light Company
- Other Renewable Energy Companies

Estimated Costs

Cost will be dependent upon strategy pursued.

Potential Sources of Funding

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development Rural Utilities Service



PRIORITY PROJECT - *Farm Plans, Capacity Building and Promotion of Agriculture*



Background

Farms play a vital role in the State's economy, food system and natural resources. The Maku'u Farmers' Association (MFA) has raised concerns regarding the need to maintain and expand the agricultural industry as a way to preserve the region's rural way of life and provide job opportunities. Hawai'i island and the State as a whole would benefit from efforts to reduce the reliance on imported goods and developing an agricultural industry.



Although most of the agricultural homestead lots in Maku'u have been awarded, many of the lots are not being used for cultivation and aren't meeting their maximum economic potential. The disparity between optimum and current production is the result of many factors including inaccessibility to the appropriate tools and equipment. For example, the high cost to purchase and maintain farming equipment (i.e. tractors, sprayers, tillers, etc.) that is required, but used infrequently makes accessibility virtually out of reach for most start-up homestead farmers.



Successful cultivation of lots starts at the development of a farm plan. Current farm plans are drafted by the lessee and appended to the leases. The plans outline the type of cultivation and the estimated income a lessee expects to derive from activities on the parcel. However, the lots remain unused because many of the lessees lack the requisite knowledge to successfully initiate and maintain an agriculture-based enterprise. The original farm development plans drafted as part of the initial lease execution are cursory, absent professional guidance, and in many cases, practically unfeasible.

Because of the lessees' lack of previous farm enterprise experience, they require capacity building in the area of technical farming and business management skills. Successful farming always begins at the development of a business plan. An element of this project focuses on the development of a program assisting lessees learn both the technical and financial elements of farming. The program's active elements would entail introductory agricultural and financial management courses, farming practicum, business plan assistance and continuing support.

Agricultural courses would encompass the basics of agricultural cultivation, lessons about the Maku'u's climate and soils, and plants suitable for cultivation. Financial management courses would focus on capacity building in two areas: personal finance, and business management. Such working knowledge would enable farmers to successfully manage and administer their enterprise.

Providing a farming practicum would allow farmers the opportunity to gain first hand technical skills in a relatively risk-free environment. Obtaining knowledge through trial and error would direct farmers toward types of agriculture suited toward their personal needs.

The University of Hawai'i College of Tropical Agriculture and Human Resources (CTAHR) has provided extension support for farmers over many decades, and has experienced marked success. A partnership with CTAHR's extension service in East Hawai'i and the Department of Hawaiian Home Lands would help sustain farmers' activities in Maku'u, and bring lessees within compliance of their leases.

The United States Department of Agriculture (USDA) Rural Development has over 80 years of experience funding projects in rural areas. USDA Rural Development's mission is to increase economic opportunity and improve the quality of life for rural residents. Since 2001 USDA Rural Development has invested more than \$90 billion and as a result, created or saved more than 1.7 million jobs. In addition to funding, USDA Rural Development provides technical assistance to rural residents and businesses through a wide variety of programs.

MFA intends to conduct a detailed review of the programs offered by CTAHR and USDA Rural Development and decide whether to pursue partnerships with one or both organizations.

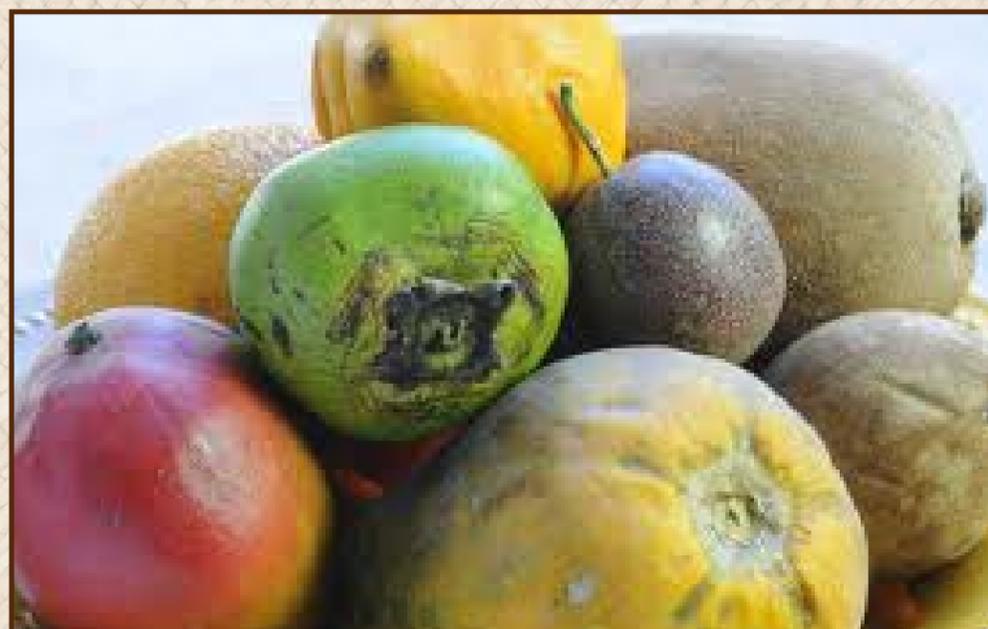
The goal of this project is to bring 100% of lessees with active water service into compliance with the terms of their leases. Following are elements that have been incorporated into this project to meet the goal of 100% compliance with lease agreements.

Priority Project - Farm Plans, Capacity Building and Promotion of Agriculture

- Develop, manage, and coordinate agricultural resources and support services for lessees and monitor and enforce agricultural lease provisions;
- Work with the County to remove any barriers that exist to farming;
- Provide access to agricultural training programs for new farmers, including encouraging students to choose careers in agriculture;
- Provide assistance to lessees in creating realistic farm plans; and
- Create a cooperative of major farm equipment (tractors, tillers, and rippers) for land clearing and prepping, combining produce, and marketing.

Potential Partners & Stakeholders

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development
- University of Hawai'i College of Tropical Agriculture and Human Resources (CTAHR)



Proposed Timeline

Phase 1 – Planning

- Solidify partnerships
- Solicit funding
- Create cooperative

Phase 2 – Implementation

- Conduct training
- Develop farm plans

Potential Sources of Funding

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development
- State of Hawai'i Department of Agriculture
- University of Hawai'i College of Tropical Agriculture and Human Resources (CTAHR)
- Office of Hawaiian Affairs
- Other assistance programs
- Private sources



PRIORITY PROJECT - *Lease Enforcement Provisions*

Background

Although DHHL awarded the majority of available parcels within the Maku‘u Farm Lots subdivision in the mid-1980s, only a handful of lots have actually undergone development. Even the presence of water service and roads has not compelled lessees to construct dwellings on their parcels, or engage in active farming activities.

All DHHL agricultural leases for Maku‘u include a proviso requiring active cultivation of the parcel. Active cultivation is defined as:

- Land cleared, planted and cared for according to the standards of good husbandry
- 2/3 of total lot acreage feasible for cultivation engaged in active farming
- Fulfill their farm plan

The active cultivation proviso also requires work to commence within one-year from the execution of the farm lease. However, over twenty-five years later, the vast majority of lots still remain vacant, absent of any man-made alteration.

Also, contrary to belief, lessees may, but are not required to construct a dwelling on their award. Nevertheless, current residents and active farmers would like to see more of a human presence within their subdivision to help grow a greater sense of community. An increase human presence in the neighborhood is seen as one way of deterring crime.

A primary goal of this project is to enforce the active farming provision of the DHHL agricultural leases in Maku‘u. Under this plan, lessees would be given a choice either to:

- Allow termination of their lease;
- Cultivate their parcel within one year; or
- Participate in a capacity building program, helping farmers develop realistic farm plans while giving them the requisite skills to commence and maintain a successful farming enterprise.

Lots that have had leases terminated by the beneficiary or revoked by DHHL would be re-awarded. Any new lessees would be required to participate in capacity building program or provide evidence of farming experience and cultivate parcel within one year.



Farm lot in Maku‘u under cultivation.



Plants at the Māla.

Proposed Timeline

- Lessee notified by DHHL of enforcement of lease conditions – Spring 2011
- DHHL notified by Lessee of participation in capacity building, intent to cultivate or lease termination – Summer 2011
- Re-award terminated leases – Spring/Summer 2012
- Revoke leases for lot not under cultivation or engaged in capacity building program – Summer 2012
- Re-award terminated leases

Potential Partners & Stakeholders

- Department of Hawaiian Home Lands
- United States Department of Agriculture Rural Development Rural Utilities Service

Estimated Costs

Mailings/notification: \$2,000

Lease management covered within DHHL's operational budget.

Potential Sources of Funding

- Department of Hawaiian Home Lands



Vacant farm lot in Maku'u.

