MOLOA‘A VALLEY FARMS SUBDIVISION

TAX MAP KEY (4) 4-9-011-013

Agricultural Master Plan

Moloaʻa Valley Farms
Subdivision Agricultural Plan

Introduction:

The Moloaʻa Valley Farms Agricultural Subdivision consists of 190 acres located in the East Side District of Kauai (Exhibit A). The project is located approximately 1300 m southwest of Moloaʻa Bay between Koʻolau Rd and Kuhio Highway (Exhibits B and C).

The Moloaʻa Valley Farms Agricultural Subdivision is a model of small shareholder diversified agricultural development. Due to its long history of unsuccessful residential development and accompanying low sales prices, Moloaʻa Valley Farms has attracted a diverse collective of farmers and ranchers among its owners. Many units have been under cultivation or grazing management since the initial purchase in 2000. Over the years the parcel has been home to sustainable agriculture workshops and installations, horse rescue operations, farm animal veterinary sites, managed intensive grazing, and niche market row cropping. The same forces that have helped shape the agricultural diversity within the project have also led several owners to abandon their hopes for its successful development. Therefore many owners have relocated off-island or let their land to go fallow, waiting for a brightened outlook for the project. The eventual bankruptcy of the initial developer in 2009, prompted the formation of the association of farm owners in 2010. Since then, the board of directors of the association has managed the project with the goal of providing all members with a farm dwelling unit, which was included at the time of sales but achievable now only through the subdivision process.

Parcel-wide Agricultural Considerations

The project parcel is located within the Ag/Open designations (Exhibit D). The topography is varied and includes steep slopes, Moloaʻa stream frontage, hilly grasslands and valley bottom land. The topography suits diversified sustainable agricultural models very well. The soil profiles are also varied. The parcel contains Lihue, Makapili, loleau soil series classifications as well as Rough Broken Land designation (Exhibit E). Soil pH tends toward acidic (5.5-6.5) with deficiencies in Calcium, Potassium, and Magnesium. Historically, the parcel was primarily used for cattle grazing, which has deepened topsoils and spared the land of contaminants from plantation or pineapple production. While row cropping is possible on flat or terraced land, agricultural pursuits such as agroforestry, managed grazing, and orchard systems represent the most ecologically sound practices for the majority of the parcel.

All agricultural uses planned within the subdivision are identified as permissible uses within Chapter 205 Land Use Commission. The cultivation of crops (205-4.5-1), the raising of livestock (205-4.5-3), and the construction of farm buildings including farm dwellings (205-4.5-4) will be

the primary uses within the proposed project. In addition, agricultural education programs (205-4.5-19) have been previously offered on the site and are included in the plans of at least two of the units within the project. These educational programs will be secondary to the principal agricultural operations onsite and will not interfere with surrounding agricultural operations. All owners are required by current and future covenants to engage in agricultural activities as described in Chapter 205.

The subdivision will be governed by the Conditions, Covenants, and Restrictions (CC&Rs) that will be developed for the property and will require compliance with this Master Plan. The deed restrictions are intended to ensure harmony and integration among the residents of the subdivision and their surrounding neighbors, and to assure compliance with all land use requirements.

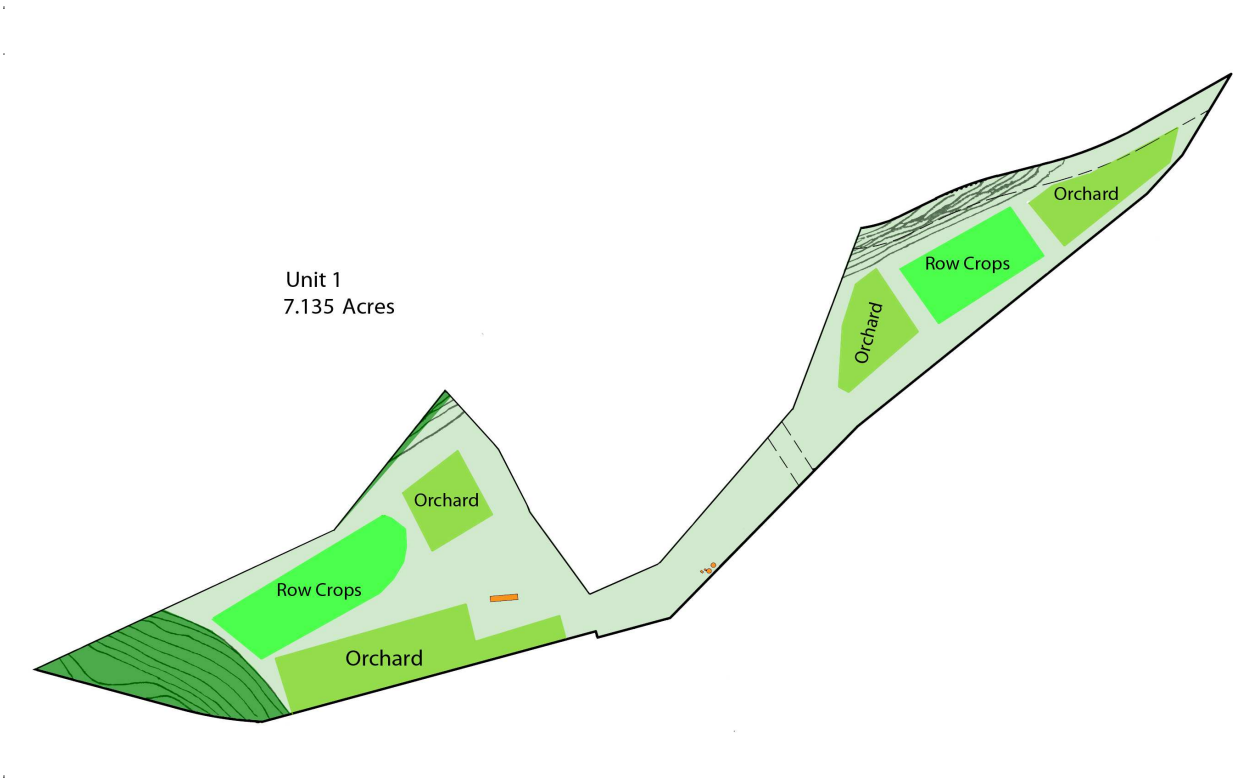
Due to some units long history of farming activity (18+ years) and others long fallow periods, a "one size fits all" ag plan for the parcel is impractical. A detailed agricultural survey of the owners was recently conducted followed by hours of meetings. Individual ag plans were created or updated to reflect current intentions. While the individual plans vary greatly in their scope and scale, common needs and areas of cooperation have been identified. Most prominently, a cooperative marketing option has been discussed and planned. Initially proposed to be an honor system farm product stand, plans include a direct marketing (CSA) program where consumers would receive a "share" of products that could come from several different farms within the project. A central market stand under this model would serve as a distribution / pickup location. As more units begin to be productive, the stand could be staffed and further organized as needs require. Other cooperative ventures include equipment sharing, fencing collaborations, and educational program co-hosting. A Farm Review Committee was established in 2015 to facilitate farm structure permitting and compliance with covenants. This committee will serve as an initial steering committee for farm related issues within the project, assisting owners with compliance with Chapter 205, USDA requirements, and internal covenants

Agricultural Master Plan S-2017-6

Agricultural Use Details by Unit:

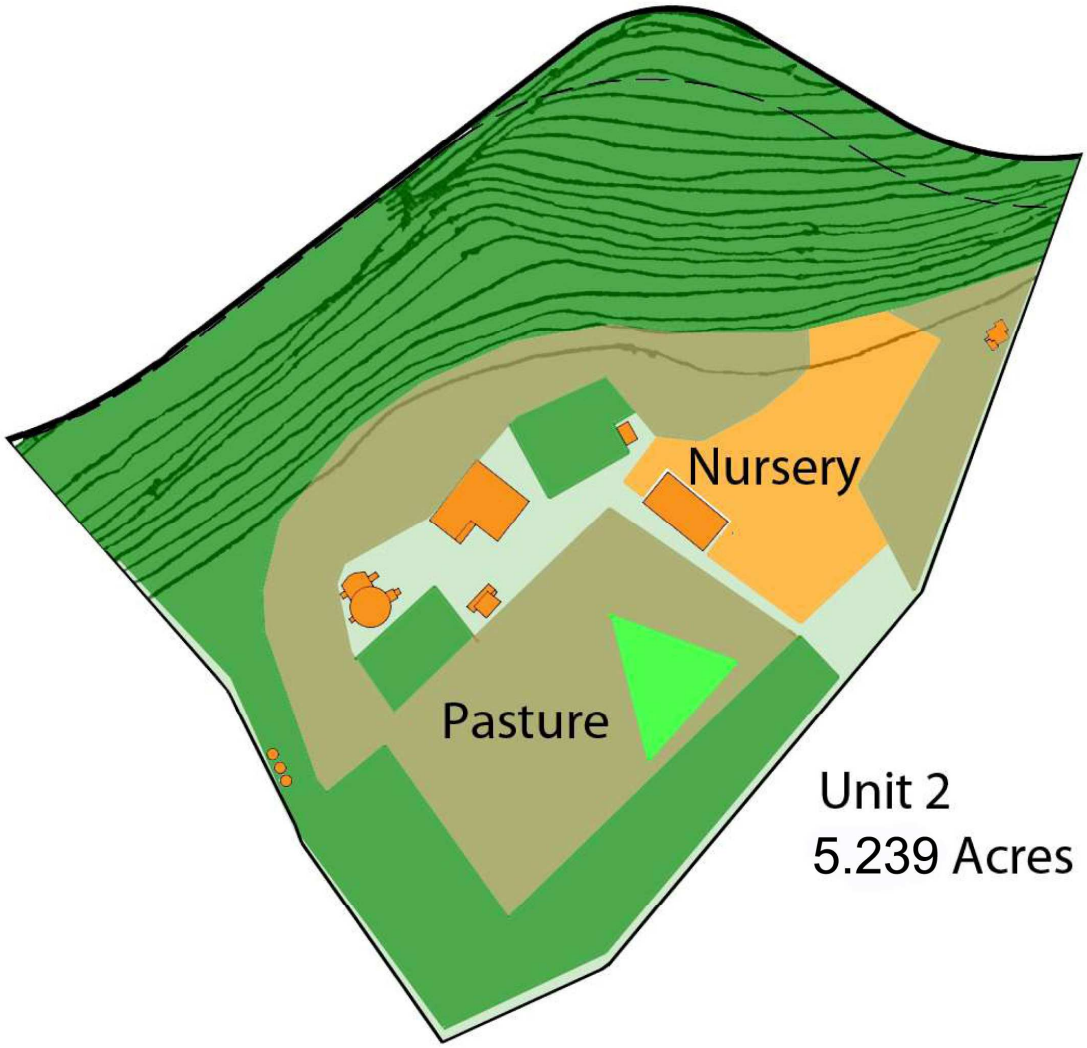
Unit 1:

Unit owner/manager has 30+ year agricultural experience on Kauai, currently operates largest solid waste management (compost) site on the north shore and manages several other farm operations. Unit is 7 acres of predominantly flat farmable land. Ag plans include orchard, agroforestry, nursery, and row crops. Current or recent activities include farming yellow ginger, turmeric, banana, macadamia nut, bamboo and nursery stock. Current and planned marketing of ag products include wholesale to distributor and local farmers markets. Owner also intends to participate in community farm stand.



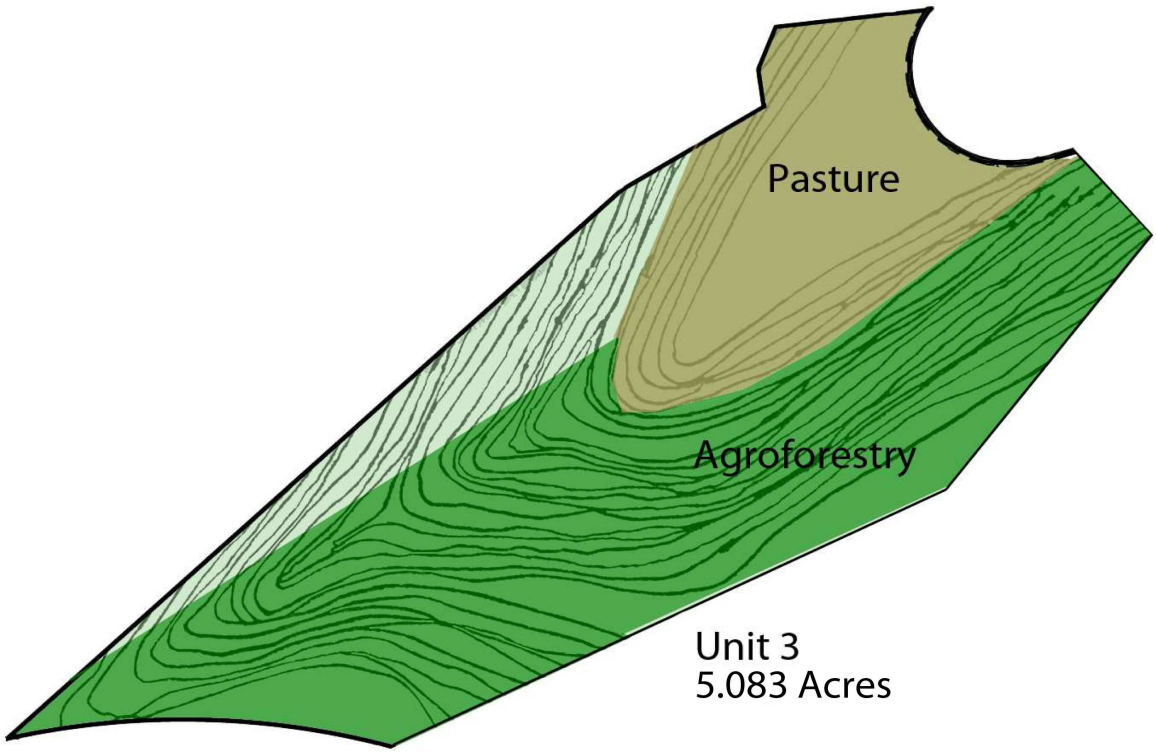
Unit 2

Unit owner/manager has 20+ years of agricultural experience on Kauai, has taught sustainable agriculture at UH Kauai/KCC and does consultation and agricultural design. Unit is 5.23 acres and is approximately half flat and half sloped. Ag plans include expansion of existing Agroforestry. Current or recent activities include animal management (dairy cows, heritage hog breeding, chickens and bees), agroforestry, annual vegetable production, nursery and agricultural education programs. Unit has been dedicated to agriculture for 10 years. Ag products are direct marketed to local consumers. Owner also plans to participate in community farm stand



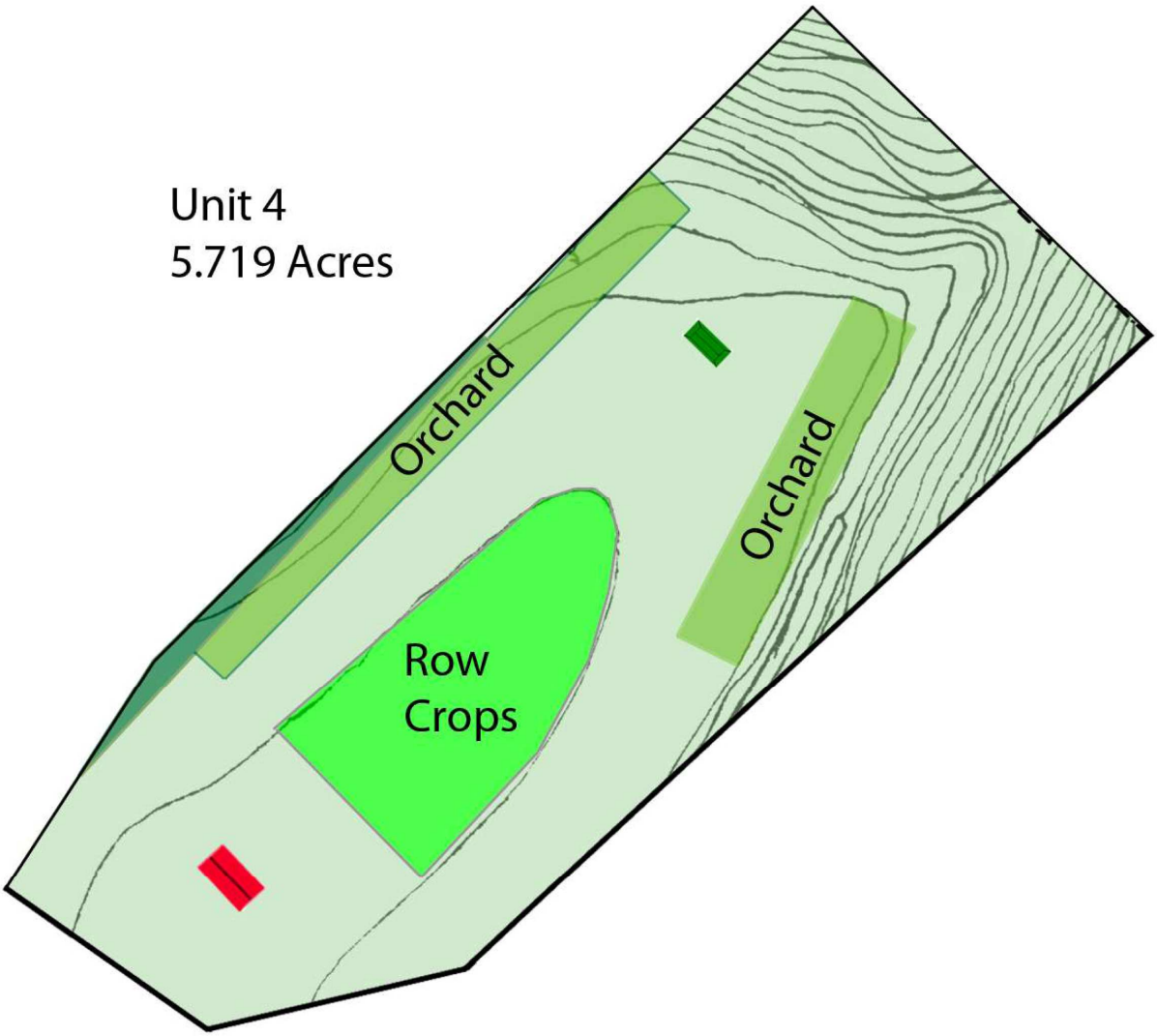
Unit 3

Unit has been under agricultural management since 2010. Unit is 5.1 acres in size with approximately half of the area with gentle grassy slope with the other half being forested slope. Current and recent activities include management intensive grazing, pasture management, and agroforestry maintenance. Animals and products to be marketed directly to local consumers or through local meat cooperative.



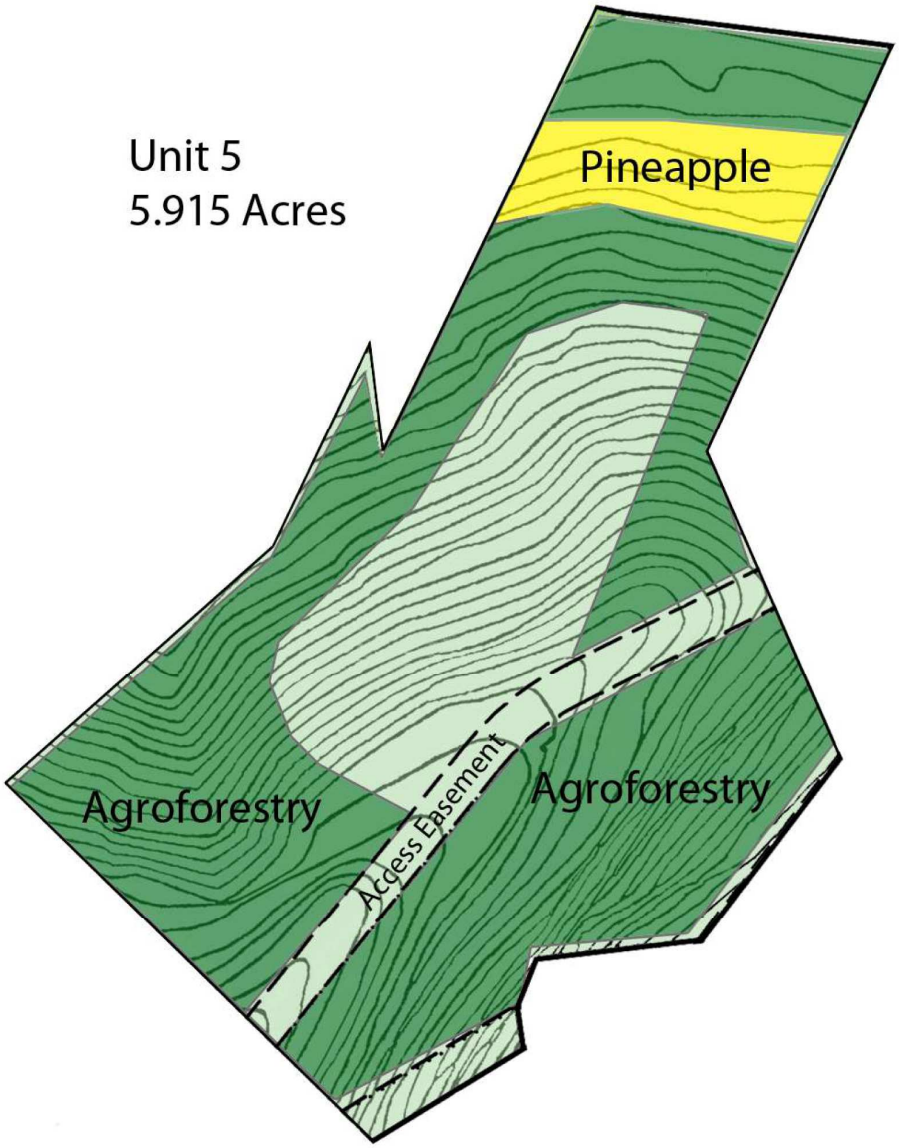
Unit 4

Unit owner / manager has 10 year ag history on Kauai. Owns and operates nearby 20 acre commercial farm which includes 5 acres of vegetable row crops, 5 acres orchard, 2 acres of pastured piggery, 7000 sq ft of greenhouse cultivation, and history of hosting farming education / workshops. Unit 4 is 5.7 acres and currently undeveloped with mix of grassland and forested slope. Planned activites includes cacao and construction-grade bamboo cultivation and 1/4 acre of vegetable row cropping. Products will be marketed through farmers markets and direct on-line sales. Owner also plans to participate in community farm stand.



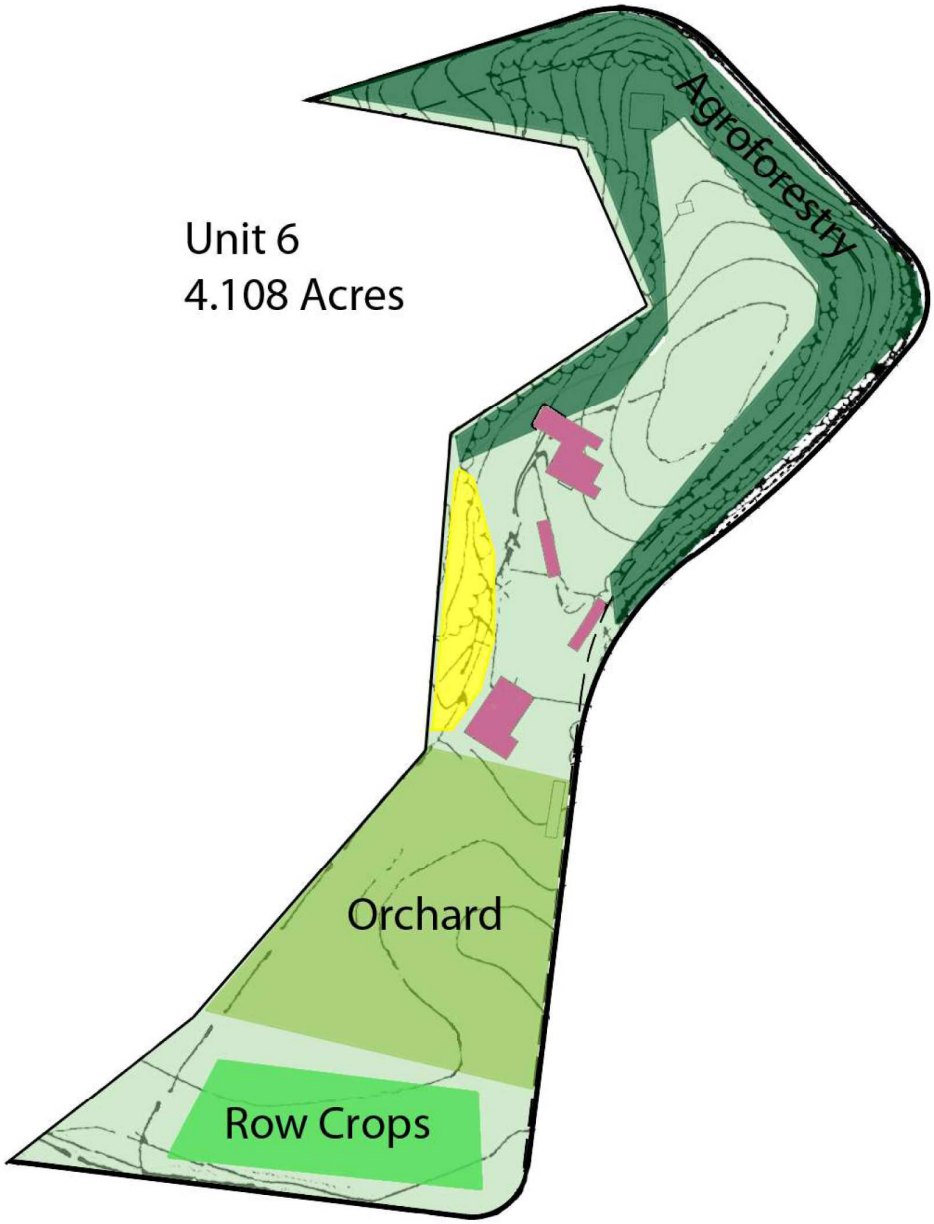
Unit 5

Unit owner / manager has 12 years of experience farming on Kauai and owns and manages the farm operation on the neighboring unit. Unit 5 is currently undeveloped and in design phase. Unit 5 is 5.9 acres of predominantly forested sloped land. Agricultural plans include orchard, agroforestry, and pineapple. Farm products will be marketed to mainland distributors (pineapple) or locally through on-line sales and community farm stand.



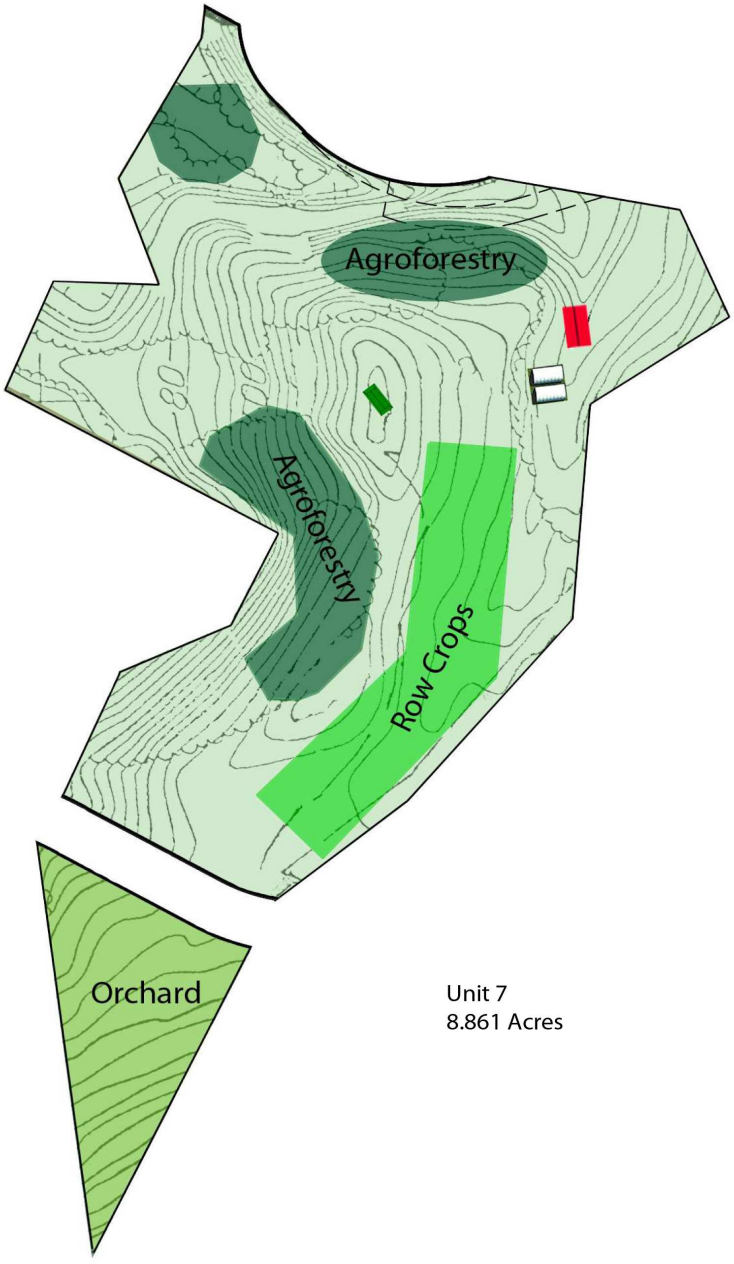
Unit 6

Unit Owners / Managers have a 8 years of agricultural experience on Kauai. Unit is 4.1 acres of mostly flat farmable land. Ag plans include installation of agroforestry, bee forage, and plant nursery. Current activity includes productive fruit tree orchard. Marketing strategies include farmers market, restaurants, and on-line sales. Plans include participation in community farm stand.



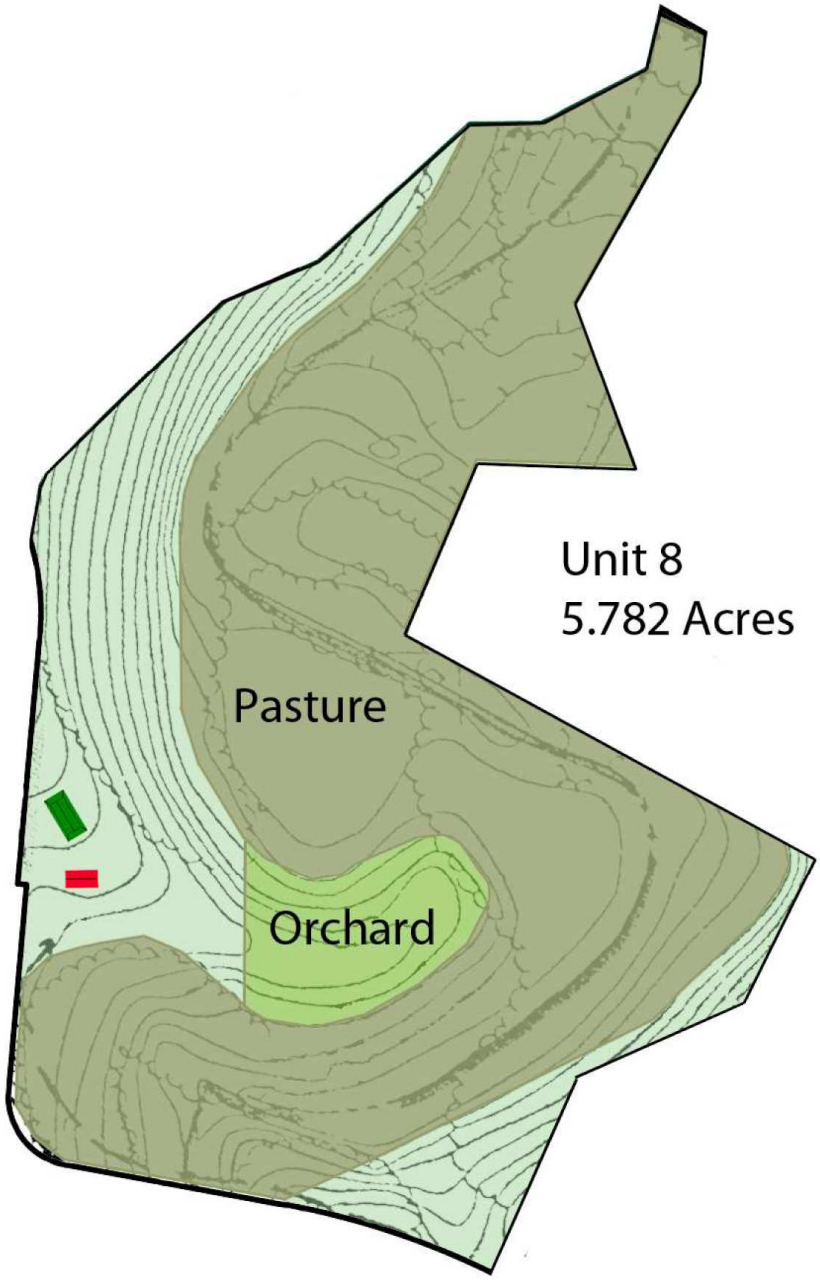
Unit 7

Unit owners / manager have 15 years of agricultural experience on Kauai, has designed and cultivated a 1.5 acre farm lot in Kilauea Farms since 2001, and has completed the Sustainable Farming and Gardening Course at KCC in 2013. Unit 7 is 8.8 acres in size and has been used for pasture but remains mostly undeveloped. Agricultural plans include mixed vegetable open-field row cropping, orchard, plant nursery, and hoop house cultivation of tomatoes and curcurbits. Ag products will be marketed via direct on-line sales, farmers markets, and wholesale to stores and restaurants. Marketing plans also include community farm stand.



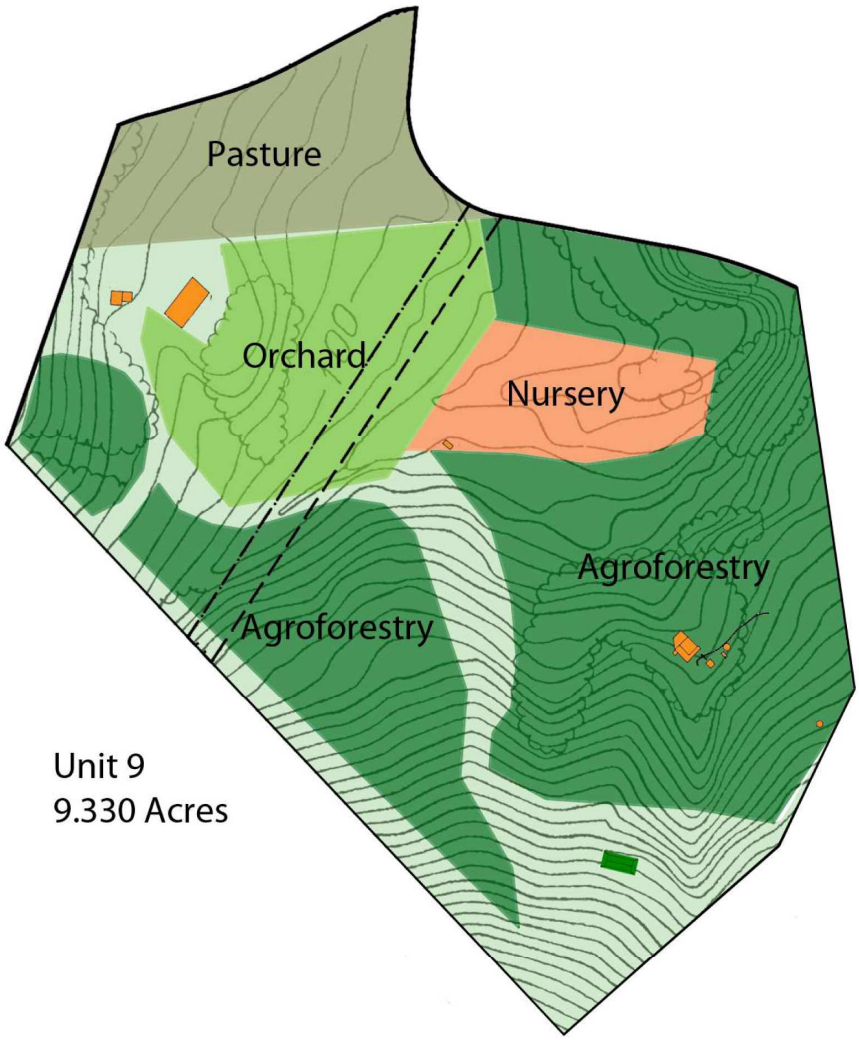
Unit 8

Unit owner has 15 years of agricultural experience in Hawaii and currently owns and operates a 20 acre farm on the Big Island. Unit 8 is 5.8 acres in size, currently undeveloped and contains some grassy meadow and forested slopes. Ag plans include rotational grazing and agroforestry. Marketing will be primarily through on-lines sales and community farm stand



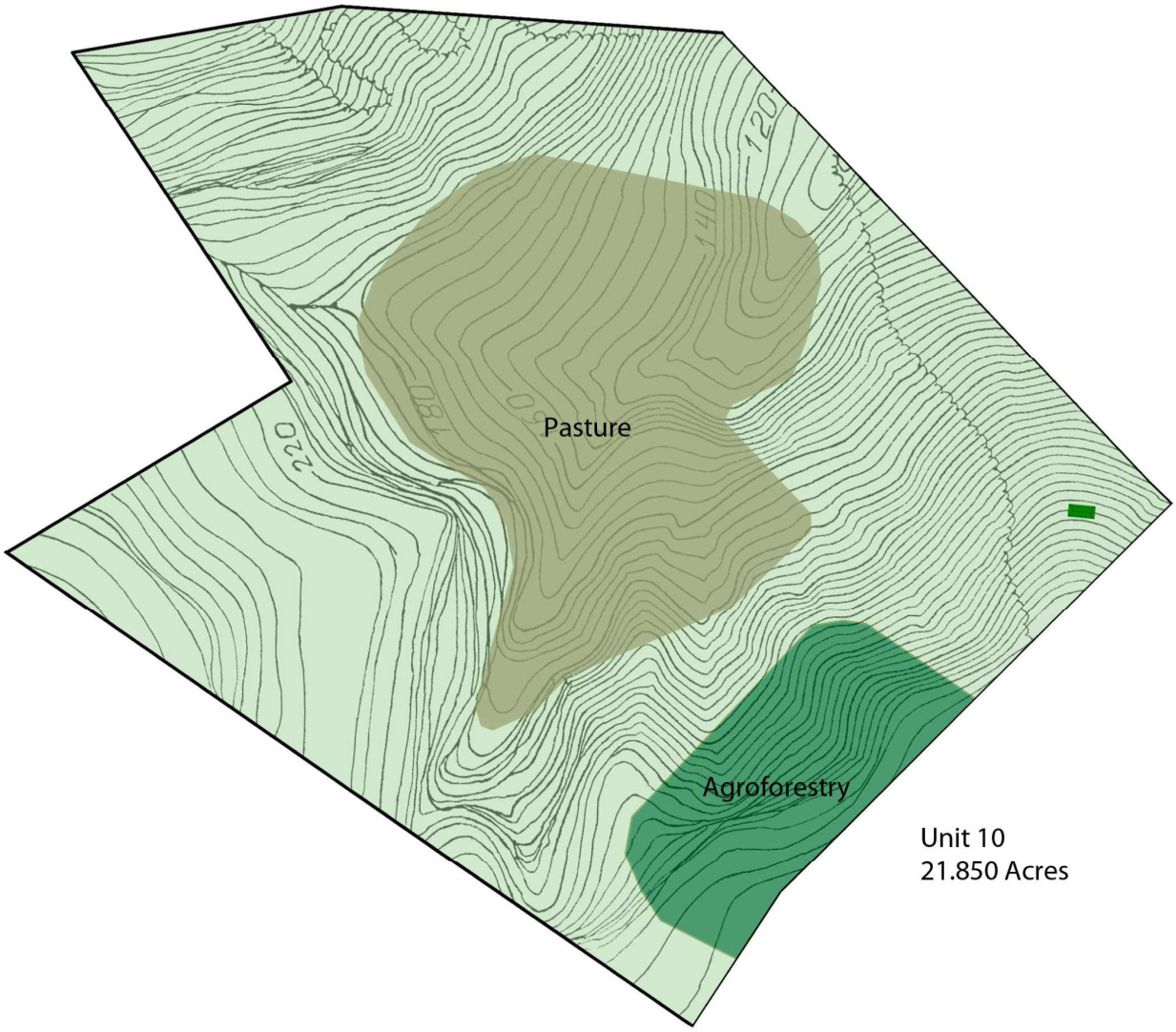
Unit 9

Unit owners / managers are partners with 20 and 16 years of farming experience on Kauai. They have operated Kauai's largest Community Supported Agriculture (CSA) program, taught sustainable agriculture in local schools, hosted workshops, and formed a farmer's cooperative distribution center on their 10 acre Kilauea farm. Unit 9 is 9.3 acres and consists of forested slopes and rolling grassland that has been fenced for rotational grazing. Current and recent activities include management intensive grazing and fruit tree orchard planting. Agricultural plans include agroforestry, greenhouse culture, nursery, and seasonal vegetable row-cropping. Marketing plans include wholesale to restaurants and stores, farmers markets, direct to consumer sales, and participation in community farm stand.



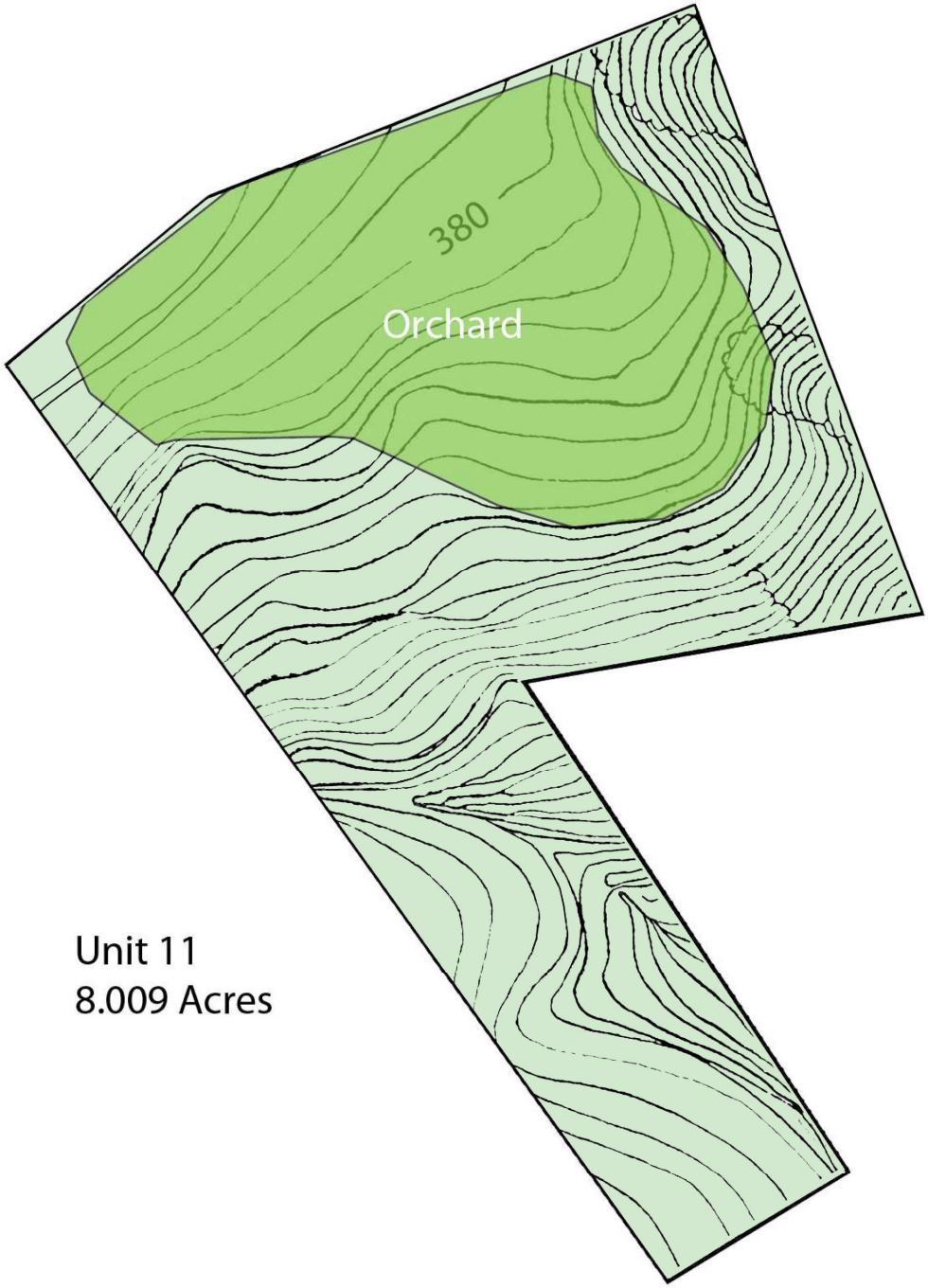
Unit 10

Unit owners have 10 years of agriculture experience on the mainland. Unit 10 is 21.9 acres, currently undeveloped and consists of rolling grasslands and forested slopes. Agricultural plans include agroforestry focusing on mango, papaya, and construction-grade bamboo. Also rotational grazing beef cattle and goats. Marketing plans include local meat cooperative and participation in community farm stand.



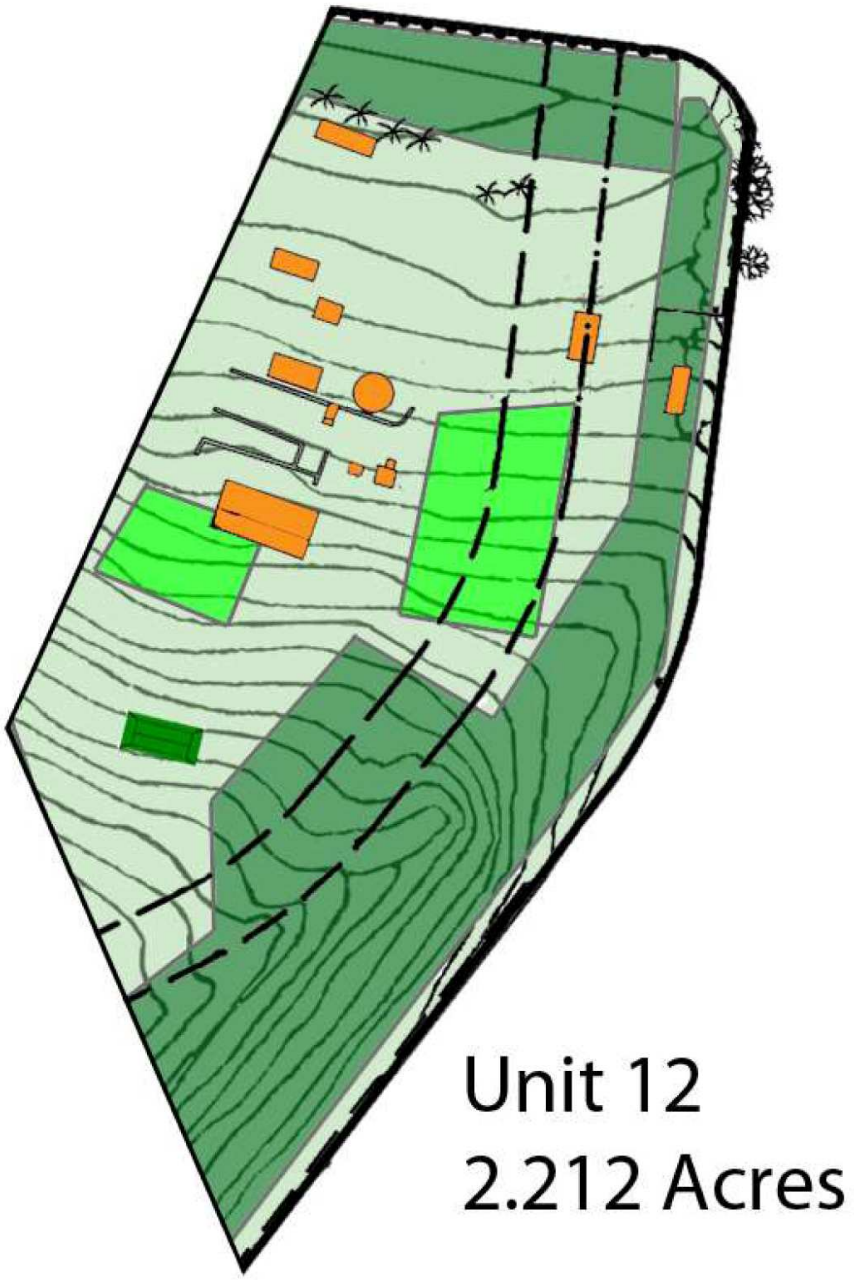
Unit 11

Unit owner / manager has 25 years of agricultural history on Kauai and currently manages a 5 acre farm lot in Moloaʻa . Unit 11 is 8 acres in size, currently undeveloped and predominantly steep forested slope land. Agricultural plans include fruit tree and coconut orchard where slope permits. Marketing strategies include direct on-line sales and community farm stand.



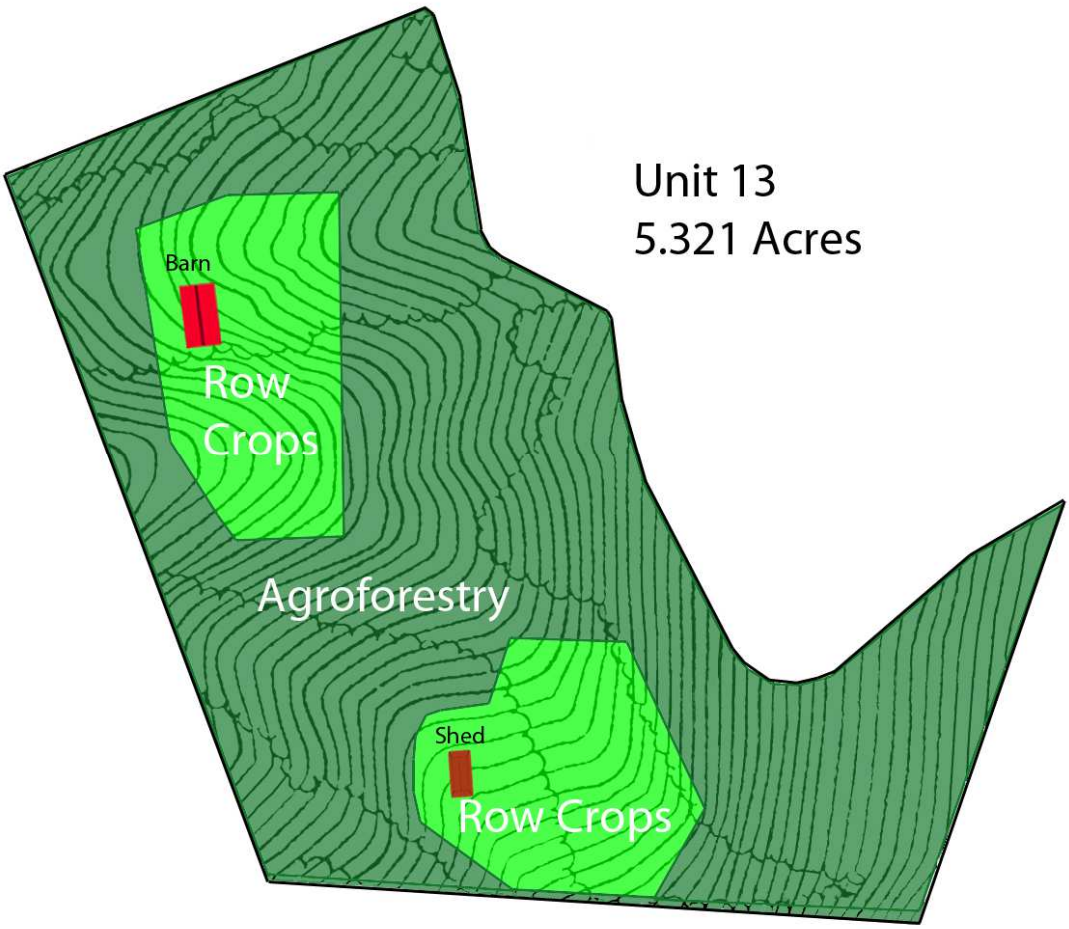
Unit 12

Unit owner / manager has 12 years of agricultural experience on Kauai including currently farming turmeric on leased farmland in Kilauea. Unit 12 is 2.2 acres of sloped and terraced land for planting. Current or recent activity on Unit 12 includes agroforestry focused on bamboo (40+ varieties), raising chickens and ducks, and honey bee management. Ag plans include expansion of agroforestry, row cropping, and nursery / propagation. Marketing plans consist of direct to consumer on-line sales and community farm stand participation.



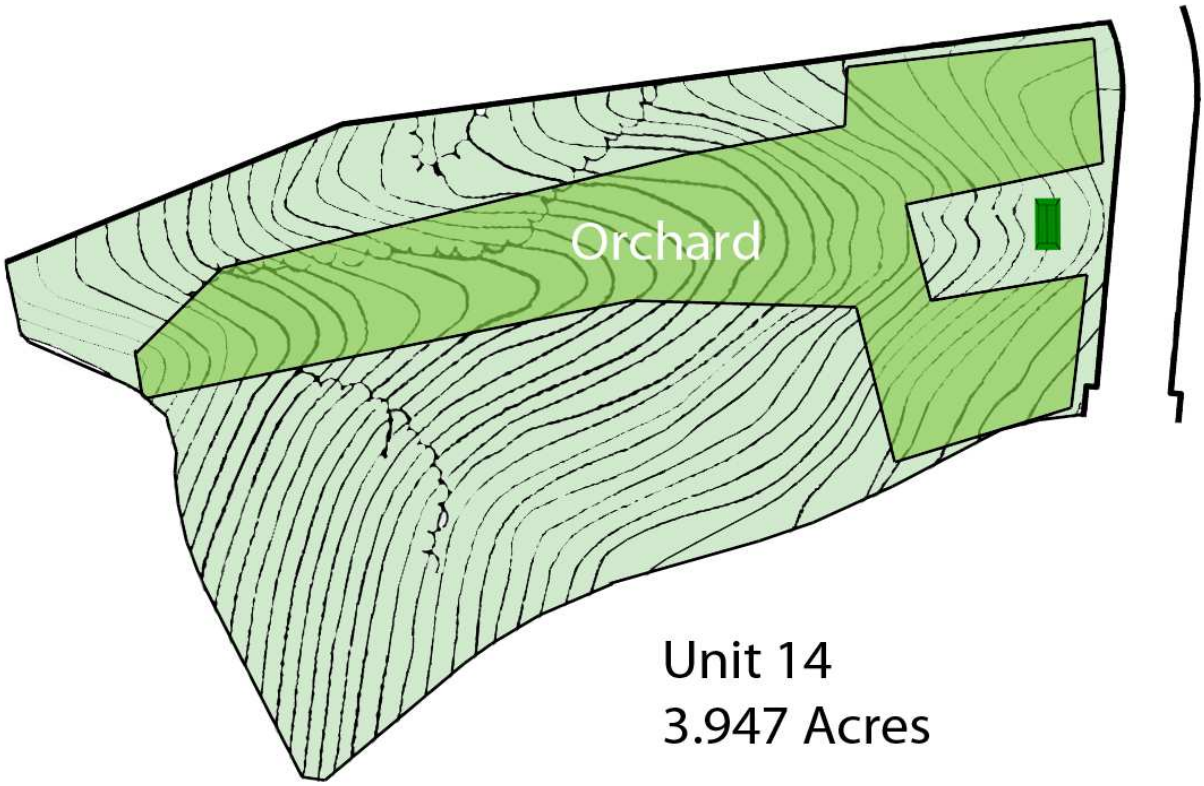
Unit 13

Unit 13 is 5.3 acres in size, currently undeveloped and consists of predominantly sloped forested land. Agricultural plans are for agroforestry, vegetable row crops, and plant nursery. Farm products are to be marketed through farmers markets, on-line sales and the community farm stand.



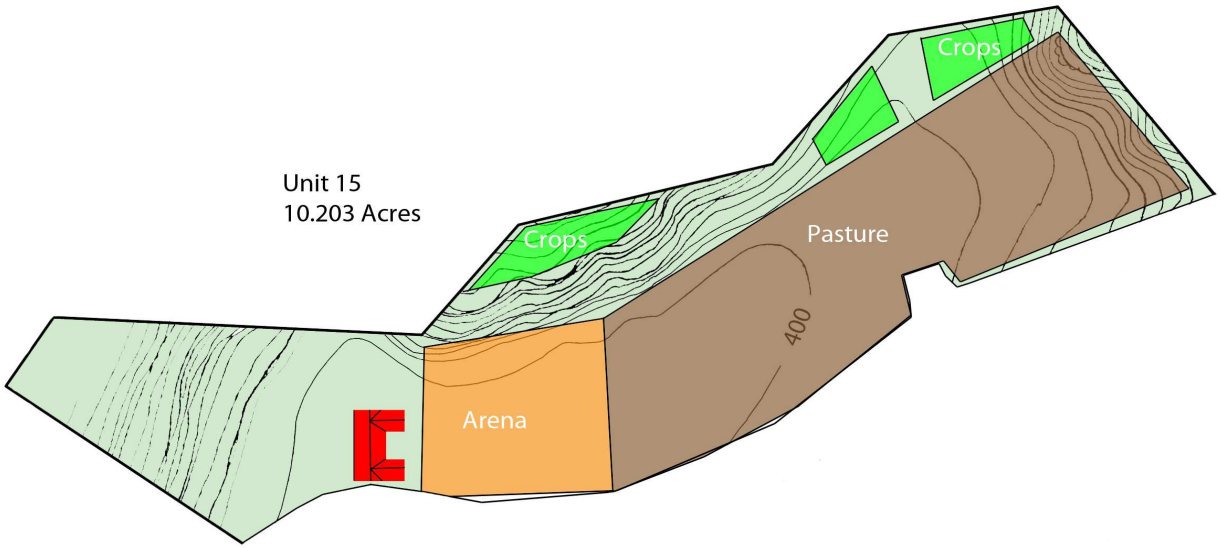
Unit 14

Unit 14 is 3.9 Acres in size and is currently undeveloped. The unit consists of forested sloped land. Ag plans are for a fruit and nut tree orchard. Marketing of farm products will include on-line sales and participation in community farm stand.



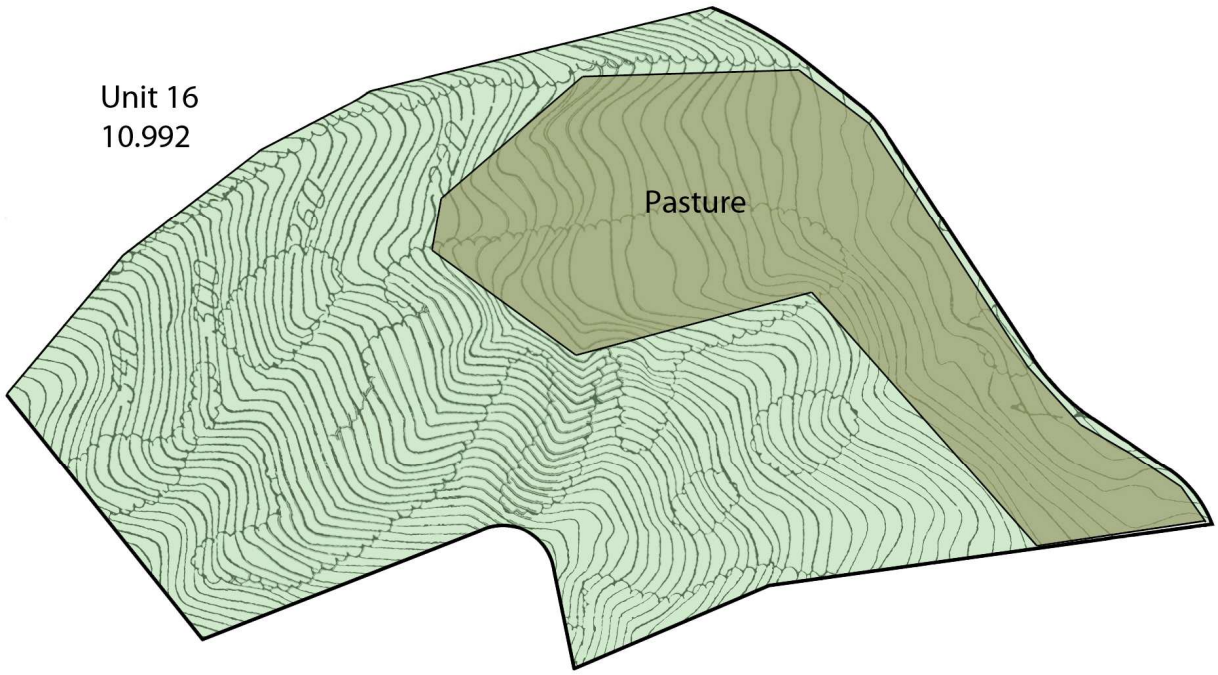
Unit 15

Owners / managers have 30 years of agricultural experience primarily with horse breeding, equestrian business, and animal sales and leasing. Unit is 10.3 acres of mostly flat, fenced pasture. Current or recent activities include horse boarding and breeding. Agricultural plans include expansion of existing pasture, creation of horse arena, installation of gardens for vegetable row cropping. Owners use social media to market their services and plan to include on-line sales and advertising.



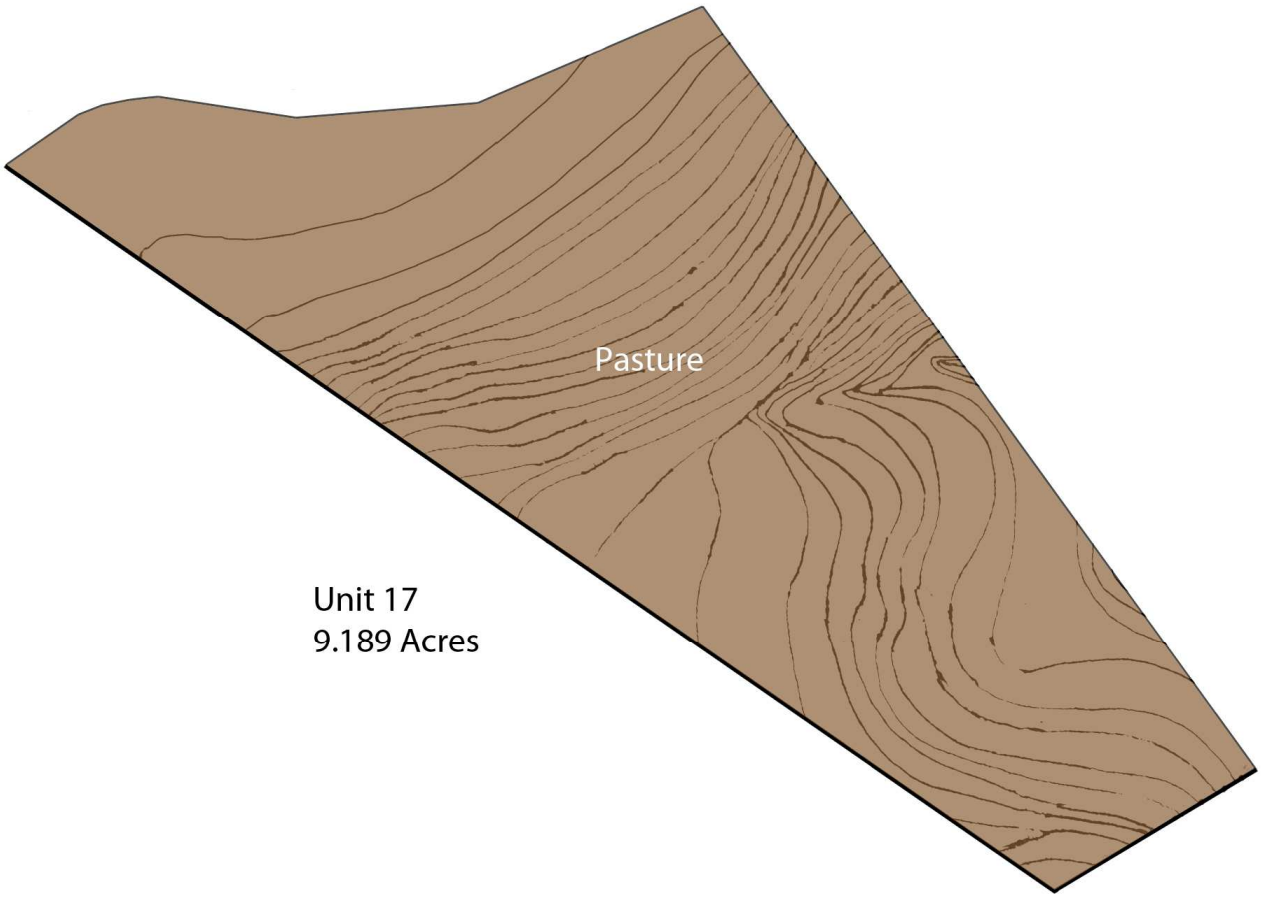
Unit 16

Owners / managers have 20 years of farming experience primarily with pasturing animals (horses, goats, and pigs). Unit 16 is 11 Acres in size consisting of forested slope land and rolling grassland. The unit is currently undeveloped? Agricultural plans for unit 16 include managed grazing of horses and goats. Marketing of farm animals is planned through local on-line sales.



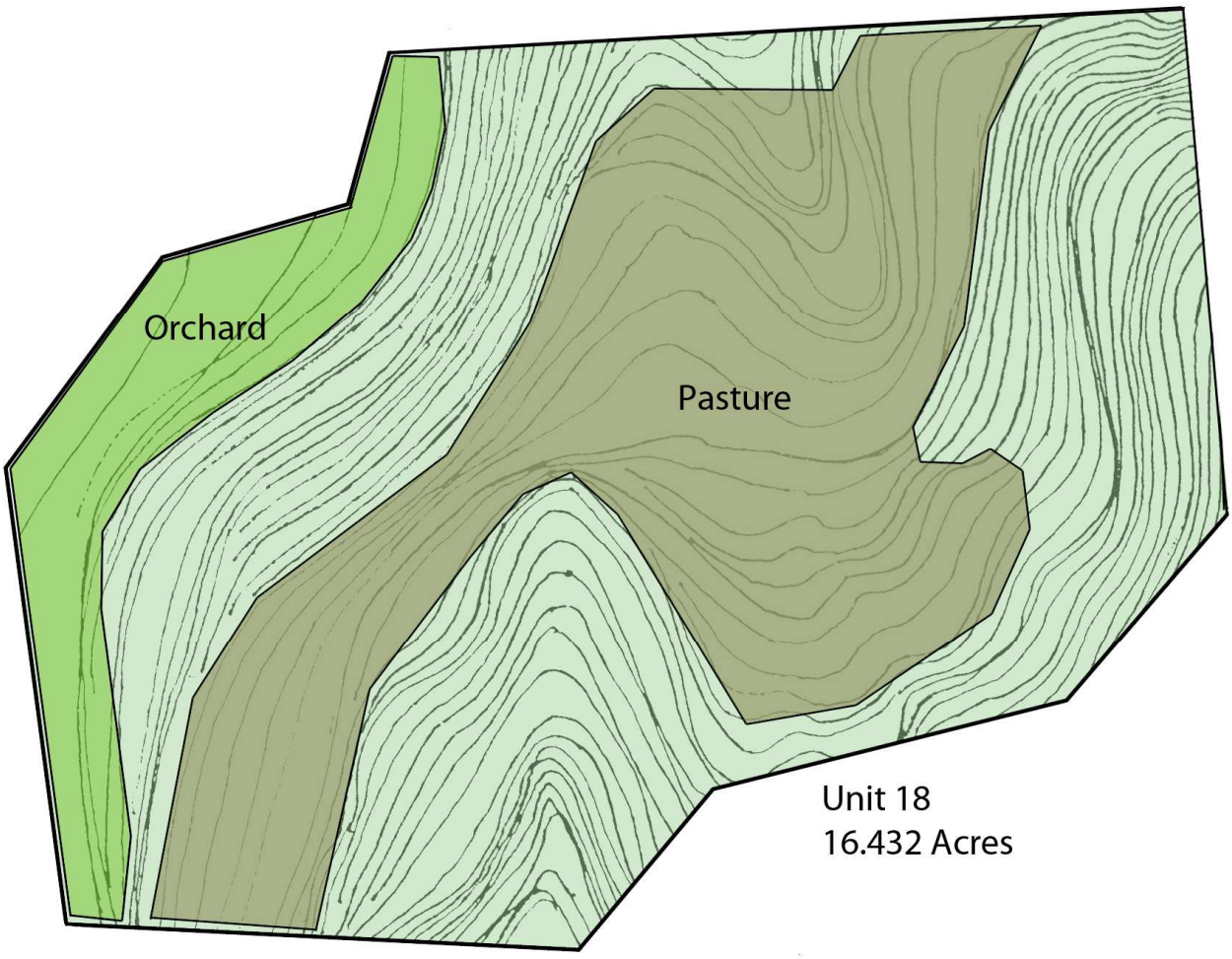
Unit 17

Unit owner / manager is life-long Kauai resident and rancher who has managed 200+ acres of pasture on the adjacent parcel for 12 years. Unit 17 is 9.2 acres in size and consists of rolling pasture and some forested slopes. Current use of this unit is horse pasture. The agricultural plan for this unit is pasturing grazing animals (horses, sheep, and goats), animal breeding, horse riding and boarding. Marketing of animals and services will be integrated into existing activities on adjacent parcel.



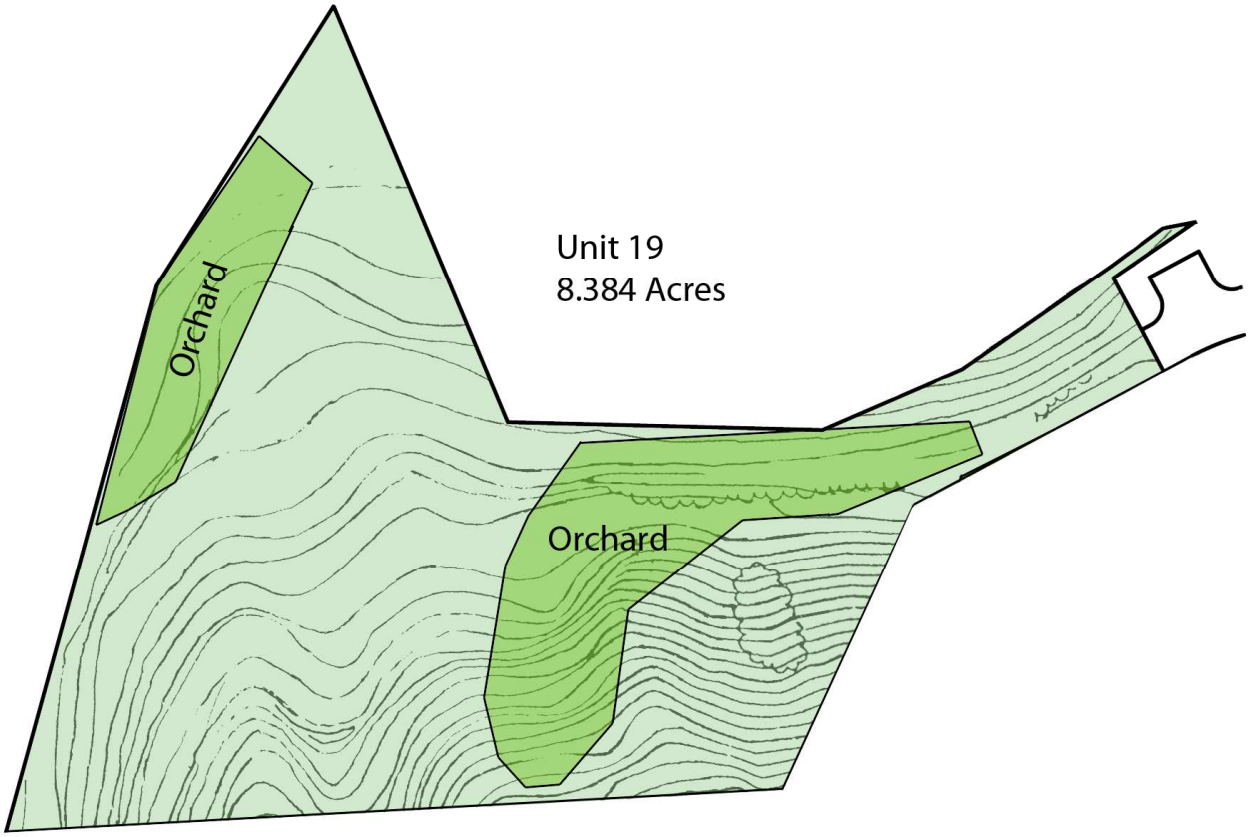
Unit 18

Unit 18 is 16.4 acres of sloped grassland and forest. The unit is currently undeveloped. Agricultural plans include orchard and pasture Marketing of products will focus on local outlets, farmers markets and direct on-line sales. Owner plans on participating in community farm stand.



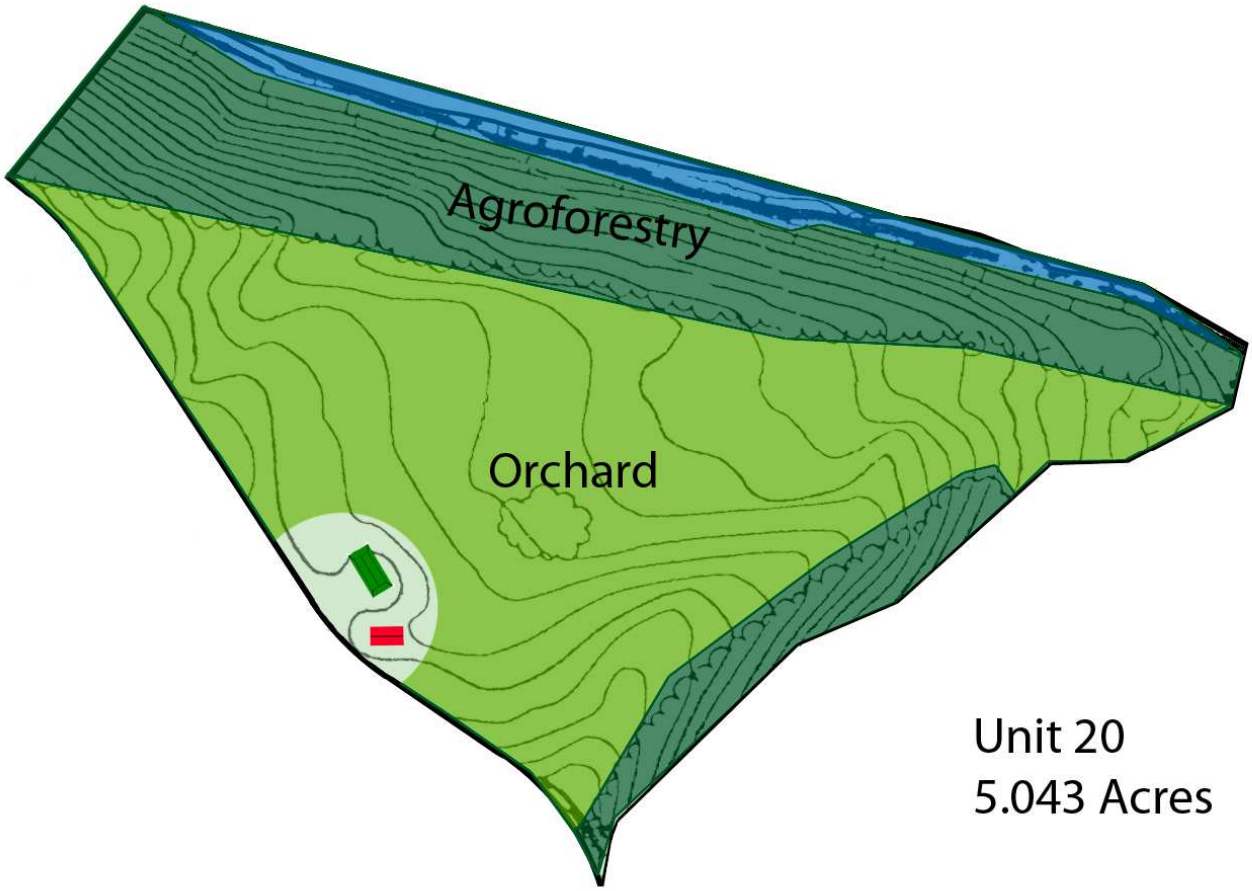
Unit 19

Owner / manager is a life-long resident of Kauai, currently employed by the Nature Conservancy and specializes in native plant restoration and native forest conservation. Unit 19 is 8.5 acres of forested slope land and valley bottom land. Current or recent activity on this unit includes some native plant establishment and fruit trees. Agricultural plans are for continuing fruit and nut tree planting and incorporating native species in forested areas. Marketing plans for this unit are local farmers markets and direct online marketing. Owner plans to participate in community farm stand.



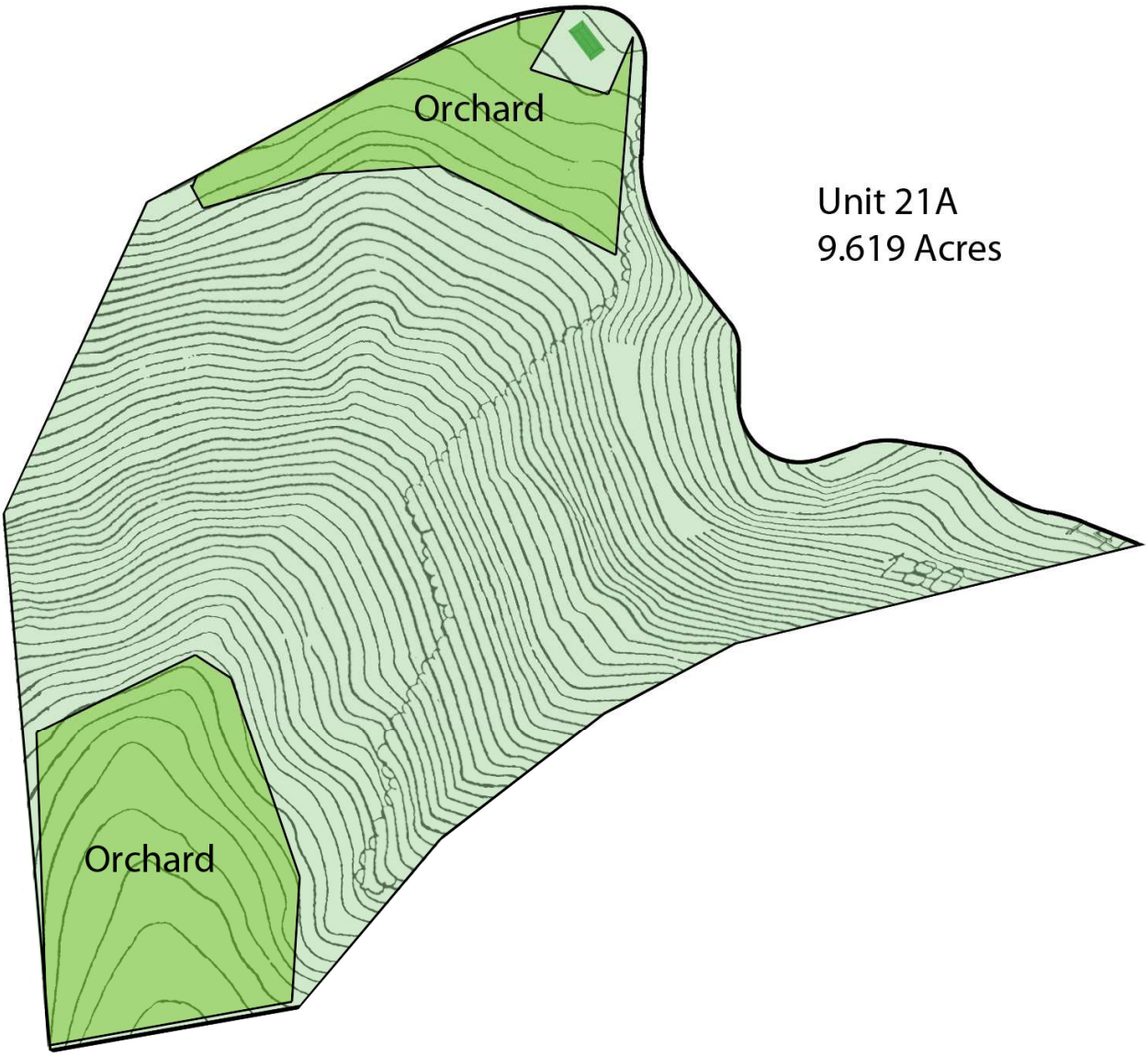
Unit 20

Owner / manager has been farming in the project for 18 years and owns adjacent unit in project that has been extensively cultivated with fruit and nut trees and productive understory plants. Unit 20 is 5.0 acres of sloped grassland and sparse forest and is currently undeveloped. Ag plans for this unit are to establish orchard and agroforestry. Marketing of farm products will be done at local farmers markets and through the community farm stand.



Unit 21

Owner / manager has 18 years of agricultural history on Kauai and owns adjacent unit in the project that has been extensively cultivated with fruit and nut trees and row crops. Unit 21A is 9.6 acres of forested slopes and is undeveloped at this time. Plans for agricultural improvements include orchard and agroforestry establishment. Marketing strategies include farmers markets and local on-line sales. Owner plans to participate in community farm stand.



Current or recent activities on unit 21b include local marketing of fruits and vegetables cultivated from this 16.1 acre unit. Once rolling grassland and sparse forest, Unit 21B has hundreds of mature fruit and nut trees and understory productive plants. Ag plans for this unit include maintenance and expansion of tree crops and garden beds. Future products will continue to be marketed locally at farmers markets. Owner plans to participate in community farm stand.

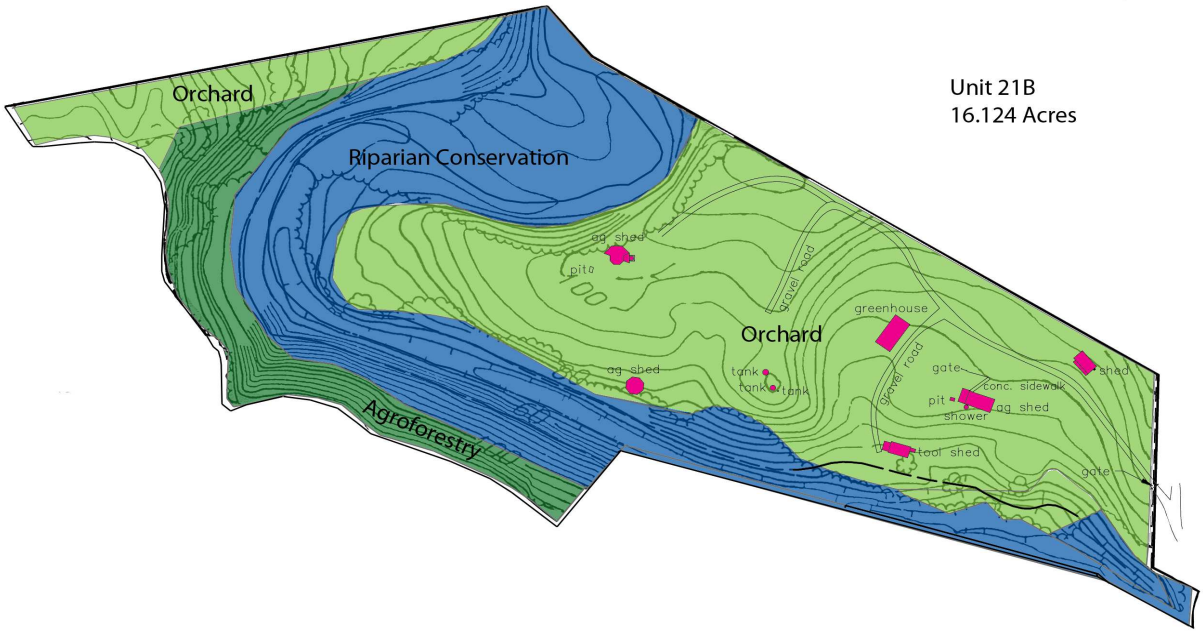


Exhibit A: Kauai District Map

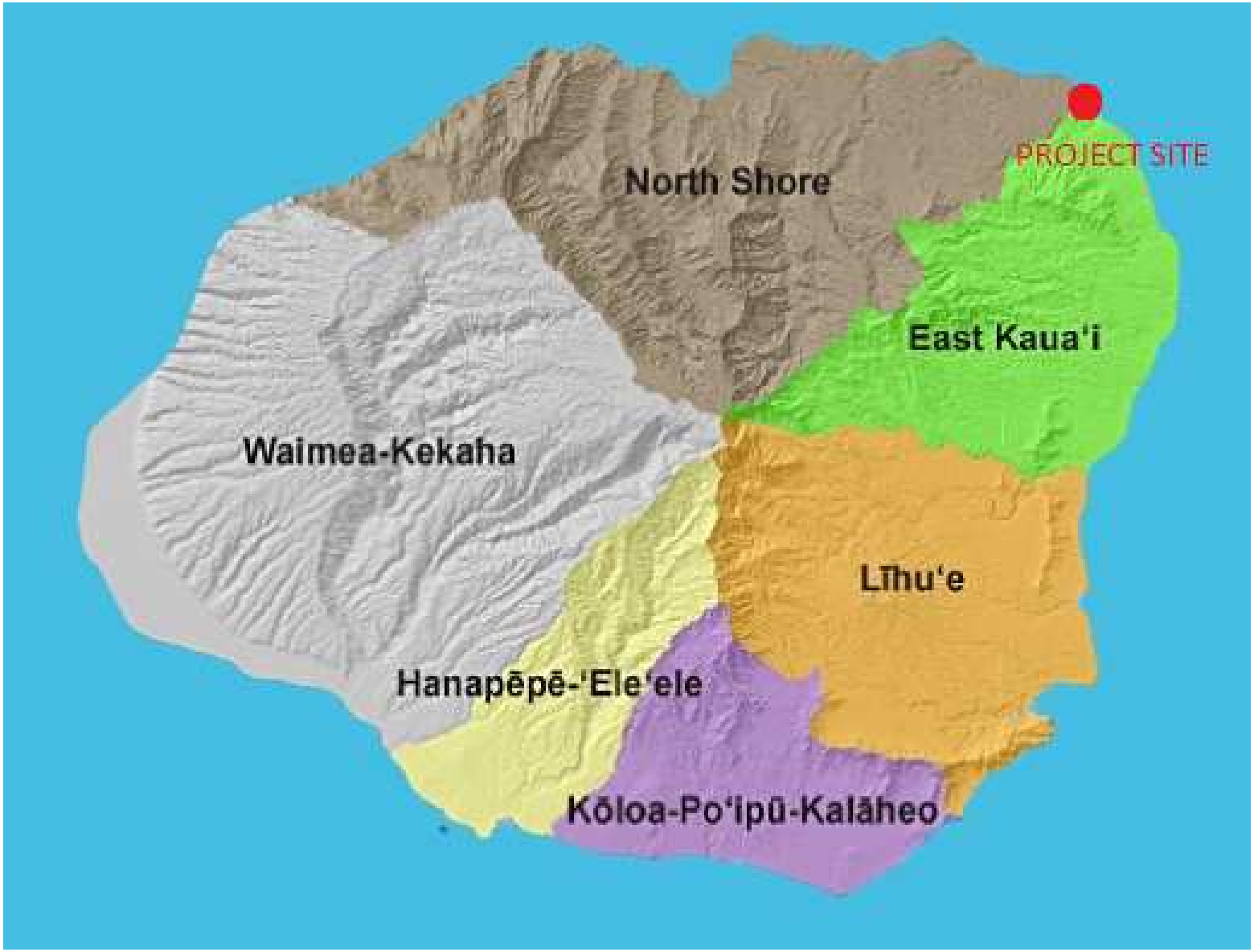


EXHIBIT B: Project Location

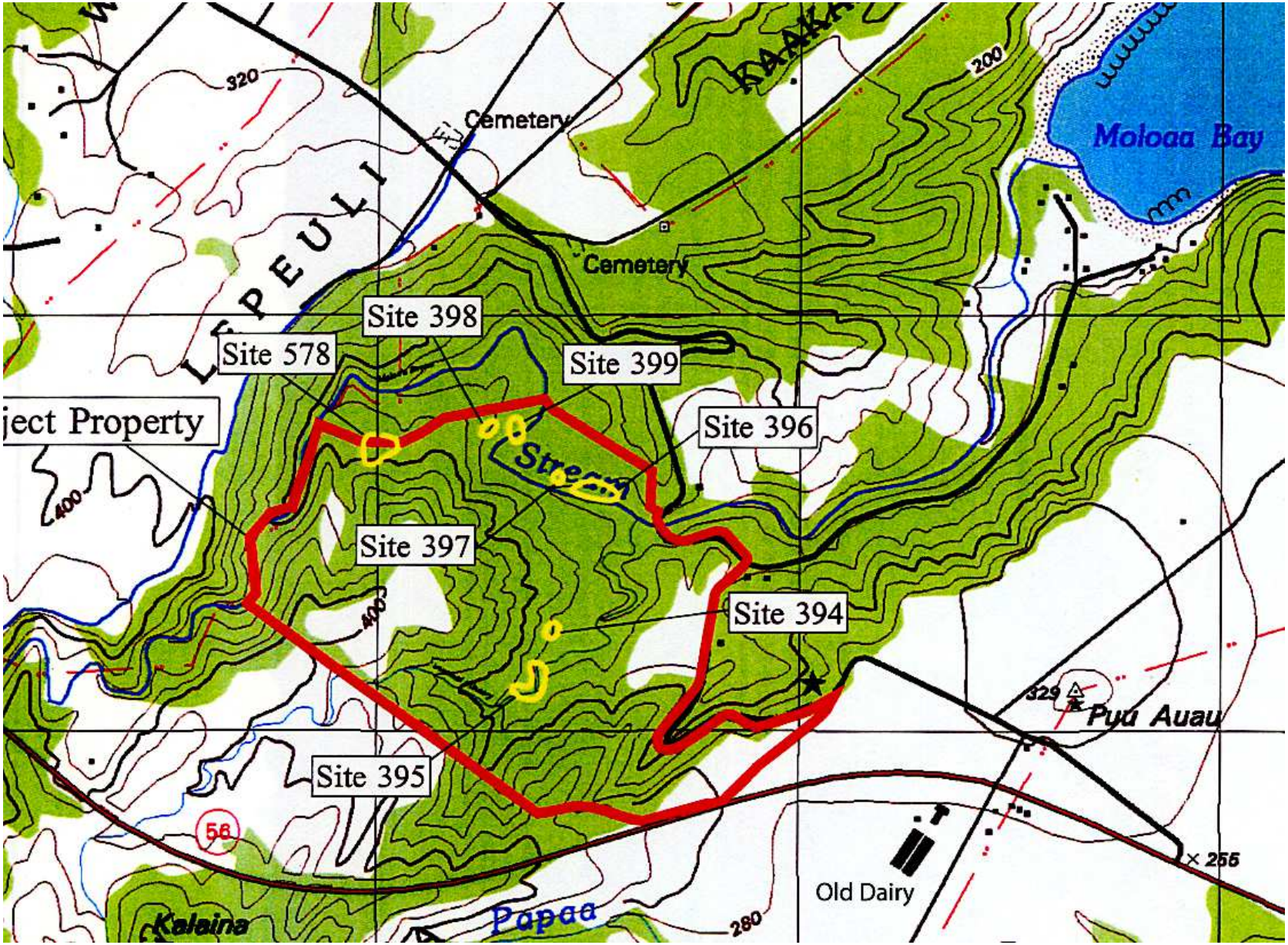


EXHIBIT C: Arial View

EXHIBIT D: Land Use

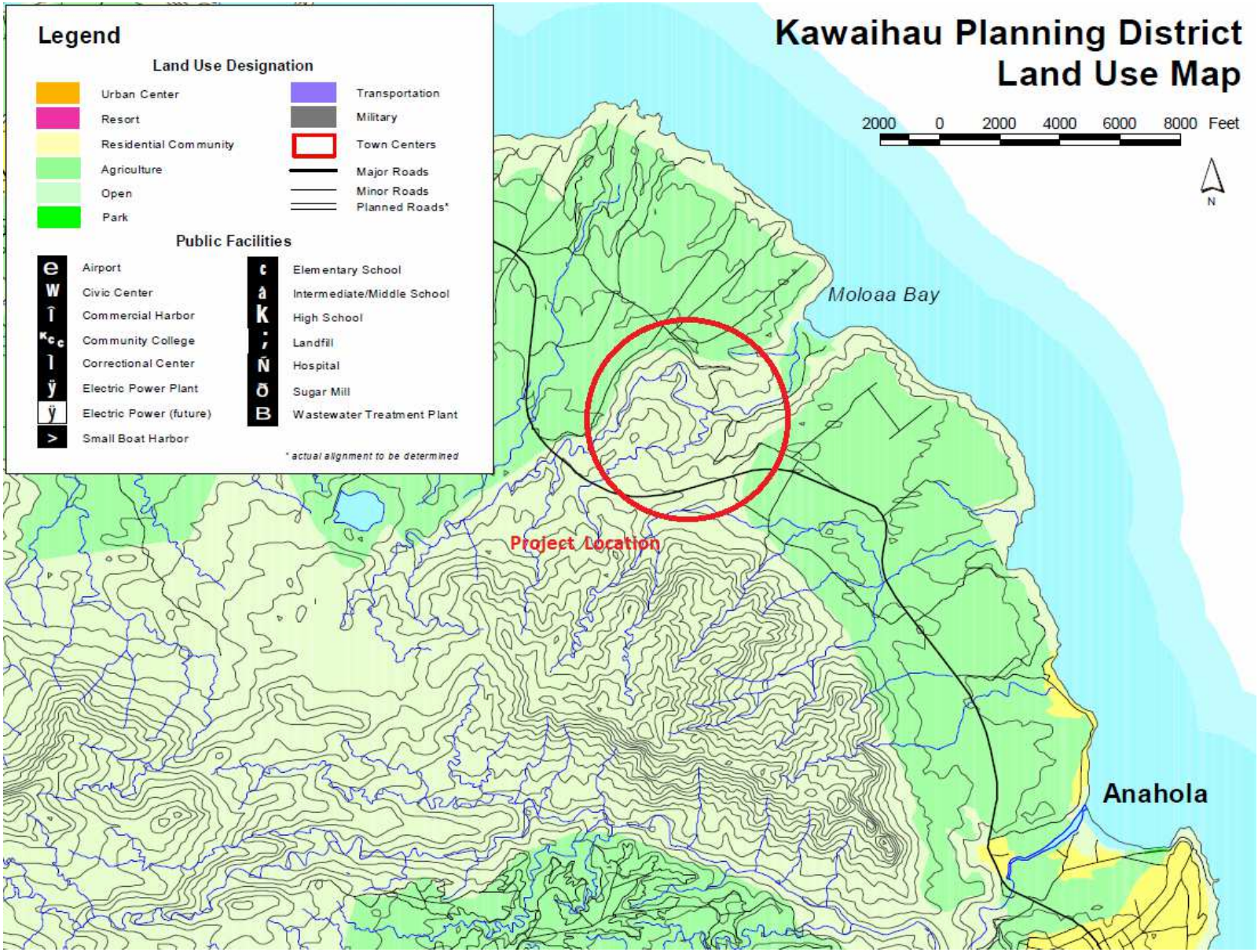
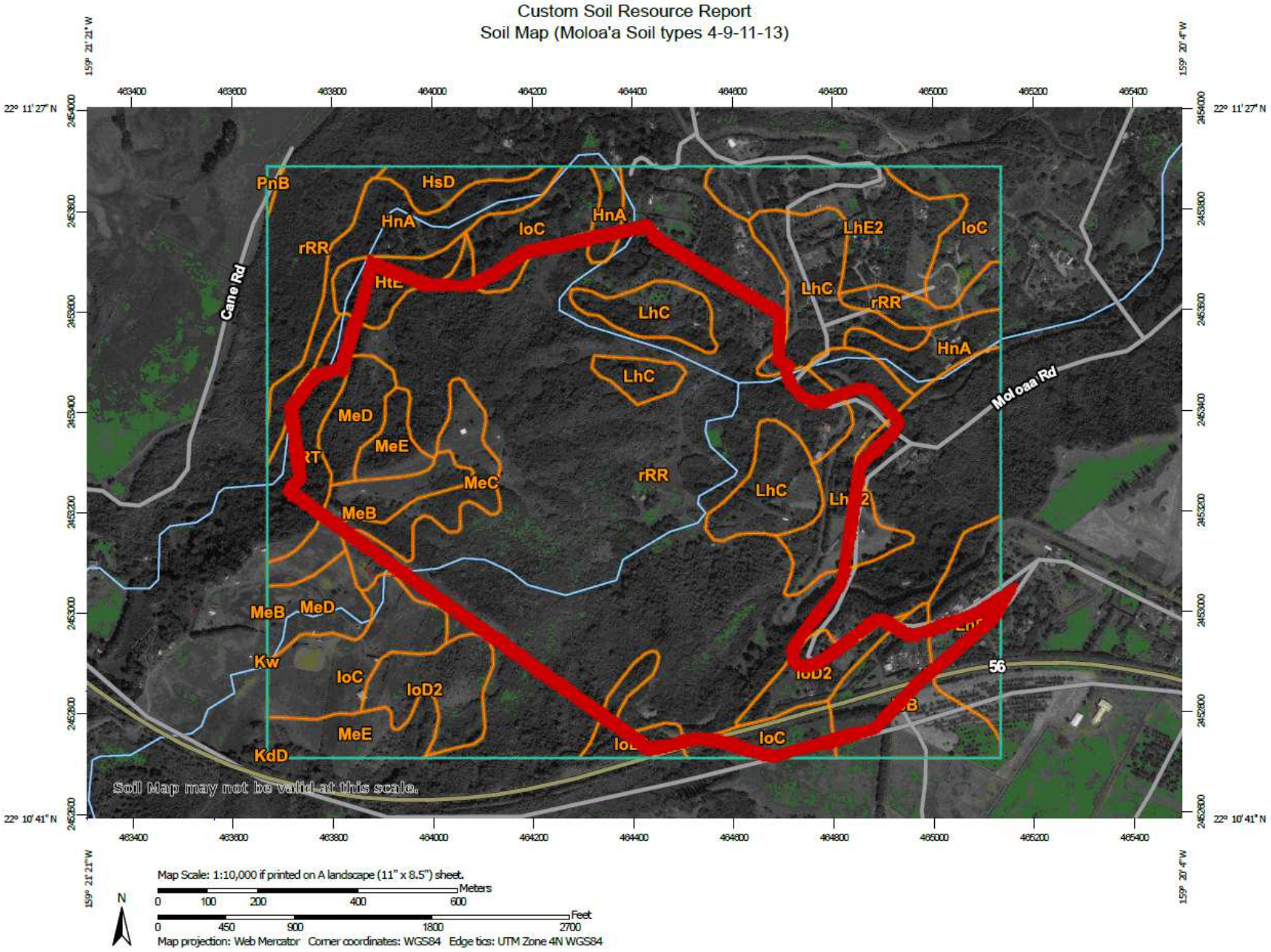


EXHIBIT E: Soil Map for 4-9-11-13



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Island of Kauai, Hawaii
Survey Area Data: Version 12, Oct 3, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Mar 5, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Moloa'a Soil types 4-9-11-13)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HnA	Hanalei silty clay, 0 to 2 percent slopes, MLRA 167	21.0	4.9%
HsD	Hanamaulu silty clay, 15 to 25 percent slopes	3.6	0.8%
HtE	Hanamaulu stony silty clay, 10 to 35 percent slopes	5.8	1.3%
IoB	Ioleau silty clay loam, 2 to 6 percent slopes	14.7	3.4%
IoC	Ioleau silty clay loam, 6 to 12 percent slopes	34.2	8.0%
IoD2	Ioleau silty clay loam, 12 to 20 percent slopes, eroded	14.9	3.5%
IoE2	Ioleau silty clay loam, 20 to 30 percent slopes, eroded	4.4	1.0%
KdD	Kalapa silty clay, 8 to 20 percent slopes	0.0	0.0%
Kw	Kolokolo clay loam	0.0	0.0%
LhB	Lihue silty clay, 0 to 8 percent slopes	11.3	2.6%
LhC	Lihue silty clay, 8 to 15 percent slopes	28.8	6.7%
LhE2	Lihue silty clay, 25 to 40 percent slopes, eroded	30.6	7.1%
MeB	Makapili silty clay, 0 to 8 percent slopes	7.5	1.8%
MeC	Makapili silty clay, 8 to 15 percent slopes	7.7	1.8%
MeD	Makapili silty clay, 15 to 25 percent slopes	12.0	2.8%
MeE	Makapili silty clay, 25 to 40 percent slopes	11.0	2.6%
PnB	Puhi silty clay loam, 3 to 8 percent slopes	0.4	0.1%
rRR	Rough broken land	209.9	49.1%
rRT	Rough mountainous land	10.0	2.3%
Totals for Area of Interest		**427.9**	**100.0%**

Map Unit Descriptions (Moloa'a Soil types 4-9-11-13)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Island of Kauai, Hawaii

HnA—Hanalei silty clay, 0 to 2 percent slopes, MLRA 167

Map Unit Setting

National map unit symbol: 2w02x
Elevation: 0 to 300 feet
Mean annual precipitation: 20 to 120 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Hanalei and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanalei

Setting

Landform: Flood plains on valley floors *Landform position (two-dimensional):* Toeslope *Landform position (three-dimensional):* Tread, dip *Down-slope shape:* Linear *Across-slope shape:* Linear, concave *Parent material:* Alluvium derived from basalt

Typical profile

Apg - 0 to 6 inches: silty clay *Ag1 - 6 to 10 inches:* silty clay *Ag2 -10 to 13 inches:* silty clay *Bg1 -13 to 18 inches:* silty clay loam *Bg2 -18 to 26 inches:* silty clay loam *Cg - 26 to 36 inches:* silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained *Runoff class:* Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr) *Depth to water table:* About 24 to 60 inches
Frequency of flooding: Frequent *Frequency of ponding:* Occasional
Sodium adsorption ratio, maximum in profile: 5.0 *Available water storage in profile:* Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): 2w *Land capability classification (nonirrigated):* 2w *Hydrologic Soil Group:* B
Ecological site: Volcanic Ash Forest (F164XY500HI) *Hydric soil rating:* No

Minor Components

Hanalei, ponded

Percent of map unit: 15 percent *Landform:* Flood plains on valley floors *Landform position (two-dimensional):* Toeslope *Landform position (three-dimensional):* Tread, dip *Down-slope shape:* Linear *Across-slope shape:* Linear, concave *Ecological site:* Volcanic Ash Forest (F164XY500HI) *Hydric soil rating:* Yes

HsD—Hanamaulu silty clay, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: hpsw
Elevation: 200 to 700 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hanamaulu and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanamaulu

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope *Landform position (three-dimensional):* Riser *Down-slope shape:* Linear *Across-slope shape:* Linear
Parent material: Basic igneous rocks

Typical profile

H1 - 0 to 11 inches: silty clay
H2 -11 to 36 inches: silty clay
H3 - 36 to 72 inches: silty clay loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e *Land capability classification (nonirrigated):* 4e *Hydrologic Soil Group:* B *Hydric soil rating:* No

HtE—Hanamaulu stony silty clay, 10 to 35 percent slopes

Map Unit Setting

National map unit symbol: hpsy
Elevation: 200 to 700 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Hanamaulu, stony, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanamaulu, Stony

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope *Landform position (three-dimensional):* Riser *Down-slope shape:* Linear *Across-slope shape:* Linear
Parent material: Basic igneous rocks

Typical profile

H1 - 0 to 11 inches: stony silty clay
H2 -11 to 36 inches: silty clay
H3 - 36 to 72 inches: silty clay loam

Properties and qualities

Slope: 10 to 25 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e *Land capability classification (nonirrigated):* 4e
Hydrologic Soil Group: B *Hydric soil rating:* No

IoB—Ioleau silty clay loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: hptO
Elevation: 100 to 750 feet
Mean annual precipitation: 40 to 70 inches

Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ioleau and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ioleau Setting

Landform position (two-dimensional): Shoulder *Landform position (three-dimensional):* Interfluve *Down-slope shape:* Linear *Across-slope shape:* Convex *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 15 inches: silty clay loam *H2 -15 to 61 inches:* silty clay

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e *Land capability classification (nonirrigated):* 2e *Hydrologic Soil Group:* C *Hydric soil rating:* No

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: hpt1
Elevation: 100 to 750 feet
Mean annual precipitation: 40 to 70 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ioleau and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ioleau Setting

Landform position (two-dimensional): Shoulder *Landform position (three-dimensional):* Interfluve *Down-slope shape:* Linear *Across-slope shape:* Convex *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 15 inches: silty clay loam *H2 -15 to 61 inches:* silty clay

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e *Land capability classification (nonirrigated):* 3e *Hydrologic Soil Group:* C *Hydric soil rating:* No

Map Unit Setting

National map unit symbol: hpt2
Elevation: 100 to 750 feet
Mean annual precipitation: 40 to 70 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Ioleau and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ioleau Setting

loC—loleau silty clay loam, 6 to 12 percent slopes

Landform position (two-dimensional): Shoulder *Landform position (three-dimensional):* Interfluve *Down-slope shape:* Linear *Across-slope shape:* Convex *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 3 inches: silty clay loam *H2 - 3 to 60 inches:* silty clay

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e *Land capability classification (nonirrigated):* 4e *Hydrologic Soil Group:* C *Hydric soil rating:* No

Map Unit Setting

National map unit symbol: hpt3
Elevation: 100 to 750 feet
Mean annual precipitation: 40 to 70 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

loleau and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of loleau Setting

Landform position (two-dimensional): Shoulder *Landform position (three-dimensional):* Interfluve *Down-slope shape:* Linear *Across-slope shape:* Convex *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 3 inches: silty clay loam *H2 - 3 to 60 inches:* silty clay

Properties and qualities

Slope: 20 to 30 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

moderately high (0.06 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 6e *Hydrologic Soil Group:* C *Hydric soil rating:* No

KdD—Kalapa silty clay, 8 to 20 percent slopes

Map Unit Setting

National map unit symbol: hptj
Elevation: 200 to 1,200 feet
Mean annual precipitation: 60 to 100 inches
Mean annual air temperature: 68 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Kalapa and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kalapa Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope, rise *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 10 inches: silty clay *H2 -10 to 60 inches:* clay

Properties and qualities

Slope: 8 to 20 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e *Land capability classification (nonirrigated):* 4e *Hydrologic Soil Group:* C *Hydric soil rating:* No

Kw—Kolokolo clay loam

Map Unit Setting

National map unit symbol: hpv1

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

Elevation: 50 to 500 feet
Mean annual precipitation: 60 to 150 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Kolokolo and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kolokolo

Setting

Landform: Streams
Landform position (two-dimensional): Toeslope *Landform position (three-dimensional):* Rise *Down-slope shape:* Linear *Across-slope shape:* Convex *Parent material:* Alluvium

Typical profile

H1 - 0 to 19 inches: clay loam
H2 -19 to 28 inches: loam
H3 - 28 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* Occasional *Frequency of ponding:* Rare
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2w *Land capability classification (nonirrigated):* 2w *Hydrologic Soil Group:* B *Hydric soil rating:* No

LhB—Lihue silty clay, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: hpv6
Elevation: 0 to 800 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Lihue and similar soils: 100 percent

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lihue Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous dust

Typical profile

H1 - 0 to 12 inches: silty clay *H2 -12 to 60 inches:* silty clay

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None *Sodium adsorption ratio, maximum in profile:* 5.0 *Available water storage in profile:* Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e *Land capability classification (nonirrigated):* 2e *Hydrologic Soil Group:* C *Hydric soil rating:* No

LhC—Lihue silty clay, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: hpv7
Elevation: 0 to 800 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Lihue and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lihue Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous dust

Typical profile

H1 - 0 to 12 inches: silty clay *H2 -12 to 60 inches:* silty clay

Properties and qualities

Slope: 8 to 15 percent

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None *Sodium adsorption ratio, maximum in profile:* 5.0 *Available water storage in profile:* Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e *Land capability classification (nonirrigated):* 3e *Hydrologic Soil Group:* C *Hydric soil rating:* No

Map Unit Setting

National map unit symbol: hpv9
Elevation: 0 to 800 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Lihue and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lihue Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous dust

Typical profile

H1 - 0 to 6 inches: silty clay *H2 - 6 to 60 inches:* silty clay

Properties and qualities

Slope: 25 to 40 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None *Sodium adsorption ratio, maximum in profile:* 5.0 *Available water storage in profile:* Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 6e *Hydrologic Soil Group:* C *Hydric soil rating:* No

MeB—Makapili silty clay, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: hpvn
Elevation: 100 to 350 feet
Mean annual precipitation: 70 to 80 inches

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Makapili and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Makapili Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 12 inches: silty clay *H2 -12 to 28 inches:* clay loam *H3 - 28 to 60 inches:* clay loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e *Land capability classification (nonirrigated):* 2e *Hydrologic Soil Group:* B *Hydric soil rating:* No

Map Unit Setting

National map unit symbol: hpvp
Elevation: 100 to 350 feet
Mean annual precipitation: 70 to 80 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Makapili and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Makapili Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 12 inches: silty clay *H2 -12 to 28 inches:* clay loam *H3 - 28 to 60 inches:* clay loam

IoC—Ioleau silty clay loam, 6 to 12 percent slopes

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e *Land capability classification (nonirrigated):* 3e *Hydrologic Soil Group:* B *Hydric soil rating:* No

Map Unit Setting

National map unit symbol: hpvq
Elevation: 100 to 350 feet
Mean annual precipitation: 70 to 80 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Makapili and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Makapili Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 12 inches: silty clay *H2 -12 to 28 inches:* clay loam *H3 - 28 to 60 inches:* clay loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e *Land capability classification (nonirrigated):* 4e *Hydrologic Soil Group:* B *Hydric soil rating:* No

MeE—Makapili silty clay, 25 to 40 percent slopes

Map Unit Setting

National map unit symbol: hpvr
Elevation: 100 to 350 feet
Mean annual precipitation: 70 to 80 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Makapili and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Makapili Setting

Landform position (two-dimensional): Backslope *Landform position (three-dimensional):* Side slope *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 12 inches: silty clay *H2 -12 to 28 inches:* clay loam *H3 - 28 to 60 inches:* clay loam

Properties and qualities

Slope: 25 to 40 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 6e *Hydrologic Soil Group:* B *Hydric soil rating:* No

Map Unit Setting

National map unit symbol: hpww
Elevation: 170 to 500 feet
Mean annual precipitation: 60 to 80 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

MeE—Makapili silty clay, 25 to 40 percent slopes

Puhi and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Puhi Setting

Landform position (two-dimensional): Footslope *Landform position (three-dimensional):* Interfluve, rise *Down-slope shape:* Linear *Across-slope shape:* Concave *Parent material:* Basic igneous rock

Typical profile

H1 - 0 to 12 inches: silty clay loam *H2 - 12 to 60 inches:* silty clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches *Natural drainage class:* Well drained *Runoff class:* Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr) *Depth to water table:* More than 80 inches *Frequency of flooding:* None *Frequency of ponding:* None *Sodium adsorption ratio, maximum in profile:* 5.0 *Available water storage in profile:* Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e *Land capability classification (nonirrigated):* 2e *Hydrologic Soil Group:* B *Hydric soil rating:* No

rRR—Rough broken land

Map Unit Setting

National map unit symbol: hpxd
Elevation: 0 to 4,000 feet
Mean annual precipitation: 20 to 200 inches
Mean annual air temperature: 61 to 73 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Rough broken land and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rough Broken Land

Setting

Landform: Gulches
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope, rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium and colluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam *H2 - 8 to 30 inches:*
silty clay *H3 - 30 to 60 inches:* bedrock

Properties and qualities

Slope: 40 to 70 percent
Depth to restrictive feature: 20 to 55 inches to paralithic bedrock *Natural drainage class:*
Well drained *Runoff class:* Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low
(0.00 to 0.06 in/hr) *Depth to water table:* More than 80 inches
Frequency of flooding: None *Frequency of ponding:* None
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 7e *Hydrologic Soil Group:* C *Hydric soil rating:* No

rRT—Rough mountainous land

Map Unit Setting

National map unit symbol: hpxf
Elevation: 0 to 6,000 feet
Mean annual air temperature: 57 to 72 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Rough mountainous land and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rough Mountainous Land

Setting

Landform: Gulches
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope, rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium and colluvium

Typical profile

H1 - 0 to 5 inches: silty clay loam
H2 - 5 to 25 inches: very cobbly clay loam
H3 - 25 to 29 inches: bedrock

Properties and qualities

Slope: 50 to 99 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock *Natural drainage class:* Well drained *Runoff class:* Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr) *Depth to water table:* More than 80 inches
Frequency of flooding: None *Frequency of ponding:* None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 8e *Hydrologic Soil Group:* B *Hydric soil rating:* No

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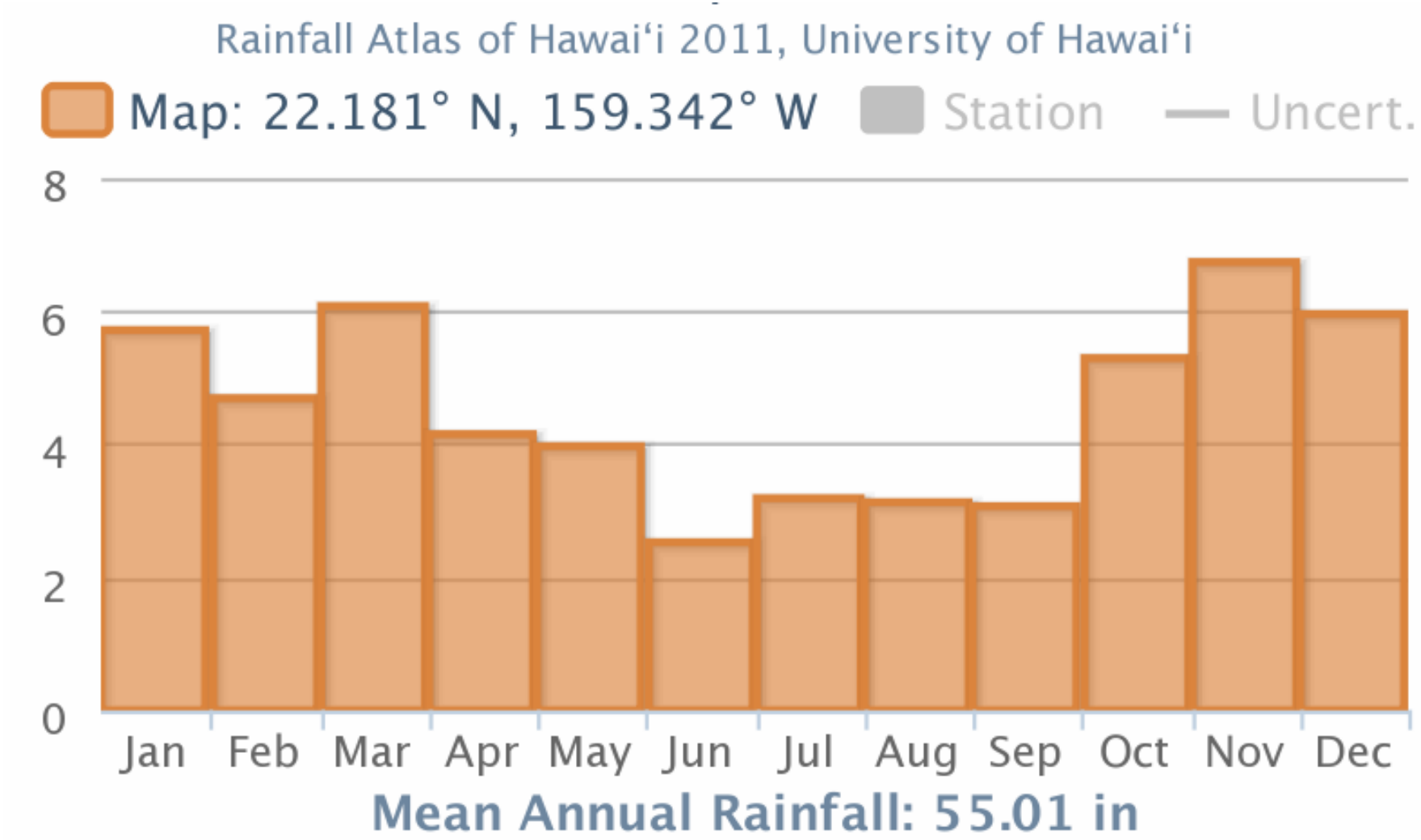
EXHIBIT F: Mean Monthly Rainfall (in)



EXHIBITG: Kauai Farmers Markets

Monday

Kilauea-next to the Kilauea Anaina Hou Community Park Mini Golf 2:00 pm - Dusk
Koloa Knudsen Ball Park - Maluhia Road in Koloa 12:00 pm -1:30 pm
Lihue Kmart Parking Lot - Pikake Street 3:00 pm Kealia Farms Across from Kealia Beach 3:00 - 6:00 pm

Tuesday

Kalaheo Neighborhood Center - Papalina Road off Kaumualii Hwy 3:00 -4:00 pm
Lihue Historic County Building Rice Street 11:00 -1:00pm Waipa - North of Hanalei Town - Kuhio Hwy 2:00 pm Kapaa Coconut Marketplace - Kuhio Hwy Kapaa 8:00 - 12:00

Wednesday

Kapaa Ball Park - Kahau and Olohena Road 3:00 pm Kukuiula Shopping Center - Poipu Road 4:00 pm

Thursday

Kilauea Neighborhood Center - Keneke Rd off Kilauea Lighthouse
Road 4:30 pm - 6:oo pm
Hanapepe Town Puolo Road 3:00 - 4:00 pm

Friday

Kealia Farms Across from Kealia Beach 3:00 - 6:00 pm Vidinha Stadium - Hoolaka Road Lihue 3:00 pm Kealia Farms 3:00 - 7:00

Saturday

Hanalei Farmers Market 9:30 am -12:00 pm Kauai Community College Kuhio Hwy in Puhi 9:30 am Coconut Marketplace in Kapaa - Kuhio Hwy Kapaa 8:00 -12:00 Kekaha Neighborhood Center - Elepaio Road 9:00 am Kilauea - Anaina Hou Park Kilauea Mini Golf -5-2723 Kuhio Hwy 9:00-1:00 pm

EXHIBIT H: HRS 205 Land Use Commission

§205-4.5 Permissible uses within the agricultural districts, (a) Within the agricultural district, all lands with soil classified by the land study bureau's detailed land classification as overall (master) productivity rating class A or B shall be restricted to the following permitted uses:

(1) Cultivation of crops, including but not limited to crops for bioenergy, flowers, vegetables, foliage, fruits, forage, and timber;

(2) Game and fish propagation;

(3) Raising of livestock, including but not limited to poultry, bees, fish, or other animal or aquatic life that are propagated for economic or personal use;

(4) Farm dwellings, employee housing, farm buildings, or activities or uses related to farming and animal husbandry. "Farm dwelling", as used in this paragraph, means a single-family dwelling located on and used in connection with a farm, including clusters of single-family farm dwellings permitted within agricultural parks developed by the State, or where agricultural activity provides income to the family occupying the dwelling;

(5) Public institutions and buildings that are necessary for agricultural practices;

(6) Public and private open area types of recreational uses, including day camps, picnic grounds, parks, and riding stables, but not including dragstrips, airports, drive-in theaters, golf courses, golf driving ranges, country clubs, and overnight camps;

(7) Public, private, and quasi-public utility lines and roadways, transformer stations, communications equipment buildings, solid waste transfer stations, major water storage tanks, and appurtenant small buildings such as booster pumping stations, but not including offices or yards for equipment, material, vehicle storage, repair or maintenance, treatment plants, corporation yards, or other similar structures;

(8) Retention, restoration, rehabilitation, or improvement of buildings or sites of historic or scenic interest;

(9) Roadside stands for the sale of agricultural products grown on the premises;

(10) Buildings and uses, including but not limited to mills, storage, and processing facilities, maintenance facilities, and vehicle and equipment storage areas that are normally considered directly accessory to the above mentioned uses and are permitted under section 205-2(d);

(11) Agricultural parks;

(12) Plantation community subdivisions, which as used in this paragraph means a subdivision or cluster of employee housing, community buildings, and acreage established on land currently

or formerly owned, leased, or operated by a sugar or pineapple plantation and in residential use by employees or former employees of the plantation; provided that the employees or former employees shall have a property interest in the land;

(13) Agricultural tourism conducted on a working farm, or a farming operation as defined in section 165-2, for the enjoyment, education, or involvement of visitors; provided that the agricultural tourism activity is accessory and secondary to the principal agricultural use and does not interfere with surrounding farm operations; and provided further that this paragraph shall apply only to a county that has adopted ordinances regulating agricultural tourism under section 205-5;

(14) Wind energy facilities, including the appurtenances associated with the production and transmission of wind generated energy; provided that the wind energy facilities and appurtenances are compatible with agriculture uses and cause minimal adverse impact on agricultural land;

(15) Biofuel processing facilities, including the appurtenances associated with the production and refining of biofuels that is normally considered directly accessory and secondary to the growing of the energy feedstock; provided that biofuels processing facilities and appurtenances do not adversely impact agricultural land and other agricultural uses in the vicinity.