

## 2. PROJECT DESCRIPTION

This section of the Second Draft EIS includes background information, description of neighboring properties and developments (in place and proposed,) a general description of the proposed Kaloko Makai project, the development timeframe and preliminary development costs.

### 2.1 BACKGROUND INFORMATION

#### 2.1.1 Location and Surrounding Uses

Kaloko Makai will be located in Kaloko and Kohanaiki, North Kona, Island of Hawai'i (see Figure 2-1). Kaloko Makai consists of approximately 1,139 acres and includes five parcels identified as Tax Map Key: (3) 7-3-009: 017, 025, 026, 028, and 63 (see Figure 2-2). The project site is presently vacant and undeveloped (see Figure 2-3). It consists of large, barren masses of pāhoehoe and a'ā lava and is overgrown with scrub vegetation consisting mostly of Christmas berry, koa haole and fountain grass. The southern portion (TMK: 7-3-009: 028) of the project site consists of a 150-acre native Dryland Forest. Access to the project site is from Queen Ka'ahumanu Highway, Ane Keohokālole Highway and Hina Lani Street.

The project site is located approximately one mile mauka of the coastline and lies between elevations ranging from approximately 100 feet above mean sea level (msl) at the western end to 700 feet above msl at the eastern end.

Lands surrounding the project site are largely undeveloped, with the exception of the Kaloko Industrial Park to the south and Kohanaiki Business Park to the north. The existing and proposed uses in the vicinity of Kaloko Makai are further described below (see Figure 2-4).

The Kaloko Industrial Park Phases I and II are located to the south (across Hina Lani Street from the Kaloko Makai site). It includes industrial and business establishments such as light manufacturing, warehousing and distribution operations, a Costco Wholesale facility and Home Depot. Kaloko Industrial Park Phases III and IV will consist of approximately 73-improved one-acre lots. Intended uses include light industrial, business and commercial uses consistent with the existing light industrial uses developed in Phases I and II of the Kaloko Industrial Park project.

West (makai) of the project site is Queen Ka'ahumanu Highway and directly across the highway is Kaloko-Honokōhau National Historical Park (KHNHP). Administered by the U.S. National Park Service, the 1,178-acre park contains extensive natural and cultural resources, such as two large fishponds, wetlands, 185 anchialine pools, 627 acres of marine habitat and archaeological sites. Nearly all of the land has been designated a national historical landmark (see Figure 2-4).

The Kohanaiki Business Park, a 26-lot light industrial development, is located immediately north of and adjacent to the project site. Access to the industrial park is from Queen Ka'ahumanu Highway and Hulikoa Drive.

Located immediately east (mauka) of the project site is the proposed Kaloko Heights project, which has plans for a 409-acre residential development to include approximately 1,400-single-family and

multi-family units, commercial and park development. Also proposed is the Shopoff Group's Kula Nei project, located northeast and adjacent to the project site. Kula Nei is a low-density residential subdivision that will consist of 270-market and affordable residential units. The project will also include a neighborhood park, trails, greenbelts and supporting infrastructure.

Further north, approximately three miles from the project site is the Kona International Airport at Keāhole, which is operated by the State Department of Transportation, Airports Division. Immediately south of the Airport is the Natural Energy Laboratory of Hawai'i (NELHA), a publicly-funded research facility and the Hawai'i Ocean and Science Technology (HOST) Park. East (mauka) of the Airport and Queen Ka'ahumanu Highway is the State-developed Keāhole Agricultural Park.

Further south of Kaloko Makai is the State Department of Land and Natural Resources, Division of Boating and Ocean Recreation's 450-slip Honokōhau Small Boat Harbor, Honokōhau Village, the West Hawai'i Civic Center, and the County of Hawai'i's Kealakehe Regional Wastewater Treatment Plant, located approximately 1 to 1.5 miles from Kaloko Makai.

The Department of Hawaiian Home Land's Villages of La'i 'Ōpua project is located approximately one mile south of the project site. When fully developed, the project will include approximately 1,740 single- and multi-family residential units, recreational facilities, community facilities, neighborhood commercial complexes, several parks, and several preserve sites.

Approximately 3.5 miles south from the project site is Kailua-Kona town, the major commercial and business hub of the region. Queen Lili'uokalani Trust's (QLT) proposed Keahuolu development is located near the QLT Center.

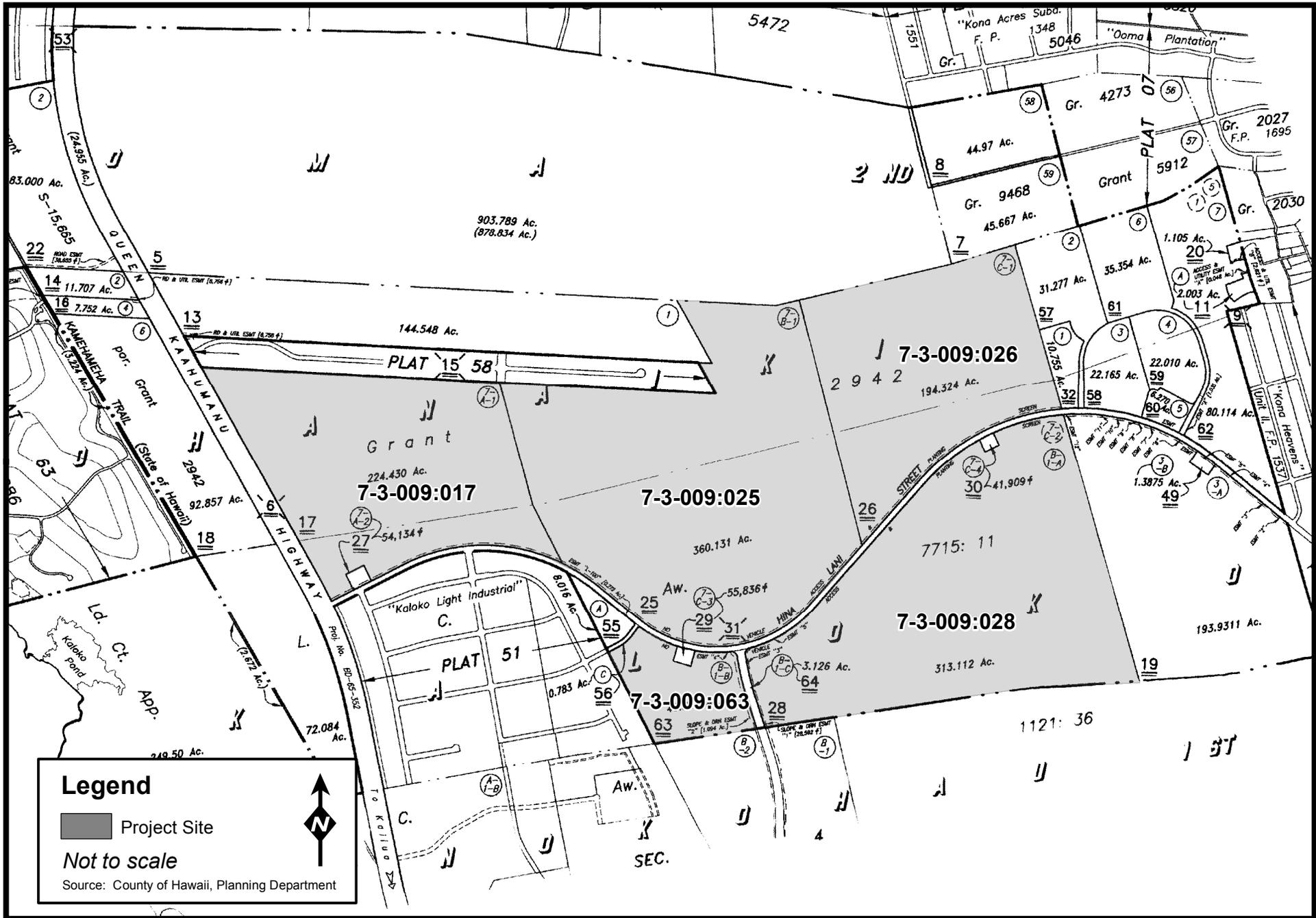
A number of residential developments located in the vicinity of Māmalahoa Highway neighbor the project site. These include Kona Palisades, Kona Acres, Kona Coastview, Kona Wonder View, Kaloko Housing Project and Kona Highlands to the north/northeast; Kona Heavens to the east; and, Kealakehe Homesteads, Kona Chocho Estates, and Kona Macadamia Acres.

Adjacent to and immediately south of the project site, Lanihau Partners L.P. proposes to develop approximately 337 acres of land for development of the West Hawai'i Business Park, also known as Kaloko-Honokōhau Business Park, a proposed light industrial development. The development will include a mixture of industrial and commercial uses that allow the retention and expansion of the existing quarry and quarry-related uses.

Also adjacent to and south of the project site, above the West Hawai'i Business Park, is Kona View Estates Subdivision (327 Kona LLC). The project site has an initial phase consisting of 29, vacant 1-acre lots with agricultural zoning. This phase of the project received final subdivision approval in 2006 and has completed all of its infrastructure improvements. The remainder of the land immediately adjoining Kaloko Makai remains vacant and undeveloped.

Further south, approximately 1.6 miles from the project site, the Queen Lili'uokalani Trust is planning to develop some 546 acres near Makalapua Center. The project was granted State Land Use District reclassification from the Agricultural and Conservation Districts to the Urban District in 1991. However, no residential uses were proposed at that time.





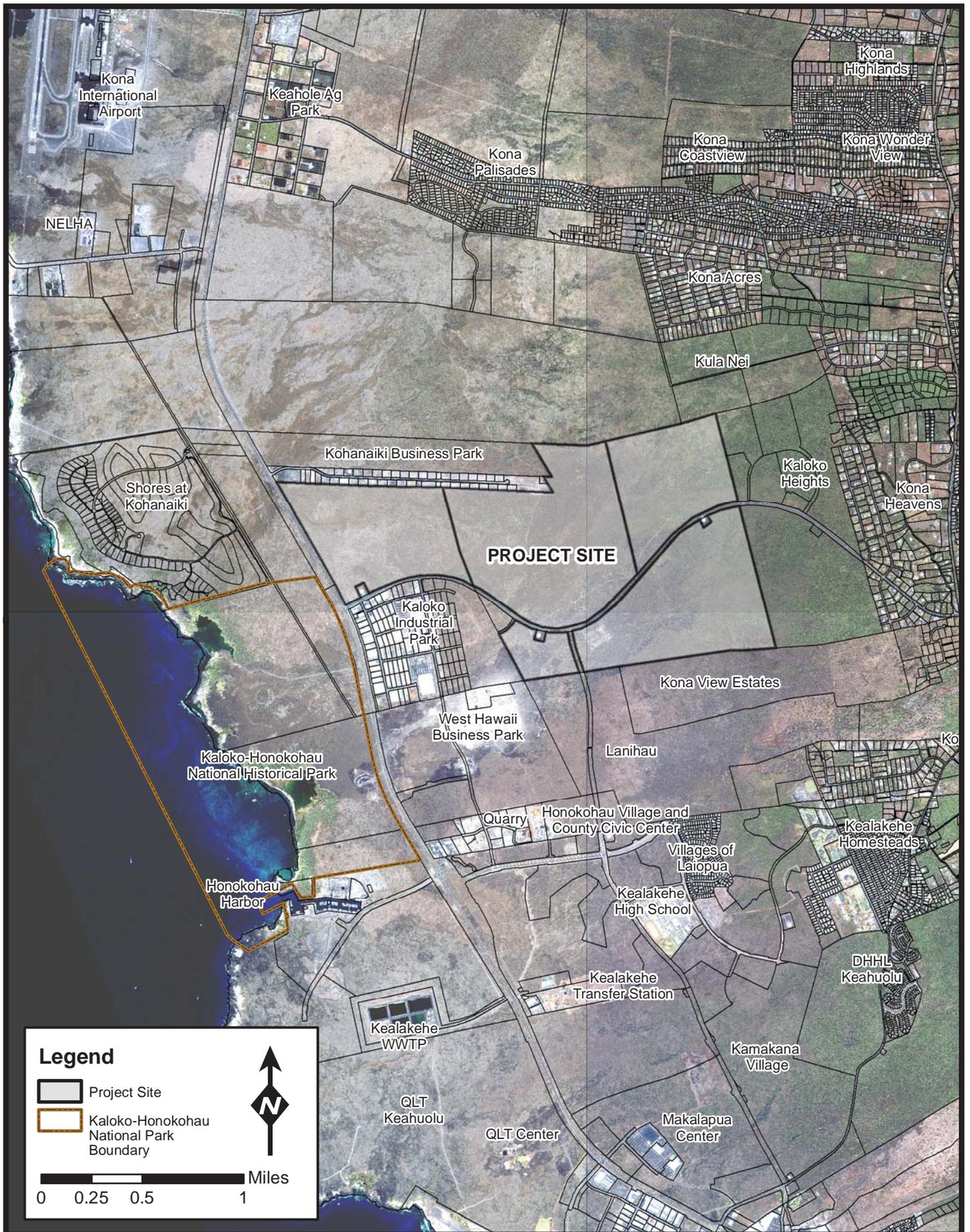
**FIGURE 2-2**  
**Tax Map Key: 7-3-009: 017, 025, 026, 028 and 063**  
*Kaloiko Makai*



Facing makai from east end of project site, showing dense vegetation.



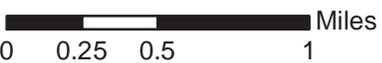
Facing northwest from south side of ahupua'a wall, with large 'a 'ā flow visible on horizon.



**Legend**

- Project Site
- Kaloko-Honokohau National Park Boundary





Miles

**FIGURE 2-4**  
**Existing and Proposed Uses Within the Vicinity of the Project Site**  
*Kaloko Makai*



The development of Kamakana Villages at Keahuolu is being undertaken by the State HHFDC, in collaboration with Forest City Hawai'i Kona, LLC. The project will consist up to 2,300 units on 270 acres of land. The project is intended to be a mixed-use TOD community with 50% of units to be sold or rented as affordable units, and will include commercial space and public facilities. The State Land Use Commission approved the reclassification from the Agricultural District to the Urban District in November 2010. Infrastructure development is underway, and the first residential units are anticipated to be made available between 2014 – 2017. This project is located about two miles south from the project site along Palani Road and mauka (east) of Makalapua Center.

Northwest of the project site and makai of Queen Ka'ahumanu Highway, is the Shores of Kohanaiki, a resort development on approximately 470 acres of land, planned to contain 500 homes, a private golf course, and a 128-acre coastal park.

The University of Hawai'i plans to develop lands north of Kona Palisades and Keāhole Agricultural Park for a new Hawai'i Community College at Palamanui campus, in cooperation with the developers of the related, proposed mixed-use community of Palamanui. Groundbreaking for the access road connecting Kona Palisades to the Hawai'i Community College at Palamanui campus site was held in March 2011; it was completed in 2012. Groundbreaking for the college was held in June of 2013. Construction of Phases 1A and 1B of the 8-acre campus is underway and is expected to open in 2015.

### **2.1.2 Land Ownership**

As shown in Figure 2-2, the 1,138.866-acre Kaloko Makai property (the Project Site) is comprised of:

- (3) 7-3-009:017 – 224.430 acres
- (3) 7-3-009:025 – 360.131 acres
- (3) 7-3-009:026 – 194.324 acres
- (3) 7-3-009:028 – 313.112 acres
- (3) 7-3-009:063 – 46.869 acres

SCD - TSA Kaloko Makai, LLC is the recorded fee owner of the Kaloko Makai property.

### **2.1.3 Property Description**

The property is approximately 1,139 acres in total land area. It is presently vacant and undeveloped. The project site occupies an area of relatively uniform slope, ranging from 5 to 8%. The lowest elevation along the makai boundary of the site is approximately 100-feet above mean sea level (msl). Along the mauka boundary, the site reaches an elevation of about 700-feet above msl. The site has a generally irregular surface with localized mounds and depressions throughout, as is characteristic of non-eroded lava flows.

The project site is located on the lower western slope of Hualālai, a dormant shield-type volcano. Hualālai Volcano last erupted in 1801 along its northwest rift zone, which represents the major geologic structure in the area.

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) classifies the soil in the project site as pāhoehoe lava flows (rLW), aʻā lava flows (rLV), Kaimū extremely stone peat (rKED) and Punalu`u extremely rocky peat (rPYD). Although, the project area was part of an extensive pre-Contact Hawaiian settlement in the region of North Kona, the area receives low rainfall and has low agricultural ratings. The area hasn't been actively used for agriculture.

The natural drainage system of the project site consists of rainfall percolating through the layers of very porous lava to the ground-water table. There are no definable streams or natural drainage ways within or in the immediate vicinity of the site as the basaltic rocks of the substrata are highly permeable.

The surrounding area consists of barren aʻā and pāhoehoe lava fields which are also highly permeable. The natural drainage pattern consists of rainfall percolating through layers of very porous lava to the subsurface strata.

The current land use designations of the Property are as follows:

- State District: Conservation, Agricultural and Urban (see Figure 2-5)
- Conservation District: General Subzone (see Figure 2-6)
- General Plan: Urban Expansion and Conservation (see Figure 2-7)
- County Zoning: Agricultural 5-acre and Open (see Figure 2-8)
- Kona CDP Official Land Use Map: Neighborhood Transit Oriented Development (TOD) (see Figure 2-9)

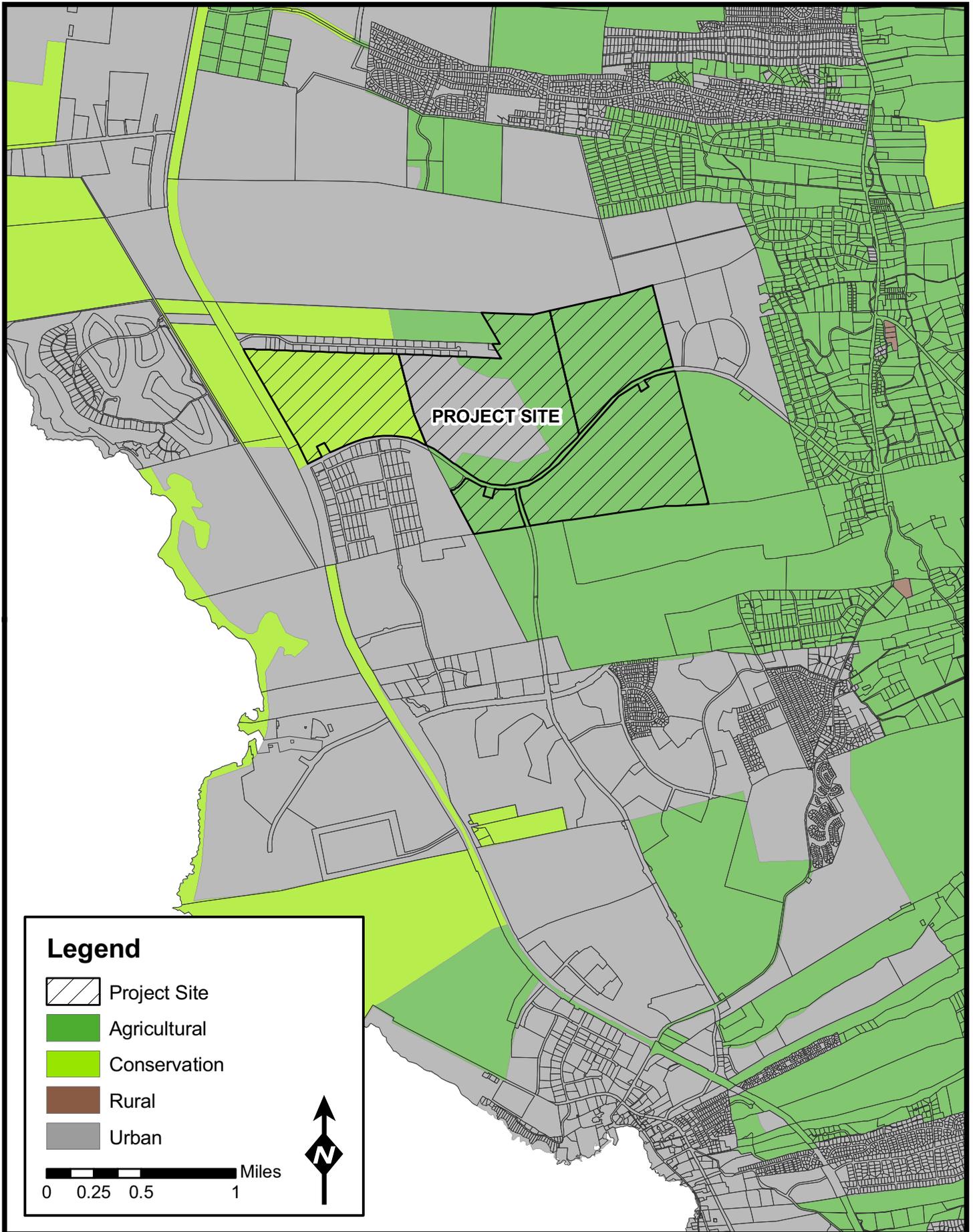
The development is situated on lands currently within the State Land Use Conservation, Agricultural and Urban Districts necessitating, a State Land Use District Boundary Amendment to reclassify approximately 798.866 acres from Conservation and Agricultural Districts to the Urban, and a subsequent County of Hawai'i Zone Change (see Figure 2-10 and Table 1-1). Applicant will not be seeking a boundary amendment for approximately 150 acres of land in the Agricultural District; Applicant has designated this area as the Dryland Forest and intends to retain the Agricultural District designation for that area.

The project site is approximately one mile from the shoreline and is not within the Special Management Area.

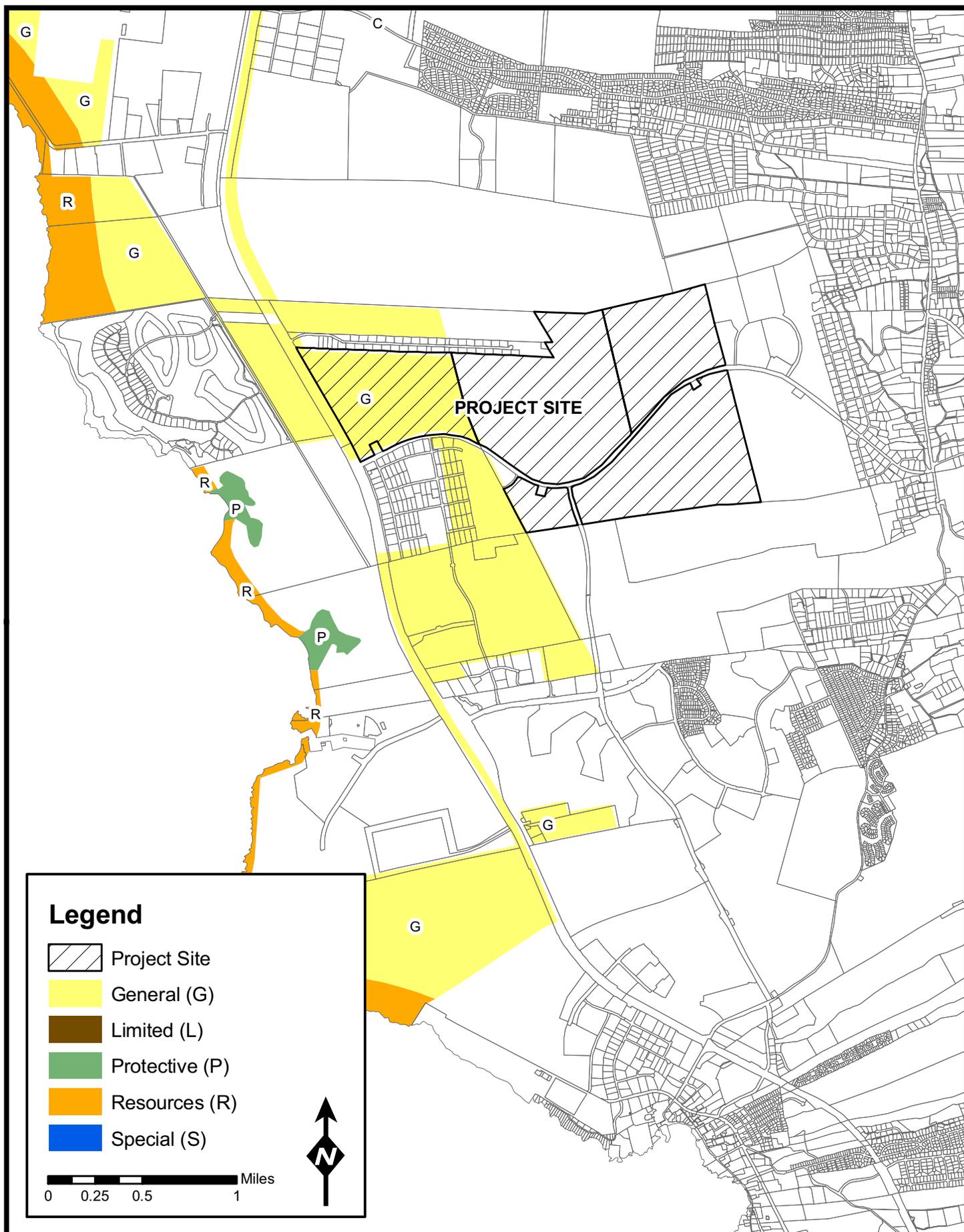
#### **2.1.4 Overview of Region**

Kaloko Makai includes portions of the ahupua'a of Kohanaiki and Kaloko. Kohanaiki means "small barrenness"; Kaloko literally translates to "the pond." The project lies at the southern end of the Kekaha region, the portion of North Kona extending from Honokōhau to 'Anaeho'omalu.

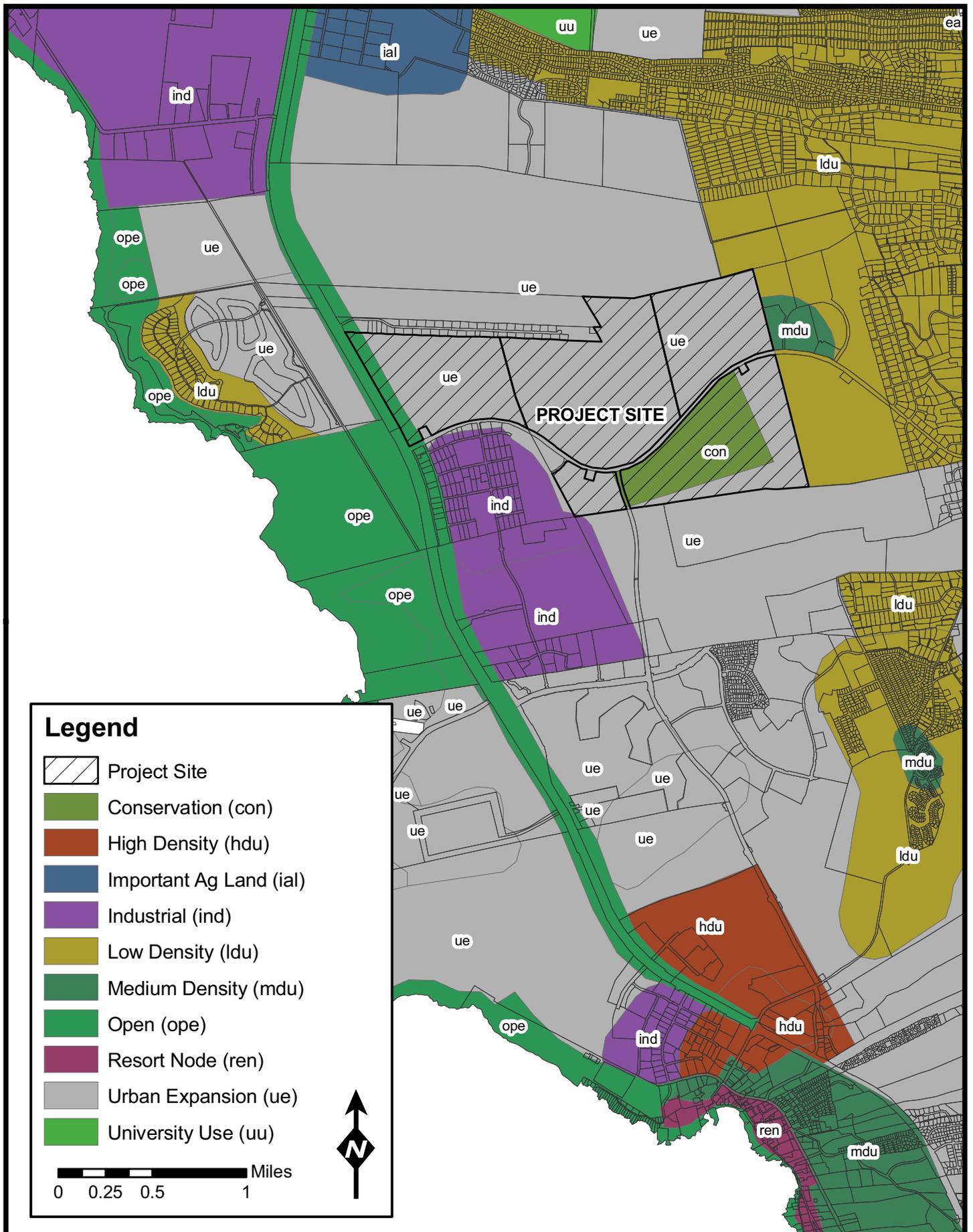
The character of Kekaha - as it had been established in the Hawaiian consciousness - is represented in a traditional saying recorded by Mary Kawena Pukui and in a brief description by John Papa ʻŪi. The saying, "Kekaha wai 'ole na Kona", translates to "waterless Kekaha of the Kona district." Pukui states that "Kekaha in Kona, Hawai'i, is known for its scarcity of water but is dearly loved by its inhabitants" (Pukui 1983:184).

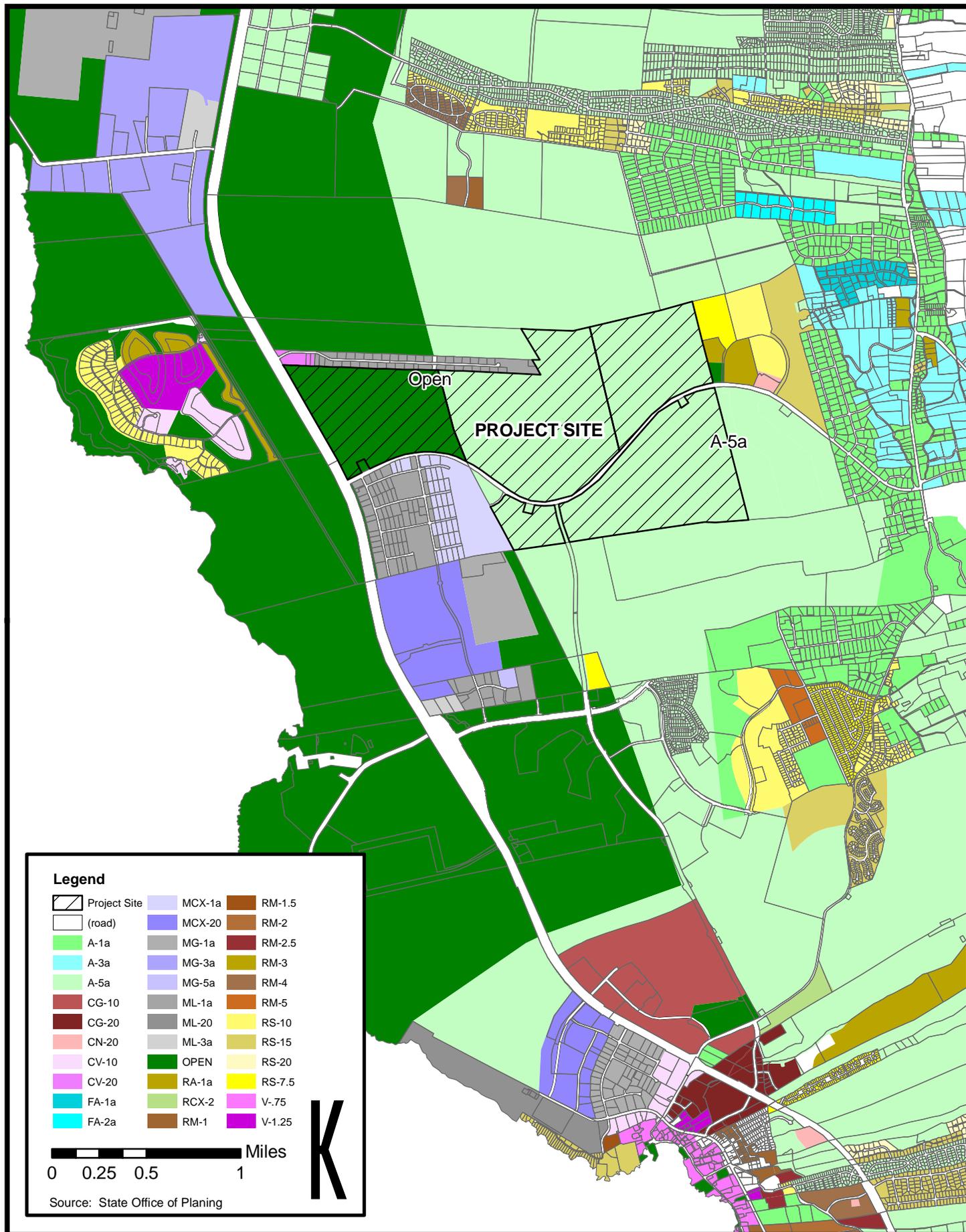


**FIGURE 2-5**  
**State Land Use District Map**  
*Kaloko Makai*



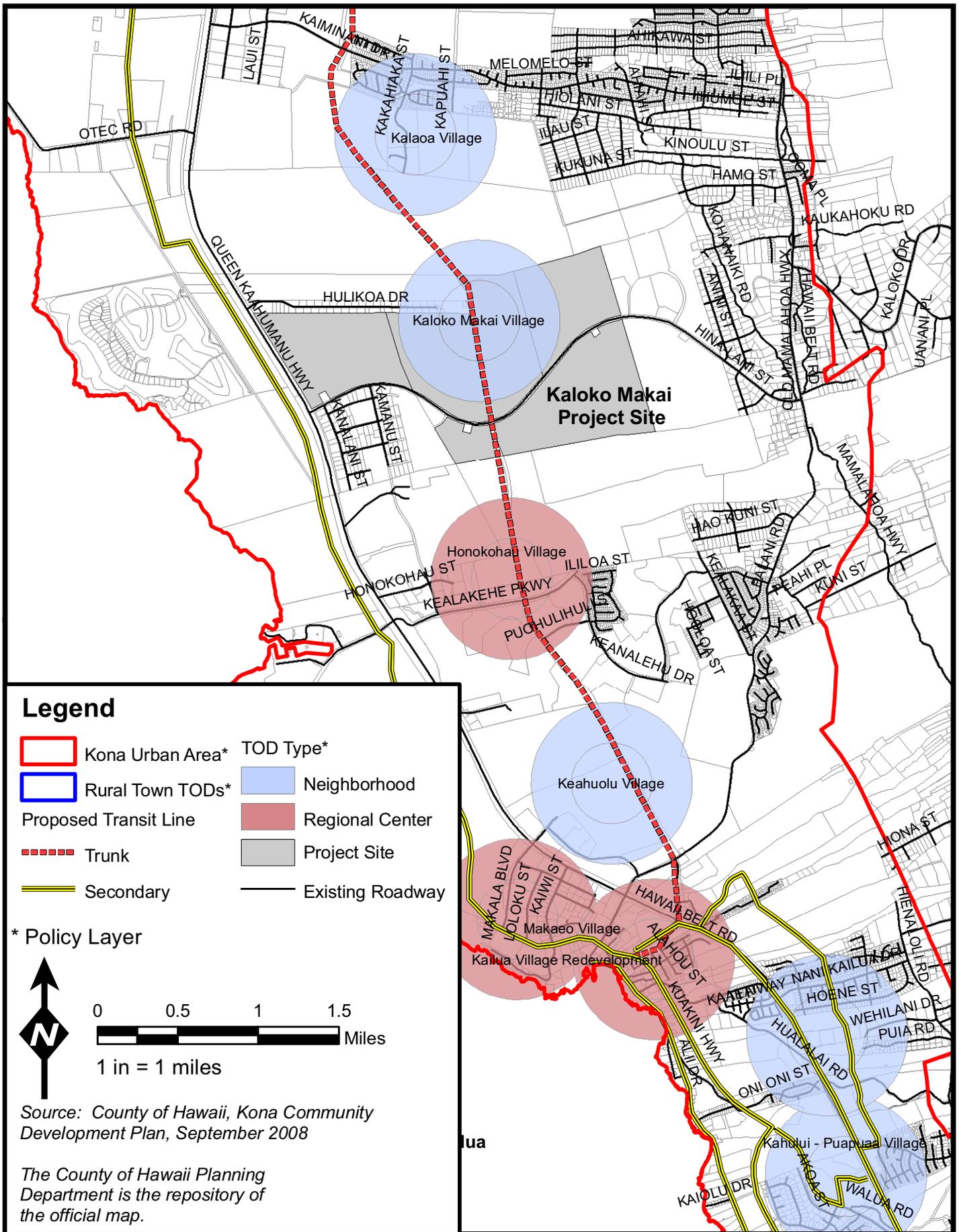
**FIGURE 2-6**  
**State Conservation District Subzones**  
*Kaloko Makai*





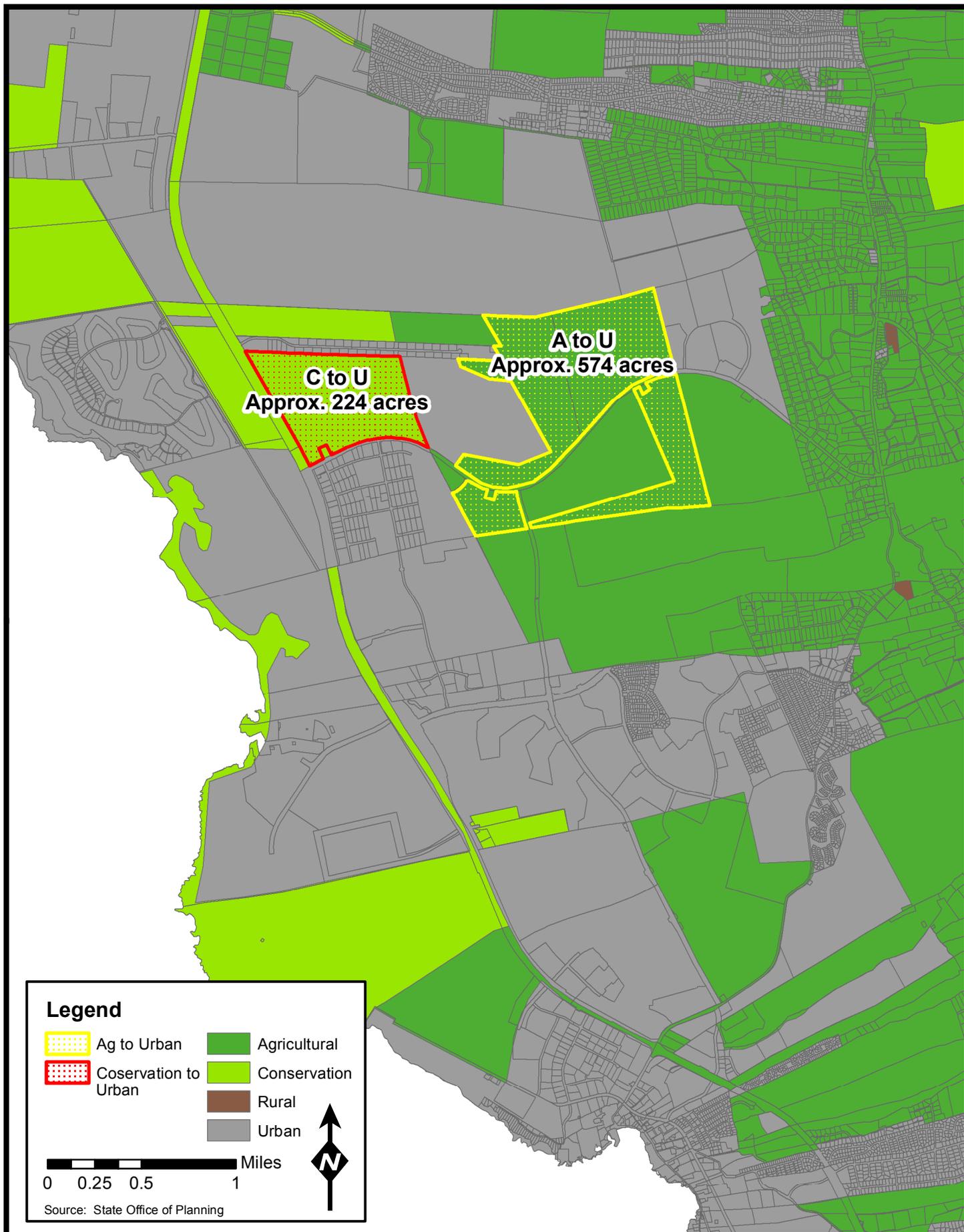
**FIGURE 2-8**  
**County of Hawaii Zoning**  
*Kaloko Makai*





**FIGURE 2-9**  
**Kona Community Development Plan Official Kona Land Use Map**  
*Kaloko Makai*





**FIGURE 2-10**

**Proposed State Land Use District Boundary Amendment Petition Area**

*Kaloko Makai*



ʻĪʻĪ describes the winds of Kekaha:

...a cold wind from Kekaha, the Hoolua. Because of the calm of that land, people often slept outside of [sic] the tapa drying sites at night. It is said to be a land that grows cold with a dew-laden breeze, but perhaps not so cold as in Hilo when the Alahonua blows. (ʻĪʻĪ 1959:122)

These passages suggest that Kekaha was contextually identified by its austere physical environment. A legend told in Maguire (1966) reveals the importance of water resources in this general area (see also Wolforth 2005:8-9). The story takes place at the Cave of Mākālei, which is located outside of the current project area near ʻAkahipuʻu (a nearby mountain).

The story focuses on a man named Koʻamokumokuoheʻeia, who moved to this area and was told by the current residents that water was very scarce. Water, he was told, could be obtained in “celebrated” caves, but these caves were kapu (forbidden), and if caught, trespassers would be killed by the owner of the cave. However, Koʻamokumokuoheʻeia discovered a very small cave entrance that no else knew about. The cave had water dripping from its roof (Maguire 1966:30).

Koʻamokumokuoheʻeia and his father used carved ʻōhiʻa and wiliwili trees to capture the dripping water, and his family was thus able to survive during dry spells. This legend demonstrates difficulty of procuring water in this region, and highlights the importance of water collection caves for survival.

Kamakau records that during the 1770s, “Kekaha and the lands of that section” were held by descendants of the Nahulu line, the Ka-meʻe-ia-moku and Ka-manawa, the twin half brothers of Keʻe-au-moku, the Hawaiʻi Island chief (Kamakau 1961:310). The Great Seal of the State of Hawaiʻi depicts Kameʻeiamoku and Kamanawa (Springer 1989:23).

### **2.1.5 History of the Property**

The project area is part of the traditional region known as Kekaha, extending from Honokōhau to ʻAnaehoʻomalū in North Kona. Despite being a dry place, the project area contains many unique resources - including dozens of subterranean lava tubes and caverns used to collect water. The project area was part of an extensive pre-Contact Hawaiian settlement in the region of North Kona that continued to support a subsistence-based lifestyle into the early historic era.

Radiocarbon dating from nearby sites definitively shows the general area has been utilized by humans for at least 1,000 years (Walker and Haun, 1988).

The project area is associated with specific moʻolelo (oral history) about (a) the sixteenth or seventeenth century ruler of Hawaiʻi Island, Lono-i-ka-makahiki, who was involved in several famous battles with the chiefs of Maui (including Kama-lala-walu) and other parts of Hawaiʻi, (b) Kamehameha I, whose remains were reportedly interred near Kaloko Fishpond, (c) ʻUmi-a-Liloa, who frequented the famous fisheries of Kaloko and Kohanaiki, and (d) the Nahulu chiefs (including Ka-meʻe-ia-moku and Ka-manawa).

The project area is also associated with legendary references to Ka-Miki (a thirteenth century supernatural legendary figure,) various mo'ō (water spirits) that resided at fishponds at and near the seashore, and Hualālai; and more general references to water-collection lava tubes and the unique environmental conditions of the region.

Oral history interviews (Maly and Maly 2002) relate that in the mid-1800s only a few residences were on the coastal lands, in the uplands above 900 ft. elevation and in the vicinity of Māmalahoa Highway (east of the project area). The land between 900 ft. and the coast was cattle, donkey and goat pasturage. Mauka/makai trails through Kohanaiki, Kaloko, Kalaoa and Honokōhau were utilized by upland families to access the coast to fish, and gather water during upland droughts.

The division of Kohanaiki - through sales of Government lands -continued throughout the remainder of the nineteenth and into the twentieth century. Grant 2942 in 1864 awarded to Huliko'a 929.75 acres which included the width of the ahupua'a, extending makai from Kaiakoili's grant. In 1871, Grant 3086 awarded 154 acres to Kapena; this parcel extended makai from Huliko'a's grant to the shoreline.

At the time of the Māhele, Huliko'a was a resident of Kohanaiki (Maly and Maly 2003:4). Although Maly and Maly (2003:60) reviewed all Māhele claims, no additional references to Huliko'a were found. However, based on traditional patterns of residency in the region, it is "likely they had primary residences in the uplands, near sheltered māla 'ai (agricultural fields), and kept near shore residences for seasonal fishing, collection of salt, access to water in dry periods, and for access to other resources of the coastal zone" (Maly and Maly 2003:60).

Kaloko is documented during the 1870s in testimonies by Hawaiians before the government's Boundary Commission. Testifying on August 12, 1873, Nahuina (who had earlier received LCA 10327 in Kaloko) describes himself as "born at Kaloko North Kona Hawai'i at the time of Keikepuipui, the building of the heiau at Kailua, and have always lived there" and states that the boundaries of Kaloko were shown to him by his father, the former konohiki of the ahupua'a.

During the 1880s, Kona lands - including Kaloko and Kohanaiki - were surveyed by J.S. Emerson for the Hawaiian government. A portion of his Registered Map (RM) 1449, Akapipu'u Section shows a trail through the project area; the trail actually ran from the Kohanaiki Homesteads to the Kaloko fishpond. Emerson produced three maps corresponding to the project area during this time period: Registered Map (RM) 1280, RM 1449 and RM 1512.

Archaeological research shows the project area contains many culturally and historically significant sites and features. Sites in the project area include permanent and temporary habitation structures - many of which incorporate natural features of subterranean lava tubes into their design, agricultural features (including extensive rock mounds used to plant sweet potatoes), at least 65 burials located in approximately two dozen burial sites, ahu (stone markers), trails, petroglyphs, ahupua'a boundary walls, papamū (traditional gaming site) and others.

The project area is also associated with the unique history of Hawaiian-style ranching and paniolo ("Hawaiian cowboys"), including the well-documented Hu'ehu'e Ranch.

Historic documents related to the Government Homestead Program of the late 1880s indicate officials determined that goats were the only animals that were adept at grazing within arid, rocky Kaloko and Kohanaiki (Maly and Maly 2003:76, 79). Goats were present in the area prior to the late 1880s and may have been present within the project area. Limited cattle ranching was practiced at the same time, although by 1900, cattle ranching had for the most part replaced the goats (Maly and Maly 2003:75).

Ranching steadily increased. Once John Maguire purchased the former chiefly lands of Kaloko in 1906 after the deaths of Kalākaua and Kapiʻolani (Kelly 1971:29), the ahupuaʻa uplands were developed into the Huʻehuʻe Ranch.

Thus, by the turn of the century, Huʻehuʻe Ranch, utilized both the upper forest lands and lower kula lands to the shore for ranching purposes. Oral history interviews with elder former ranch hands record that this use extended across the Kapena and Hulikoʻa grant lands of Kohanaiki, from the fee and leasehold lands of Kaloko and ʻOʻoma. Nineteenth century goat drives gave way to formalized cattle drives and round ups on these lands. (Maly and Maly 2003:78)

The Maguire/Stillman family held Huʻehuʻe Ranch until they sold it on July 8, 1966. At that time, the Kona Coast Company, a partnership between the Kaloko Land Corporation, Mauna Loa Cattle Corporation (which later was separately held by members of the Karl B. Rodi family), and Foothill Land Corporation (which was later succeeded by the David Pacific Corporation and Davis family members) was established.

Until the construction of the Queen Kaʻahumanu Highway in the 1970s, access to the “kula kai (shoreward plains)” (Maly and Maly 2003:101) was limited to local residents. The 1924 USGS map shows the mauka/makai road connecting the Kohanaiki Homesteads with the Kaloko fishpond, and crossing the project area at the ahupuaʻa boundary between Kohanaiki and Kaloko.

In the first half of the twentieth century, the primary method of travel was “by foot or on horse or donkey, and those who traveled the land, were almost always native residents of Kalaoa, ʻOʻoma, Kohanaiki, Kaloko and Honokōhau” (Maly and Maly 2003:99). Huʻehuʻe Ranch bulldozed a jeep road to the shore around 1955 during the construction of the Kailua pier, and this was used primarily by the ranch employees for duties or for going fishing along the coast.

While the present project area is largely undeveloped, surrounding areas have seen increasing modern use. The Huʻehuʻe Ranch jeep road and other signs of animal husbandry activity can be seen on the 1959 USGS map.

In 1985, the Land Use Commission approved a boundary amendment of 190-acres of land within the Kaloko Makai property for an 18-hole golf course and appurtenant facilities. These include a clubhouse, maintenance building, driving range, practice greens and parking. The proposed golf course was not intended to be a part of, nor associated with any type of resort development. The golf course was proposed to primarily serve the resident population and is oriented for public use. (LUC FOF, COL and D&O A84-566-TSA). However, no golf course development has taken place.

More recent nearby development is largely industrial, and the Kaloko Industrial Area is just southwest of the project area, including large stores such as Home Depot and Costco. Huliko‘a Road is also heavily developed, primarily as an industrial area, along a portion of the north border of the project area. Hina Lani Street runs along the south border of the project area, and leads mauka to a residential area (Kona Heavens) before the Palani junction (at Māmalahoa Highway,) as well as leading makai to the modern Queen Ka‘ahumanu Highway.

## 2.2 PROJECT PURPOSE AND NEED

### 2.2.1 Purpose and Objectives

The purpose of the Kaloko Makai project is to create a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, and a variety of businesses and employment opportunities, focused around an initial urgent care medical facility with land available for a new Kona regional hospital. If the hospital is not located within Kaloko Makai, residential units will remain at 5,000 units and there will be approximately 600,000 sq. ft. of commercial space (see Chapter 7). A Lodge and Business Center will support the commercial needs within the Transit Oriented Development (TOD) including the potential Hospital and the recently selected Kealakehe Judiciary site. Kaloko Makai has been designated as a Neighborhood TOD in the Official Kona Land Use Map of the *Kona CDP*.

As a mixed-use community, the objectives of Kaloko Makai are to:

- Create a diverse, sustained community of mixed uses, including residential, retail and commercial spaces, light industrial areas, recreational spaces, and open space.
- Cultivate intrinsic respect for the land and natural surroundings, develop an inherent Hawaiian sense of place and nourish a sustaining living environment.
- Provide housing for the working families of Hawai‘i nearby areas of workforce demand, resultantly improving overall quality of life through the reduction of commuting and facilitation of everyday function.
- Openly embrace a diversity of people and activities through offering mixed uses and housing types.
- Contribute to the social fabric of the community by providing infrastructure and facilities, and by including school, hospital, recreational, and civic sites.
- Engender and incorporate intelligent, planned sustainability by design.
- Emphasize non-vehicular transit for mainstream community-wide travel

Kaloko Makai is strategically located along the major regional traffic corridor of Queen Ka‘ahumanu Highway, between the town of Kailua-Kona and the Airport. Likewise, it is centrally located on Ane Keohokālole Highway, also known as the Mid-Level Road, which will run through the development; this is the major transit corridor called for in the *Kona CDP*. The area also has a long-standing and growing residential base.

This area will continue to be the focus of such development as the Island’s population grows, given its proximity to the Airport and other existing infrastructure. This region is also the commercial and

industrial heart of West Hawai'i, serving the Airport and the needs of the visitor, agriculture, ranching, technology and other industries of the western half of the Island.

The project is designed to support non-vehicular travel (key elements of the *Kona CDP*). Project objectives include developing health care facilities in Kona that provide a range of health care services and creating opportunities for on-site employment in retail, commercial, light industrial uses to reduce peak hour traffic impacts and provide higher quality of life for Kaloko Makai residents.

### **2.2.2 Project Need**

Mikiko Corporation prepared a Market Assessment for Kaloko Makai. Following is a summary of the findings and conclusion in that report. The report is included in its entirety as Appendix A.

Kaloko Makai is situated in a region that is rapidly developing, with immediate access to Kona International Airport and is adjacent to the well established commercial and light industrial-service centers of North Kona and Kailua Kona which serve the needs of the visitor, agriculture, ranching, and technology industries, among others, which populate the western half of the island.

Kaloko Makai is located within proximity to regions that will continue to be the focus of further development as the Island's population grows, and has the potential to be a major cornerstone of residential, commercial, and light industrial growth as a center of community, commercial, and economic activity.

#### **2.2.2.1 Residential Market**

##### **Housing in the Area**

The two census tracts 215.01 and 217.01 are considered Kaloko Makai's Competitive Regional Market Area for residential market conditions. Current and competitive housing opportunities within the market do not satisfy existing nor forecast demand. Kaloko Makai will stabilize this imbalance and seek to facilitate the continued economic development of the region.

As current economic conditions improve, the market area should be poised for a significant share of the Islands' anticipated future population growth, and will lead to further exponential growth in demand for housing within the region.

Currently entitle projects are estimated to yield up to 8,200 units of the potentially demanded 17,800 new housing units in the market area by 2045, assuming all proposed and entitle projects are built out within this timeframe and developed to the maximum levels of their respective current plans and entitlements. Furthermore, Mikiko's research concludes that even if one assumes aggressive and unprecedented levels of future development, without further State entitlement of additional housing developments, the market area is forecast to experience a shortfall of some 9,600 primary homes by 2045.

**Residential Buyer Mix and Pricing**

Considering the location, characteristics and types of residential developments proposed, about 85% of Kaloko Makai homes are anticipated to be used as primary homes, most for existing Island residents. Kaloko Makai would offer homes primarily in compact or multifamily settings, in adherence with the Kona CDP.

Kaloko Makai would consist of homes, ranging from the traditional single-family homes to mixed-use, mid- and higher-density multifamily units. The exact mix of units by type will be determined upon finalizing agreements with government agencies and during the years of build-out, as market conditions and preferences materialize.

Pricing of affordable units at the Project will be set in accordance with County and State guidelines to be determined in consultation with government agencies. For illustrative purposes, according to County guidelines in effect as of September 1, 2010, conforming affordable housing prices will include:

- For-sale units priced from \$202,500 to \$366,200, for those offered to families of two to four persons earning 110% to 120% of the median income; and
- One- to two-bedroom rental units priced from \$1,037 to \$1,500 per month, including utilities, and offered to households earning 80% to 100% of the median income.

Market priced properties will offer a wide range of products, in today’s dollars (2010) from mid- to high-\$200,000s and up Table 2-1 offers a summary of the project’s proposed average pricing for market priced properties.

The target market is the local, rather than the offshore, buyer. Overall, the project is intended to respond to already-anticipated economic growth, rather than to generate more of it.

<b>Table 2-1 Projected Market Unit Average Pricing at Kaloko Makai (2010 dollars)</b>		
	<b>Average sales price*</b>	<b>Approximate average density (units/gross acre)</b>
<b>T3** – Predominantly single-family</b>	\$475,000	3 to 6
<b>T4 &amp; T5** – multi- or single-family</b>	\$370,000	8 to 16
<b>Overall, market homes</b>	\$396,000	3 to 16
*For market-priced units only.		
** T3 – T5 refers to transect zones densities established by the Kona CDP Village Design Guidelines.		
Source: Mikiko Corporation, April 2012 (see Exhibit 4-2 in Appendix A for further information)		

**Projected Residential Sales Absorption**

The first residential product at Kaloko Makai is projected to be available for sale in 2015. Thereafter, it is anticipated that the 5,000 maximum proposed units, homes and lots could be absorbed over 30 years at an average rate of 170 units per year, as summarized in Table 2-2.

<b>Table 2-2 Illustrative Summary of Maximum Potential Residential Sales Absorption at Kaloko Makai, 2015 to 2045</b>			
	Affordable Homes	Market Homes	Maximum Total Housing
Maximum Inventory	700-1,000	4,000-4,300	5,000
Average Annual Sales*	22-32	130-140	170 (rounded)
* Assumes several but not all products are marketed simultaneously in any given year. Thus, since market home sales may extend over a longer period than affordable home sales, the overall average rate is less than the sum of the two sub-market rates shown. Source: Mikiko Corporation, April 2012			

**Kaloko Makai Proposal**

Kaloko Makai is planned to respond to the market and demographic trends as well as the community needs. The project will serve a County population that is changing in terms of size, geographic dispersion, age profile and lifestyle. Over the course of approximately 30 years Kaloko Makai will deliver the anticipated needed homes in a diverse, planned community. The project’s inventory could represent a significant solution for the anticipated future unmet demand for some 9,600 new housing units through 2045, based on currently entitled projects and their plan maximums.

Furthermore, Kaloko Makai will respond to varying spectrums of demand for housing within the North Kona/South Kohala area by providing a wide range of housing opportunities inclusive of affordable housing alternatives. Kaloko Makai will seek to create and sustain a mixed-income community allowing for unparalleled social diversity.

**2.2.2.2 Commercial Market**

**Supply and Demand**

The Primary Trade Area (PTA) (Trade Area is defined as the geographic area within which most consumers for a given commercial locale (shopping center, office building, etc., originate) for commercial uses at Kaloko Makai is considered to be the entire North Kona and South Kohala districts of the Island. Commercial uses consist of retail and office space.

As of December 2010, the PTA had over 2.6 million square feet of retail space and 74% or 1.9 million square feet of this was located in the North Kona District. Office supply and demand is evaluated in

terms of rentable building area. As for office space, North Kona has an estimated 529,000 square feet of rentable building area.

A total of 2.2 million square feet of planned commercial inventory was identified in North Kona and South Kohala. Within the PTA, North Kona is the focus of commercial development interest, with an estimated 1.8 million square feet of potential retail- and /or office-based commercial spaces proposed on lands that are entitled and planned for commercial development, as of December 2010.

Retail supply and demand is based on daytime residents and average daily visitors, while office supply and demand is based on civilian employees who reside in the PTA. Additional future retail- and office-based market needs are considered related to growth in population and civilian labor force numbers respectively. The potentially rapidly increasing resident population of the Trade Area itself would anchor demand in the area.

In total, the retail- and office-market analyses indicate support for up to 5.5 million square feet of commercial area by 2025, or 7.2 million by 2045, as summarized in Table 2-3.

<b>Table 2-3</b>			
<b>Projected Supportable Commercial Areas in the Primary Trade Area (square feet)</b>			
	2025	2035	2045
Retail-based demand	4,500,00	5,500,000	5,800,000
Office-based demand	1,000,000	1,300,000	1,400,000
Total	5,500,000	6,800,000	7,200,000
<i>Note: Represents total projected supportable areas, including existing and entitled/planned developments.</i>			
<i>Source: Mikiko Corporation, April 2012</i>			

**Kaloko Makai Proposal**

Kaloko Makai proposes up to 600,000 square feet of gross leasable area of various commercial uses at Kaloko Makai, including retail and office. If developed to the full-proposed capacity of 600,000 square feet, Kaloko Makai’s commercial spaces could represent some 8% of the PTA’s projected total 2045 inventory. It could also represent a venue for about half of the currently unplanned but future supportable commercial space in the Trade Area.

This demand will include that for spaces in shopping centers, medical-support and other office complexes, as well as and mixed-use developments. As for residential development, the first finished commercial building products are assumed to be available for use within 10 years of LUC’s SLUBA approval.

Development and lease-up of the proposed commercial areas are anticipated to be supported by future market conditions in the Trade Area as summarized in Table 2-4:

	2025	2035	2045
Kaloko Makai potential development phasing	430,000	560,000	600,000
Total Supportable Commercial Areas in PTA	5,500,000	6,800,000	7,200,000
Kaloko Makai as Share of Future PTA	8%	8%	8%

Source: Mikiko Corporation, April 2012

### 2.2.2.3 Light Industrial/Business Park Market

#### Primary Trade Area and Analytical Approach

Light industrial areas can support business parks, manufacturing, energy production, research & development, wholesale, office, retail and other uses. They often serve a super-regional or Island-wide market. This analysis profiles market trends within the North Kona and South Kohala Districts also considered the PTA for light industrial and business park uses. However, the realized demand for such lands at Kaloko might be stronger than presented herein due to further potential interest from a broader market base.

This analysis does not consider industrial-uses or industrial-designated lands at military bases, harbors, universities or airports.

Market trends for light industrial warehouse buildings are reflective of the current economic downturn highlighted in the residential and commercial markets. The PTA as a whole reflected a 14% vacancy in total warehouse space as of the end of 2010, according to data provided by Colliers Monroe Friedlander (CMF). This is up significantly from an estimated 8% in 2008. Positive space absorption was however reported to have resumed in 2010.

Considering planned and entitled potential future developments, plus areas in current use, the PTA could have as much as 1,110 gross acres of private business or industrial park lands by 2045, assuming all future projects are developed to their estimated capacities and before 2045.

Due to the proximity of Kaloko Makai's designated light industrial and/or business park land uses to viable commercial centers of development, Kaloko Makai's limited light industrial and/or business park lands are poised as attractive market offerings, and offer considerable market synergy and contributory value to bordering commercial uses.

## Supply and Demand

The light industrial lands of the PTA are concentrated in North Kona District, which showed approximately 400 gross acres as of December 2010. This represented 82% of the total PTA supply of 490 acres. The majority of lands are situated along Queen Ka'ahumanu Highway and adjacent to Kaloko Makai, at Kaloko Industrial Park and Kohanaiki Business Park. Twelve percent of industrial lands remain un-built, according to County tax records, but may be encumbered with ground leases or otherwise in use.

There were about 620 gross acres of land entitled and planned for business park/industrial use in PTA as of December 2010, excluding lands at government-owned and operated facilities such as the Airport and harbors. As in the existing inventory, the largest areas entitled future inventory are also in the immediate vicinity of Kaloko Makai. These lands include West Hawaii Business Park, Kaloko Industrial Park Phase III and IV, and the Department of Hawaiian Home Lands (DHHL) Kalaoa lands.

Considering the potential future developments, plus areas already in use, the PTA could offer some 1,110 gross acres of private business or industrial park lands by 2045, assuming all future projects are developed to their estimated capacity by that date.

Demand for future business park/industrial lands in the PTA can be expected to stem from increases in civilian employment in the area, particularly in business and industrial categories such as energy production, construction, wholesaling and research and development.

Of the 490 gross acres supplied in the PTA in 2010, 440 gross acres are estimated to have been occupied. This would mean that in 2010, there was an excess supply compared to market demand.

The PTA is anticipated to support up to 1,160 gross acres of light industrial/business park lands by 2045, based on the projected rise in civilian employed persons in the PTA. Removing the existing and entitled potential future supply, the area is seen to be able to support an additional 50 to 120 gross acres of light industrial land.

## Kaloko Makai Proposal

The Kaloko Makai plan designates 75 acres of light industrial and/or business park land uses in the Special District located at its makai end fronting Queen Ka'ahumanu Highway.

Approximately 25 acres of these lands have been identified by the State Department of Transportation (DOT) for an eventual highway interchange at the entrance to the Project. Thus, industrial/business activity on those lands will be interim uses and only 50 gross acres (approximately 40 net usable acres after allowing for circulation and infrastructure) are seen as long-term light industrial land uses (see Table 2-5).

Due to the proximity of its designated light industrial or business park land uses to viable commercial centers of development, Kaloko Makai's limited light industrial/business park lands are poised as attractive market offerings, and offer considerable market synergy and contributory value to bordering commercial uses.

<b>Table 2-5 Projected Demand for Additional Light Industrial and/or Business Park Lands in the Primary Trade Area (gross acres)</b>			
	2016-2025	2026-2035	2036-2045
Net un-entitled demand at end of period*	100	120	50
Additional Supply from Kaloko Makai			
New Development (areas in use during each period)	25	50	50
Less DOT Interchange**	<u>0</u>	<u>-25</u>	<u>0</u>
Net Additional Supply at end of each period	25	25	50
Remaining unmet demand	0	-25	0
* In addition to existing light industrial areas and all entitled and planned areas in the Trade Area. ** Hypothetical timing of DOT interchange land acquisition Source: Mikiko Corporation, April 2012			

**2.2.2.4 Lodge and Business Center Market**

The Kaloko Makai Lodge and Business Center is proposed to cater to the business and leisure demands generated by other uses in Kaloko Makai and its surrounding area. It is envisioned to offer up to 120-rooms, a business center, and meeting and conference spaces.

**Supply and Demand**

Due to the small size and non-traditional market orientation of the proposed Lodge and Business Center, this assessment does not rely on a macro supply and demand analysis for the Island or region. Rather, the analysis considers visitor trends in the context of selected comparison hotel properties in Kona that appear to serve visitor markets such as those envisioned for Kaloko Makai.

While the Kaloko Makai Lodge and Business Center may attract first-time and repeat visitors coming to Kona, the focus of its marketing and operations targets visitors drawn to specific uses in the TOD, as well as visitors needing accommodations away from the traditional resort core (Kailua to Keauhou). The Kaloko Makai Lodge and Business Center will be primarily marketed to the following types of visitors:

- Kama’aina travelers
- Persons visiting family and friends in Kaloko Makai or neighboring areas
- Families/friends visiting people at the Hospital
- Visiting medical staff involved with the Hospital and Medical Complex
- Professionals and other parties to proceedings at the recently selected Kealakehe Judiciary site
- Airline crews needing accommodations easily accessible to Kona International Airport
- Airline commuters needing accommodations easily accessible to the Airport
- Budget-conscious business and leisure travelers wanting to avoid the core resort areas

- Youth and adult athletic teams wanting affordable accommodations away from resort areas

Focusing solely on hotel properties, Kona showed 2,519 rooms in the Hawaii Tourism Authority's (HTA) 2010 inventory. Approximately 51% of these units are classified as deluxe or luxury units. A few Kona hotels also cater to and attract a fair share of interisland and value-oriented travelers, particularly those not seeking a resort vacation experience. These hotels offer favorable price points for the traveler who does not need a resort experience and prefers value and convenience.

Based on HTA's 2009 data on out-of-State travelers to Kona, selected statistics of interest to the market segments proposes for the Kaloko Makai Lodge and Business Center are summarized below:

- Kona area hosted 6.8 million visitor-days in 2009, of which 88% were domestic travelers and 12% international.
- The average out-of State traveler party size was 2.1 persons.
- 39% traveled on group, package or group and package arrangements, while 61% were independent travelers.
- 49% stayed in hotels, while 9% stayed with friends or relatives, and 15% in a rental house, B&B or cruise ship.
- Approximately 14% of visitors traveled to conduct business (other than those reporting travel for meetings, conventions and incentive events, referred to as "MCDI"), visit friends and relatives, attend sporting events or other miscellaneous purposes, including those travelling on government, military, or school business.

In context, this "non-pleasure" and "non-MCI"(meetings, conventions and incentives) market could theoretically require some 1,000 accommodation units per day, a good share of which is likely to be with friends and relatives or in other non-traditional or non-commercial accommodations. However, the remainder of this sizeable market patronizes area hotels and other commercial accommodations for their overnight stays, and is representative of the markets being targeted by Kaloko Makai. Inter-island business and other travelers are not counted in the HTA data and represent a significant expansion of this potential market.

### **Kaloko Makai Proposal**

The Kaloko Makai Lodge and Business Center is proposed to cater to the business and leisure demands generated by other uses in Kaloko Makai and its surrounding area. It is envisioned to offer up to 120-rooms, a business center, and meeting and conference spaces. The business center could provide "an office away from home", with a range of services and amenities.

The Kaloko Makai Lodge and Business Center concept is to focus on local, business and other market sources that seek convenient access and value-based rates over resort and recreational facilities.

#### **2.2.2.5 Kona Community Development Plan**

The County of Hawai'i General Plan section 15.1 (February 2005, as amended) calls for the preparation of community development plans "to translate the broad General Plan statements to specific actions as they apply to specific geographical areas." The General Plan requires CDPs be

adopted as an “ordinance”, giving the plans force of law. The CDPs are long-term plans with a planning horizon to the year 2020, consistent with the General Plan.

The Hawai‘i County Planning Department recognized that only with broad public input can the Kona residents take ownership of the Kona Community Development Plan (CDP,) by which they may embrace the vision and commit to a better future. Initiated in September 2005, this plan is the result of an extensive public process. Community outreach included public meetings, more than 100 small group meetings, workshop, charrettes, working group meetings and steering committee meetings.

The Kona CDP was adopted by County Council via ordinance in September 2008. The purposes of the Kona CDP are:

- Articulate Kona’s residents’ vision for the planning area;
- Guide regional development in accordance with that vision, accommodating future growth while preserving valued assets;
- Provide a feasible infrastructure financing plan to improve existing deficiencies and proactively support the needs of future growth;
- Direct growth to appropriate areas;
- Create a plan of action where government and the people work in partnership to improve the quality of life in Kona for those who live, work, and visit;
- Provide a framework for monitoring the progress and effectiveness of the plan and to make changes and update it, if necessary.

The Kona CDP recognizes that the General Plan Land Use Pattern Allocation Guide’s (LUPAG) Urban Area is larger than needed in order to accommodate the projected growth within the planning horizon, so it emphasizes that future growth within the urban area is encouraged in a pattern of compact villages at densities that support public transit.

Transit-Oriented Developments (TODs) and Traditional Neighborhood Developments (TNDs) are identified as the planning tool to manage this anticipated growth within the defined "Kona Urban Area." The Kona CDP defines these as compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4-mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2-mile).

The distinction between a TOD and TND is that the approximate location of a TOD is currently designated on the Official Kona Land Use Map along the trunk or secondary transit route and contains a transit station, while TND locations have not been designated and may be located off of the trunk or secondary transit route at a location approved by a rezoning action.

TODs integrates housing, employment, shopping and recreation opportunities. Villages would be designed around transit stations/stops which would reduce the need for daily trips and financially support the expanded transit system. TOD Urban Villages are located a minimum of one mile apart, between major transit stations, along Keohokālole Highway trunk route in order to preserve the transit efficiency of this route.

Transect Zones (T-Zones) organize the density, complexity and intensity of the land use within the TOD Village. The operating principle is that there is an urban core with a main center focus such as a transit station and plaza. This urban core area, which is spatially defined based on walkable distances called Pedestrian Sheds, has the highest density, complexity, and intensity of uses. The land uses transition to less dense uses moving away from the center.

The Kaloko Makai project was conceived, planned and designed to be consistent with the Hawai'i County *General Plan*, the *Keāhole to Kailua Development Plan* (K-to-K Plan) and the *Kona CDP*. Kaloko Makai is situated in the Kona Urban Area of the Kona CDP and Urban Expansion Area in the General Plan and serves to implement these planning documents.

Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, and a variety of businesses and employment opportunities, to include a potential urgent care medical facility, together with land available (at no cost) for a new Kona regional hospital.

Kaloko Makai has been designated as a Neighborhood Transit Oriented Development (TOD) in the Official Kona Land Use Map of the *Kona CDP*.

Kaloko Makai supports many of the Guiding Principles of the Kona CDP. Further discussion on how Kaloko Makai supports the Kona CDP's Guiding Principles is included in Section 5.2.3.1.

Kaloko Makai is situated in a region that is rapidly developing, with immediate access to Kona International Airport and is adjacent to the well established commercial and light industrial-service centers of North Kona and Kailua Kona which serve the needs of the visitor, agriculture, ranching, and technology industries, among others, which populate the western half of the island.

The Kona CDP notes (among other incentives described in the Kona CDP and is associated documents) the following incentives, as described in the calibrated Village Design Guidelines, a part of the Kona CDP):

- Expedited Review. Within ninety (90) days after a project district application has been accepted by the Planning Director, the Director shall forward the application to the Planning Commission.
- Environmental Review Concurrent Processing. The Planning Director shall enable and allow the Applicant to concurrently process the environmental document according to the procedures of HRS Chapter 343.
- State Land Use Boundary Amendment Concurrent Processing. If a State Land Use District Boundary Amendment is necessary, the Planning Director may accept the application, review the application to determine consistency with the decision criteria, suspend the processing of the Project District until a decision is made by the State Land Use Commission and express the County's support of the application before the State Land Use Commission as consistent with the County of Hawai'i CDP and County of Hawai'i General Plan. The

Project District process may then immediately resume upon favorable approval by the State Land Use Commission.

- Village Design Zones and Rebuttable Presumption. The Planning Director, Planning Commission and County Council shall review a Village Design Zone Project District application with a rebuttable presumption that the project furthers the Purpose of Chapter 25 Zoning Code and is consistent with the goals, objectives, and policies of the County General Plan and County of Hawai'i CDP, provided that the proposed location is generally consistent with the Official County of Hawai'i Land Use Map and the master plan consistent with the Village Design Zone.

In addition, Policy LU-2.6: TOD/TND Public Infrastructure and Facilities, states: "To encourage the development of TODs and TNDs, public financing sources shall pay 100% for:

- Major proposed trunk transit route,
- A transit station (or transit station component if the transit station is part of a private mixed-use project) within the Urban Core ,
- A major park or plaza within the urban core.

Likewise, the Kona CDP states: "Public Financing of Infrastructure. In recognition of the regional benefits of major roads and transit stations, these types of improvements within TODs shall be funded with general revenue funding sources." (Kona CDP, Page 4-34).

The Planning Director, Planning Commission and County Council shall review the TOD application with a rebuttable presumption that the project furthers the intent of Chapter 25 Zoning Code and is consistent with the goals, objectives, and policies of the County General Plan and Kona CDP, provided that the proposed location is generally consistent with the Official Kona Land Use Map and the master plan consistent with the Village Design Guidelines.

### **2.3 KALOKO MAKAI DESCRIPTION**

Kaloko Makai will consist an approximately 1,139 acre master planned, mixed-use community village that integrates diverse housing offerings, mixed-use commercial and retail growth and employment opportunities, and a range of community services and facilities (inclusive of medical, lodging, and civic uses as well as recreational opportunities). Kaloko Makai is planned to have approximately 5,000-single and multi-family units, up to 600,000 square feet of gross leasable area for commercial (office and retail) uses, a 120-room Lodge and Business Center, 75-acres of light industrial uses, three public school sites and a 150-acre Dryland Forest Preserve, with additional park and open space uses. Kaloko Makai will also provide 40-acres of land to be used for the development of a regional hospital. However, if the land is not used for a regional hospital Kaloko Makai will remain as a Neighborhood TOD and still have 5,000 housing units and 600,000 sq. ft. for commercial use (see Chapter 7 for further discussion).

The residential units (single-family and multi-family) will be offered at a range of densities, types and affordability. The project include centralized commercial and neighborhood centers, recreational facilities (e.g. parks, trails, open spaces), urgent care medical facility, two Elementary Schools, a

Middle School and associated infrastructure (e.g., new roadways, utilities, drainage, wastewater and potable water distribution systems) (see Figure 2-11). Affordable housing will be provided on-site in accordance with County of Hawai'i requirements.

Kaloko Makai has been designated as a Neighborhood TOD in the Official Kona Land Use Map of the *Kona CDP*, as shown in Figure 2-9. The Kaloko Makai project was conceived, planned and designed to be consistent with the Hawai'i County *General Plan*, the *K-to-K Plan* and the *Kona CDP*.

### **2.3.1 Key Components within Kaloko Makai**

The site is approximately 1,139-acres, extending mauka from Queen Ka'ahumanu Highway. The Queen Ka'ahumanu portion is located just north of the existing Kaloko Industrial Park. Hina Lani Street forms the southern (Kailua-side) border of the lower part of the property, and the upper part includes land on both sides of Hina Lani Street. Table 2-6 illustrates the proposed Conceptual Land Use Plan in three phases (proposed land use categories and acreages) (see Figures 2-12 – 2-14).

Residential components in Kaloko Makai follow a mixed-use, compact development theme and are responding to the need for a broad spectrum of affordability in housing, with a wide range of housing alternatives in transit efficient and pedestrian-oriented, neighborhoods.

#### **2.3.1.1 New West Hawai'i Regional Acute Care Hospital/Medical Center at Kaloko Makai**

The *Kona CDP* as well as residents interviewed for the Social Impact Assessment prepared for this Second Draft EIS (Appendix O) identified the need for a new, centrally-located acute care hospital in North Kona. The *Kona CDP* states that the new hospital should be located on Keohokālole Highway (Mid-Level Road) for optimum accessibility by automobile or transit.

Given the level of existing development in the Kona region and the proposed growth called for in the Kona CDP, the appropriate location is in the growing region between Kailua-Kona and the Kona Airport.

Kaloko Makai is strategically located to incorporate the new hospital into its master plan and is actively pursuing a hospital developer/operator for the new facility. The Kaloko Makai development seeks to have a hospital developed within the project on a 40-acre site along Ane Keohokālole Highway. The site will also have access to Queen Ka'ahumanu Highway via Hina Lani Street and interconnecting roads (possibly also through adjoining Kohanaiki Business Park).

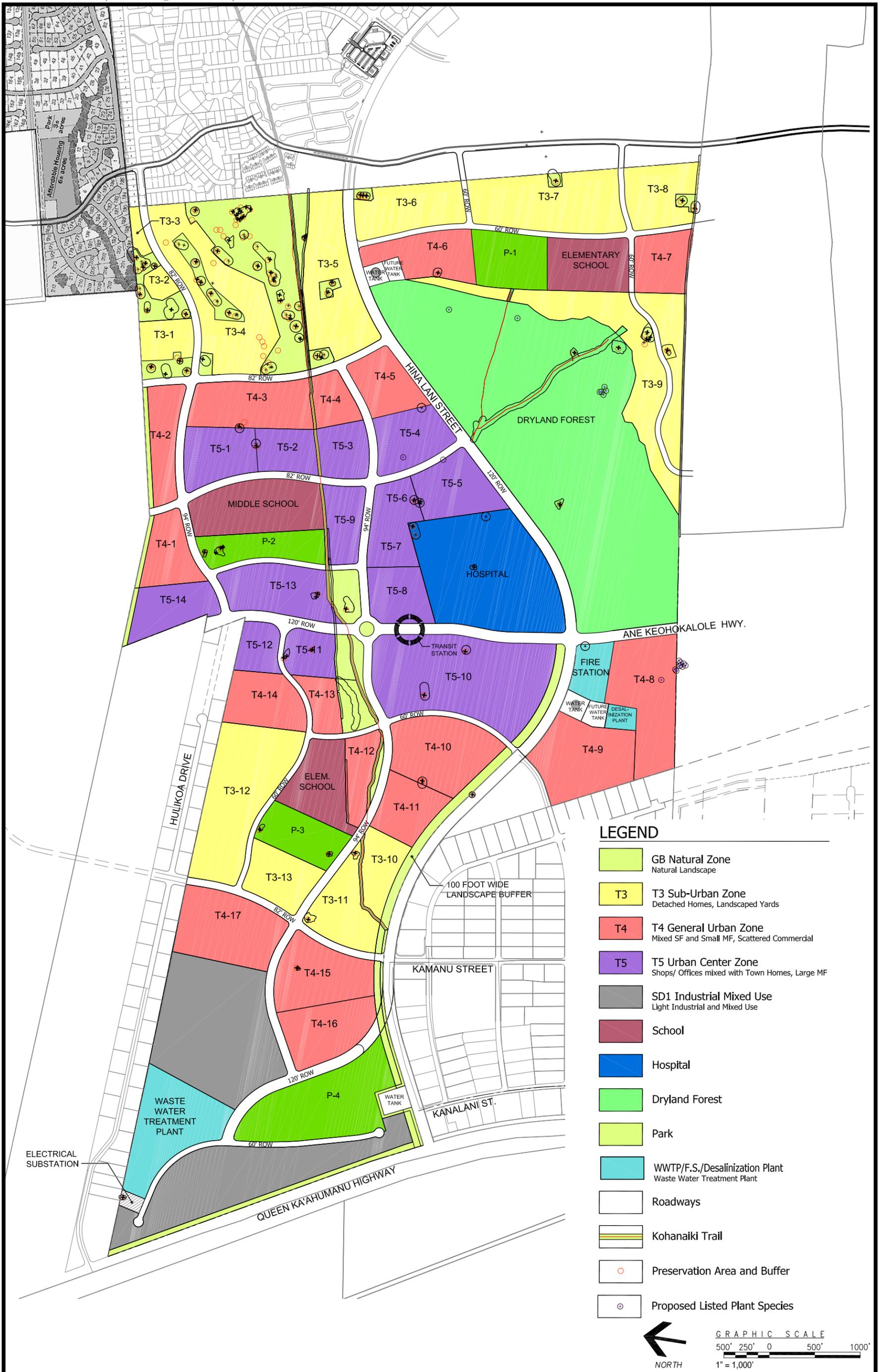
In the event a hospital developer and operator is not arranged for the 40-acre site noted in the project site plan, then the residential units and commercial square footage will be reallocated throughout the area identified as Phase 1 (see Figure 2-15). The means there will be a slight reduction in densities in some of the existing residential and commercial properties in Phase 1. There will be no change in residential unit count or commercial square footage in each of Phases 1, 2 and 3, or the entire project.

Whether a hospital developer/operator comes forward or not, the Kaloko Makai TOD will remain as a Neighborhood TOD (consistent with the Official Land Use Map of the Kona CDP) and its uses in the

“neighborhood” and the project will not be developed as a Regional TOD. If the hospital is included, a portion of the commercial space in the project will support it. If the hospital is not included then some of the proposed space will address regional medical needs, as well as other commercial

Land Use Type	Estimated Area (Acres)	Units	Retail/Commercial (SF)
<b>Phase 1</b>			
Urban Center (T5, high density)	92.9	1,153	395,000
General Urban (T4, med. density)	55.9	504	35,000
Sub-Urban (T3, low density)	19	95	--
Schools	18	--	--
Lodge and Business Center	5	--	--
Natural Zone (Open Space, Landscape Buffers)	21.9	--	--
Parks	35	--	--
Wastewater Treatment Plant	21	--	--
Special District	25	--	--
Hospital	40	--	--
Roadways	45	--	--
Dryland Forest	150	--	--
Phase 1 Total	523.7	1,752	430,000 SF
<b>Phase 2</b>			
Urban Center (T5, high density)	58.6	917	80,000
General Urban (T4, med. density)	95.2	802	50,000
Sub-Urban (T3, low density)	38.4	231	--
Schools	12	--	--
Special District	25	--	--
Natural Zone (Open Space, Landscape Buffers)	16.1	--	--
Parks	10	--	--
Roadways	27.2	--	--
Phase 2 Total	282.5	1,950	130,000 SF
<b>Phase 3</b>			
Urban Center (T5, high density)	0	0	--
General Urban (T4, med. density)	59.8	638	40,000
Sub-Urban (T3, low density)	143.8	660	--
Infrastructure Facilities (Desalination Plant, Fire Station, Water Tanks)	9.2	--	--
Schools	12	--	--
Natural Zone (Open Space, Landscape Buffers)	48.8	--	--
Parks	11.2	--	--
Special District	25	--	--
Roadways	23	--	--
Phase 3 Total	332.8	1,298	40,000 SF
Total	1,139	5,000	600,000 SF

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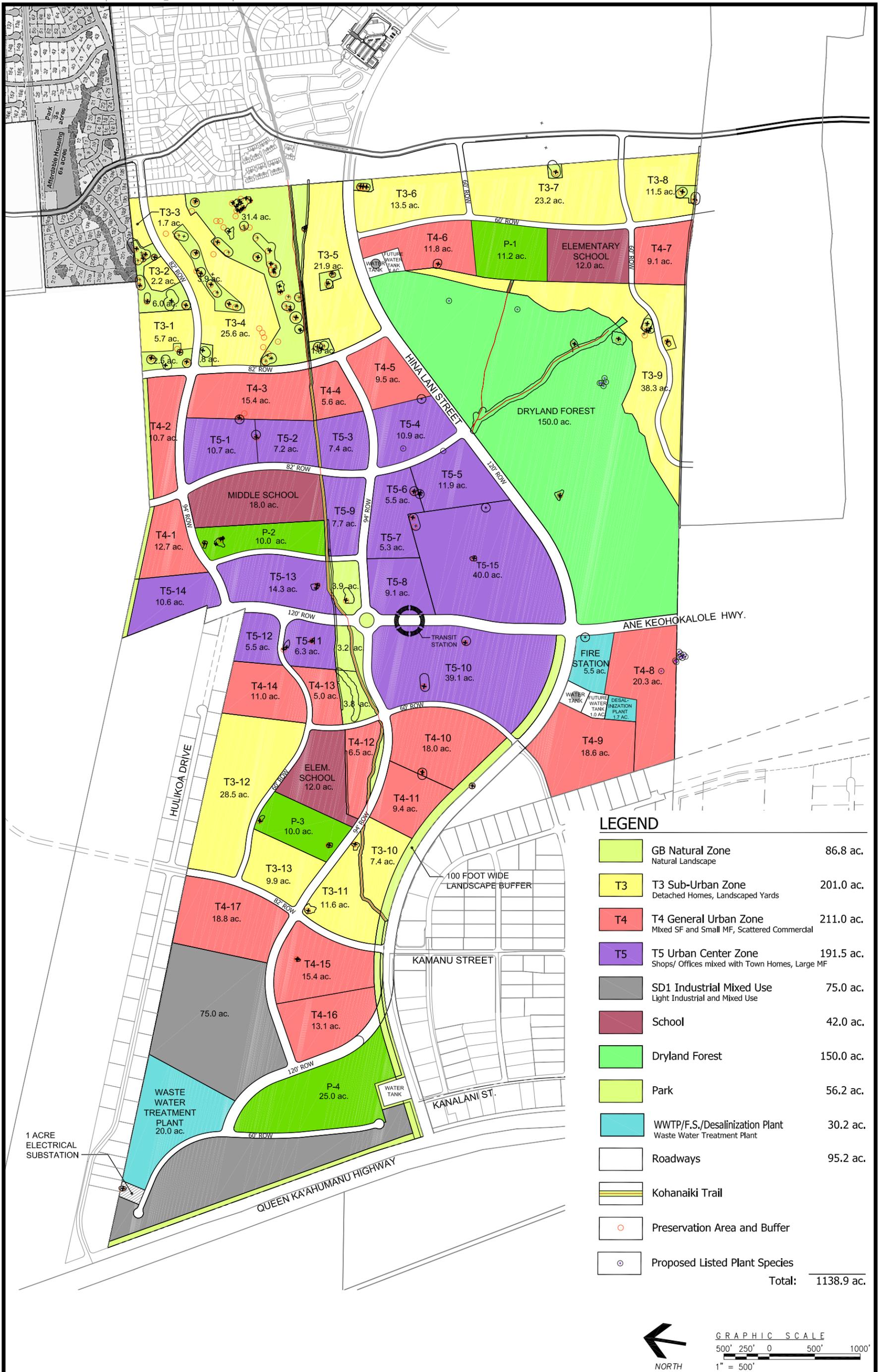


**FIGURE 2-11**  
**Kaloko Makai Overall Land Use Plan**  
*Kaloko Makai*









**FIGURE 2-15**  
**Kaloko Makai Overall Land Use Plan Without Hospital**  
*Kaloko Makai*

demands. In addition, commercial core uses (recreational space, small-scale public/civic uses, office, retail, mixed-use, etc) will serve the needs of the immediate community (Kaloko Makai,) as well as neighboring communities.

A new regional hospital for Kona is projected to need approximately 100-150 total beds (with 150 targeted - which will include between 50-70 beds for medical surgery) to serve the growing West Hawai'i population.

The urban core area of Kaloko Makai will be support medical facilities (i.e. doctors' offices and other medical support), as well as offices, commercial, retail, mixed-use and residential to service the immediate and surrounding community. These uses are consistent with and implement the recently adopted Kona CDP.

As previously mentioned, Kaloko Makai will set aside approximately 40-acres of land, which Kaloko Makai is prepared to transfer at no cost to a hospital developer/operator. This proposal does not suggest Kaloko Makai will construct, pay for and operate a full hospital facility. Cost of construction of a new hospital is approximately \$2.5- to \$3-million per bed (construction and equipment); so, the estimated overall cost for a new regional hospital is approximately \$300- to \$500-million.

The new hospital construction at Kaloko Makai will very likely be done in phases with the possibility of developing an urgent care/out-patient emergency center first, then phasing, over time, into a full hospital/medical center facility with associated medical services, including long-term care. Ultimate build-out and operation of a hospital will likely involve a public-private partnership.

#### **Phase-in to Hospital/Medical Center Facility**

It is expected that a hospital developer/operator will initiate and pay for the planning and certificate of need permitting process for the new hospital. This planning and permitting is expected to take approximately 2 to 5-years, at a cost of approximately \$10-\$20-million.

#### **Initial Clinic and Urgent Care Facility**

Initially, within the first phase of the Kaloko Makai project, Kaloko Makai will seek to incorporate a physicians' clinic and "urgent care" facility with diagnostics, possibly CT Scan and X-ray, and a mini-lab. While Kaloko Makai will set aside approximately 40-acres of land for the facility, it will be constructed and operated by others.

The goal is to incorporate a Clinic and Urgent Care facility, with approximately 8,000 to 10,000-square feet, allowing for approximately 5,000-square feet for the urgent care needs and additional 1,000-square feet per doctor in the clinic. The overall cost is estimated to be approximately \$8- to \$10-million. This stand-alone facility will serve as the initial medical service facility for the project and can provide services to the growing community as the permitting and construction go on for the larger acute care hospital/medical center.

Kaloko Makai will seek initial medical services that will include Family Practice, Pediatricians and Primary Care, in addition to out-patient emergency and surgical services. The facility will likely be

associated with a physician group clinic such as the Ali'i Health physicians group or other similar type of association of physicians.

Based on the anticipated population within the Kaloko Makai project (approximately 12,000 to 15,000-people,) the initial clinic will need about 2-3 family physicians but will be flexible in design to grow as the need increases. As the surrounding project grows and neighboring developments come on-line, additional doctors and services could be added.

### **Potential Hospital Developers**

Several entities have been pursued to develop the hospital facility. Possible developers could include Hawaii Health Systems Corporation (HHSC,) Hawaii Pacific Health (Straub), Queens Health Systems, Kaiser Permanente, Adventist Health (Castle Medical Center,) Kuakini Health System, Quorum Health Resources (North Hawaii Community Hospital), etc.

Since the existing hospital in Kona (Kona Community Hospital) is under the direction and control of HHSC, Kaloko Makai representatives have been in regular discussions with management of that facility and leadership within HHSC. Kaloko Makai initiated discussion with HHSC because development and operation of a new hospital will affect the Kona Community Hospital. The intent is to work with HHSC and Kona Community Hospital in a collaborative, rather than competitive, approach for the new Hospital. Kaloko Makai will continue dialog with Kona Community Hospital and HHSC leadership and others on the future planning for the new regional hospital/medical center at Kaloko Makai.

Part of these discussions led to a May 23, 2011 letter from Stanford Carr to Bruce Anderson, President and CEO of HHSC where land was offered to HHSC for a new hospital. In part, the letter states, "This letter is to confirm that SCD - TSA Kaloko Makai LLC is willing to convey to the State, HHSC or other appropriate entity, at no cost, 40-acres of land within the Kaloko Makai project for a new regional acute care Hospital."

The letter from Stanford Carr to Bruce Anderson, offering the land to HHSC, goes on to state:

"As noted in the recently adopted Kona Community Development Plan (Kona CDP,) Kona needs a new hospital to replace its existing outdated and out-of-place facility. The Kona CDP states that the new hospital should be located on the Ane Keohokālole Highway (mid-level road) for optimum accessibility by automobile or transit in this future growth area."

"Given Kaloko Makai's placement on Ane Keohokālole (the region's primary trunk transit corridor,) designation as a Transit Oriented Development (TOD) in the Kona CDP (with a rebuttable presumption of land use conformity,) available land for Hospital use, as well as available surrounding land that is planned for commercial office and related uses that can support a Hospital medical complex, the Kaloko Makai site is an excellent choice for a new Kona acute care Hospital."

"As was discussed with our representatives, the Kaloko Makai project layout positions the Hospital complex on Ane Keohokālole Highway. In addition, our proposed layout surrounds

this site with supporting commercial uses. We have discussed these uses with the Hawai'i County Planning Department and others within the Kona Design Center and have received favorable comments regarding our project layout and proposed uses."

In response to this letter, HHSC CEO Bruce Anderson stated in a July 20, 2011 letter to Stanford Carr:

"On behalf of the Hawai'i Health Systems Corporation Board of Directors, I want to express our appreciation and assure you that we are taking your offer seriously and are excited about the prospect of a future new facility at Kaloko Makai."

"The need for a new facility is recognized in the West Hawai'i Region HHSC Strategic plan. The suggested start date for planning such a facility in this plan is 2012. The proposed site is also consistent with the Kona Community Development Plan. Therefore, pursuant to your offer, the HHSC West Hawaii Regional System Board has directed its Strategic Planning Committee to evaluate your offer and the proposed site for a new hospital."

"We agree with you that a new regional hospital at Kaloko Makai would likely replace some of the services that are presently provided at Kona Community Hospital. It is envisioned that the existing facility will remain open, transitioning from providing mostly acute care to long-term care, as well as providing other medical services to the South Kona community."

"We appreciate the time your staff has given us in describing the project and the proposed hospital site and we look forward to continued discussions on this exciting opportunity."

Kaloko Makai representatives have met with and presented information on the Kaloko Makai project to the HHSC West Hawai'i Regional Board and the West Hawai'i Regional Board Strategic Planning Committee. Those discussions are on-going.

During the Draft EIS process, Kona Community Hospital, HHSC submitted a letter, dated September 6, 2011, determining a hospital within the Kaloko Makai development is appropriate. In addition, in that letter, Kona Community Hospital, HHSC stated, "Relative to this, please use this letter as confirmation of our request to relocate the hospital site within the Kaloko Makai project to the north-mauka corner of the Hina Lani Street/Ane Keohokālole Highway intersection. We believe this is the appropriate location for the hospital and we are hopeful that it does not complicate nor negatively impact the project planning for Kaloko Makai." (see Appendix S).

Per the request, Kaloko Makai adjusted its site plan to accommodate the request by Kona Community Hospital, HHSC and moved the hospital location to the north-mauka corner. Kaloko Makai will continue dialog with Kona Community Hospital and HHSC leadership and others on the future planning for the new regional hospital/medical center at Kaloko Makai.

### **2.3.1.2 Lodge and Business Center**

The 120-unit Lodge and Business center will encompass approximately 5-acres of land. The Lodge and Business Center will be located at the TOD village core and cater to the business market. It's

location within the core provides convenient walking access to the uses and activities, including the transit station.

The Kaloko Makai Lodge and Business Center will provide accommodations, restaurant services and business services in conjunction with the general business/leisure demands generated by the uses in the Kaloko Makai TOD and the surrounding community. In addition, families and friends of patients, as well as visiting physicians and others associated with the Hospital, will have easy and convenient access to lodging near the Hospital. This can include out-of-town visitors, as well as local residents who want to be immediately near their loved ones in the hospital.

Likewise, the recently selected Kealakehe Judiciary site will periodically draw attorneys, parties to cases, friends and family, and others associated with the activities of the Judiciary Complex who do not live in the immediate vicinity of the complex. Whether the hospital is located in Kaloko Makai project area or not, hospital uses are anticipated in the region and the Kaloko Makai Lodge and Business Center will serve its needs.

The Business Center could provide “an office away from home”, with a range of services and amenities such as:

- Conference or meeting rooms
- Copying, scanning and digital printing services
- High-speed internet and Wi-Fi services
- Equipment rentals
- Videoconferencing
- Courier delivery services; full range of ground and express shipping service
- Notary service

With the higher density and extensive commercial uses in the Kaloko Makai TOD, the Lodge and Business Center will serve the immediate and surrounding business and leisure needs.

### **2.3.1.3 Commercial**

Kaloko Makai proposes up to 600,000 square feet of gross leasable area of various commercial uses at Kaloko Makai, including retail and office. This will include spaces in shopping centers, retail and office uses, and mixed-use developments. The first finished commercial building products are assumed to be available for use within 10 years of approved SLUBA.

### **2.3.1.4 Light Industrial**

The Kaloko Makai plan designates 75 acres of light industrial and/or business park land uses in the Special District located at its makai end fronting Queen Ka’ahumanu Highway.

Approximately 25 acres of these lands have been identified by the State Department of Transportation (DOT) for an eventual highway interchange at the entrance to the Project. Thus, industrial/business activity on those lands will be interim uses and only 50 gross acres

(approximately 40 net usable acres after allowing for circulation and infrastructure) are seen as long-term light industrial land uses.

### **2.3.1.5 Schools**

Kaloko Makai is setting aside approximately 42 acres for two elementary schools and one middle school, (typical school playgrounds are included in the school sites). In addition to the school sites, the project includes approximately 10-acres of additional recreational space adjoining each of the Kaloko Makai School sites. This additional area will be available for civic, community recreation, meeting and other uses.

### **2.3.1.6 Parks and Open Space/Buffers**

Approximately 56 acres of park space is planned, including the 30-acres of park space adjoining each of the Kaloko Makai school sites and a 25-acre park.

In addition to park space, there will be approximately 86 acres of natural zones (open space and landscape buffers) consisting of the preservation of the Kohanaiki Trail (Road to the Sea) with 10 foot buffers on either side of the alignment, Green Belt along a portion of Hina Lani Street, Queen Ka'ahumanu Highway, and portion of northern boundary of project site. Other significant archaeological features are found in the northwest section of the property. In order to preserve and protect these features, the area will be left as open space, with pockets of low-density residential interspersed in the area. Buffers will also be established for archaeological sites, burials and endangered plants.

### **2.3.1.7 Kaloko Dryland Forest**

The Kaloko region is home to one of the largest remaining areas of Dryland Forest in the Hawaiian Islands. The Kaloko Dryland Forest is unique in that it has not been heavily impacted by ungulates, and therefore, has minimal impact from alien plant species. The Dryland Forest crosses over several ownership boundaries) of an `a`ā lava flow that is much younger than the surrounding pāhoehoe flow.

As part of the project proposal, 150-acres will be set aside as the Kaloko Makai Dryland Forest Preserve, in Phase 1 of the project. Through the establishment of this preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity.

### **2.3.1.8 Kohanaiki Trail**

Kohanaiki Trail ("Road to the Sea" Trail) is a long mauka/makai running trail originating in the Kohanaiki Homesteads. Generally, the trail parallels the nearby Kaloko/Kohanaiki ahupua'a wall, on the Kohanaiki side.

The trail entirely traverses pāhoehoe and is generally well defined throughout the eastern portion of the parcel, except near the makai parcel boundary where extensive bulldozing and grading has nearly destroyed the ahupua'a wall and eliminated any definitive sign of the trail.

The trail is very consistent with the route identified on Emerson's mapping in 1888 and 1889. The present archaeological review for the Kaloko Makai project suggests that the specific route shown on an earlier map, Emerson's RM 1280, is highly schematic. Cultural Surveys prepared a sketch of a hypothesis of the alignment of the Kohanaiki Trail informed by the archaeology observed by them on the ground, a detailed consideration of historic maps (including Emerson) and archaeological data created by others (Donham (1986), Renger (1971), and Cordy et. al (1991)) makai of the Queen Ka'ahumanu Highway (and in consideration of modern aerial photographs).

Where the Trail intersects with Hina Lani Drive, Kaloko Makai will realign the remaining lower portion of the Trail from that point to run parallel with and adjoining the Hina Lani Street right-of-way down to Queen Ka'ahumanu Highway. Since the integrity of the historic trail is lost at that point due to the prior construction for Hina Lani, the adjoining industrial subdivision and the water tank, Kaloko Makai will realign the trail and have it run down the southern boundary of the property (fronting Hina Lani,) from the point of intersection with Hina Lani down to Queen Ka'ahumanu Highway. This alignment gives the users of the trail easy access to cross Queen Ka'ahumanu or Hina Lani at the bottom, as there are crosswalks with crossing signals at that point.

Kaloko Makai will incorporate the Kohanaiki Trail as an integral component of the project. The trail and buffers will be approximately 30-feet wide. Kaloko Makai will also incorporate two trails that run through the Dryland Forest.

### **2.3.1.9 Core Infrastructure**

The following will address the core infrastructure components in the Kaloko Makai project, the Circulation and Roadways, Potable Water and Wastewater Treatment.

#### **2.3.1.9.1 Circulation and Roadways**

Kaloko Makai will incorporate a system of interconnected roads that will provide residents alternative transportation routes within the project. The internal circulation pattern will provide safe and convenient choices for drivers, bicyclists and pedestrians. Neighborhoods will be interconnected to popular destinations and neighborhood cores (such as the transit station, hospital, shopping, schools and parks,) as well as the surrounding secondary areas. There will be several interconnections with neighboring properties.

Queen Ka'ahumanu, which runs parallel to the coast, is the main arterial roadway between North Kona and South Kohala. The highway is a two-lane, two-way highway with shoulders. The existing highway right-of-way ranges from 80-feet (from Palani Road to the Honokōhau Boat Harbor) to 300-feet (from the Harbor to Kona International Airport).

Present improvement projects are expanding Queen Ka'ahumanu to a four-lane divided highway from Honokōhau Harbor north to the Kona International Airport. Very long-range DOT plans note that Queen Ka'ahumanu could be expanded to 6 or more lanes and revert back to limited access status. In those long-range plans, the present signalized intersection at Hina Lani Street is proposed

to be realigned as a grade separated interchange (no specific plans or budgets are in place, or anticipated in the foreseeable future for this subsequent expansion on the highway).

Kaloko Makai does not propose any additional intersection with Queen Ka'ahumanu Highway. Internal road systems in the makai portion of the Kaloko Makai project are aligned to accommodate interchange and frontage road requirements for the future expansion of Queen Ka'ahumanu Highway. This area will have interim industrial uses. If and when DOT requires the land for the interchange, arrangements can be made for transfer of the land at that time.

Mauka-makai roads through the project will connect to Kaloko Heights and allow for alternative travel over the existing Hina Lani Street. A new mauka-makai corridor will bisect the Kaloko Makai project and intersect with Ane Keohokālole Highway. A transit station will be constructed near this intersection, allowing for easy and convenience access to the transit station from throughout the project.

Ane Keohokālole Highway has been constructed from Palani Road to Hina Lani Street and serves as a north-south highway through the Kona Urban Area. It will be the primary trunk transit route for multi-modal transportation for future regional development in this region of North Kona.

As part of the Project, Ane Keohokālole Highway will be extended from Hina Lani Street to Hulikoa Drive. A full signalized intersection is also proposed at the Ane Keohokālole Highway and Hina Lani intersection.

As noted in the Kona CDP (Policy LU-2.6: TOD/TND Public Infrastructure and Facilities) to encourage the development of TODs and TNDs, public financing sources shall pay 100% for major proposed trunk transit route and a transit station (or transit station component if the transit station is part of a private mixed-use project) within the Urban Core. Likewise, the Kona CDP states: "In recognition of the regional benefits of major roads and transit stations, these types of improvements within TODs shall be funded with general revenue funding sources" (Kona CDP, Page 4-34).

Presently there is no interconnection available to Hulikoa Drive; however, an access easement to service a water tank at the top of the road/subdivision may ultimately be widened and dedicated to accommodate a full intersection and access for Hulikoa Street and Ane Keohokālole Highway.

Kaloko Makai will work with the County and adjoining landowner and developer of the Kohanaiki Business park to seek and implement an interconnection of Ane Keohokālole Highway with Hulikoa Street.

Kamanu Street serves the Kaloko Industrial Park Phases I – IV across the street from Kaloko Makai. Several area planning documents (K-to-K Plan and Kona CDP) call for "Main Street" in this area, with an extension of the existing Kamanu Street (to be renamed Main Street) through Kaloko Makai and its adjoining properties as it heads north.

Pursuant to zoning change ordinance (Ord. 02-114), TSA, owner of Kaloko Industrial Park Phases III and IV of the expanding Kaloko Industrial Park, implemented intersection improvements at Kamanu

Street and Hina Lani Street, including a dedicated left turn deceleration, storage and refuge lane on Hina Lani and a dedicated northbound median left turn lane on Kamanu Street.

Kaloko Makai will extend Kamanu Street (“Main Street”) from Hina Lani Street to Hulikoa Drive. This extension will provide connection to future projects north of Kaloko Makai. Kamanu Street will be an 82-foot right-of-way with two-lanes in two-directions.

Other roadway improvements near or adjacent to Kaloko Makai are proposed as part of other projects and are further discussed in Chapter 4.

Kaloko Makai proposes several other intersections with Hina Lani Street: two additional intersections are proposed makai of the Ane Keohokālole Highway and three intersections are proposed mauka of Ane Keohokālole Highway.

In addition to the full intersection at Hina Lani Street and Kamanu Street, Kaloko Makai proposes a proposed “T” intersection that primarily serves the Makai Elementary School and adjacent park. This intersection is not proposed to be signalized at this time; however, mauka-bound traffic making a turn into Kaloko Makai will have an exclusive left turn lane on Hina Lani Street. Makai-bound traffic making a right turn into the TOD will have an exclusive right turn deceleration lane. As this is an unsignalized intersection, with no protected left turn signal phasing, mauka-bound vehicles turning left from Hina Lani Street into Kaloko Makai must yield to the oncoming traffic and wait for a suitable gap to complete the left turn maneuver safely.

Above Ane Keohokālole Highway, there are two similar “T” intersections with Hina Lani Street, one primarily serves the Middle School and adjacent park, and the other serves as an alternate route into and around the TOD. These intersections are not proposed to be signalized at this time; however, mauka-bound traffic making a turn into Kaloko Makai will have an exclusive left turn lane on Hina Lani Street. Makai-bound traffic making a right turn into the TOD will have an exclusive right turn deceleration lane. As these are unsignalized intersections, with no protected left turn signal phasing, mauka-bound vehicles turning left from Hina Lani Street into Kaloko Makai must yield to the oncoming traffic and wait for a suitable gap to complete the left turn maneuver safely.

There is a slight difference for the intersection that primarily serves the Middle School. The intersection with Hina Lani Street will be in the immediate vicinity of the two trails that cross the Dryland Forest, leading to the Mauka Elementary School/Park TND. A pedestrian cross signal and cross walk are proposed at this intersection for safer, easier crossing by pedestrians who are traveling between the Kaloko Makai TOD and TND. In the event a mauka-bound automobile is waiting in the exclusive left turn lane at the time of the signal allowing pedestrians to cross, it will be able to take advantage of the stopped makai-bound traffic and make the left turn at that time.

A final proposed intersection on Hina Lani Street is in the vicinity of the mauka water tank site. This intersection serves to link the Mauka Elementary School and adjacent park with the rest of the project. This intersection may be signalized. If signalized, this intersection will give others going to/from the TOD an alternative signalized intersection and will have exclusive left turning lanes for makai-bound traffic.

### 2.3.1.9.2 Drinking Water

Drinking water use for Kaloko Makai will be limited to consumption, general household and commercial use and irrigation of landscaping within individual lots. The drinking water demand for Kaloko Makai at full build-out is estimated to be approximately 2.18-mgd (average daily demand) and 3.28-mgd (maximum daily demand.)

As an overarching philosophy in all source alternatives, Kaloko Makai is committed to water conservation strategies to reduce consumption, conserve resources and minimize water use. The goal is to reduce the total water use through a combination of water saving equipment and strategies.

Per the Kona CDP, Policy PUB-4.1: Water for TODs - "To encourage and direct development to the TODs, a priority shall be to provide an appropriately sized water transmission line within the Keohokālole Highway Corridor, and to flexibly enable water allocation policies to support the Kona CDP land use policy to concentrate growth within the TODs, in lieu of sprawl."

The Kona CDP's action policies (Action PUB-4.1a and PUB-4.1b) call for updates to DWS's master plan for Kona and DWS's Rules to support future growth in the TODs and to support the Kona CDP land use policies.

Potable water supply alternatives have been developed specifically to eliminate any impact on the basal groundwater that flows beneath Kaloko-Honokōhau National Park (KAHO) and discharges along the shoreline. These include:

1. Alternative 1: On-site Wells at 710-foot elevation on the mauka portion of the project;
2. Alternative 2: On-site Wells at 710-foot elevation with reverse osmosis (RO) treatment;
3. Alternative 3: On-site Wells at 363-foot elevation with Desalinization of Saline Groundwater

Alternative 1 is the preferred alternative – on-site wells at 710-Foot Elevation on the mauka portion of the Project Site. The possibility of developing potable quality wells at 710-foot elevation is suggested by the discoveries of two deep monitor wells (State Nos. 3858-01 and 3959-01), both of which encountered fresh groundwater under artesian pressure at depth below saline groundwater. The phenomenon is discussed in detail later in Section 3.5 and Appendix C. A deep exploratory borehole at 710-foot elevation on the mauka end of the project site will be undertaken to determine if fresh groundwater can be found at that depth and to determine the feasibility of its development. If successful, approximately three production wells would be developed, each of 1,120 GPM capacity and driven by 350 horsepower motors. These wells would be integrated into the DWS system, with two-thirds of their capacity allocated to supply the Kaloko Makai project.

### 2.3.1.9.3 Wastewater Treatment

The Kona CDP states, "(a)ny new subdivision within 1 mile of shoreline within the Kona Urban Area shall either hookup to the public sewer system, or provide a private treatment system, and/or install dry sewers. Private wastewater collection systems within the 1 mile zone shall be designed and

constructed to County standards to enable potential connection to County sewer system. The County shall ensure that TODs can be served by the public sewer system in a timely manner” (Kona CDP, page 4-111).

The Kona CDP states that a new County wastewater treatment plant shall be located generally on and mauka of Queen Ka’ahumanu Highway in ‘O’oma II (noted on the Official Public Facilities and Services Map-Waste Management) and designed to the extent feasible to utilize a natural treatment system that can double as an open space feature. While the Kona CDP does not define what a “Natural Wastewater System” is, a common description for this type of facility includes a wetland feature (typically referenced as a constructed wetland).

In addition, the Kona CDP notes that to the extent feasible, Kona’s proposed natural system wastewater treatment facility shall be co-located with a non-edible crop, such as a bio-fuel crop, to use the R-1 wastewater effluent, and also co-located with Kona’s green waste composting site to compost the sludge from the wastewater treatment facility for use on bio-fuel crop.

Representatives from the County Department of Environmental Management noted that there are no plans for construction of this decentralized WWTP in the immediate future (Dora Beck and Lyle Hirota personal communication, July 7, 2011).

The Kona Airport Manager responded to inquiries concerning this location and indicated that the FAA would probably consider constructed wetlands and wastewater treatment facilities wildlife attractant hazards. For all airports, the FAA recommends a distance of 5-statute miles between the farthest edge of the airport’s operations area and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach, departure and circling airspace. Therefore, DOT-Airports would be expected to object to or discourage the creation of potential attractants in this location (Chauncey Wong-Yuen personal communication, date unknown).

If Kaloko Makai cannot hook up to a public wastewater system, Kaloko Makai will construct and operate a private wastewater treatment plant (WWTP) within the project site. The on-site wastewater treatment plant will be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat the wastewater to provide recycled (R-1) quality water for reuse general irrigation within Kaloko Makai (below the UIC line) and thus lessen demand for potable water for irrigation needs.

The projected wastewater generation demand for Kaloko Makai is 2.37 million gallons per day (mgd) average dry weather flow. The WWTP will be designed to reduce the concentrations of Total Nitrogen to <5 mg/l, and Total Phosphorous to <2 mg/. Installation of the Private WWTP shall be subject to conditions of approval by the DOH, including any lower concentrations of TN and/or TP in the effluent, and HAR Chapter 11-62. The amount of recycled water produced will be essentially the same as the amount received for processing, or 2.37 mgd.

This reuse of treated wastewater is consistent with the Kona CDP which has an action designating the area below Ane Keohokālōle as a reclaimed wastewater zone (Action TRAN-3.3a: Designates the

reclaimed wastewater zone (Wastewater Re-use Area) on Figure 4-10c Official Public Facilities and Services Map).

### **2.3.2 Use of Public Funds; Use of Public Lands**

SCD - TSA Kaloko Makai, LLC is the recorded fee owner of the project site. Use of State and/or County lands could include, but not be limited to roadway, traffic, water, sewer, utility and drainage facilities affecting State and/or County roadways or other lands, and anticipated trail crossings. The Applicant has offered to provide land area for the development of a regional hospital. However, Applicant will not be developing a regional hospital. It is anticipated that if a regional hospital is developed, it will be developed through a public-private partnership. Therefore, this action does not involve the use of public funds.

Applicant or its successors will be responsible to fund site work and the construction of on-site and off-site project-related infrastructure including roadways, potable water wells, reservoirs, transmission lines, wastewater transmission lines, and other utilities.

Infrastructure development to support Kaloko Makai will require connections and structural improvements within adjoining public rights-of-way, such as for water and other utilities connections, as well as roadway improvements. Roadway improvements may include a future interchange at a realigned Hina Lani Street and Queen Ka'ahumanu Highway on a site reserved at the request of the Hawai'i DOT. Such an interchange, when it is designed, will require subsequent assessment of compliance with Chapter 343, HRS (Hawai'i EIS Law).

### **2.3.3 Transit Oriented Development Village and Neighborhoods in Kaloko Makai**

#### **2.3.3.1 Background**

As previously mentioned, Kaloko Makai has been designed to meet the guidelines, goals and policies of the Kona CDP and the Village Design Guidelines (see Section 2.2.2.5 and 5.2.3 for further discussion).

The Official Kona Land Use Map identifies general locations of TOD villages, spacing, and type of TOD villages. In addition to TOD villages, TNDs can be designated outside of TOD and within the Kona UA.

The components of a TOD/TND include Urban Core, Secondary Core and Greenbelt. A TOD/TND contains a higher density urban core surrounded by a lower density secondary area. A greenbelt surrounds and defines the outer edge of the secondary area. To control the scale and intensity of development within the urban core of a TOD/TND, there shall be two types of urban cores:

- Regional Centers are intended for mixed use and higher density residential, retail, commercial, employment, and/or regional one-of-a kind facilities, such as major civic, medical, education and entertainment facilities. Regional centers shall be designed around a Commercial Center, which is the focus for the Village and designed to encourage pedestrian activity.

- Neighborhood Villages are intended for predominately residential, public/civic uses, or small-scale neighborhood-oriented commercial uses. The Core's commercial uses are of a small scale and are intended to serve the needs of the Village residents. Neighborhood Village Core Areas shall be designed around a Neighborhood Center. Land uses include recreational space, small-scale public/civic uses, neighborhood oriented retail uses, and mixed-use.

TODs/TNDs may be surrounded by more auto-oriented, lower-density areas called "Secondary Areas." The Secondary Areas are within a half-mile of the TOD/TND urban core. These Secondary Areas take advantage of the services within the Urban Core through an interconnected street system with easy access to transit by foot, bike or car. Secondary Areas will be primarily comprised of standard single-family and multi-family neighborhoods. These areas may also provide more land-intensive uses that serve TOD/TND residents, such as schools and community parks. Because of their proximity to the Urban Core, Secondary Areas are ideal for bicycle travel.

The Greenbelt is an undeveloped area surrounding the Secondary Area. The Greenbelt is a strategic planning tool to prevent urban sprawl by keeping land permanently open. The purpose of the Greenbelt is to prevent urban sprawl of the TODs/TNDs, prevent neighboring towns from merging into one another, and to preserve the setting and the character of the TODs/TNDs. The Greenbelt may also serve multi-purpose uses, such as for drainage (e.g., flow ways or retention basins), sensitive resource preserves or wildfire protection buffers.

TODs and TNDs are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile).

TODs and TNDs are further organized by Transect Zones. Transect Zones organize the density, complexity, and intensity of the land use within the TOD/TND. The operating principle is that there is an urban core with a main center focus such as a transit station and plaza. The Transect Zones that correspond to the urban core, secondary area and greenbelt referred to in the Kona CDP and Village Design Guidelines are as follows (also noted are the allowable residential densities and building heights in each transect zone):

1. Urban Core
  - A. T-5 Urban Center (Maximum density - 30 units per acre)
    - i. Mix of residential units, such as townhouses, and apartments mixed with commercial, offices and retail
    - ii. Typical Building Height: 2- to 5-Story with some variation (all, excluding attics and raised basements)
  - B. T-4 General Urban (Maximum density - 12 units per acre)
    - i. Neighborhood commercial uses with single-family and multi-family residential
    - ii. Typical Building Height: 2- to 3-Story with a few taller Mixed Use buildings

2. Secondary Area
  - A. T-3 Suburban (Maximum density - 6 units per acre)
    - i. Single-family units, with ancillary community and public uses, and neighborhood and convenience-type commercial uses
    - ii. Typical Building Height is 1- to 2-Story with some 3-Story
3. Greenbelt
  - A. GB1, GB2 (Maximum density .25 units per acre)
    - i. Greenbelt is an undeveloped area and may also serve multi-purpose uses, such as for drainage (e.g., flow ways or retention basins), sensitive resource preserves or wildfire protection buffers
4. Mixed-Use Industrial
  - A. SD1 (Maximum density - 12 units per acre)

The development of compact, mixed-use villages integrates housing, employment, shopping and recreation opportunities. Villages are designed around transit stations/stops which will reduce the need for daily trips and financially support the expanded transit system.

Village Design Guidelines will apply to the development of master plans for TODs and TNDs, as well as subsequent projects implementing the master plans. The intent of the Village Design Guidelines is to do the following:

1. Promote transit-oriented and pedestrian-oriented development, to increase transit use, to manage traffic congestion,
2. Encourage mixed-use, compact development that is pedestrian in scale and sensitive to environmental characteristics of the land, and facilitates the efficient use of public services;
3. Have residences, shopping, employment, and recreational uses located within close proximity with each other and efficiently organized to provide for the daily needs of the residents;
4. Provide for a range of housing types and affordability within pedestrian-oriented, human-scale neighborhoods;
5. Incorporate natural features, open space, and cultural features;
6. Provide efficient circulation systems for pedestrians, non-motorized vehicles, and motorists that serve to functionally and physically integrate the various land use activities; and
7. Promote strong neighborhood identity and focus.

The Kaloko Makai site is designated as one of the Neighborhood TODs on the Official Kona Land Use Map in the Kona CDP. As previously discussed, Kaloko Makai also proposes to incorporate a regional hospital into the development. Whether a hospital developer/operator comes forward or not, the Kaloko Makai TOD will remain as a Neighborhood TOD (consistent with the Official Land Use Map of the Kona CDP) and its uses in the “neighborhood” and the project will not be developed as a Regional TOD. If the hospital is included, a portion of the commercial space in the project will support it. If the hospital is not included, then some of the proposed space will address regional medical needs, as well as other commercial demands. In addition, commercial core uses (recreational space, small-scale public/civic uses, office, retail, mixed-use, etc) will serve the needs of the immediate community (Kaloko Makai,) as well as neighboring communities.

The assessment of impacts in this Second Draft EIS is based on a Neighborhood TOD at Kaloko Makai, whether or not a hospital is developed.

Due to the scale of the Kaloko Makai land area, the project is broken down into a Neighborhood TOD centered on the Ane Keohokālole Highway, a TND mauka of the Kaloko Makai Dryland Forest Preserve (the TND connects via roads and trails to the TOD) and Special District Mixed-use Industrial area makai of the TOD.

### **2.3.3.2 Overall Kaloko Makai TOD**

Generally speaking, the Kaloko Makai TOD (centered on Ane Keohokālole Highway) is a compact mixed-use village made up of three neighborhoods: the core of the village focuses on the hospital and related medical facilities. Should the hospital not be located within Kaloko Makai, this village core will contain higher density residential and commercial uses. The two other neighborhoods within the Kaloko Makai TOD are residential-oriented villages that center on schools and adjoining community parks (Middle School mauka of Ane Keohokālole Highway and Elementary School makai of the highway).

The Kona CDP calls for Urban Villages to be located a minimum of one mile apart, between transit stations, along Ane Keohokālole Highway trunk route in order to preserve the transit efficiency of this route. Kaloko Makai TOD is identified to have a transit station on official maps in the Kona CDP.

Consistent with the Kona CDP, Kaloko Makai will incorporate a transit station near the center of the Kaloko Makai TOD on Ane Keohokālole Highway. To enhance efficiency of the transit station and allowing the ease of flow of the transit buses, component parts of the transit station will be constructed on either side of Ane Keohokālole Highway (across from each other.) Placement near the Kohanaiki Trail and new mauka-makai road will enhance accessibility of residents within Kaloko Makai.

The mauka component of the transit station will serve north-bound transit on Ane Keohokālole Highway; it will be situated between the Middle School Neighborhood and Hospital Neighborhood in the TOD between the Kohanaiki Trail and the new mauka-makai road through the Kaloko Makai project.

The makai component of the transit station will serve south-bound transit on Ane Keohokālole Highway; it will be situated in the Makai Elementary School Neighborhood in the TOD between the Kohanaiki Trail and the new mauka-makai road through the Kaloko Makai project.

A pedestrian crossing or crosswalk will be incorporated into the intersection of the new mauka-makai road and Ane Keohokālole Highway as a designated point to assist pedestrians wishing to cross.

The transit station will be a structure where buses stop to pick up and drop off passengers. It is larger than a typical bus stop. A Park and Ride facility will be incorporated into the vicinity of the transit station; this will include storage for bicycles. Since Kaloko Makai is not a designated transit

hub (a hub includes a major park and ride facility for commuters (primarily resort workers) the Park and Ride will be a reduced scale.

The transit station will be designed to accommodate safe and easy access for the various methods people will use to use the station including, walking, biking, driving and parking, kiss and ride, and other transit.

Since this is a core central place for residents within Kaloko Makai, as well as those travelling to and through the community, public open spaces will be incorporated into the design, including parks, squares and plazas, streets and sidewalks.

### **2.3.3.2.1 Hospital Neighborhood**

The proposed hospital neighborhood is a compact mixed-use hospital-focused neighborhood that will include a nearby transit station, hospital medical center and adjoining commercial-oriented uses addressing the hospital needs (doctor offices, suppliers, support activities and housing for hospital staff, doctors and others.)

Land Uses in the Hospital Neighborhood in the TOD:

- Regional Hospital
- Lodge and Business Center
- Squares and Plazas
- Multi-family Residential (range of densities)
- Professional Offices (primarily medical) serving the neighboring hospital
- General Commercial Area with Retail and Office

Internal road systems, as well as a mauka-makai pedestrian link on the historic Kohanaiki Trail (the trail also serves as a central greenway through the Kaloko Makai project) will provide connections between the three neighborhoods.

The hospital, which is the focus for the TOD Village, serves as a catalyst for complementary mixed-use and higher-density residential, commercial (office and retail) and employment opportunities (medical-related, as well as other) near the hospital. Likewise, it is expected to also attract physicians, nurses, suppliers and staff to live near the medical facility. A transit station will be integrated within these land uses.

It is envisioned that the hospital facility will be developed and constructed in a “campus” layout, with open space for passive uses and a state-of-the-art facility utilizing breakthrough technology, enhanced research facilities and an intelligent design to maximize efficiency and sensitivity in patient care.

Forty-acres of land will be set aside for a regional hospital. A hospital developer/operator is being pursued. As noted in the Kona CDP, the location of Kaloko Makai is optimal and convenient for a regional hospital.

In the event a hospital developer and operator is not arranged for the 40-acre site noted in the project site plan, then the property will be used as a T-5 transect and the Phase 1 residential units and commercial square footage will be reallocated throughout the area identified as Phase 1. This means there will be a slight reduction in densities in some of the existing residential and commercial properties in Phase 1. There will be no change in residential unit count or commercial square footage in each of Phases 1, 2 and 3, or the entire project.

Whether a hospital developer/operator comes forward or not, the Kaloko Makai TOD will remain as a Neighborhood TOD (consistent with the Official Land Use Map of the Kona CDP) and its uses in the “neighborhood” and the project will not be developed as a Regional TOD. If the hospital is included, a portion of the commercial space in the project will support it. If the hospital is not included, then some of the proposed space will address regional medical needs, as well as other commercial demands. In addition, commercial core uses (recreational space, small-scale public/civic uses, office, retail, mixed-use, etc) will serve the needs of the immediate community (Kaloko Makai,) as well as neighboring communities.

#### **2.3.3.2.2 Middle School Neighborhood**

The Middle School neighborhood is a compact mixed-use neighborhood, characterized within a higher-density urban core roughly equivalent to a 5-minute walking radius (1/4 mile.)

Land Uses in the Middle School Neighborhood:

- Middle School
- Community Park
- Transit Station Serving North-bound Travel
- Squares and Plazas
- Multi-family Residential (range of densities between 7- and 17-units per acre)
- Single-family Residential (range of densities between 4- and 6-units per acre)
- Professional Offices (primarily legal) serving the recently selected Kealakehe Judiciary site
- Commercial Area with Retail and Office

Internal road systems, as well as a mauka-makai pedestrian link on the historic Kohanaiki Trail (the trail also serves as a central greenway through the Kaloko Makai project) will provide connections between the three neighborhoods.

The core of this neighborhood is the Middle School and adjoining park. This neighborhood adjoins the hospital neighborhood and is mauka of Ane Keohokālole Highway. The historic Kohanaiki Trail runs mauka-makai through the Kaloko Makai project and adjoins and connects the school and park with other areas within the Kaloko Makai Development.

#### **2.3.3.2.3 Makai Elementary School Neighborhood**

The Makai Elementary School Neighborhood is a compact mixed-use neighborhood, characterized within a higher-density urban core roughly equivalent to a 5-minute walking radius (1/4 mile.)

Land Uses in the Makai Elementary School Neighborhood:

- Elementary School
- Community Park
- Transit Station Serving South-bound Travel
- Squares and Plazas
- Urgent Care Facility
- Multi-family Residential (range of densities between 7- and 17-units per acre)
- Single-family Residential (range of densities between 4- and 6-units per acre)
- Commercial Area with Retail and Office

Internal road systems, as well as a mauka-makai pedestrian link on the historic Kohanaiki Trail (the trail also serves as a central greenway through the Kaloko Makai project) will provide connections between the three neighborhoods and connects the school and park with other areas within the Kaloko Makai Development.

This neighborhood includes residential, commercial and mixed-use. These are interconnected with internal road systems, as well as a *mauka-makai* pedestrian link on the historic Kohanaiki Trail. The core of this neighborhood is the Elementary School and associated park. This neighborhood is makai of Ane Keohokālole Highway.

### **2.3.3.3 Mauka Elementary School TND**

The Mauka Elementary School TND is a compact mixed-use neighborhood, characterized within a higher-density urban core roughly equivalent to a 5-minute walking radius (1/4 mile.)

Land Uses in the Mauka Elementary School TND:

- Elementary School
- Community Park
- Square
- Multi-family Residential (approximate density 7- and 8-units per acre)
- Single-family Residential (approximate density 3- and 4-units per acre)
- General Commercial Area with Limited Retail and Office

Internal road systems, as well as a mauka-makai pedestrian link through two historic trails through the Dryland Forest to the historic Kohanaiki Trail and Hina Lani Street will provide connections between the three neighborhoods.

Through an internal circulation network, this mauka TND also interconnects with the adjoining Kaloko Heights project, and the neighboring property to the south.

### **2.3.3.4 Special District Mixed-Use Industrial**

Special districts are defined in the Kona CDP as, “Special District designations shall be assigned to areas that, by their intrinsic size, function, or configuration, cannot conform to the requirements of any transect zone or combination of zones” (Kona CDP, page 12 of the Village Design Guidelines).

Land Uses in the Special District Mixed-Use Industrial:

- Light Industrial and/or Business Park
- District-scale Park
- Playground
- Plazas
- Multi-family Residential (range of densities between 7- and 12-units per acre)

The Kona CDP Action Committee has deliberated on the calibration of the Village Design Guidelines and has adopted criteria for an SD1 Mixed Use Industrial special district. Uses permitted in this district include Light Industrial, Retail, Office, Residential (limited use,) and Lodging (by warrant) (amended Table 12 and Table 13 of the Action Committee’s recalibrated Village Design Guidelines).

Kaloko Makai proposes an SD1 Mixed-Use Industrial special district below the Kaloko Makai TOD that fronts Queen Ka’ahumanu Highway and Hina Lani Street. The primary use in the Kaloko Makai special district is light industrial; other uses include open space, park, retail/office and limited residential. A recreation area, which also serves as a greenbelt buffer area in this section of the project, is a district-scale park that will include playfields, multi-purpose building, courts (basketball, tennis, volleyball), tot lot, etc.

#### **2.3.3.5 Secondary Areas**

The Kona CDP defines secondary areas as, “The area extending approximately ¼ mile from the outer edge of the village core of the TOD. Lower density housing and other auto-oriented uses are located here. The secondary areas take advantage of the services within the core area through an interconnected street system with easy access to transit by foot, bike, or car. Secondary areas will be primarily comprised of standard single-family and multi-family neighborhoods” (Kona CDP, page 7-3).

Land Uses in the Secondary Areas:

- Dryland Forest Preserve
- Fire Station/Police Substation
- Greenbelt
- Playground
- Wastewater Treatment Plant
- Multi-family Residential
- Single-family Residential (range of densities between 3- and 4-units per acre)
- General Commercial Area with Limited Retail and Office

Due to the size and shape of the Kaloko Makai property, a couple secondary areas are formed around the TOD Village: one is above the Hospital and the Middle School Neighborhoods; and the other is on the south side of Hina Lani Street, makai of Ane Keohokālole Highway.

The Kaloko Makai secondary areas are lower density residential (mostly single-family, with some multi-family) and some support commercial uses.

### 2.3.3.6 Open Space

Numerous active and passive recreational areas are incorporated into the Kaloko Makai project. Neighborhood and District-scale parks provide opportunities within the residential-oriented TODs.

The Kaloko Makai master plan integrates the natural features of the area, including the preservation of a historic Kohanaiki Trail as an interconnecting neighborhood pedestrian way, which starts outside of the project area and traverses through the Kaloko Heights project, through Kaloko Makai, down to Queen Ka'ahumanu Highway. The historic trail runs in the east-west (mauka-makai) direction through the project area.

Other significant archaeological features are found in the northwest section of the property. In order to preserve and protect these features, the area will be left in a natural state, with pockets of low-density residential interspersed in the area. This open space also helps to serve as a mauka greenbelt (GB1) to the Kaloko Makai TOD.

The Kaloko Makai master plan also integrates a 150-acre preservation area for a native Dryland Forest located on the southern portion of the project site. This open space will also serve as a southern greenbelt (GB1) to the Kaloko Makai TOD.

From Ane Keohokālole Highway down to Queen Ka'ahumanu Highway, Kaloko Makai will set aside a 100-foot buffer that fronts Hina Lani Street. This open space also helps to serve as a greenbelt (GB1) to the Kaloko Makai TOD.

Significant archaeological and cultural sites, which include historic trails, will be integrated into the master plan. Archaeological and cultural sites will be protected and maintained with appropriate treatment and buffers from adjacent uses, as necessary.

## 2.4 DEVELOPMENT TIMETABLE AND PRELIMINARY COSTS

Development of the project is anticipated to commence with the construction of infrastructure improvements immediately following the necessary land use approvals and permits, and be substantially completed to service the first residential homes within 10 years of the LUC's SLUBA approval. Kaloko Makai will be implemented in three phases and substantially completed in approximately 30-years from the LUC's SLUBA approval. Construction of residential units and commercial uses will be on a phased basis according to market demand.

Phase 1, made up of approximately 1,752 residential units (471 single family and 1,281 multi-family), approximately 430,000 sq ft of commercial space, hospital site, the Lodge and Business Center, commercial and mixed-use industrial, DOE school, Dryland Forest and WWTP will generally encompass most of the Middle School Neighborhood, the southern portion of the Makai Elementary School Neighborhood and the southern portion of the Special District Mixed-use Industrial (see Figure 2-12). Associated infrastructure will also be included in this phase. Phase 1 is anticipated to begin upon completion of all necessary land use entitlements and be completed within 10 years from the LUC's SLUBA approval.

Phase 2, made up of approximately 1,950 residential units (829 single family and 1,121 multi-family, to include long term care units), approximately 130,000 sq. ft. of commercial and mixed-use and DOE school, will generally encompass the remaining northern portion of the Makai Elementary School Neighborhood, a portion of the mauka Middle School Neighborhood, and a portion of the Special District Mix-use Industrial (see Figure 2-13). Associated infrastructure will also be included in this phase.

Phase 3, made up of approximately 1,298 residential units (1,054 single family, and 244 multi-family) and 40,000 sq ft of commercial and a DOE school, will generally encompass the Mauka Elementary School TND, the remaining mauka-north portion of the Middle School Neighborhood, the area makai of Ane Keohokālole Highway, south of Hina Lani Street and the remaining light industrial/mixed use below Kamanu Street (see Figure 2-14).

Applicant preliminarily estimates that the development of the Kaloko Makai project will cost approximately \$492 million for infrastructure, and \$1.385 billion for construction and vertical improvements (which include tenant improvements at commercial and light industrial areas) over the approximately 30 year development timeframe. Preliminary cost projections estimate that the costs for the construction and development of the hospital will be in the range of \$300 to 500 million. All projected costs will be spent over the project's development timeline, but the anticipated breakout is approximately \$707 million in Phase 1, \$842 million in Phase 2 and \$480 million in Phase 3.

## **2.5 ENVIRONMENTALLY RESPONSIBLE PLANNING AND DESIGN**

In the design and construction of Kaloko Makai, SCD – TSA Kaloko Makai, LLC will implement feasible measures to promote energy conservation and environmental stewardship, such as the standards and guidelines promulgated by the US Green Building Council, the United States Environmental Protection Agency (EPA) ENERGY STAR Program or other similar programs.

### **2.5.1 OEQC's Sustainable Building Design Guidelines**

The Environmental Council, as part of a "Planner's Checklist," adopted Guidelines for Sustainable Building Design in Hawai'i (October 13, 1999.) These guidelines do not constitute rules or law. They have been refined by OEQC staff and peer review to provide a checklist of items that will help the design team create projects that will have a minimal impact on Hawai'i's environment and make wise use of our natural resources. The following is from the OEQC guidelines.

A sustainable building is built to minimize energy use, expense, waste and impact on the environment. It seeks to improve the region's sustainability by meeting the needs of Hawai'i's residents and visitors today without compromising the needs of future generations. Compared to conventional projects, a resource-efficient building project will:

1. Use less energy for operation and maintenance
2. Contain less *embodied* energy (e.g. locally produced building products often contain less *embodied* energy than imported products because they require less energy-consuming transportation.)

3. Protect the environment by preserving/conserving water and other natural resources and by minimizing impact on the site and ecosystems
4. Minimize health risks to those who construct, maintain and occupy the building
5. Minimize construction waste
6. Recycle and reuse generated construction wastes
7. Use resource-efficient building materials (e.g. materials with recycled content and low embodied energy, and materials that are recyclable, renewable, environmentally benign, non-toxic, low VOC (Volatile Organic Compound) emitting, durable, and that give high life cycle value for the cost.)
8. Provide the highest quality product practical at competitive (affordable) first and life cycle costs.

In the design and construction of Kaloko Makai, SCD – TSA Kaloko Makai, LLC will seek to implement feasible measures to conform to these general guidelines.

### **2.5.2 Leadership in Energy and Environmental Design (LEED)**

The US Green Building Council's Leadership in Energy and Environmental Design (LEED) program is a voluntary green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO<sub>2</sub> emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

The LEED for Neighborhood Development Rating System (2009) integrates the principles of smart growth, urbanism and green building into the first national system for neighborhood design.

Where appropriate, SCD – TSA Kaloko Makai, LLC will utilize LEED concepts in the development of Kaloko Makai.

### **2.5.3 Energy Star Program**

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy. In 1992, the US Environmental Protection Agency (EPA) introduced ENERGY STAR as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Computers and monitors were the first labeled products. Through 1995, EPA expanded the label to additional office equipment products and residential heating and cooling equipment. In 1996, EPA partnered with the US Department of Energy for particular product categories. The ENERGY STAR label is now on major appliances, office equipment, lighting, home electronics, and more. EPA has also extended the label to cover new homes and commercial and industrial buildings.

When designing Kaloko Makai, SCD – TSA Kaloko Makai, LLC will also consider ENERGY STAR concepts in the development of the project.

#### 2.5.4 Sustainability Issues

A Sustainability Plan was prepared and included herein as Appendix Q. The Sustainability Plan is a comprehensive set of goals, strategies and actions focused on improving environmental quality, economic strength and social benefit within the Kaloko Makai project, as well as the broader community. Kaloko Makai will be a sustainable community and will incorporate the following:

**Sustainability Programs and Plans:** Kaloko Makai will incorporate the core principles of the various sustainability programs and plans.

**Natural and Cultural Resources:** Kaloko Makai will work to preserve the approximately 150-acre native Dryland Forest, Kohanaiki Trail (“Road to the Sea” Trail) and identified Native Hawaiian Burials and archaeological sites.

**Land Use:** Kaloko Makai is consistent with local land use plans including the County of Hawai‘i General Plan and the Kona Community Development Plan.

**Design Features:** Kaloko Makai will include sustainable design features including strategies to reduce solar heat gain through roofs, walls and windows; using site planning and landscaping to improve natural ventilation; daylighting design; and energy efficient light fixtures.

**Transportation:** Kaloko Makai will incorporate provisions of a pedestrian and transit-friendly community; multi-modal interconnected roads; and complete streets design.

**Economic Opportunities:** Kaloko Makai proposes commercial and industrial uses which will provide a variety of job opportunities; construction and construction-related employment will have direct beneficial impact on the local economy during construction.

**Open Space and Parks:** Kaloko Makai proposes open space and open greenway areas encompassing the project.

**Water Management:** Kaloko Makai will install water efficient fixtures, appliances and high efficiency toilets to reduce indoor water use.

**Energy Management:** To the extent feasible, Kaloko Makai will incorporate energy conservation and efficiency measures; solar energy for water heating; encourage photovoltaic systems and other renewable energy sources.

**Health:** Kaloko Makai’s layout and design will create an opportunity for both residents and the community to have a positive effect on their health through walkable and bikable transportation options. The setting aside of land for a new hospital will increase health services to the community.

**Education:** Kaloko Makai will coordinate with the DOE to ensure that the facility assessment policy is addressed. Kaloko Makai proposes land for two elementary schools and one middle school within the project.

Housing: Kaloko Makai offers increased housing choices, including affordable housing to meet future demands.

Social: Kaloko Makai promotes social sustainability through socially-focused actions that will support quality of life, sense of place and community livability for all residents and the community.

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