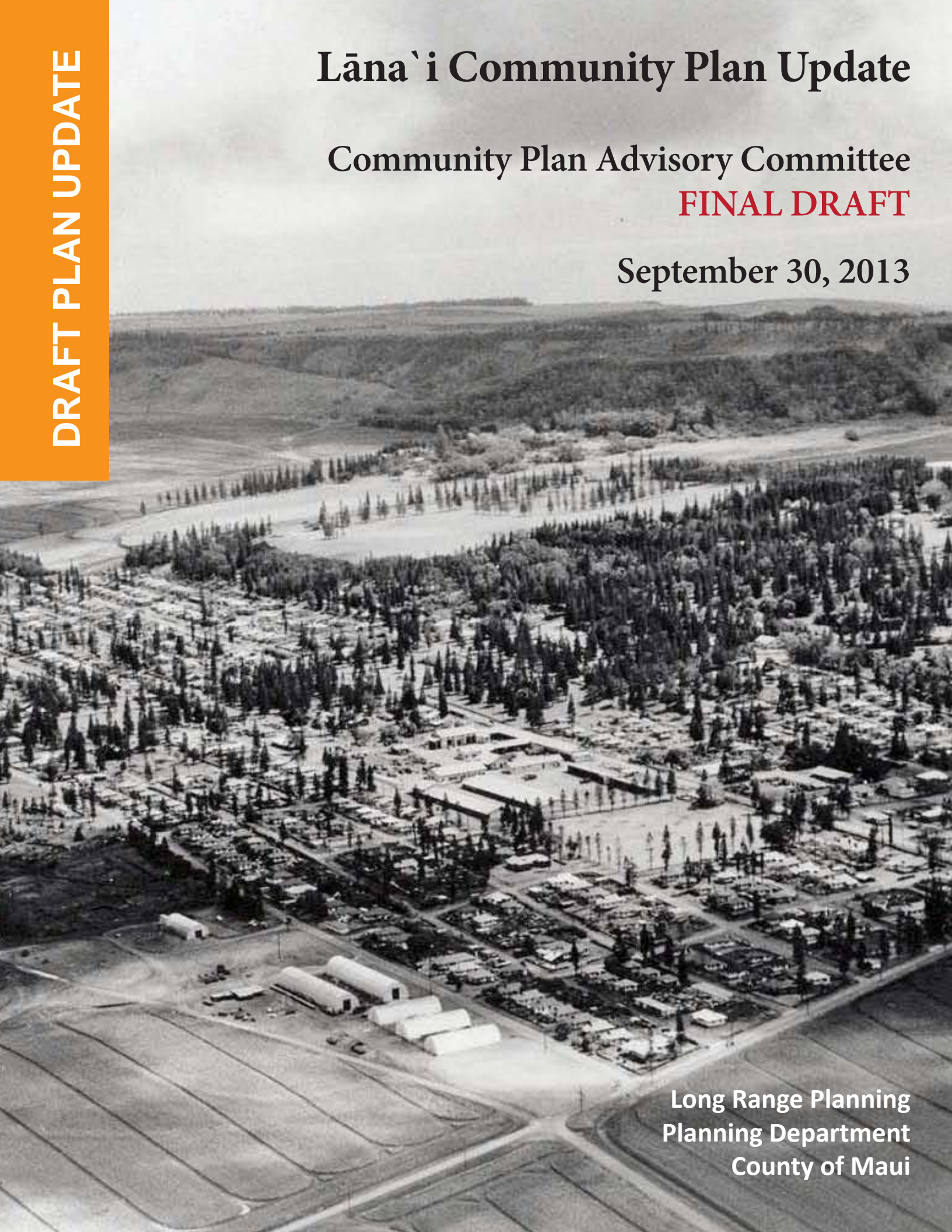


# Lāna`i Community Plan Update

Community Plan Advisory Committee

**FINAL DRAFT**

September 30, 2013



Long Range Planning  
Planning Department  
County of Maui

## ACKNOWLEDGMENTS

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Wilson Okamoto & Associates, Inc.: *County of Maui Infrastructure Assessment Update 2003*  
R. M. Towill Corporation: *Public Facilities Assessment Update County of Maui 2007*  
PlanPacific: Existing land use database for *Socio-Economic Forecast*

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# 1 | INTRODUCTION

The Lānaʻi Community Plan 2013 Update is one of the nine community plan updates that are part of the Maui County General Plan 2030 process. This Plan reflects current and anticipated future conditions on Lānaʻi and establishes planning goals, objectives, policies and implementation considerations to guide decision-making and actions through the year 2025.

The Lānaʻi Community Plan Update combines the existing plan with new topics and sections that are required by Maui County Code 2.80B, along with revisions to reflect the County of Maui 2030 General Plan Countywide Policy Plan. The County of Maui Planning Department's Long Range Division worked with the Lānaʻi community, stakeholders, agencies, and the Lānaʻi Community Plan Advisory Committee, (*the Lānaʻi Planning Commission, and the Maui County Council*) between 2010 and 2014 to update the Lānaʻi Community Plan.

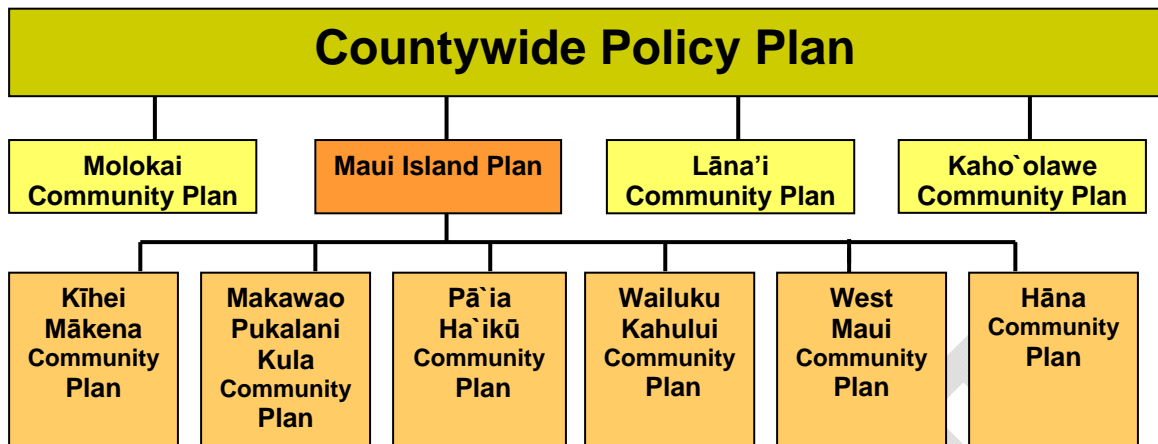
This chapter describes the Community Plan's role in Maui County's General Plan process, an overview of the update process, a general description of the planning area and a brief overview of Lānaʻi history. This chapter concludes with an overview of the plan organization and chapter topics.

## THE ROLE OF THE LĀNAʻI COMMUNITY PLAN IN THE MAUI COUNTY GENERAL PLAN

The County of Maui General Plan consists of three parts: (1) the Countywide Policy Plan, (2) the Maui Island Plan, and (3) the nine community plans (Figure 1). The Maui County General Plan, adopted in 1980 and updated in 1990, sets forth the long-term social, economic, environmental, and land use needs of the County within goals, objectives, policies and actions. The County of Maui General Plan update began with the Countywide Policy Plan adoption in 2010, the Maui Island Plan adoption in 2012, and initiation of the update to the community plans in 2010. The General Plan supports the Hawaiʻi State Plan and interrelates with the State Functional Plans, which have not been revised since the late 1990s. In 2011, the priority guidelines and principles to promote sustainability were adopted from the Hawaiʻi 2050 Sustainability Plan as an amendment to the State Plan.

The Lānaʻi Community Plan was adopted by Ordinance No. 1306 in 1983 and updated in 1998. The community plan provides specific recommendations to address the goals, objectives and policies contained in the Maui County Countywide Policy Plan, while recognizing the values and unique attributes of Lānaʻi. Implementation of the goals, objectives and policies contained in the Community Plan occurs through specific actions in each Community Plan. Various County programs and processes – zoning, the capital improvement program, and the County budget - implement the actions as well as broader policy recommendations.

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**Figure 1.1 County of Maui General Plan Organization**

## THE 2013 LĀNAʻI COMMUNITY PLAN UPDATE

In 2004-2010, the Maui County Council modified Maui County Code (MCC) Chapter 2.80B – General Plan and Community Plans to create new requirements. Section 2.80B.070 provides the specifics for the community planning process, and requires that the community plans implement the Countywide Policy Plan’s vision, principles, goals, and policies in the following core themes:

- Protect the Natural Environment
- Preserve Local Cultures and Traditions
- Improve Education
- Strengthen Social and Healthcare Services
- Promote Sustainable Land Use and Growth
- Expand Housing Opportunities for Residents
- Strengthen the Local Economy
- Improve Parks and Public Facilities
- Diversify Transportation Options
- Improve Physical Infrastructure Management
- Strive for Good Governance

Another significant change to MCC 2.80B are the implementation requirements that identify priorities, timelines, estimated costs, and the County department accountable for the completion. Specific milestones to measure progress in the plan’s implementation will be in the updated community plan. New elements required by 2.80B include:

- 1) A statement of the social, economic, and environmental effects of development,
- 2) The desired sequence, patterns, and characteristics of future development,
- 3) A statement of urban and rural design principles and objectives,
- 4) A list of scenic sites and resources,



- 1 5) A description of a projected multi-modal transportation system,
- 2 6) A statement of desired population density including visitors and residents, and
- 3 7) A list of streetscape and landscaping principles and desired improvements.

4

5 In addition, several technical studies and issue papers were used by the Planning  
6 Department and Community Plan Advisory Committee to understand future conditions and  
7 needs:

8

- 9 • The *Final Public Facilities Assessment Update County of Maui*. (March 2007) identifies  
10 public facilities and services (e.g., schools, parks, police and fire protection, hospital,  
11 and solid waste disposal services) issues and opportunities in high-growth community  
12 plan regions.
- 13 • The *County of Maui Infrastructure Update Assessment* (May 2003) identifies  
14 infrastructure (e.g., roadways, drainage, water, wastewater, telephone and electrical  
15 systems) issues and opportunities in the community plan regions.
- 16 • The *Draft Lānaʻi Economic Development Issue Paper: A Discussion Paper for the*  
17 *Department of Planning Community Plan Update* (Draft May 2011) discusses current  
18 economic conditions and strategies for the future.
- 19 • The *Lānaʻi Housing Issue Paper, Draft: A Discussion Paper for the Lānaʻi Community*  
20 *Plan Update*, (In-Progress Working Draft, May 2011) discusses current issues and  
21 projected future needs.
- 22 • The *Land Use Forecast, Island of Lānaʻi, Maui County General Plan Technical*  
23 *Resource Study* (December 2012) provides a measure of existing and future vacant and  
24 undeveloped lands using the Community Plan land use designations.
- 25 • The *Socio-Economic Forecast, The Economic Projections for the Maui County General*  
26 *Plan 2030* (June 2006) projects residential, visitor, and employment growth, as well as  
27 housing demand. This planning tool is used to predict future growth scenarios for each  
28 community plan region.

29

30

31 MCC 2.80B also specifies a process to establish the Community Plan Advisory Committee  
32 (CPAC) and the update process. The CPAC is composed of thirteen members appointed by the  
33 County Council and the Mayor. Over a 180 day period the CPAC will conduct meetings and  
34 workshops that encourage public participation in the Lānaʻi Community Plan update.

35

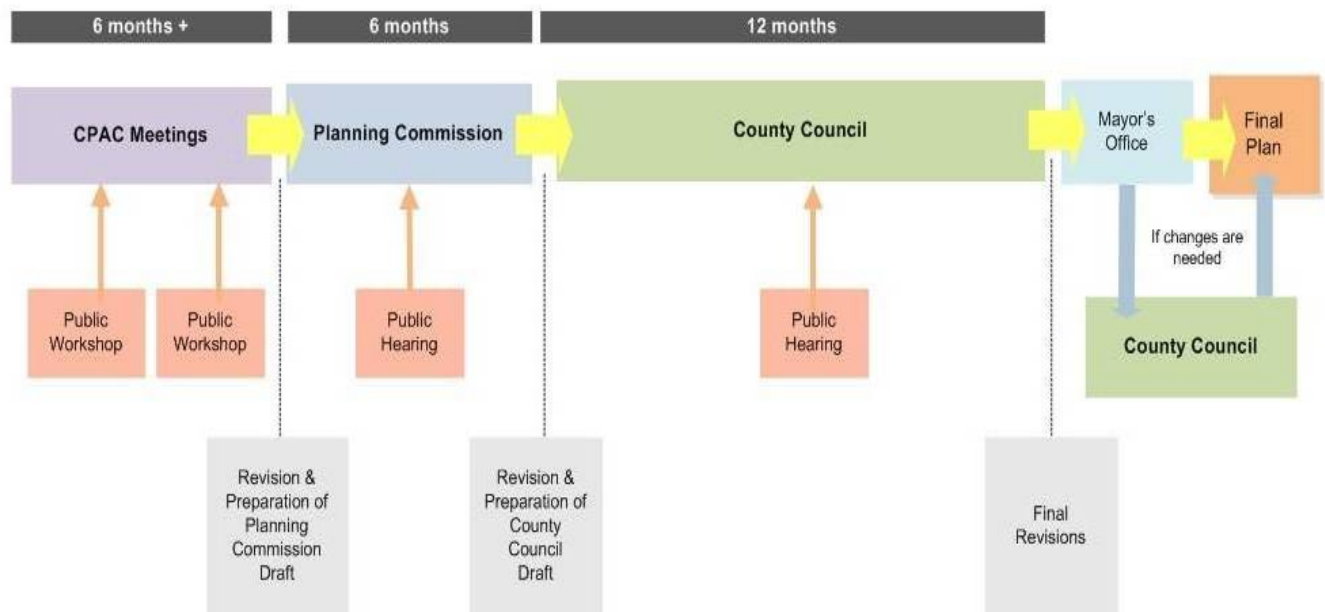
36 Following the 180-day CPAC process, the CPAC's recommendations are submitted to the  
37 Planning Department. The Planning Department prepares the revised Community Plan, based  
38 on the work of the CPAC. The revised Community Plan is forwarded to the Lānaʻi Planning  
39 Commission (6 months) for public hearing and review and then is sent to the County Council  
40 (which is allowed up to one year) for further review and adoption by ordinance. This process is  
41 summarized graphically in Figure 1.2.

42

43

## Lānaʻi Community Plan Update

Figure 2: Generalized Planning Process & Schedule



### COMMUNITY ENGAGEMENT

The Planning Department's Long Range Division conducted four community engagement events to hear directly the resident's ideas and concerns. An open house on Saturday, August 7, 2010 was attended by 42 Lānaʻi residents. The open house initiated discussion about issues that the community considered to be critical and that should be addressed in the Lānaʻi Community Plan Update. The event explored options for future land use, housing, transportation, infrastructure, development, and historic, cultural, and natural resources as well as community design possibilities. Five interactive stations, with information, maps, and note gathering, focused on key issues, problems, opportunities, and potential solutions.

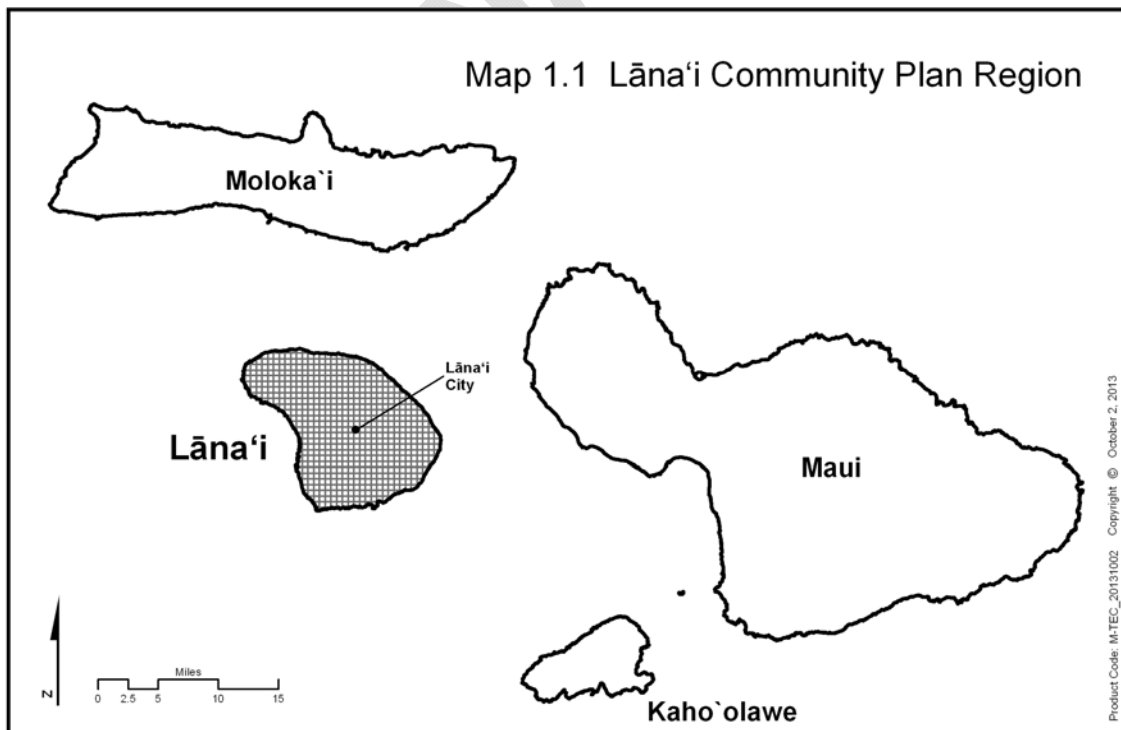
On Thursday, April 7, 2011 a second community meeting was held in the evening at the Lānaʻi Community Center and attended by 40 Lānaʻi residents. A panel of four individuals (Colbert Matsumoto, Bob Agres, Davianna McGregor, and Alan Fujimori; see Appendix 1.1), offered their perspectives on the island's future to start a discussion on ideas and strategies. Various ideas for economic diversification formed the central theme. The community added their ideas and asked questions of the panel members.

On Thursday, April 4, 2013 an island-wide workshop provided an opportunity for the community to indicate areas for potential development and was attended by 64 people including a large group from Pūlama Lānaʻi and their consultants. Pūlama Lānaʻi displayed their first version of conceptual plans for future development areas. Groups of residents designed three conceptual plans that expanded on the ideas in the consultant's conceptual plans. A volunteer from each group reported the ideas to the larger group. The community also responded to surveys on trail use and recreational preferences for different locations.

On Saturday, April 6, 2013 a Lanaʻi City workshop provided displays and preference surveys for focus areas of Lanaʻi City and was attended by 120 people. Focus areas were Dole Park, the base-yard, housing types, the proposed expansion area, and street design. Participants provided comments and dot-voted their preferences for potential uses of the different areas or the type of housing form they would like to see built.

## OVERVIEW OF LĀNAʻI COMMUNITY PLAN AREA

Lānaʻi is one of four islands that comprise the County of Maui (Map 1.1). Lānaʻi is the driest of the inhabited main Hawaiian Islands, with less than ten inches of rain along the lowland coasts and 30 to 40 inches above the 2,000-foot elevation. Strong trade winds funneled between Maui and Molokaʻi increase evaporation and soil erosion on the north and east sides of Lānaʻi.



Lānaʻi formed as a broad shield volcano and has a remnant caldera, named the Pālāwai Basin. The caldera rim formed the over 3000 foot high ridge line that is now covered by the watershed forest of Lānaʻihale. A majority of the former pineapple agricultural lands, are located within the Pālāwai Basin, while Lānaʻi City and the Lodge at Kōʻele are situated on the outer slopes of the caldera.

To the northwest is the Kānepuʻu Preserve Natural Area, a dryland forest, and Keahiakawelo, windswept lands that contain what was first called “Garden of the Gods” in 1911- a place of rich traditional significance and unique geological formations. The south coast has Mānele and Hulopoʻe Bays and the Mānele Resort, which opened in 1991. Just to the west is the Keālia Kapu-Kaunolū traditional village and ceremonial complex, which also includes the remains of King Kamehameha I’s Lānaʻi compound and fishing retreat. Today, the north, or windward coast, is sparsely populated and includes extensive ancient sites/cultural resources as well as historical sites such as Federation Camp, the remnants of the Maunalei Sugar Company developed between 1898 to 1901, and Keōmoku Village. It is also the site of a failed visitor development known as Club Lānaʻi at Kahalepalaoa.

## LĀNAʻI HISTORY SUMMARY

The traditional history of Lānaʻi is rich and diverse, spanning some 800 years of Hawaiian residency, followed by a century of ranching, a brief sugar venture, and seven decades of pineapple plantation history.

Prior to human arrival the mountain zone was largely covered by a cloud-fog drip forest, the mid-lowlands were covered by dryland forests and native grasslands, and the coastal zone was host to many native plant species and life forms. Early Lānaʻi settlers came across the channels from Maui and Molokaʻi—in traditional lore, settlement occurred after Kaululāʻau, a young chief from Maui, killed the ghosts who initially inhabited the island. Charcoal layers indicate that the early settlers cleared sections of the lowland forests with fire to develop agricultural fields and as building sites<sup>1</sup>. Initial settlements were along the coasts or up the few deep valleys with intermittent water flow and springs. The largest villages were along the windward Keōmoku coast and the perennial Maunalei River valley, and along the leeward coast at Kaunolū. The latter site became the focal point of Lānaʻi’s religious, political and social community. Abundant ocean resources, combined with upland taro and sweet potato fields, provided food to the residents for centuries.

Individual districts or entire islands were governed by high chiefs during the early years of settlement. Later, as the population grew and spread inland, the governance system changed. Traditional land divisions called ahupuaʻa, which extended from ocean fisheries to the mountain peaks were established – developed to promote a healthy landscape and

<sup>1</sup> Kumu Pono Associates, 2011.



## FAST FACTS ABOUT LĀNA`I

### PHYSICAL FEATURES:

- Area - 140.5 square miles
- Sixth largest of main Hawaiian Islands and the smallest publicly accessible inhabited island
- Highest Elevation – Mount Lāna`ihale at 3,366 feet.
- Kalohi Channel separates it from Molokai Island to the north
- 'Au'au Channel separates it from Maui Island to the east

### POPULATION / DEMOGRAPHICS (2010 Census):

- 2010 population 3102 people; a decrease of 91 people from 2000.
- Population by Race – 56% Asian, 22.99% Two or more races, 14.02 White, 6.61% Native Hawaiian and other Pacific native, 0.16% Black or African American, 0.16% Some other race alone, 0.06% American Indian and Alaska native.
- Persons of Hispanic or Latino Origin (of any race) 254 or 8.19% of total population.
- Population by Age – 0 to 4 years: 7.58%; 5 to 17 years: 18.60%; 18 to 64 years: 58.96%; 65 years and over: 14.86%.

### EMPLOYMENT (2010 Census):

- 951 total primary jobs
- Five highest jobs by NAICS Industry Sector – Accommodation and food service: 574 jobs; Management of Companies and enterprises: 118 jobs; Arts, entertainment, and recreation: 55 jobs; Real estate and rental and leasing: 47 jobs; and Retail trade: 45 jobs.
- Jobs by earnings - \$1,250 per month or less: 88 jobs; \$1,251 to \$3,333 per month: 500 jobs; and more than \$3,333 per month: 363 jobs.
- Jobs by Worker Sex – Male: 497 jobs; Female: 454 jobs.

### FLORA AND FAUNA

- Sixty-four plant species listed as endangered, candidate, or species of concern.
- Lāna`ihale Forest Conservation Area - 3,588 acres of wet forest.
- Kānepu`u Preserve Natural Area - 590 acres of lowland olopua/lama dryland forest.
- Endangered 'Ua'u (Hawaiian petrel) in fern understory of Lāna`ihale forest.
- Mānele –Hulopo'e Marine Life Conservation District with coral reef, sandy beaches, and rocky habitats.
- Hawaiian monk seals, green sea turtles, spinner dolphins.

1 The first account of a western visitor to walk on Lānaʻi was recorded in 1828 (five years after the  
 2 Protestant mission station was established in Lāhaina). By this time, Lānaʻi's native population  
 3 had suffered significant losses, so the mission did not place a foreign resident on the island. The  
 4 historical record indicates that the first 'permanent' western residents on Lānaʻi settled the island  
 5 in 1853. These settlers were Mormon elders who had been refused access to land to develop a  
 6 colony for converts on other islands. The Mormon mission at Pālāwai (which they dubbed the  
 7 City of Joseph in the Valley of Ephraim), was abandoned by the elders in 1858, leaving the little  
 8 colony to some 100 Hawaiian converts. In 1861, Walter Murray Gibson, settled on Lānaʻi at the  
 9 Pālāwai settlement, and for a time worked to reposition the Mormon colony. By 1865, Gibson  
 10 was excommunicated from the Mormon Church, and the lands he acquired—with donations  
 11 from the Hawaiian converts—were held under his name as personal property. In 1874, Gibson  
 12 secured a lease on the lands which form the Kōʻele area, and he built his home there, as the  
 13 heart of a ranching operation on Lānaʻi. In between 1864 till the time of his death in 1888,  
 14 Gibson acquired fee-simple and/or leasehold title to nearly all the land on Lānaʻi, with the  
 15 exception of parcels retained by native tenant families who were granted lands as kuleana or in  
 16 Royal Patent Grants. The ranching operation initially focused on raising sheep and goats, with  
 17 smaller herds of cattle, horses and pigs. With the passing of time many of the animals became  
 18 feral, and their rapid increase in herd size on the island caused extensive damage to the  
 19 remaining forests and native vegetation during the mid-1800s to early 1900s.

20  
 21 The first plantation on Lānaʻi was a sugar mill started by Walter Murray Gibson's son-in-law,  
 22 Frederick Hayselden, who through his wife, Talula Gibson Hayselden, controlled most of the  
 23 land on Lānaʻi. The plantation venture focused on the lands extending from Maunalei to  
 24 Kahalepalaoa, with the primary seat of operations and the mill site, being established in the  
 25 area of Keōmoku. The plantation idea began to be developed by 1898, and was incorporated  
 26 in 1899, but went bankrupt in March 1901. During those years, laborers from Japan—smaller  
 27 numbers of Chinese, Portuguese, and Hawaiians—built a narrow gauge railroad, constructed  
 28 a wharf and planted sugar cane irrigated by water from Maunalei Valley and from a well  
 29 system developed both near shore and in the mountains.

30  
 31 With bankruptcy, the Gibson-Hayselden family lost control of Lānaʻi, and tracts of land began to  
 32 be sold to Charles Gay and family, who formally settled Lānaʻi in 1903. Gay recognized the  
 33 damage being done to the islands' resources by feral ungulates and began a program of  
 34 eradication—at times driving thousands of goats over the cliffs of Kaʻapahu along the  
 35 northwestern shoreline. At the same time, Gay also entered into an agreement with the  
 36 Territorial Governor to purchase all the government (Ceded) lands on Lānaʻi, with the deal  
 37 completed in 1907. For the first time, fee-simple title to some 99% of the island was held by one  
 38 family. The Gays ran into financial difficulties, and by 1910, a new ranch company was formed.  
 39 The owners elicited help from the Territorial Forestry Division and developed a plan to protect  
 40 the forest lands and carefully control herds of grazing animals. In 1911 George Munro was hired  
 41 as the ranch manager by the new owners, Lānaʻi Ranch Company. Munro was also dedicated  
 42 conservationist, and took on the task of halting the destruction of forest and loss of soil through  
 43 erosion and uncontrolled grazing. In this period, Munro recognized the value of the Norfolk Island

Pine Tree that Gibson had planted at Kōʻele in 1875, and initiated a program of planting Cook Island Pines across Lānaʻihale. He also had the remnant dryland forest of Kānepuʻu fenced in to protect the rare plant species of that region.

Having eradicated goats on Lānaʻi, George Munro introduced axis deer to Lānaʻi in 1920. In his later years, he lamented the introduction as a mistake. The axis deer were originally brought to Hawaiʻi in ca. 1865, given as a gift to Kamehameha V, and taken to the king's lands on Molokaʻi. Munro encountered the deer when he was working on that island in the 1890s. At the time of their introduction, hunting on Lānaʻi was controlled, open to employees of the ranch (generally the native families of Lānaʻi), and guests of the owners. As the deer herd became established, hunting deer was added to the recreational offerings on Lānaʻi. It was not until after World War II that the Territory of Hawaiʻi created a public hunting program. Since then, hunting axis deer and the mouflon sheep (introduced in the later 1950s) has become a way of life—subsistence and recreation—for Lānaʻi residents and others from around the state. Herds of these animals now roam the island and have caused severe deforestation, which diminishes the ability of Lānaʻi to capture moisture from the clouds and fog that recharge the island's aquifer.

In September 1922, James Dole purchased the island as a part of his Hawaiian Pineapple Company. In 1923 the groundwork for pineapple cultivation began and a new city of 40 buildings, laid out on a grid with Dole Park as the central town square. Lānaʻi City—composed of hundreds of buildings, with running water, electricity and other amenities—was formally debuted in January 1926, and accommodated the new plantation workers. The first major labor force was made up of Japanese, followed by Filipinos, and smaller groups immigrants from China, Korea, Portugal and other countries. Dole also built the Kaumālapaʻu Harbor and a water system which relied on Maunalei and the Lānaʻihale aquifer for water to supply the residents and irrigation needs of the plantation. The culturally diverse population that came to Lānaʻi in the 1920s is the foundation of Lānaʻi's population in the modern day.

The ranching operation, the longest surviving western business venture on Lānaʻi, was continued the first 30 years of the plantation. But as a result of the diminishing water resources and degradation of the pasture lands, the ranch was closed in 1951. The pineapple plantation continued to grow, and at one point some 18,000 acres of land were under cultivation, and Lānaʻi was known as the worlds' largest pineapple plantation. In 1961, Castle & Cooke purchased all interests of the Dole family in the Hawaiian Pineapple Company – Dole Foods, and In 1985, David H. Murdock bought Castle & Cooke, acquiring 98 percent of Lānaʻi as well. Under Murdock's tenure, Lānaʻi's economy shifted from agricultural-based to tourism-based. The Lodge at Kōʻele opened in 1990 and the Mānele Bay Hotel in 1991. After seventy years, the pineapple operations ended in 1992.

The effects of the island's previous businesses and decisions continue to be seen today. Agricultural operations required an extensive amount of clearing, the use of pesticides and fertilizers, and the widespread use of black plastic as a weed block. Feral ungulates caused continual loss of forest cover that ultimately resulted in a decreased aquifer recharge rate. In

1995, the State Commission on Water Resource Management modeled the groundwater system of Lānaʻi and predicted that reduction of forest cover would affect ground water levels drastically.

Many Lānaʻi residents made the shift from plantation agriculture employment to work in the visitor industry. Lānaʻi City today is the last intact plantation-era town in Hawaiʻi. In June 2012, Larry Ellison, CEO of Oracle Corporation, purchased Murdock’s holdings on Lānaʻi. Since the purchase, the management unit has been re-named Pūlama Lānaʻi.

## PLAN ORGANIZATION

Lānaʻi Community Plan 2013 Update is organized into thirteen chapters and an appendixes section with maps and background materials. This chapter is followed by Chapter 2 that explores Lānaʻi’s future – the vision, issues and opportunities including what is needed to sustain the resources, quality of life, and economy as well as what level of growth might be expected given current and projected future population and demographics.

**Chapters 3-13** incorporate the elements required by MCC 2.80B into the Lānaʻi Community Plan 2013 Update. Each chapter provides background, existing conditions, issues and strategies to address them, and goals, policies and actions. Chapters 3-5 cover the environment and the natural, cultural, and historic resources, as well as hazard mitigation to protect these resources and the community.

**Chapter 6** – Economic Development discusses the reliance on a single industry – luxury tourism – and the strategies to diversify the economy. This chapter is based on the extensive technical report and the two community engagement meetings.

**Chapters 7 and 8** discuss the existing and future needs for infrastructure, utilities, and public facilities and services. Traditional County services and capital improvement projects, such as transportation, energy, or water supply are essential for supporting the economy.

**Chapters 9 through 11** – Land Use, Urban Design, and Housing provide the policies and actions that will shape the future location and form of development. The Housing chapter looks at specific housing needs, such as low-income and aging-in-place, to provide a variety of housing options for a diverse community.

**Chapter 12 and 13** discuss Governance and Implementation. The chapter on governance looks at the current system and what changes in the system and function of governance are needed to guide the community toward a sustainable future. Actions from previous chapters are listed in the Implementation chapter in priority order, with cost estimates, timelines, and implementing agency. This table will facilitate funding decisions during the county budget process.



## 2 | LANA`I'S FUTURE

### 2A VISION AND GUIDING PRINCIPLES

We are Lāna`i – people who care. Lāna`i was and is the Pineapple Island: while the plantation is gone, the Pineapple remains the symbol of hospitality and warmth. We cherish our sense of ohana, in which people know each other, share, sacrifice, and take care of each other. We deeply value our rural lifestyle of being close to the land, a life spent outdoors. It is the history of our land and people that makes Lana`i different from other places. We honor and take care of our kupuna and nurture our children in a safe and peaceful place and we value, cherish and protect our environment and natural resources<sup>1</sup>. We honor our unique heritage by preserving many of our archeological and cultural sites and by maintaining Lāna`i City's special sense of place as the last plantation town in Hawaii.

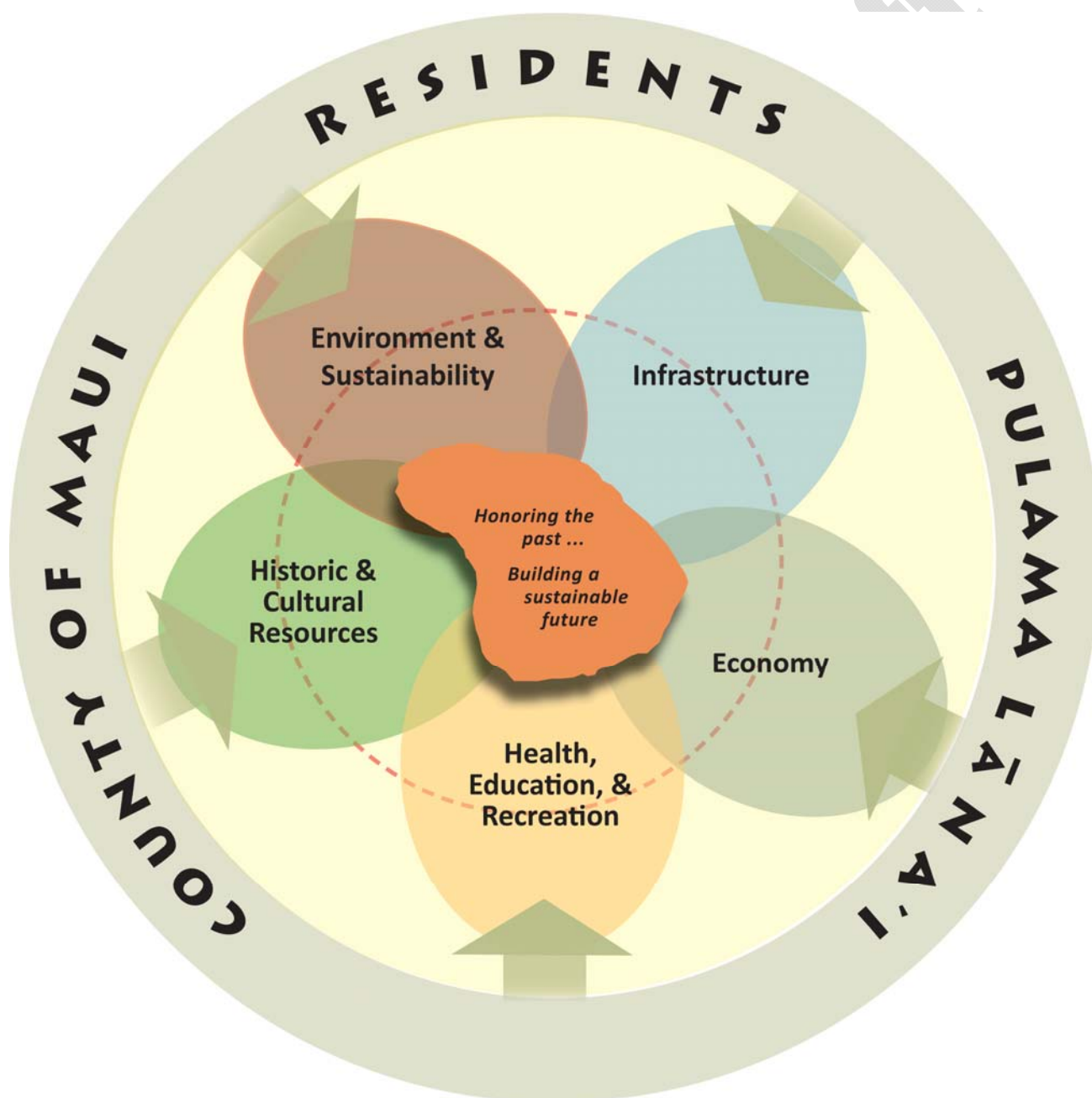
We recognize that Lanai faces many challenges in order to achieve a sustainable future. We must seek ways to expand our economy, provide for better healthcare, improve education, become energy independent and encourage self-sufficiency. As we strive to meet these challenges, we realize that we must work to preserve some things and accept those changes that do not fundamentally alter Lanai's unique character

We offer the following as guiding principles and goals for the future of the island:

- Diversify the economy to provide opportunities and resiliency through time.
- Provide opportunities for the island's keiki to live and work on Lana`i.
- We realize that in order to create more economic diversity and job opportunities, our population will need to grow. As a result we are committed to finding constructive ways to help assimilate the growing population into the community.
- Malama Aina: protect and restore the environment.
- Protect our water and provide efficient, effective, and environmentally sound infrastructure and services.
- Preserve the historic character of Lāna`i City and honor the Hawaiian culture through preservation of cultural sites.
- Maintain the rural lifestyle with its slower pace, open space, and connection to the natural environment.
- Ensure a healthy community that is supported by a full array of health care services for all members of the community.

<sup>1</sup> *Lana`i Island Water Use & Development Plan*, Dept. of Water Supply, County of Maui, February 25, 2011 DWS Amended Draft

- 1       • Expand educational opportunities to nurture children and inspire adults.
- 2       • Provide a variety of social and recreational faculties and opportunities for all ages.
- 3       • Preserve the subsistence lifestyle through traditional access for gathering, hunting,
- 4       and fishing.
- 5       • Establish trust to create a collaborative and respectful relationship between the
- 6       community and Pūlama Lāna`i.
- 7       • Establish Lāna`i as a model sustainable island – known for its bold integration of
- 8       innovative green technologies into a traditional rural island community.



## 2 B PROBLEMS AND OPPORTUNITIES

### INTRODUCTION

The identification of major problems and opportunities is required by Maui County Code 2.80B. This description is based, in part, on the 1998 Community Plan, which, in turn, was based on the formulation developed by the 1993 Citizen's Advisory Committee. Issues have been updated to reflect current conditions, and new problems and unique opportunities have been added.

### PROBLEMS

#### A. WATER AND THE FOREST ECO-SYSTEM

***Much of Lāna`i's forest eco-systems and water resources have been declining over the last century.*** Water and other natural resources on the island are vulnerable due to historical loss of forest cover and natural ecosystem functions as well as to the future effects of climate change. Lāna`i's forest systems are fragile and vitally important resource because the island's main aquifer relies, in part, on the 'cloud forest' for water recharge. Lāna`i's forest systems have been significantly altered since 'western' contact. Ungulates (sheep, goats, deer) have, over the past 150 years, decimated and denuded the forests and invasive species have taken over and crowded out native species. Fencing off the water recharge area of the watershed, and removing invasive vegetation and feral ungulates from the fenced off area is required. The planting of the Cook Pines in the early 20<sup>th</sup> century helped to create a cloud forest, but now the cloud forest (on Lāna`ihale) is in need of replanting.

#### B. LIMITED RECREATION, HEALTH CARE AND SOCIAL SERVICES

***There is a need for increased health care and social services.*** There is a shortage of in-home care services, hospice and nursing facilities and this problem will likely grow as the population increases. There is much concern within the Lāna`i community about the need to address social issues such as alcohol and drug abuse and child and spousal abuse. Meanwhile, youth and adults on Lāna`i have limited access to organized recreational and social activities – especially for teenagers (11-17) and young adults (18-30). In addition, recent immigrants and new arrivals are in need of support services to help them integrate into Lāna`i's community.

#### C. NEED FOR ECONOMIC DIVERSITY

***A narrow economic base provides limited economic opportunities for the island's residents.*** Since the end of the pineapple plantation, Lāna`i's economy has depended mainly on luxury tourism and resort home construction. The recent 'Great Recession' of 2009 – 2011 significantly reduced vacancy rates at the resorts and

curtailed luxury resort home construction, resulting in lower employment and some out-migration as people left the island to find work. Limited employment opportunities are a constraint to residents' ability to achieve a higher standard of living. Because Lānaʻi relies on a single industry, the island is vulnerable to the fragility of the luxury tourism and resort housing markets. The particularities (i.e. the management structure) of luxury resort employment, and the boom and bust cycles of home construction, provide little incentive for the youth of the community to remain on - or return to - the island. A more diversified economy would provide greater opportunities for Lānaʻi residents to live and thrive on the island.

#### D. NEED FOR PRESERVATION OF HISTORIC CHARACTER

***Lānaʻi's historic and cultural resources are truly unique in the state and the country, but many of these resources are threatened by incremental demolition and by 'demolition by neglect'.*** Lānaʻi City is the state's *last* intact plantation town, filled with houses and other structures that are not only part of the personal histories of many families but also represent a significant chapter in Hawaiʻi's social history but the integrity of the historic town is being eroded by the demolition of contributing buildings. As a result, it is essential that the protection, preservation and restoration of the town's historic structures are part of the town's future: there is a need for a comprehensive strategy for historic preservation. The historic plantation town character of Lānaʻi City needs to be maintained through restoration, rehabilitation and preservation of existing structures as well as through careful integration of new structures. Furthermore, whole areas of the island's cultural resources and landscapes could be significantly altered and transformed by the development.

#### E. LIMITED HOUSING OPTIONS

***The availability and the variety of housing types on the island are limited.*** While the housing 'crisis' eased somewhat during to the economic recession of 2008-2011, in 2013 with increased economic activity on Lanaʻi, there is a shortage of affordable housing options available. There is a lack of entitled land to build new housing, except within the Koele and Manele Project Districts. New housing needs to be developed to meet the needs of working families as well as for the short term workers who are on island for contract work. In addition, there is a limited variety of housing types available. New housing choices are needed for singles, elderly, renters and first time home buyers. However, there is also a concern that inappropriate and insensitive new housing and development could negatively alter Lānaʻi's unique rural character. New development -- residential and commercial -- should respond to community needs while respecting and enhancing Lānaʻi City's rural plantation town character.



## F. TRANSPORTATION LIMITATIONS AND COST

***The island suffers from an extremely limited number of options for freight shipments and for personal transportation.*** As one of the smallest islands (and least populated, with the exception of Nīihau) in the most isolated island chain in the world, Lāna`i suffers from expensive transportation costs for freight, goods, and people. Limited freight transportation to the island – by sea barge and air freight -- contributes to high costs of groceries, fuel, and goods. Limited airline seats and flights inhibit both the number of tourists who can visit the Island, as well as opportunities for residents to travel off-island. Increased transportation services is seen by the island's community as essential for economic development.

## G. AGING INFRASTRUCTURE

***Many of Lāna`i's infrastructure systems are old, inadequate, and require extensive renovation or redevelopment to meet existing and future needs.*** As Lāna`i City nears its centennial — since its founding in 1922, many of its infrastructure systems are old and need to be repaired, replaced, and/or expanded. For example, the water transmission system has leakage rates above industry standards. The current landfill is nearing capacity – it is estimated to be full by 2020. A new landfill site will be needed, or the island will have to start shipping solid waste off-island. A drainage master plan was prepared for Lāna`i City and the Koele project district in 2006 but have not been fully implemented. Furthermore, there is a desire to create infrastructure systems that have enough capacity and are designed with the resiliency to face the challenges of the next century. Electric power is more expensive on Lāna`i than other Hawaiian islands; as a result, many residents expressed a desire to develop renewable sources of electricity and fuel.

## H. RELATIONSHIP WITH MAJOR LANDOWNER

***The relationship between the island's previous major landowner and the community was historically difficult.*** One of the issues identified through workshops and interviews was the poor working relationship between residents and the island's previous owner - Castle and Cooke Resorts (CCR). - Communication between CCR's management and community members was strained, resulting in an eroded sense of trust over the past two decades. In part, this may have been due to the unusual nature of Lāna`i being a 'company town'. However, now that CCR holdings on the island have been sold to Pūlama Lāna`i, there is an opportunity to rebuild a more positive relationship between 'the Company' and the islands' residents. In addition, the relationship of the Lāna`i community to the County government is also unusual: many government services and functions are based on Maui and Oahu, which makes it difficult for Lāna`i residents to access. This gap makes it almost impossible for residents to participate in meetings and hearings on issues that directly affect the island when they are held on Maui.

## **OPPORTUNITIES**

### **A. MALAMA AINA: COMMUNITY ENVIRONMENTAL RESTORATION**

***There are ongoing programs to restore Lāna`i's watershed which is essential to maintaining its water supply and natural resources.*** Environmental restoration is an opportunity for all residents and visitors to share common goals and objectives of preserving and protecting Lāna`i's natural resources. The multiple benefits of conserving and restoring the forest ecosystem - aquifer (groundwater) recharge (for water supply), healthy habitats for fish and game, protection of native flora and fauna, and recreation – have been recognized and are valued by Lāna`ians. Residents, the Company, state agencies, and non-profit groups have accomplished initial forest restoration projects and are continuing these efforts. Additional community stewardship for forest restoration could engage groups such as youth, hunters, fishermen, and eco-tourists. Working together will not only help build trust between different groups in the community, but will also accelerate restoration.

### **B. WATER USE AND DEVELOPMENT PLAN**

***The county's Water Use and Development Plan provides a guide to how the island's water system can be improved.*** Water conservation actions identified in the *2011 Water Use and Development Plan*<sup>1</sup> provide specific measures individual citizens, 'the Company', landowner(s), and government agencies could use to reduce consumption and avoid over-pumping of the aquifer, prevent pollution, and reduce operational costs as well. Actions such as: allowing laundry to be hung outside to air-dry, re-using household greywater, and increasing recycling of water and wastewater are all relatively inexpensive and simple measures that could be implemented relatively quickly.

### **C. DESALINATION**

***The new landowner is exploring the option of developing desalination plants that would create water out of salt water.*** Producing water through desalination would greatly decrease the potential of over-withdrawal of the high level aquifer and there could be adequate water supply for the re-introduction of substantial agricultural operations, irrigation of the golf courses, landscaping and for human consumption. Desalination creates brine as a by-product: this could be used to create ice for (seafood) packing operations.

### **D. INTACT HISTORIC CHARACTER OF LANA`I CITY AND THE ISLAND**

***The historic character of Lāna`i City and the island is relatively intact and provides a solid foundation for the future.*** Lāna`i City is an idyllic small town with a unique sense of place due to its historic character. The plantation small town

lifestyle and sense of `ohana, draws not only former residents but also visitors back time and again. The 'ohana' lifestyle which creates a supportive network of neighbors and residents is viewed by locals as an opportunity to facilitate problem solving which can benefit the greater community. The intact historic character of Lāna`i City should be seen as an asset for both residents and visitors. Its unique character could be enhanced by additional restoration and adaptive re-use of historic buildings and careful integration of new development. The urban design of Lāna`i City centralizes housing and commercial services: this development form can be easily replicated and adapted to include additional forms of housing. Its rural character and sense of place could be maintained through the implementation of design guidelines. Historic resources and landscapes in other parts of the island - Keomoku, Keahiakawelo, Maunalei - could also be seen as assets, adding to the special character and sense of place that is unique to Lāna`i.

#### E. NEW MAJOR LANDOWNER

***Having a new landowner provides new opportunities to create a stronger relationship between the community and Pūlama Lāna`i and to initiate a clear program for economic development.*** In June 2012 David Murdock, owner of Castle and Cooke Resorts, announced that he was selling most of his holdings on Lāna`i to Larry Ellison, who has created a new ownership/management entity - Pūlama Lāna`i. Pūlama Lāna`i management have expressed their vision to the community and are interested in involving the community while preserving the islands precious resources. Pūlama Lāna`i is interested in new projects, new enterprises and new investment on the island. This is a great opportunity that could help to diversify the island's economy, and implement a new vision for the future of Lāna`i. There are benefits of having a single major property owner: it is possible to facilitate faster negotiations and decision making, and it could be easier to marshal resources to pursue new ventures.

#### F. HUNTING

***Subsistence hunting by residents and the cottage industry of hunting-tourism are important activities on the island, both economically and environmentally.*** Hunters come to the island to hunt Axis Deer as well as Mouflon Sheep: hunting can be part of the game management strategy to control the feral ungulates on the island. Hunting is an economic engine for the island: hunters bring money into the economy, specifically to local businesses and hunting operations, and provide the livelihood for numerous residents and businesses. The Hunting Advisory Council, comprised of local operators, believes that Hunting tourism could grow if there were more accommodations available serving the needs of hunter-tourists.

## 2 C SUSTAINABILITY AND CLIMATE ADAPTATION

### A. INTRODUCTION

While not required by MCC 2.80B, events in Hawaiʻi and elsewhere (for example, Katrina, Superstorm Sandy, the Tsunami and Earthquake in Japan) make it imperative to consider and deal with the issues of sustainability and climate change in this long range plan for Lānaʻi.

The intent of this 2012 update is to help establish a sustainable and resilient future for Lānaʻi. This update works with the County of Maui's **Community Wide Policy Plan**, which was developed in 2005-2008 and approved by Maui County Council in March 2010. While the **Countywide Policy Plan** lays out broad goals and policies for the County, the Lānaʻi Community Plan develops more specific and detailed guidance and articulates specific actions that are intended to serve the island for the next 10 years and beyond.

Rather than establish a new, separate chapter, and distinct set of goals, objectives, policies, and actions regarding sustainability and climate adaptation, the update to the Lānaʻi Community Plan integrates sustainability principles throughout the plan. This section provides an introduction and brief guide to how sustainability and climate change adaptation are woven into the fabric of the plan's update through a variety of policies and actions throughout the various elements of the plan.

### B. SUSTAINABILITY

'Sustainability' has become a fundamental concept within comprehensive and community planning over the past decade. It refers to the ability to address the needs of the present without compromising the ability of the future to meet their own needs. It requires a need to consider the long term environmental, social, cultural and economic costs of present day actions.

Sustainability is a particularly important concept in a region as fragile and remote as the Hawaiian Islands. In 2006-2008 the State of Hawaiʻi developed the first long range plan for the State in 30 years - **Hawaiʻi 2050 Sustainability Plan (2008)**. The plan was developed through extensive citizen participation and includes a definition of sustainability for/in Hawaiʻi.

## **DEFINITION OF SUSTAINABILITY IN HAWAI`I**

### **From *Hawai`i 2050 Sustainability Plan* (2008)**

*A Hawai`i that achieves the following:*

- *Respects the culture, character, beauty and history of our state's island communities*
- *Strikes a balance between economic, social and community, and environmental priorities*
- *Meets the needs of the present without compromising the ability of future generations to meet their own needs*

The updates to the County of Maui's General Plan – which includes the Countywide Policy Plan, The Maui Island Plan, The Lana`i Community (Island) Plan, the Molokai Community Plan, and the Community Plans on Maui Island – embrace this concept of sustainability, along with the guiding principles in ***Hawai`i 2050***.

In 2011 the Hawai`i State legislature enacted into law State Bill 283, which established sustainability as a state priority by incorporating the Hawai`i 2050 Priority guidelines and principles into Chapter 226, the Hawai`i State Planning Act, of the Hawai`i Revised Statutes.

### **Guiding Principles of Sustainability – Hawai`i 2050**

HRS 226-108

*Priority guidelines and principles to promote sustainability shall include:*

1. *We balance economic, social, community and environmental priorities.*
2. *We respect and live within the natural resources and limits of our islands.*
3. *We must achieve a diversified and dynamic economy.*
4. *We honor the host culture.*
5. *We make decisions based on meeting the present needs without compromising the needs of future generations.*
6. *The principles of the ahupua`a system guide our resource management decisions.*
7. *Everyone — individuals, families, communities, businesses and government — has a responsibility for achieving a sustainable Hawai`i*

## 1    **C. CLIMATE CHANGE ADAPTATION**

2    Climate change, along with impending shortfalls in the supply of fossil fuels, will become  
3    increasingly serious before the middle of the 21st century, and will have profound impacts for  
4    societies all over the world, including for the Hawaiian Islands. Indeed, it is anticipated that  
5    island communities, around the world, will be affected most severely.

6    Climate change will profoundly affect not only Hawai`i's natural environment but also its  
7    communities. Lives and property will be at risk. Major climate change effects expected for  
8    Hawai`i include: warmer temperatures; increases in heat-related deaths and illnesses; sea-  
9    level rise with resultant flooding, beach erosion, and damage to coastal property; sea surface  
10    temperature increase and ocean acidification with negative impacts to coastal and marine  
11    ecosystems; increased frequency and severity of storms, with increased vulnerability to storm  
12    damage; and increased drought with variable effects on stream flows and freshwater  
13    resources. These effects will adversely affect communities and sectors throughout Hawai`i,  
14    including the economy (agriculture, tourism, fisheries, and trade), the built environment,  
15    historic and cultural resources, infrastructure systems, and the environment and natural  
16    resources.

17    While the precise timing and impact cannot be predicted, it is clear that significant climate  
18    adaptation measures will be needed very soon. The intensity of climate change impacts in  
19    Hawai`i can, to a significant degree, be mitigated. By taking action now, it is possible to  
20    reduce potential damage in the future.

21    In July 2012 the Hawai`i State legislature enacted into law State Bill 2745, which amended  
22    the Hawai`i State Planning Act, Chapter 226 HRS, by adding climate change adaptation  
23    priority guidelines.

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**HRS §226- Climate change adaptation priority guidelines.**

*(a) Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture, conservation lands, coastal and near shore marine areas, natural and cultural resources, education, energy, higher education, health, historic preservation, water resources, built environment (such as housing, recreation, transportation), and the economy:*

- (1) Ensure that Hawai`i's people are educated, informed, and aware of the impacts climate change may have on their communities;*
- (2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;*
- (3) Invest in continued monitoring and research of Hawai`i's climate and the impacts of climate change on the State;*
- (4) Consider Native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;*
- (5) Encourage the preservation and restoration of natural landscape features (such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands) that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;*
- (6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;*
- (7) Promote sector resilience (in areas such as water, roads, airports, and public health) by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;*
- (8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other non-governmental entities, including nonprofit entities;*
- (9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and*
- (10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy."*

2

## **D. WORKING TOWARDS A SUSTAINABLE AND RESILIENT LĀNA`I**

The following lists the key strategies, (policies + actions) within the Lāna`i Community Plan that are intended to establish Lāna`i as a sustainable and resilient island, one that can adapt to a changing climate.

### ***Protection, Management and Restoration of Natural Resources***

- Water: protect watershed recharge areas
- Protect and restore cloud forest to help increase fog drip
- Reduce destruction of forest by invasive animals and plants
- Improve shoreline water quality through stormwater management
- Increase public stewardship of natural resources

### ***Renewable Energy***

- Increase the amount of electricity generated for Lāna`i by renewable sources (PV, Wind, Bio-Diesel, Bio-fuels, etc)
- Promote the use of electric vehicles – charged by renewable electricity
- Promote solar hot water heaters for residential users
- Explore options for bio-fuels and bio-diesel
- Explore waste-to-energy technologies using solid waste

### ***Green Infrastructure***

- 100% of wastewater is re-cycled for irrigation
- Explore options for re-use of household greywater for garden irrigation
- Expand recycling program to reduce solid waste
- Stormwater management to improve water quality
- Develop plan to replace Cook Island Pines with native species.
- Develop greenways/trails/bike/ped master plan

### ***Climate Change adaptation, management, and mitigation***

- Incremental adaptation of boat harbors due to sea level rise
- Manage and mitigate aquifer recharge as precipitation levels change
- Increase water conservation and re-use

### ***Hazard mitigation***

- Relocate critical structures out of tsunami inundation zone
- Increase public awareness re: fire hazard
- Increase emergency preparedness through education

### ***Food Security***

- Expand community gardens
- Expand production of non-GMO locally grown food
- Support Future Farmers of America and 4H programs



***Sustainable growth and green building***

- Direct growth to existing entitled land areas
- Focus growth in areas with existing infrastructure

***Diversified Housing for all stages and ages of life***

- Permit new housing types (such as ‘granny cottages’, ohana units, townhouses, seniors supportive housing, co-housing) for all stages and ages of life

***Protection, Management and Restoration of Cultural and Historic Resources***

- Protect and maintain all archaeological and cultural sites
- Protect Lāna`i City’s historically significant buildings and urban design
- Preserve and enhance scenic vistas

***Economic Diversification***

- Diversify Lāna`i’s economy by introducing new industries
- Diversify Lāna`i’s tourism sector
- Establish sustainable agriculture to Lāna`i
- Expand education and support services for small businesses and agriculture
- Expand sea and air transportation options for Lāna`i

***Maintain and enhance sense of place***

- Rural/country town roadway design standards for Lāna`i City
- Protect historic plantation town character of Lāna`i City
- Promote planting of drought tolerant and native plants
- Develop new growth areas sensitively and sustainably
- Maintain distinct communities separated by open space

***Education and Social Services for the 21<sup>st</sup> Century***

- Expand primary care and emergency care on the island
- Expand in-home care, extended care and hospice facilities and services
- Increase college level education available on island
- Expand park facilities
- Expand recreational opportunities
- Improve the quality of the schools on Lāna`i
- Provide services for families in crisis (shelters, etc)

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# 3 | ENVIRONMENT AND NATURAL RESOURCES

## A. INTRODUCTION

Lānaʻi's native ecosystems have been significantly changed by clearing and degradation of the once extensive wet and dryland forests. Hoofed animals, initially free-range and later feral (wild), critically damaged the forest understory and tree roots, which eventually destroyed large forest areas. Invasive plants became established on bare forest lands, which resulted in increased erosion, native species loss, and reduced water recharge of the aquifer. Invasive plants, animals and insects decimated native species, such as forest birds, and decreased bio-diversity creating a less resilient forest ecosystem.

Protection and restoration of Lānaʻi's forest ecosystems directly helps to ensure a sustainable water supply, and to reduce erosion, surface water runoff, flooding, and siltation of reefs and ocean waters. The forest ecosystem greatly influences many elements of the Lānaʻi's community – natural and cultural resources, recreation, agriculture, tourism, infrastructure, and economic viability. Recent studies have calculated financial values for services provided by forest ecosystems (see Appendix 3.1).

*A University of Hawaiʻi study examined the various services provided by Oʻahu's Koʻolau forests - including water recharge, water quality, climate control, biodiversity, and cultural, aesthetic, recreational, and commercial values. These services were calculated to have a net present value of between \$7.4 and \$14 billion. Approximately half of that amount is attributed to the forest's contribution to ground and surface water quality and quantity. Other watersheds across the state were estimated to be comparable in value.<sup>1</sup>*

## Background

By the mid-1800s the damage to forests by feral ungulates (hoofed animals) was well known on Lānaʻi. In the early 1900s, state agencies, conservationists, and agricultural lobbyists called for eradication of feral goats to protect the wet forest and Lānaʻi's limited water supply. Goats were eventually eradicated, but other ungulates, axis deer and mouflon (European big horn) sheep, were introduced for hunting in the 1920s and mid-1950s, respectively.

Lānaʻi is the driest of the inhabited Main Hawaiian Islands. The island relies on the remaining native wet forest and the thick fern understory to capture moisture, or fog drip, from passing clouds to recharge the aquifer. In 1995, the State Commission on Water Resource Management modeled Lānaʻi's groundwater system and predicted that reduction of forest cover would drastically affect ground water levels. The model indicated that fog drip contributes approximately 50% of the island's fresh water in the central aquifer region<sup>2</sup>, and

1. DLNR, State of Hawaiʻi, The Rain Follows the Forest, 2011, page 4.

2. Stokes, Darrell. Final EA Lānaʻi hale Forest Stewardship Plan, Lānaʻi Company, August 2000.

these findings are supported by recent studies by County of Maui Department of Water Supply and others.<sup>3</sup>

### Existing Conditions

Lāna`i retains the agricultural (52%) and small town (4%) land use designations of its former pineapple cultivation period combined with conservation (42%) land use designations. Only a small percentage of the agricultural land is in production. Two main forest conservation areas protect the wet forest on the Lāna`ihale summit and Kanepu`u, a large, significant dryland forest. Most vegetation outside of Lāna`ihale or Kānepu`u is non-native. Currently, 64 native plant species are listed as endangered, candidate, or species of concern, 70 native plant species have disappeared, and only one of eight native forest bird species remains.<sup>4</sup>

The Lāna`ihale cloud Forest Conservation Area has 3,588 acres, with 2300 acres fenced, yet axis deer and mouflon sheep are still within the fenced area. The dark night sky of Lāna`i has helped to retain a large colony of `ua`u (Hawaiian petrel) that nest in the fern understory of Lāna`ihale forest. The highly invasive strawberry guava plant has become established and is destroying the native forest structure that sustains a healthy watershed and aquifer. A healthy native forest is beneficial in providing habitat for the survival of endangered and endemic native plants and animal species. In 2006, control efforts began against invasive predators for the protection of the Hawaiian Petrel colony on Lāna`i, the second largest in Hawai`i. In 2008, research and removal efforts began for the strawberry guava that is displacing habitat for the Hawaiian Petrel nesting grounds and native forest structure. Soil loss, from 200 acres of denuded land around Lāna`ihale, is estimated at upwards of 2,200 tons per year.<sup>5</sup>

The Kānepu`u Preserve, Lāna`i, Natural Area Partnership, is seven sections that total 590 acres of lowland olopua/lama (native trees with cultural importance) dryland forest. Early fencing in 1911 saved this forest from destruction by goats. Recently the Nature Conservancy, in partnership with Castle & Cooke Resorts, replaced the fence and developed a management plan for the 48 species of native plants. Many of these plants are being out-planted to establish new restoration areas. The Lāna`i Forest and Watershed Partnership oversees 20,000 acres of lowland mesic (moderate) and dry communities, including Lāna`ihale acreage. The Lana`i Native Species Recovery Program has been receiving Watershed Partnership Program funds to carry out invasive weed control, fence upgrading, and fence maintenance. The focus is on fenced State Department of Land and Natural Resources (DLNR) Priority I and II areas<sup>6</sup>, but future plans call for additional fencing, feral animal removal and native plant restoration. DLNR and US Fish and Wildlife have been working to keep conservation action on-going.

3. Lāna`i Island Water Use & Development Plan, Dept of Water Supply, County of Maui, February 25, 2011 DWS Amended Draft.

4, and 5. Stokes, Darrell. Final EA Lāna`i hale Forest Stewardship Plan, Lāna`i Company, August 2000.

6. DLNR, State of Hawai`i, The Rain Follows the Forest, 2011, Map page 5.

The entire island is in the Hawaiian Islands Humpback Whale National Marine Sanctuary. The Sanctuary was created by Congress in 1992 to protect humpback whales and their habitat and constitutes one of the world's most important humpback whale habitats. The National Oceanic and Atmospheric Administration (NOAA) and the State of Hawai'i's DLNR jointly manage the Sanctuary.

On Lāna`i's south shore the State DLNR's Division of Aquatic Resources manages two areas to protect ocean resources. These ocean resources, coastal reefs, fish, and mammal species, are affected by excessive sediment and other water quality pollutants, recreational over-use, and over-fishing. The Manele-Hulopo`e Marine Life Conservation District, 309 acres, was established in 1976 to protect species associated with shallow coral reef, sandy beach, and rocky habitats; and to protect Hawaiian monk seals, green sea turtles, spinner dolphins, and other marine mammals. The Manele Harbor Fishery Management Area sets limits on fish harvest and defines the fishing season and fishing areas.

## B. ISSUES AND STRATEGIES

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**Issue 1: Forest ecosystems are declining due to erosion, loss of native species, and an increase in invasive animal and plant species.**

**Strategy 1a:** Increase public understanding of and support for the importance of forest ecosystems and watersheds to both the environment and the economy. Increase collaboration and stewardship to effectively implement actions. Build on existing stewardship efforts and increase programs for community groups, schools and individuals to become involved.

**Strategy 1b:** Increase efforts for prevention, control, and eradication. Evaluate existing prevention policies to close loopholes, such as a lack of regulations for imported nursery plant materials, or effective game management. Increase public outreach to build support for funding inspectors, research, and control or eradication.

**Issue 2: Excessive eroded sediment from forests, agricultural lands, gulches, and development sites enters surface and ocean waters. In addition, golf courses, households, business, and farm practices may contribute other pollutants, such as chemicals or fertilizers through discharges into soil or water.**

**Strategy 2:** Develop a landowner/business toolbox of green infrastructure best management practices to intercept and reduce sediment and other pollution sources in surface water run-off and coastal waters.

## C. GOAL, OBJECTIVES, POLICIES, AND ACTIONS

**GOAL** Lāna`i's land and water environments and natural resources must be protected, restored, and preserved for future generations.

### Objectives

- Increase fog drip by restoring the native forest on Lāna`ihale.
- Reduce runoff by re-establishing ground cover in denuded areas around the island.
- Increase infiltration for aquifer recharge.
- Reduce destruction of forests by invasive animal and plant species.
- Strengthen native forest ecosystems.
- Improve aquifer and marine water quality.
- Increase public stewardship of natural resources.

### Policies

1. Protect, preserve, restore and enhance Lāna`i's existing forest ecosystem, including Maunalei Gulch.
2. Protect existing, and potential, watershed recharge areas.
3. Protect and restore biodiversity, native habitats, and native plant and animal species, through conservation, land management, education, and control of invasive species..
4. Recognize and support agricultural, forestry and game management as key elements in maintaining, preserving and protecting Lāna`i's land, water and marine resources.
5. Protect and, where appropriate, restore Lāna`i's coastal resources and water quality through green infrastructure best management practices for surface water management.
6. Support the Marine Life Conservation District at Manele/Hulopoe Bays.
7. Support maintaining and expanding the existing boundaries of the Kānepu'u Preserve.
8. Support a system of floating preserves (adaptable areas of protection) as a means of managing nearshore coastal resources.
9. Encourage and support the establishment and expansion of native plant species, utilizing appropriate practices and techniques for propagation, planting, and distribution of native plant species.

1 **Actions**

2

<b>Table 3.1 Environment and Natural Resources</b>				
<b>No.</b>	<b>Action</b>	<b>Policy #</b>	<b>Lead County Agency</b>	<b>Partners</b>
3.01	Map primary water recharge areas for highest protection and restoration effort. Map secondary water recharge areas that may be susceptible to pollutant infiltration.	2	Dept of Planning	Pūlama Lāna`i , or assigns USGS
3.02	Protect and restore both wet and dryland forests. <ul style="list-style-type: none"> <li>Develop specific actions, baseline survey maps, and key messages.</li> <li>Increase implementation capacity and on-going stewardship.</li> <li>Continue efforts to control feral animals.</li> <li>Conduct or coordinate public education and involvement events to increase community stewardship..</li> <li>Install interpretive signage,</li> <li>Educate shipping companies on invasive species</li> <li>Develop native tree planting program and establish nursery.</li> <li>Re-establish Forest and Watershed Partnership.</li> </ul>	1,3	Environmental Coordinator	DLNR Pūlama Lāna`i Community Groups Office of Economic Development Maui Nui Seabird Recovery Project's Lana'i Native Species Recovery Program and other non-profit groups State Department of Education Lana'i Forest and Watershed Partnership
3.03	Develop a toolbox of green infrastructure best management practices.	5	Department of Planning	Department of Public Works Non-profits State Greenway Program
3.04	Develop a toolbox of best management practices (BMPs) for use by citizens and business to improve ecosystems and water quality, in urban areas <ul style="list-style-type: none"> <li>Provide assistance or workshops on BMPs and education to change business and household practices</li> </ul> Maintain a website for public education on water quality pollution prevention and BMPs.	3,4, 6	Department of Planning	Department of Public Works Environmental Coordinator
3.05	Use system of roads or trails as firebreaks. Construct small water storage reservoirs for fire suppression in consultation with the landowner(s).	1,3	Fire Department	Pūlama Lāna`i DLNR (see Action 7.25)
* Future references to Pūlama Lāna`i in the Action tables will include both Lāna`i Resorts, LLC or assigns.				

1 **Actions**

<b>Table 3.1 Environment and Natural Resources Actions</b>				
<b>No.</b>	<b>Action</b>	<b>Policy #</b>	<b>Lead County Agency</b>	<b>Partners</b>
3.06	Hold educational forums on the protection of coastal waters to discuss current activities and programs, e.g. Hawaiian Islands Humpback Whale National Marine Sanctuary, or fish farms and water quality issues.	6, 8	Environmental Coordinator	DLNR-DAR Non-profits NOAA
3.07	Coordinate with landowner(s) to construct small-scale water retention projects to increase infiltration to the aquifer and control surface flow. Include bioretention methods to reduce sediment and nutrient loads from entering coastal waters.	2, 5	Dept of Public Works	Pūlama Lānaʻi DLNR NRCS Non-profits
3.08	Conduct outreach to agricultural, ranching, and development interests to implement best management practices to reduce herbicides and pesticides.	4, 5	Environmental Coordinator	Pūlama Lānaʻi College of Tropical Agriculture and Human Resources (CTAHR) Natural Resource Conservation Service (NRCS)
3.09	Complete County inventory of scenic value lands to identify scenic resources. Combine and map scenic resources with State's highest priority ecological areas to identify areas for protection.	1, 3, 7	Dept. of Planning - LRD	DLNR
3.10	Work with National Oceanic and Atmospheric Administration (NOAA) to initiate a Lānaʻi Makai Watch program to provide education and community involvement in the stewardship of the coastal areas.	6, 8	Environmental Coordinator	
3.11	Develop a quarantine and inspection process for imported plant species.	1, 3, 4	Environmental Coordinator	State Department of Agriculture Pūlama Lānaʻi
3.12	Work with Pūlama Lānaʻi to establish a feral animal control program, conduct comprehensive study, and apply appropriate game management techniques.	1,3,4,7	Environmental Coordinator	DLNR Pūlama Lānaʻi Lānaʻi Hunting Advisory Group

2



## 4 | HAZARD MITIGATION

### A. INTRODUCTION

Hazards from natural forces have been measured in Hawaiʻi since the early 1800s. Yet, within communities, there is limited preparation for, and knowledge of, the different types of hazards and their associated risks. In 2002 the U.S. Geological Survey (USGS) published the *Atlas of Natural Hazards in the Hawaiian Coastal Zone* that compiled the historical trends and natural factors that influence whether a site is vulnerable to hazards. The USGS report cautions that:

*...given the small size of Hawaiʻi State, an area that does not have a prerecorded history of a natural hazard occurrence does not preclude it from being affected in the future.<sup>1</sup>*

Hazard mitigation plans seek to reduce risk to people and property from natural and human created hazards. The 2010 *Maui County Multi-Hazard Mitigation Plan*<sup>2</sup> covers the natural hazards (tsunamis, hurricanes, et al.) identified in the USGS report and several additional hazards - dam failure, drought, wildfire, and hazardous substances.

### Background

In the USGS report, historical records provide an estimated recurrence cycle of every 23 years for a damaging tsunami reaching Molokai and Lānaʻi. However, it had been over fifty years between the last damaging tsunami on Molokai in 1957 and the two recent tsunamis generated by earthquakes in Chile (2010) and Japan (2011). Cost of damages to docks at Mānele Bay from these last two tsunamis ranged from \$1.5 million to \$2 million, but no human lives were lost.

Lānaʻi, as the most arid inhabited Hawaiian island, is at high risk for fire. Nine out of ten wildfires are human caused and pose a high risk to human life, property, and natural resources. Lānaʻi has been fortunate with only two wildfires in 27 years, but just these two fires burned over 3500 acres.

Nationally, the topic that is challenging disaster recovery workers is how to build resiliency – the bounce-back capabilities – into communities. First, people must recognize the inherent risks involved in their choices of where and how to live. Then the community “adopts approaches that eliminate, reduce, mitigate or transfer those risks in ways that make them more manageable over the long haul”<sup>3</sup>.

1. Fletcher, et al, *Atlas of Natural Hazards in the Hawaiian Coastal Zone*, United States Geological Survey, 2002, page 3-1.

2. Martin & Chock, *Maui County Multi-Hazard Mitigation Plan*, 2010.

3. Ben Brown, *What is Resilience? In A Roadmap to Resilience: Towards a Healthier Environment, Society and Economy for South Alabama. A Report by the Coastal Commission of Alabama*, December 2010, page 4.05.

Recent resilience studies have found the following:

Communities with strong disaster resilience capabilities were often those that were already doing well at the things citizens and businesses most value – having leaders that people trust and institutions that work, having a healthy environment, having a regularly maintained infrastructure designed to anticipate stresses, and having a flexible economy that provides opportunities for broad cross-sections of workers and investors.<sup>4</sup>

### Existing Conditions

Hazardous conditions that have increased significantly over time are erosion, drought, and the risk of sea-level rise with climate change. These hazards are affected by human activities. With Lāna`i City located at a high elevation, most of the community lives in a relatively safe area from coastal flooding and tsunami dangers. However, recreational activities take them to the remote Keomoku coastline or Mānele Bay - both areas are at high risk from tsunamis. These low-lying coastal areas of the north/northeast and southern shores are susceptible to coastal flooding, coastal inundation from tsunamis and sea level rise, and storm surge. Areas of the tourist resort at Mānele and the entire campground at Hulopoe are located in these inundation zones.

The entire island is subject to high drought conditions and is vulnerable to fire hazards. Currently in Lāna`i City there is one fire station with a five person crew, and at Mānele there is not a fire station and only one paved access road.. For disaster warning there are two sirens on island with a half-mile radius each. Sirens are located in Lana'i City and above Mānele Resort. Helicopter(s) are used for warning the remote coastal areas.

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4. Ben Brown, IBID, page 4.04

## B. ISSUES AND STRATEGIES

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**Issue 1: There is low public awareness of disaster preparation, response, and post-disaster recovery planning.**

**Strategy 1:** An increase of local disaster preparation and inter-agency coordination will improve community resiliency to disasters. Improve distribution of information on disaster preparedness and response to community and visitors.

**Issue 2: There is a high risk of wildfires on the entire island.**

**Strategy 2a:** The State Division of Forestry and Wildlife and County of Maui Fire and Police Departments need to coordinate the community's response and evacuation plan to wildfires. Distribute public information on fire prevention and evacuation routes to community and resort employees.

**Strategy 2b:** Prepare by maintaining the fire breaks and evaluating the adequacy of the water supply for fire emergencies.

**Issue 3: Some Kaunalapa`u Harbor and Mānele Bay resort areas are located in tsunami zones.**

**Strategy 3:** Prepare for disaster response by the planned or phased relocation of critical structures and long-term strategic retreat of buildings.

**Issue 4: Sea level rise due to climate change will increase inundation and storm surge risk to development in coastal areas.**

**Strategy 4:** Coordinate with State agencies to obtain current sea level rise information and maps. Plan phased relocation of critical structures and long-term strategic retreat of buildings, and adequate setback of new development.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL** Lāna`i will be prepared for natural disasters.

### Objectives

- Increase community understanding of different hazards and how to reduce damage or impacts.
- Increase disaster preparation, response time, and inter-agency and community coordination.
- Ensure the community's recovery needs post-disaster, including adequate supplies to meet the community's needs for two to four weeks.
- Formalize existing practices on the use of heavy equipment during fires.

### Policies

1. Promote public preparation and involvement related to risk reduction from hazards.
2. Adopt risk management approaches that eliminate, reduce, mitigate, or transfer hazard risks.
3. Encourage greater community resiliency through economic diversity, healthy environment, maintained infrastructure, and hazard preparedness.
4. Locate all critical infrastructure out of the evacuation and inundation zones of projected future sea levels.
5. Improve hurricane building standards to protect life and property.
6. Encourage review of the Special Management Area (SMA) to reduce risk from hazards.

**Table 4.1 Hazard Mitigation Actions**

No.	Action	County Agency	Partners
4.01	Establish Lānaʻi - based Community Coordinator for County of Maui Emergency Operations. <ul style="list-style-type: none"> <li>Develop community volunteer network to assist emergency responders.</li> </ul>	Civil Defense Police Dept.	
4.02	Implement the Maui County Multi-Hazard Mitigation Plan, and subsequent updates, as far as it is consistent with the Lānaʻi Community Plan.	Civil Defense Police Dept.	
4.03	Seek community information on possible hazardous waste sites buried decades ago, investigate, and use remediation when needed.	Civil Defense	State DOH Pūlama Lānaʻi
4.04	Distribute information on hazard-mitigation: <ul style="list-style-type: none"> <li>- Disaster planning, evacuation routes and formalized evacuation plans, and shelter location,</li> <li>- Steps that homeowners or businesses can take to strengthen and harden their buildings against disasters,</li> <li>- Fire prevention,</li> <li>- Household and small business best management practices for toxics (heavy metals) and hazardous waste disposal (include pharmaceuticals).</li> </ul>	Civil Defense Fire Department Environmental Coordinator	
4.05	Identify whether additional shelter space is needed that is capable of withstanding hurricane force winds or other natural hazards, and the potential locations. Provide back-up resources to have communication and emergency services if power is out.	Civil Defense	
4.06	Identify critical infrastructure, lifelines, roads, and structures that are vulnerable to coastal hazards and develop a more coordinated emergency response system of well-defined and mapped evacuation routes. Distribute emergency response information at camping sites and through school programs.	Civil Defense	Pūlama Lānaʻi Four Seasons
4.07	Identify critical infrastructure, lifelines, roads, and structures that are vulnerable to wildfires and develop a more coordinated emergency response system of well-defined and mapped evacuation routes. Train volunteers for community response and for fire-fighting crews.	Fire Department	DLNR- DOFA Volunteer Fire Crew (State trained) Pūlama Lānaʻi Four Seasons
4.08	Work with the community and Pūlama Lānaʻi to develop a post-disaster recovery and reconstruction plan to increase resilience.	Civil Defense	Pūlama Lānaʻi
4.09	Strengthen building code to prevent or reduce destruction of land and property from natural hazards.	Dept. of Public Works	Dept. of Planning
4.10	Provide information and opportunities to participate in discussions on the impacts that climate change may have on the community.	Civil Defense Fire Dept.	Department of Planning
4.11	Encourage buildings that can withstand Category 4 hurricanes and that can be used as a temporary shelter during emergencies.	Civil Defense Fire Dept.	Department of Planning
4.12	Develop detailed mapping of hazards and review, and provide recommendations to revise, if needed, SMA boundary line.	Department of Planning	Civil Defense

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## 5 | CULTURAL, HISTORIC, & SCENIC RESOURCES

### A. INTRODUCTION

The island of Lānaʻi is fortunate that most of the artifacts and structures of early Hawaiian settlement and the plantation era remain in good to excellent condition (see Map 5.1). With vast areas remaining in open space, sites still could be discovered. Today, the center of the community is Dole Park – built in the 1920s and surrounded by residential and commercial plantation buildings regularly used by community members. The Lānaʻi Culture & Heritage Center and other non-profit organizations are active in preserving, documenting, studying, and organizing programs for cultural and historical resources. Since less than four percent of the land is designated urban, the island residents and visitors have an abundance of scenic resources in forests, historic landscapes, agricultural and open land.

### Background

Lānaʻi's Keōmoku coast, stretching from Maunalei to Kahalepalaoa along the island's windward side, is known to have significant archaeological resources and historic sites from both Lānaʻi's pre-western contact and sugar plantation period. Early residents constructed *loʻi kalo* (taro pond terraces) along the island's only perennial stream in Maunalei Valley. These terraces still exist today. Within sheltered coves along the coast, Native Hawaiians constructed *loko iʻa* (fishponds). The Maunalei Sugar Company developed a narrow gauge railroad between Keōmoku Village and Kahalepalaoa, and constructed a wharf at Kahalepalaoa. Material remains of the plantation include the wharf foundation stones and Buddhist cemetery at Kahalepalaoa, segments of the railroad beds, remnants of the sugar mill, a church and associated cemetery at Keōmoku, and numerous buried structural foundations in the former village.

Cultural artifacts and structures have been partially documented throughout the island by early archaeological surveys conducted by Kenneth Emory and the Bishop Museum in the 1920's and 1970's. The Maui County Cultural Resources Survey<sup>1</sup> identified about half of the sites noted in the previous surveys and reports that the complexes and sites are in good to excellent condition and have changed little since they were studied in 1974. The survey notes that these historic resources have tremendous potential to add to the knowledge about this important chapter of Lānaʻi's history. Further field work has revealed that many previously unrecorded sites occur around the island.

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1. Maui County *Cultural Resources Survey*, Pacific Legacy, October 2009.

## Existing Conditions

Lānaʻi Culture & Heritage Center serves as the home for many artifacts collected on Lānaʻi, as well as the lead for cultural and historical information, programs, and activities. Current stewardship programs are focused on stabilizing Ka Lanakila Church, and other sites on the Keōmoku Coast, and preserving the last harvesting machine. Through grants from the Office of Hawaiian Affairs, the center has recently conducted an ethnographic study, traditional cultural properties study, and limited archaeological reconnaissance survey for the Kaʻā ahupuaʻa in the northwest region of the island<sup>2</sup>. Most of the documented sites were not previously described, indicating that a full archaeological survey of the area is needed to adequately document sites and assess the full cultural significance of the region. The center has also published historical references such as E ʻIke Hou lā Lānaʻi – To Know Lānaʻi Once Again: A Historical Reference and Guide to the Island of Lānaʻi and other documents that educate the public about these important resources.

Early archaeological studies have documented sites including massive *heiau* complexes at Kaʻenaiki, Lōpā, Kāheʻa and Kaunolū. There are also sites associated with major *aliʻi* such as Kalaniʻōpuʻu at the fortified ridge of Hoʻokio and Kamehameha I at Kaunolū. There are numerous small settlements including Hulupoʻe, Kapihaʻa, and Kalamanui and abundant petroglyph sites such as Luahiwa, Kaheʻa, and Kaunolū. The Luahiwa petroglyph complex is one of Hawaiʻi most important with over 1,000 ancient stone carvings.

Lānaʻi City has a truly unique character and it symbolizes an important part of the island's history. Dole Park town square remains the center of most commercial and community activities and is an important resource for Lānaʻi residents, visitors, and Pūlama Lānaʻi. While design guidelines currently exist for the Business Country Town (BCT) District, there is no clear strategy to protect the town's numerous historic structures. A number of historic structures have already been demolished, including the old firehouse and old post office.

In the past, meetings were held between the Lānaʻi community and Castle and Cooke Resorts (CCR) in an effort to support the overall goal of preserving the historic character of Lānaʻi City. Proposed methods discussed include utilizing the BCT zoning ordinance, BCT Design Guidelines, and nominating the area for designation on the National Register of Historic Places.

Scenic views and scenic view corridors are abundant and diverse on Lānaʻi. Scenic views combine land, sky, sea, historic structures at a variety of scales and locations: urban, rural, agricultural, or open natural spaces. Views of nature - ocean, hill slopes, valleys, ridgelines or coastlines - are abundant from roadways that cross the island or follow the coast. The Maui County General Plan 2030 Scenic & Historic Resources report provides guidance on visual quality ratings based on eleven factors: land-sky interface, landform, land cover, water-form, surprise, clutter, unique visual element, magnitude, distinctiveness, intactness, and



draw<sup>3</sup>. For Lānaʻi, a photo inventory of scenic resources was conducted and mapped, but not rated for resource value.

2. Maly, Kapa and Onaona Hanohano Lānaʻi - *Lānaʻi is Distinguished, An Ethnography of Kaʻā Ahupuaʻa and the Island of Lānaʻi*, The Lānaʻi Cultural and Heritage Center, May 2011.
3. Maui County General Plan 2030 *Scenic & Historic resources, Inventory & Mapping Methodology Reports*, Chris Hart & Partners, Inc., June 2006

## B. ISSUES AND STRATEGIES

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**Issue 1: Lānaʻi City's historic buildings are being lost to demolition and/or neglect.**

Strategy 1: Protect Lānaʻi's unique small town character and plantation heritage by supporting collaborative efforts to develop a vision and master plan for preservation of Lānaʻi City historic resources.

**Issue 2: Cultural and archaeological sites are vulnerable to destruction, theft, and environmental degradation.**

Strategy 2: Prioritize areas for protection, preservation, and restoration based on new and completed inventories, studies, and mapping that identify areas of high concentration of cultural significance or historical structures.

**Issue 3: Cultural and environmental degradation affects the ability of contemporary Hawaiian cultural practitioners to practice their traditional lifestyles, including subsistence practices.**

Strategy 3: Revive traditional resource management practices and local stewardship to protect, or restore, cultural and natural resources that are essential to traditional Hawaiian cultural practices. Community place-based traditional resource management can be combined with other resource management practices and regulations to build community stewardship, and to ensure the continuation of traditional and subsistence practices.

**Issue 4: Scenic resources are vulnerable when not identified.**

Strategy 4: Integrate scenic resources into mapping and protection efforts for historic and cultural resources. The community can identify viewsheds that are vulnerable to impacts from development.

## C. GOAL, POLICIES, AND ACTIONS

**GOAL** Lānaʻi's diverse cultural, archaeological, historic resources and practices, and scenic resources will be protected for future generations.

### Policies

1. Protect Lānaʻi City's historically significant buildings, plantation era city design, and plantation cultural resources. (see Appendix 5.1).
2. Protect all significant archaeological sites, historical and cultural resources throughout Lānaʻi (see Appendix 5.1).
3. Investigate and encourage the nomination of historic sites and structures to the State and National registers (see Appendix 5.1).
4. Support an annual, or more if there are Lānaʻi topics, County of Maui Cultural Resources Committee meeting on Lānaʻi.
5. Support all Lānaʻi based organization's cultural and historic educational, restoration and stewardship events, and on-going maintenance of sites..
6. Support the protection and preservation of Lānaʻi's historic and cultural resources through controlled, informed, and guided access to historic, archaeological and culturally important sites.
7. Support protection of Luahiwa petroglyphs from human disturbance and hillside erosion.
8. Support and maintain the Lānaʻi Archaeological Committee (LAC).
9. Support access for subsistence hunting, fishing, and gathering.
10. Support protection of native Hawaiian rights customarily and traditionally exercised for subsistence, cultural, and religious purposes in accordance with the Hawaiʻi State Constitution (Article XII, Section 7) and Hawaiʻi law.
11. Restrict or mitigate development's impact to historic, cultural, natural or scenic resources.
12. Protect scenic roadway views and significant view corridors and view-sheds. Protect significant views of ridgelines and hill-slopes to maintain open space scenic character.
13. Increase community awareness, appreciation, and stewardship of Lānaʻi's historical and cultural resources.
14. Support an expanded Special Management Area (SMA) boundary in order to help protect cultural and archaeological sites.

1 **Actions**

<b>Table 5.1 - Cultural, Historic, and Scenic Resources Actions</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No.</b>	<b>County Agency</b>	<b>Partners</b>
5.01	Facilitate community meetings to determine the best methods for protecting and preserving the historic character of Lānaʻi City. - Educate property owners on the benefits of historic designation. - Provide technical support to property owners pursuing the nomination process.	1, 3, 4, 7, 10, 12	Department of Planning	Lānaʻi Archaeological Committee (LAC)  Lānaʻi Culture & Heritage Center Pūlama Lānaʻi
5.02	Develop a comprehensive cultural resource protection plan for the entire coast. Conduct feasibility study for Federation Camp restoration and fisherman shacks. Conduct study for Maunalei Gulch.	2, 3, 4, 5, 7, 8, 10	Department of Planning Cultural Resource Committee (CRC)	Uhane Pohaku No Moku O Hawaiʻi Pūlama Lānaʻi Non-profit organizations  Lānaʻi Culture & Heritage Center
5.03	Inventory and identify old plantation camps.	1, 2, 3	Department of Planning	Non-profit organizations Lānaʻi Culture & Heritage Center
5.04	Restore and preserve the Brown House (Social Hall) for continued community use.	1, 3	Department of Planning	Non-profit organizations Lānaʻi Culture & Heritage Center Pūlama Lānaʻi
5.05	Provide educational materials, websites, events, and visitor brochures to educate and involve the community and visitors with Lānaʻi's history, cultural resources and cultural practices. Support cultural and historical festivals at Dole Park.	1, 2, 3, 5, 12	OED  Department of Planning	Lānaʻi Culture & Heritage Center Uhane Lānaʻi Community Association Lānaʻi Chamber of Commerce Non-profit organizations LAC Pūlama Lānaʻi Four Seasons Resorts
5.06	Include visitors and community members in public involvement events and restoration projects.		OED	LAC Non-profit organizations Lānaʻi Culture & Heritage Center Pūlama Lānaʻi Four Seasons

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<b>Table 5.1 - Cultural, Historic, and Scenic Resources Actions</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No.</b>	<b>County Agency</b>	<b>Partners</b>
5.07	Increase support of all Lānaʻi based non-profit organizations seeking additional funding sources for community stewardship.	4, 12	OED Department of Planning	LAC Non-profit organizations Lānaʻi Culture & Heritage Center Pūlama Lānaʻi
5.08	Support the current list, and the addition of sites, of significant historic properties on the State and National "Register of Historic Places".	3, 7	Department of Planning	Lānaʻi Culture & Heritage Center  LAC Pūlama Lānaʻi
5.09	Collaborate with State and community groups, such as the <i>'Aha Moku Council</i> or similar <i>Hawaiian advisory council</i> , to implement an ahupua'a / moku-based natural and cultural resources management system to protect sensitive cultural sites, trails, and landscapes.	2, 5, 8, 9, 12	Mayor's Office Environmental Coordinator	State DLNR - Na Hale Trail and Access program Non-profit organizations LAC Lānaʻi Culture & Heritage Center Pūlama Lānaʻi
5.10	Develop a comprehensive cultural resource protection plan for Lānaʻi.	1, 2, 3, 5, 6, 10, 11, 12	Department of Planning	LAC Non-profits Lānaʻi Culture & Heritage Center Pūlama Lānaʻi
5.11	Complete visual inventory and analysis of key scenic corridors and view-sheds. Develop best management practices for development to protect identified priority view corridors or viewsheds.	10, 11, 12	Department of Planning	Non-profit organizations  Lānaʻi Culture & Heritage Center
5.12	Provide education on Lānaʻi scenic best management practices (per Action 5.11)	10, 11, 12	Department of Planning	Non-profit organizations  Lānaʻi Culture & Heritage Center
5.13	Identify and map cultural, historic, and archaeological sites that are within or near the SMA boundary and develop recommendations for expansion, either horizontal or vertical distance, of SMA, if needed.	2, 9, 11, 14	Department of Planning	LAC Non-profits Lānaʻi Culture & Heritage Center

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## 6 | ECONOMIC DEVELOPMENT

### A. INTRODUCTION

Lāna`i faces a number of unique and limiting factors that present challenges to its economic development. An isolated, small island, with a finite water supply, small population, and dependence on a single primary industry – luxury tourism – mean that finding ways to sustain a thriving and diverse economy is difficult and requires careful consideration and collaboration among the County, the major landowner, the State and the community. The island's challenge for the 21<sup>st</sup> Century is to find and establish sustainable economic engines that will sustain the population of the island while not depleting the Island's precious natural, environmental, cultural and historic resources.

#### Background

In 1922 James Dole's Hawaiian Pineapple Company purchased Lāna`i island and established what would become the world's largest pineapple plantation. Pineapple dominated Lāna`i's economy for 70 years and had significant influence on the development of the island and its population. Within three years of purchasing the island, Lāna`i City was planned and building commenced; the Hotel Lāna`i was established, and Kaunalapa`u Harbor was developed. Lāna`i became known as the Pineapple Island, as thousands of acres were used to grow pineapple, and Hawaiian Pineapple Company employed the vast majority of the workers on the island for well over 50 years.

Dole Plantation merged with Castle & Cooke in 1961 and in 1985 David Murdock bought Castle & Cooke, acquiring 98 percent of the island. With increasing competition from Latin America and the Philippines, the 1980s and 1990s brought declining profitability for pineapple. Under Murdock's direction, Lāna`i's economy shifted from agricultural-based to tourism-based. The Lodge at Kō`ele opened in 1990 and the Mānele Bay Hotel opened one year later. The last pineapple harvest occurred in 1992. While many Lāna`i residents made the shift from plantation agriculture employment to work in the visitor industry, there was also some out-migration experienced after the closure of pineapple operations.

In 2012, David Murdock sold most of his holding on Lāna`i to Larry Ellison who established a new management company, Pūlama Lāna`i.

## Existing Conditions

Lāna`i's economy is heavily dependent on luxury resort tourism and resort real estate sales. There is very little activity in any other economic sector; thus, the success or failure of the resorts is critical. The island's two luxury resorts and associated resort real estate have not achieved the occupancy and profitability originally anticipated and struggled during the recent economic downturn. Both the Kō'ele and Mānele Project Districts have only developed to half of the original planned size and only 10% of the entitled resort housing units have been sold or built. The recession of 2008-2011 hit Lāna`i's economy hard; the island's largest employers - Castle & Cooke Resorts and resort manager Four Seasons Hotel and Resorts - laid off substantial numbers of workers. With the island's almost complete dependence on tourism, many Lāna`i residents found themselves without other employment options following the economic downturn. As a result, the island experienced some out-migration of residents.

Outside of the two luxury resorts, Lāna`i has very limited visitor accommodations. Visitors seeking more affordable alternatives have the choice between the 10-room Hotel Lāna`i and a few B&Bs. Lāna`i currently has only one permitted B&Bs or vacation rental. Lāna`i airline passenger fares to and from Honolulu have consistently remained the highest or second highest in the state. Delays and cancellations have presented recurring difficulties. Much of this reflects the limited capacity of Lāna`i Airport to accommodate larger planes, making ferry service all that much more necessary. Because of air service problems, ferries are far more important for Lāna`i than for any other island, providing relatively inexpensive and frequent service to and from Maui.

Diversification of Lāna`i's economy has been identified as a key factor in the long-term economic health of the island. Since the change in ownership, Pūlama Lāna`i has presented preliminary plans for the future of Lāna`i that include measures to address economic diversification. They have proposed making strategic infrastructure investments that include adding a second airport runway, harbor improvements, and expansion of support facilities. In order to address the critical water supply issue, Pūlama Lāna`i plans to invest in water desalinization facilities, to improve management of the watershed, and to promote conservation and re-use of water. They intend to develop more solar power generation capacity and implement smart grid technology.

Agricultural consultants are studying ways to revive commercial agriculture as a key component of the island economy. They are working on identifying production crops suitable both for export and for local consumption in order to reduce island dependency on food imports. Pūlama Lāna`i plans to improve and diversify the hospitality industry at the Kō'ele and Mānele resorts and they would like to build a third resort at Kahalepalaoa. They have proposed creating a robust education sector by improving K-12 education and by building a world class research institute to study sustainability and endangered species in cooperation with the University of Hawaii. They would also like to foster the growth of small businesses by providing business support in key areas such as marketing and human resources and by making more commercial and industrial space available both for lease and for sale.

## B. ISSUES AND STRATEGIES

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**Issue 1: Lāna`i's economy is too reliant on the single industry of luxury tourism.**

**Strategy 1a:** Diversify Lāna`i's economy by attracting and developing new industries and providing appropriate infrastructure and supply of commercial and industrial spaces for new businesses.

**Strategy 1b:** Provide support and education for small business creation and management, financial literacy, and community economic development.

**Strategy 1c:** Revitalize commercial agriculture and promote the growth of small scale agriculture.

**Issue 2: Tourism, including tourist accommodations and activities, are targeted only to the luxury market.**

**Strategy 2a:** Create a greater variety of tourist accommodations and activities aimed at 'alternative' tourist markets.

**Strategy 2b:** Support the development of regulations for B&Bs, Transient Vacation Rentals (TVRs) guest houses and small hotels that are appropriate for the unique visitor market on Lāna`i.

**Issue 3: Limited transportation to the island contributes to the high cost of goods and services and low numbers of tourists.**

**Strategy 3:** Advocate for greater service to and from Lāna`i with airlines, cargo, and passenger ferry services.

**Issue 4: Limited pool of qualified trained workers on Lāna`i limits local employment and recruitment of new business.**

**Strategy 4:** Support workforce training and educational programs in order to develop an ample pool of highly qualified workers.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL**      **A stable, sustainable and diverse economy that is consistent and compatible with Lāna`i's rural island lifestyle.**

### Objectives

- Increase the diversification within Lāna`i's economy.
- Expand education and support services for small businesses and agriculture.
- Diversify Lāna`i's tourism sector by attracting other market segments.
- Expand sea and air transportation options for Lāna`i.
- Re-establish sustainable agriculture on Lāna`i based on the traditional ahupua'a system.

### Policies

1. Identify, plan, and implement new industries and business to attract to the island – such as tv/film production and post-production, agricultural operations, aquaculture, information technology.
2. Support improvements in educational programs at all levels to ensure a well educated workforce.
3. Support the development of scalable sustainable agriculture.
4. Support the (re) establishment of a Community Development Organization.
5. Support small business assistance, training and vocational programs.
6. Support the growth of kama`aina tourism, cultural tourism, eco-tourism, agri-tourism, sports tourism, hunting tourism, and other alternative tourism ventures.
7. Support the growth of permitted B&Bs, small inns, guest houses, and other alternative lodging units.
8. Advocate for Lāna`i's interests with shippers, airlines, and regulators.
9. Encourage and support leases and fee simple land ownership options for commercial and industrial properties

### Actions



<b>Table 6.1 – Economic Development</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>Lead County Agency</b>	<b>Partners</b>
6.01	Create a Rural Communities Economic Development Specialist position that will address Lānaʻi economic development challenges and opportunities.	1, 2, 3 5, 8	Office of Economic Development (OED)	Lānaʻi Changes MEO – business development center
6.02	Develop an Agricultural Strategic Plan for Lānaʻi with attention to assisting both larger agri-businesses and small farms.	1, 3, 8	OED	University of Hawaii (UH) College of Tropical Agriculture and Human Resources (CTAHR)
6.03	Work with farmers to refer them to State and Federal loan and grant programs.	3	OED	Department of Agriculture Farm Service Agency Hawaii
6.04	Support small business training and loan program providers.	2, 5	OED	UH Maui College Pūlama Lānaʻi
6.05	Partner with MEO Small Business Development Program to provide economic education workshops on Lānaʻi to increase the overall level of financial literacy among all residents.	2, 5	OED	Maui Economic Opportunity, Inc. (MEO)
6.06	Identify funding source and establish a Community Development Organization	4	OED	Lānaʻi Changes Pūlama Lānaʻi
6.07	Develop an Alternative Tourism Strategic Plan to guide diversification of Lanaʻi's tourism sector including activities, lodging, and marketing.	1, 6, 7	OED	Hawaii Visitors and Convention Bureau Maui Visitor's Bureau and its Lānaʻi chapter Pūlama Lānaʻi
6.08	Assess alternative shipping options including utilizing the ferry as a small cargo carrier between Maui and Lanaʻi.	6, 8	OED	Expeditions and others.

1  
2

<b>Table 6.1 – Economic Development</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No.</b>	<b>County Agency</b>	<b>Partners</b>
6.09	Work with inter-island shippers and the Public Utilities Commission to keep shipping costs affordable and service frequency adequate.	8	OED	Public Utilities Commission Expeditions Young Brothers
6.10	Work with the State Department of Transportation to implement commercial harbor improvements.	1, 8	Public Works	State Department of Transportation
6.11	Work with inter-island airlines to keep airfares affordable and service frequency adequate to accommodate Lāna`i visitors, residents, and businesses.	8	OED	Island Air Hawaiian Air Mokulele Air
6.12	Work with the State Department of Transportation to expedite continued airport improvements.	8	OED	State Department of Transportation Pūlama Lāna`i
6.13	Support the development of lease and fee simple commercial and industrial properties for small business and operations.	9	Planning Mayor's Office	Pūlama Lāna`i
6.14	Develop state-of-the-art information and communications technology infrastructure to support community education and business development/recruitment.	2, 5	OED	Pūlama Lāna`i Hawaiian Telecom Sandwich Isles
6.15	Establish agricultural programs at the community college.	2, 3, 5	OED	UHMC
6.16	Provide business courses to farm owners and agricultural entrepreneurs.	2, 3, 5	OED	Department of Agriculture CTAHR
6.17	Establish vocational programs such as the Future Farmers of America Program and 4H at Lāna`i High School.	2, 3, 5	OED	Department of Education Hawai'i FFA Foundation 4H

## 7 | INFRASTRUCTURE AND UTILITIES

### GENERAL INTRODUCTION

Known throughout much of the 20<sup>th</sup> Century as the Pineapple Island, Lāna`i has, since the end of the pineapple plantation, become more well known as a tourist destination. While close to 98% of the island's land area is owned by a single land owner, the infrastructure and public services on the Island are a mixture of publicly and privately owned facilities. The major landowner, Pūlama Lāna`i, owns and operates the Island's water utility company and wastewater treatment plant and pump stations at Mānele, a tertiary wastewater treatment plant at Lāna`i City. The County of Maui owns and operates the Lāna`i City Wastewater Treatment Facility (WWTF) and a number of other infrastructure systems – and provides significant public services, such as Police, Fire protection, Parks and Recreation. The Maui Electric Company owns and operates the major electric power plant. Pūlama Lāna`i owns and operates the Photovoltaic farm. Most major paved roads on the island are either under the County or State jurisdiction. The State of Hawaii Department of Transportation – Airports Division operates the Lāna`i Airport, while the State of Hawaii Department of Transportation – Harbors Division operates Kaunalaupā`u Harbor. The Department of Lands and Natural Resources operates the Mānele Small Boat Harbor and Lāna`i High and Elementary School is part of the State's Department of Education public school system.

### WATER

#### A. INTRODUCTION

Unlike the other main Hawaiian islands, Lāna`i has only one aquifer. Geologically, Lāna`i's aquifer is made up of two sub-aquifers: Leeward and Windward. Each has a sustainable yield of 3 million gallons per day (MGD), for a total island sustainable yield of 6 MGD. Current (2013) metered pumpage totals approximately 1.8 MGD. The sustainable yield of Lāna`i's aquifer is approximately 6 MGD. Although the 1.8 MGD represents approximately 30% of the total sustainable yield, most of 1.8 million gallons that is pumped daily is coming from the Leeward sub-aquifer. Hydrologists have cautioned against this practice and instead recommended increased redundancy or spreading the pumpage throughout both sub-aquifers. The Mānele Project District uses approximately 1.0 MGD of total potable and brackish water or about 66% of total water used.<sup>1</sup>

<sup>1</sup> Information in this section is from the *Water Use and Development Plan*, County of Maui, February 2011.

## B: ISSUES AND STRATEGIES

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**Issue 1:** Degradation of the Lāna`i Hale forest ecosystem has the potential to affect the long term viability of the aquifer's ability to recharge, thus the potential to decrease the Island's sustainable yield of water.

**Issue 2:** Over pumpage of any well can alter the water quality of the well and its production. In addition, the aquifer's water quality can be negatively affected by non-point source pollution that can infiltrate the water through the ground.

**Strategy 1+2:** Protect the Lāna`i Hale watershed system and groundwater aquifers through programmatic measures, Federal, State and County regulatory requirements and community involvement and education. Clearly identify recharge areas that are highly susceptible to pollution.

**Issue 3:** A large portion of the existing water infrastructure dates from the pineapple days and has not had significant upgrades. As a result, water loss has been higher than industry-accepted standards. Although the water purveyor has decreased leakage over the past few years, especially in the Palawai Basin, continued leak detection and remediation is essential to preserving water resources.

**Strategy 3:** Continue the Lāna`i Water Company's leak detection program and identify areas of needed repair and program improvement.

**Issue 4:** With Lāna`i's limited water resources, continued conservation and water efficiency measures are required to decrease demand as development in Kō`ele, Mānele and other areas proceed.

**Strategy 4:** Continue to improve existing conservation measures that result in lower water demand.

**Issue 5:** Based on the adopted Water Use and Development Plan, build-out of the Island requires an alternative source of water to supplement the existing groundwater source. The alternative water source must not be from the Lāna`i High Level aquifer system.

**Strategy 5:** Explore the option of developing alternative water sources, such as desalination. Initiate planning and design to direct the development of an alternative water source that will be used to supplement the existing high level aquifer water source.

## C. GOAL, OBJECTIVES, ISSUES, STRATEGIES

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**GOAL** Lāna`i will have a sufficient supply of potable and non-potable water provided in an environmentally sustainable and cost-effective manner.

### Objectives

- Supply water in sufficient quantities to meet the community's growing and diverse needs.
- Improve the long-term efficiency, reliability and capacity of the island's water infrastructure to reduce leakage.

### Policies

1. Work with the State and landowner(s) to ensure that water resource management is based on best planning practices.
2. Support the implementation and monitoring of the Water Use and Development Plan by 'home rule' – that is, by a committee of Lāna`i residents in collaboration with the water purveyor and regulatory agencies that have responsibility over Lāna`i's water.
3. Protect the long-term health of the Lāna`i Hale watershed for groundwater water recharge.
4. Encourage and improve data exchange and coordination among Federal, State, County and private land use planning and water resource management agencies.
5. Ensure the planning, repair, replacement or removal of aging, damaged and leaking water infrastructure occurs in an efficient and timely manner.
6. Increase water conservation using demand-side management through education, incentives, and regulations.
7. Initiate the planning, design and development of an alternative water source that must be used to supplement the existing high level aquifer.

## 1 Actions

Table 7.1 – Infrastructure – Water				
No.	Action	Policy No	Lead County Agency	Partners
7.01	Monitor and implement the Water Use and Development Plan.	1, 2		Commission on Water Resource Management (CWRM) Lānaʻi Water Co, Pūlama Lānaʻi LWAC
7.02	Support a Memorandum of Agreement between Pūlama Lānaʻi LLC and the community to create a Lānaʻi Water Use and Development Committee that would monitor and implement the Water Use and Development Plan	1, 2		CWRM Lānaʻi Water Co, Pūlama Lānaʻi LWAC
7.03	Develop and implement a comprehensive watershed protection plan, that would maximize fog drip and recharge.	1, 3		CWRM DLNR NOAA Fish and Wildlife Lānaʻi Forest & Watershed Partnership
7.04	Develop and/or continue to support public and quasi-public partnerships to protect and restore the island's watershed and maximize aquifer recharge.	1, 3		CWRM Lānaʻi Water Co. Pūlama Lānaʻi Watershed Partnership
7.05	Implement the County's Wellhead Protection Strategy.	1, 2		Lānaʻi Water Co.
7.06	Prepare an evaluation of the status of available water resources on the island if the Commission on Water Resource Management identifies major flaws in the monthly water status reports	1, 3		CWRM Lānaʻi Water Co.
7.07	Continue the use of the recycled or brackish water for irrigation.			Lānaʻi Water Co. Pūlama Lānaʻi
7.08	Develop a water rate structure that encourages conservation.	1		CWRM Lānaʻi Water Co.
7.09	Continue to improve landscape planting and irrigation guidelines that encourage drought tolerant plants and water conserving irrigation systems.	1	Planning Dept.	Lānaʻi Water Co. Pūlama Lānaʻi
7.10	Continue to implement leak detection and repair programs.	5		Lānaʻi Water Co.
7.11	Cover the 15 MG brackish reservoir to reduce evaporation.	1		Lānaʻi Water Co.
7.12	Plant more trees and foliage on the Hale and other areas to capture fog drip and help recharge the aquifer.	1, 3		Pūlama Lānaʻi

## WASTEWATER

### A. INTRODUCTION

Wastewater collection and treatment is managed on Lāna`i by both the County of Maui Department of Environmental Management Wastewater Reclamation Division and Pūlama Lāna`i or its subsidiaries. The majority of wastewater generated in Lāna`i City is conveyed through gravity pipelines to the County owned and operated wastewater treatment plant (WWTF). There are, however, a few subdivisions in Lāna`i City that require a small pump station. These pump stations are owned and operated by Pūlama Lāna`i or its subsidiaries. The wastewater generated in Lāna`i City and the Kō`ele Project District are treated by the County WWTF. The treated effluent from the County WWTF then flows to the Pūlama Lāna`i Auxiliary Wastewater Treatment Facility where the wastewater is further treated to R-1 standard wastewater. The R-1 wastewater produced is stored in a 10 MGD reservoir and eventually pumped to the Experience at Kō`ele Golf Course for irrigation purposes.

The County's treatment plant has a designed capacity of 500,000 gallons per day (GPD) and the 2012 wastewater processed was approximately 302,000 GPD (0.30 MGD), or 60% of capacity. In 2009 the County performed an inspection of the high capacity sewer pipes and pipes with higher failure potential; the investigation revealed that the sewer collection system was mostly in satisfactory condition. The Pūlama Lāna`i wastewater facility in Lāna`i City has a designed capacity of 400,000 GPD and current wastewater flow is approximately 245,446 GPD or 61% of capacity.

Pūlama Lāna`i and its subsidiaries also own and operate the Mānele WWTF that services the Four Seasons Resort at Mānele Bay, Mānele Small Boat Harbor, and the Mānele Project District. The treatment facility has a designed capacity of 140,000 GPD and current flow is 77,281 GPD (or 55% of capacity). Wastewater is treated to R-1 quality and used in its entirety as irrigation water at the Challenge at Mānele golf course.

There are no major injection wells on Lāna`i ; however, some properties in Lāna`i City – above the Hotel Lāna`i and below the new houses at Kō`ele are served by individual septic systems.

## B. ISSUES AND STRATEGIES

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**Issue 1:**            **Insufficient wastewater treatment capacity in the near future. Expected growth in the number of households to 2035 will not create wastewater flow in excess of capacity. However, if actual growth exceeds 2035 projections, the facility's capacity will be inadequate.**

**Strategy 1:**        Monitor growth on the island and prepare a facilities plan when 75% of the WWTF's capacities are reached, as per State Department of Health (DOH) guidelines.

**Issue 2:**            **Wastewater Treatment Plants are expensive to build and expand.**

**Strategy 2:**        Explore options for wastewater treatment system technologies that will minimize cost and energy use, while limiting odor generation, for large projects such as: DHHL, County Affordable Housing, Department of Education campus, Mānele Mauka, or the Lānaʻi City expansion.

**Issue 3:**            **Lānaʻi's limited resource of potable water is being used for uses that don't require potable water (i.e. flushing toilets and home garden irrigation).**

**Strategy 3A:**        Explore options for permitting use of non-potable water (brackish water, or household greywater) for flushing household toilets and home garden irrigation, provided the system(s) meets County of Maui codes and State of Hawaiʻi health safety standards.

**Strategy 3B:**        Promote the conservation of potable water by residents, hotels, and golf courses.



## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

**GOAL**            **An efficient, effective and environmentally sound wastewater system that meets the population's needs.**

### Objectives

- A sustainable and sufficient level of wastewater service that complies with environmental regulations.

### Policies

1. Improve and upgrade Lānaʻi's existing wastewater collection, treatment and reuse facilities when warranted, consistent with current and future plans and the County's CIP.
2. Encourage a conservation ethic which supports wastewater reclamation and utilization of alternative resource conservation and re-use technologies.

### Actions

Table 7.2 Infrastructure – Wastewater				
No.	Action	Policy No.	County Agency	Partners
7.13	Coordinate with the landowner(s) to develop a Comprehensive Wastewater Functional Plan for Lānaʻi that addresses the long-term goals for the maintenance and upgrading of facilities.	1	Env. Mgmt	Lānaʻi Utilities Pulama Lānaʻi
7.14	Maintain an on-going sewer inspection program for public and private multi-user systems to identify potential problems and forecast each system's residual life.	1	Env. Mgmt	Lānaʻi Utilities Pulama Lānaʻi
7.15	Coordinate with the landowner(s) to regularly update and implement the County's wastewater reuse plans.	1	Env. Mgmt	Lānaʻi Utilities Pulama Lānaʻi
7.16	Study options and necessary code and regulation changes to allow grey-water re-use systems for home garden irrigation and toilet flushing as long as the system meets County of Maui codes and is within health safety standards.	1	Dept. of Public Works (DPW) Development Services (DSA)	State Dept. of Health
7.17	Study options for biological sanitation treatment systems for large projects or WWTF expansion or relocation.	1	Env. Mgmt	Lānaʻi Utilities Pulama Lānaʻi

## SOLID WASTE

### A. INTRODUCTION<sup>2</sup>

The existing County landfill occupies about 20 acres of a 36 acre parcel and is located four miles south of Lāna`i City, between Kaunalapa`u Highway and the Kalamaiki Gulch at an elevation of about 850 – 1,020 feet. The landfill has been in operation since 1969. As a small landfill, in an arid area, it has been developed without liners and leachate collection and removal. The County employees at the landfill divert both inert material and green waste from the materials brought to the landfill. The green waste is collected in a dedicated area where its volume is reduced before it is used for slope stabilization.

The landfill receives about 14 tons of solid waste per day and is estimated to reach capacity by 2020. Private haulers bring 64%, County crews 19% and self haulers bring 17% of the waste to the landfill. County crews collect waste from 640 homes, out of 1300 homes on the island. For the past four years, Community Work Days and the County's Office of Abandoned Vehicles have held 3-4 collection events each year for scrap metal, white goods (fridges, stoves, freezers, washing machines, etc), tires, and batteries at the Lāna`i recycling Center.

The pilot recycling center, located behind the Central Services offices in Lāna`i City, has been given an extended lease until December 31, 2013. Subsequently, the temporary location will be at the labor yard and its ultimate location will be at Miki Basin.

### B. ISSUES AND STRATEGIES

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**Issue 1:** Too much solid waste is being sent to landfill.

**Strategy 1A:** Improve solid waste diversion by encouraging increased recycling, re-use and reduction.

**Strategy 1B:** Expand recycling facilities and programs.

**Issue 2:** Landfill nearing capacity: estimated lifespan of 8 years from 2012 to 2020. The Department of Environmental Management developed an Integrated Solid Waste Management Plan in 2007-2009 which assessed options for expanding the landfill or shipping solid waste off island in containers.

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<sup>2</sup> Information in this section is from the *Maui County Integrated Solid Waste Management Plan*.

**Strategy 2A:** Assess options to either expand the landfill utilizing alternative technologies that would extend its life, or to ship solid waste off-island.

**Strategy 2B:** Implement the recommendations of the County of Maui's *Integrated Solid Waste Management Plan*.

**Issue 3:** **No facilities for scrapping vehicles, machinery, metal, household hazardous waste, white goods and bulky goods.**

**Strategy 3:** Continue to develop periodic events for collection of specialty waste materials and provide pick up by appointment for bulky waste and white goods.

### C. GOAL, POLICIES, AND ACTIONS

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**GOAL**      **Efficient, environmentally sound and comprehensive solid waste management that aids residents and businesses on Lāna`i to effectively recycle as much as possible, and limits the amount of solid waste that is sent to the landfill.**

#### **Objectives**

- Reduce the amount of solid waste that is sent to the landfill through effective recycling and waste reduction programs.
- Develop regular programs for collection of hazardous, bulky and metal waste.
- A cost effective, environmentally sustainable solution to the landfill reaching capacity.

#### **Policies**

1. Support implementation of the County's Integrated Solid Waste Management Plan.
2. Support increased recycling by commercial and residential customers.
3. Support the development of an efficient and cost effective mechanism to deal with obsolete and abandoned vehicles and machinery.
4. Explore options for creating energy from waste.

1 **Actions**

2

Table 7.3 Infrastructure – Solid Waste				
No.	Action	Policy No	Lead County Agency	Partners
7.18	Provide funding to the Department of Public Works and Waste Management's Solid Waste Division for the proper landscaping and maintenance of solid waste facilities and surrounding environs.	1	Budget Env. Mgmt DPW	
7.19	Conduct an education program to discourage residents and tourists from dumping garbage, cars and machinery in remote locations, and locations other than the landfill or appropriate recycling site.	2, 3	Env. Mgmt	Pūlama Lāna`i
7.20	Study options for waste to energy through different technologies- such as HBAR, a small, ultra-high temperature incinerator.	4	Env. Mgmt	Pūlama Lāna`i
7.21	Promote recycling by residential and commercial clients by advertising and promotional materials. Provide information on what can be recycled, where facilities are located, and operating hours and days.	2	Env. Mgmt	Pūlama Lāna`i

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6

# ENERGY

## A. INTRODUCTION

According to Hawaiian Electric Co.(HECO), the cost to produce power in Hawai`i is higher than on the U.S. mainland for a number of reasons: Hawai`i's power systems are designed to include back up emergency infrastructure facilities needed to account for emergency situations - this increases the rate payer's cost. In addition, there are no economies of scale in Hawai`i's market due to the relatively small population base. The use of imported crude oil needed to fuel the power generators makes Hawai`i vulnerable to global crude oil price fluctuation. Being an Island State, other raw materials that can be used to power up the plants are unavailable. In 2012, the average residential rate was 46.61 cents per kilowatt hour for Lāna`i, 46.13 cents on Moloka`i and 38.71 cents per kilowatt hour on Maui. Business rates were also highest on Lāna`i - with one exception - the small power user rate was highest on Moloka`i.

The power plant and associated power distribution components on Lāna`i are owned and operated by the Maui Electric Co.(MECO), a subsidiary of the Hawaiian Electric Co.(HECO). The majority of the electrical loads on Lāna`i are attributed to the large resorts (the Lodge at Kō`ele and Mānele Bay), the well pumps for water on the island, and Lāna`i City.. Power production capacity on Lāna`i is approximately 10.4 megawatts, with two 2.2 MW diesel generators that typically run in a master-slave configuration, and six 1.0 MW diesel powered generators that operate during peak power demands. In 2008, the former majority land owner, Castle & Cooke Resorts, installed a 1.2-megawatt photovoltaic solar farm. The photovoltaic facility was purchased by Pūlama Lāna`i as part of the island purchase agreement. The Average daily electrical load on Lāna`i is approximately 4.5 MW; with an average peak load of approximately 5.4 MW and a minimum load of 2.1 MW.

## B. ISSUES AND STRATEGIES

### Issue 1: Highest electricity rates in the state.

Strategy 1A: Work with MECO to find ways to reduce electricity costs for Lāna`i.

Strategy 1B: Promote conservation and reduction of power usage by residential, commercial and resort consumers.

Strategy 1C: Encourage home owners to install solar hot water and PV panels.

### Issue 2: 90% of Lāna`i's electricity is produced by petroleum.

Strategy 2: Work with MECO and the major landowner to develop appropriate renewable electrical generation.

**Issue 3: Fuel for vehicles is expensive and requires importation to the Island.**

Strategy 3A: Increase the use of electric vehicles on the island.

Strategy 3B: Provide charging stations, charged by renewable power sources, with multiple locations around the island.

**C. GOAL, OBJECTIVES, POLICIES, ACTIONS**

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**GOAL** Reduce Lāna`i's dependence on fossil fuels and the cost of generating electricity.

**Objectives**

- Increase the proportion of electricity that is generated from renewable sources.

**Policies**

1. Support the increased use of renewable energy sources.
2. Maintain and support consumer incentives to promote the installation of renewable energy systems.
3. Promote energy conservation and awareness programs, including, but not limited to, the use of CFLs, solar hot water, and conservation behaviors.
4. Promote the use of electric vehicles charged via renewable energy.
5. Explore options for the growing and manufacturing of bio-fuels and bio-diesel on island.
6. Ensure that main utility transmission lines are robust and resilient to withstand hurricane forces winds.
7. Promote the undergrounding of utilities.

1 **Actions**

2

<b>Table 7.4 Infrastructure – Energy</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>Lead County Agency</b>	<b>Partners</b>
7.22	Create a ‘smart grid’ that would allow for development of additional renewable energy sources.	1, 2	Energy Commissioner	Pūlama Lāna`i MECO
7.23	Support the use of electric vehicles on the island through the development of charging stations, powered from renewable energy.	2, 3, 4	Mayor's Office	Pūlama Lāna`i MECO
7.24	Support the use of steel poles for main utility transmission lines.	6	Planning Dept. Mayor's Office	Pūlama Lāna`i MECO
7.25	Encourage and support the undergrounding of utility lines in new areas of development.	6, 7	Planning Dept. Mayor's Office DPW	Pūlama Lāna`i MECO
7.26	Encourage and support the undergrounding of utility lines in existing areas, where possible.	7	Planning Dept. Mayor's Office DPW	Pūlama Lāna`i MECO

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## TRANSPORTATION

### A. INTRODUCTION

As a small island, Lāna`i relies heavily on its transportation systems – air, sea and land – to deliver people, goods and services to the island. Most of Lāna`i's consumable goods are transported to the island via barge, making the cost of most items more expensive than on Maui Island or in Honolulu. Tourism, Lāna`i's major industry, relies on stable, consistent and sufficient flows of tourists coming by plane and ferry.

#### Existing Conditions

##### Sea

Young Brothers barge service between O`ahu and Lāna`i occurs once a week; the barge arrives on Wednesday mornings and leaves Wednesday afternoon. Expeditions passenger ferry offers five daily round trips between Lahaina and Mānele Small Boat Harbor. Fuel oil – diesel for the powerplant and gasoline for vehicles - is now transported to the island on the barge, using 'pods' – small cylindrical tanks that can be moved by truck rather than the old double hulled fuel barge.

##### Air

The number of flights serving Lāna`i increased as economic conditions improved in 2012/2013. Hawaiian Airlines announced in October 2012 that it plans to renew service to Lāna`i and Moloka`i. Island Air was purchased by Larry Ellison in 2013: they provide service to Lāna`i Airport with flights to and from Honolulu, Kahului, Kapalua, and Moloka`i. Fedex and Kamaka Air provide air freight service.

Lāna`i Airport's runway is undersized and requires lengthening in order to bring it into compliance. Fully loaded and fueled planes have difficulty taking off given the length of the runway and its direction with respect to Lāna`i Hale. In order to land larger jets, including long-haul jets from the mainland, a new longer runway will be required. Pūlama Lāna`i is currently (2013) working with the State Department of Transportation – Airports Division, to explore options for developing a second runway.

##### Land

Most roads on Lāna`i are publicly owned and managed: the County for local roads and the State for Kaunalapau Hwy (Hwy 440) and Mānele Road. While there is no public transit system on the island, Pūlama Lāna`i runs shuttles from Mānele small boat harbor and Mānele Resort to Lāna`i City and Kō`ele Resort. Maui Economic Opportunity operates a shuttle service for youth, elderly, and the disabled. Commercial taxi and shuttle services are also available.



## B. ISSUES AND STRATEGIES

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**Issue 1:** Current barge service to Lānaʻi from Oahu is only once per week and during winter storm or rough sea conditions, barges are unable to enter the harbor.

Strategy 1A: Explore options for transporting freight goods on the ferry or airlines.

Strategy 1B: Advocate for expanded ferry service as the population increases and economic development warrants.

**Issue 2:** Unaffordable transportation from Lānaʻi City to Mānele and Kōʻele for workers.

Strategy 2: Assess feasibility of shuttle transportation for resort workers.

**Issue 3:** Current airport runway unable to accommodate larger planes (a fully loaded plane with fuel is unable to take off).

Strategy 3: Work with Pulama Lānaʻi, the State Department of Transportation Airports Division and the community to assess options to accommodate some larger airplanes via airport runway expansion or a second runway.

**Issue 4:** Very limited direct flights between Lānaʻi and other Maui County airports.

Strategy 4: Work with airlines to improve air transportation between the islands of Maui County.

**Issue 5:** Lānaʻi customers must pay for both legs of shipping freight to the island from other outer islands – Lānaʻi is the only island with this extra charge. (i.e. From Kauai to Oahu, and Oahu to Lānaʻi).

Strategy 5: Work with the shipping companies to find a better rate structure - to reduce the premium on shipping to Lānaʻi.

**Issue 6:** The cost of shipping fuel to the island from Oahu is made more expensive by the use of fuel tanks – or pods – rather than using a fuel barge.

Strategy 6: Explore options for shipping fuel to the island that would reduce costs.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL**      **A complete, integrated, safe and reliable system of transportation networks that serves the needs of Lāna`i businesses, residents and visitors.**

### Objectives

- Adequate, reliable, and reasonably priced barge service
- Continued reliable and frequent passenger ferry services between Maui and Lāna`i.
- A more connected, complete, and safe network of lanes, streets, roads and highways.
- Expanded air services between Maui and Lāna`i.
- Maintain public access trails for hunters, hikers, and coastal access.
- More affordable transportation options for resort employees.

### Policies

1. Encourage commercial concession and lease opportunities for local residents at State harbor and airport facilities.
2. Support the improvement of the airport, including expansion of existing runway and/or addition of a second runway.
3. Support the establishment of regularly scheduled direct Maui-Lāna`i flights.
4. Encourage competitive pricing for inter-island airfares to provide increased opportunity for inter-island mobility by residents.
5. Support the expansion of barge and freight services to the island.
6. Advocate for the need for direct ocean freight transport between Maui and Lāna`i.
7. Street and roadway design standards should maintain and enhance Lāna`i's rural character.
8. Maintain a pedestrian orientation for the Lāna`i City core area.
9. Encourage the development of a safe network of pedestrian pathways connecting key recreational and educational facilities in Lāna`i City.

## 1 Actions

Table 7.4 Infrastructure – Transportation				
No.	Action	Policy No	Lead County Agency	Partners
7.27	Advocate for the need for increased barge service to and from Lāna`i if the population significantly increases and economic development warrants.	5, 6	Economic Development	Pūlama Lāna`i
7.28	Advocate for increased ferry service to and from Lāna`i if the population significantly increases and economic development warrants.	6	Economic Development	Pūlama Lāna`i
7.29	Develop a long range land transportation master plan for Lāna`i, which utilizes a complete streets approach to roadway design and includes a pedestrian plan for Lāna`i City.	7, 8	DPW Planning Dept.	Pūlama Lāna`i Lāna`i Resorts HDOT
7.30	Develop low cost transportation option(s) for resort employees.			Pūlama Lāna`i Four Seasons MEO
7.31	Establish who has jurisdiction/ownership and responsibility over Old Government Road.		Public Works Planning	Pūlama Lāna`i
7.32	Develop and implement trails, greenways and open space access plan, utilizing, where appropriate, old agriculture roads. The project should work in concert with storm water, sedimentation and environmental protection plans to close down unnecessary or unused agricultural roads.	9	DPW Planning Dept. DEM?	Pūlama Lāna`i
7.33	Restrict commercial trucks and buses exceeding 6,000 LB GVW to established routes through Lāna`i City pending the construction of a bypass road.		DPW	Pūlama Lāna`i
7.34	Develop Lāna`i specific roadway standards and guidelines.	7	DPW Planning Dept.	Pūlama Lāna`i
7.35	The access road in and out of Mānele needs to be maintained in order to serve as a secondary and emergency access road. Encourage landowner to maintain a secondary and emergency access road to and from Manele.		DPW	Pūlama Lāna`i
7.36	Evaluate proposals and provide development services in a timely manner for the airport expansion proposal, which could include expansion of runway or addition of second runway.	1, 2	DPW Planning Dept	Pūlama Lāna`i
7.37	Study and evaluate options for shipping fuel to the island in order to reduce costs.	5	OED?	Pūlama Lāna`i

## 1     **STORMWATER DRAINAGE**

### 4     **A. INTRODUCTION**

6     The low annual rainfall of approximately 28.3" for Lāna`i City (15.6" at the Lāna`i Airport)<sup>3</sup>  
 7     inches most often drains into the soils or intermittently through the gulches. In general, a  
 8     combination of increased impervious surfaces (such as roads, rooftops, and parking areas)  
 9     and occasional heavy rainstorms contributes to surface water drainage issues within Lāna`i  
 10    City and the two Project Districts of Kō`ele and Mānele. These drainage issues - such as  
 11    shallow ponding - are generally minor and of short duration.

13    In general, Lāna`i City is well positioned on a high plateau with a relatively good drainage  
 14    pattern that has reduced flooding conditions during heavy rainfall events. The roadways  
 15    drain by the natural slope of land in most areas. To the northeast of town there is a natural  
 16    depression that directs flow away from town into the gulches. Within town there are drain  
 17    lines installed along Lāna`i Avenue and in few locations along Fraser Avenue.<sup>4</sup> Lāna`i City  
 18    experiences localized flooding due to the blockage of the existing stormwater drains and  
 19    channels. Primarily the blockage is caused by grass overgrowing the drains or build-up of  
 20    sediment and grass in the channels where the original grass swale no longer functions.

22    Storm runoff from the Kō`ele Resort, upslope from Lana`i City, is captured within the Project  
 23    District and re-directed to discharge into Kaiholena Gulch, east, and Kapono Gulch,  
 24    southeast of Lāna`i City. Kapono Gulch is deep enough to carry the increased runoff from the  
 25    golf course. The Mānele area's average annual rainfall is 15 inches and flood events are rare.  
 26    During extreme storms Mānele Project District's sheet flow runoff drains naturally through six  
 27    major gulches and drainageways<sup>5</sup> before discharging into the adjacent bays of Mānele and  
 28    Hulopo'e.

30    The Kō`ele Project District Infrastructure Master Plan, Final (July 30, 1993) showed proposed  
 31    drainage improvements of numerous drain lines within the resort. The new drain lines will re-  
 32    direct flow to an existing golf course lake, while other new lines will direct flow to retention  
 33    basins and existing drain lines to discharge into Kaiholena Gulch. Due to catchment and re-  
 34    direction of more surface flow to the larger Kapono Gulch, the effective drainage basin and  
 35    discharge will decrease for Kaiholena Gulch and increase for Kapono Gulch. Two drainage  
 36    master plans were developed for Kō`ele Project District and Lāna`i City in 2006. These plans  
 37    include recommendations and a phasing plan but have not yet been implemented.

38    In 2002 a series of heavy storms resulted in heavy flooding, sedimentation in Hulopoe Bay  
 39    and erosion within the watershed. Community meetings and consultant planning and design

<sup>3</sup> Rainfall data from the National Climate Data Center

<sup>4</sup> Maui Infrastructure Assessment Update, Drainage Systems, prepared for County of Maui  
 Department of Planning by Wilson Okamoto & Associates, Inc.

<sup>5</sup> Director's Report, Maui County Planning Commission, October 31, 1990, page 3.

addressed the flow and filtration issues. In addition to a revised layout of roadways and drainage facilities, the drainage plan used native plants or native grass with stone edges, to create natural filtration areas.<sup>6</sup> A drainage master plan for Mānele Project District was completed in March 2004 to protect property and the ocean environment. At the time of the small boat harbor improvements, the Mānele project site stormwater drainage system consisted of sheet flow and percolation, with no filtering of pollutants or siltation during storm events. The Mānele Bay Small Boat Harbor (MBSBH) improved catchment of runoff and decreased sediment entering the harbor by redirecting runoff into drain inlets and silt basins.

## B. ISSUES AND STRATEGIES

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**Issue 1: Storm water flows down dirt roads into gulleys, gulches and the ocean.**

**Strategy 1:** Develop a comprehensive plan to address areas of high flow runoff from dirt roads. Design a toolbox of road runoff diversion methods that can be easily implemented.

**Issue 2: Localized minor flooding causes repeated areas of water ponding or mud in Lānaʻi City.**

**Strategy 2: Implement Drainage Master Plans for Koele and Lanai City.** Develop a comprehensive drainage plan for stormwater runoff through Lānaʻi City and surrounding area. Evaluate older swales and drains for current functioning and restore, if needed. Add natural drainage storage and filtration to supplement existing system and clear all blockages.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL** Surface water runoff is managed to prevent flooding and to improve water quality for both fresh and coastal waters.

<sup>6</sup> *Working Together – The Lānaʻi Community Joins Planners and Engineers to Solve Mānele Drainage Problems*, In Motion, R.M. Towill Corporation, Vol.2 Issue 1, 2004

**Objective**

- Provide surface water management for roadways and developed areas.

**Policies**

1. Manage surface water using natural system drainage, retention and filtration to reduce flooding and siltation of ocean waters.
2. Encourage DHHL compliance with Maui County regulations on drainage.

**Actions**

<b>Table 7.6 Infrastructure – Stormwater Drainage</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>County Agency</b>	<b>Partners</b>
7.38	Develop a stormwater management plan that emphasizes/ utilizes natural systems drainage, where possible.	1	DPW Planning Dept.	Pūlama Lāna`i DHHL
7.39	Address dirt road runoff through dispersion and retention methods.	1	DPW	Pūlama Lāna`i DHHL
7.40	Implement Kō`ele Project District and Lāna`i City Master Drainage Plans.			Pūlama Lāna`i DHHL
7.41	Repair stormwater drainage swales in Lāna`i City (swales and culverts) and remove blockages from drains and channels.	1		Pūlama Lāna`i DHHL

# TELECOMMUNICATIONS

## A. INTRODUCTION

For a small, relatively isolated island such as Lāna`i, digital and electronic telecommunications systems are important as they link the island to the rest of the county, state and indeed the world. Land-lines, cellular telephone services, and high speed internet enable communications for residents, businesses and students: making working at home, and 'telecommuting' to off-island work possible. Hawaiian Tel provides telephone and internet service for most residents on the island; Sandwich Isles provides service in the Hawaiian Homelands subdivision. Oceanic Cable provides cable television and cable internet.

## B. ISSUES AND STRATEGIES

**Issue:** There are dead spots on the island for cellular/mobile telephone service.

**Strategy 1:** Increase the strength and array of cell phone signals.

**Issue 2:** In order to provide high quality education, it is important that all educational institutions (Lāna`i High and Elementary School, and UH Maui College) have access to high speed internet and telecommunications.

**Strategy 2:** Ensure that educational institutions on the island have a full array of high speed internet and telecommunication services.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL** Lāna`i will have a robust and reliable telecommunications network.

**Objective:** Improve telecommunication services on Lāna`i so that high capacity, high speed wireless internet and telephone are available for residents, businesses, and educational facilities.

**Policies:**

1. Complete the fiber optic network and the improvement and expansion of telecommunications on the Island.

1 **Actions**

<b>Table 7.7 Infrastructure – Telecommunications</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>County Agency</b>	<b>Partners</b>
7.42	Provide wireless high speed internet throughout the island.	1	Hawaiian Telecom Sandwich Isles	Pūlama Lāna`i
7.43	Provide cell phone service all around the island for complete coverage.	1	Hawaiian Telecom Sandwich Isles	Pūlama Lāna`i

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## 8 | PUBLIC FACILITIES AND SERVICES

### GENERAL INTRODUCTION

The County of Maui provides significant public services, such as police, fire protection, parks and recreation. Lānaʻi High and Elementary School is part of the State's Department of Education. Health and social services are provided by the State as well as private providers - Lānaʻi Community Hospital is part of Hawaiʻi Health Systems Corporation.

### PARKS & RECREATION

#### A. INTRODUCTION

Being a former 'company town', many of the Island's largest and important parks and public spaces are owned by the major landowner – Pūlama Lānaʻi LLC -- this includes Dole Park, Cavendish Golf Course, the community swimming pool, and Hulopo'e Beach Park and Campground. The County of Maui owns, leases and manages a number of parks and facilities in Lānaʻi City including the gymnasium, the community center in Dole Park, the baseball field, softball field and tennis courts in the Lānaʻi Community Center Complex. Dole Park is owned and managed by Pūlama Lānaʻi. Currently, Lānaʻi's public parks total 26.5 acres. The major landowner also owns, and manages much of the island's open spaces, conservation areas, and hunting areas. The State Department of Land and Natural Resources manages 25,000 acres for hunting at the north end of the island.

#### B. ISSUES AND STRATEGIES

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**Issue 1:** An insufficient configuration and array of parks and programs to meet the community's existing and future needs.

**Strategy 1:** Prepare an overall parks and recreation master plan, in conjunction with the major landowner, to identify needs for the island's parks, facilities, and programs.

**Issue 2:** While land was set aside for park space in the Lalakoa developments, those park areas were never constructed.

- 1 Strategy 2: Ensure that there are funds to develop and construct parks when land is  
 2 dedicated to the County for parks and recreation as part of a development  
 3 agreement.  
 4
- 5 **Issue 3: Certain sub-areas of Lanai City have a park deficit.**  
 6
- 7 Strategy 3: Ensure that each sub-area of Lanai City as well as any new development meets  
 8 County subdivision standards or benchmarks for the amount of park space per  
 9 housing unit.  
 10
- 11 Issue 4: Public Restrooms in Dole Park are often closed during the day.  
 12
- 13 Strategy 4: Ensure that public restroom facilities are open during the day for the public to use;  
 14 and advertise their availability.  
 15  
 16  
 17  
 18

### 19 C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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21  
 22

23 **GOAL** **A system of parks, recreational facilities, and programs that meets the**  
 24 **needs of the island's residents and visitors.**  
 25

#### 26 **Objectives**

- 27
- 28 • Provide a greater variety of parks, facilities, and programs to accommodate  
 29 existing and projected needs of the island's residents and visitors.  
 30

#### 31 **Policies**

- 32
- 33 1. Encourage the development and support of leisure activities for all  
 34 segments of the population.  
 35
  - 36 2. Ensure Dole Park's long-term value as a social and recreational  
 37 gathering place.  
 38
  - 39 3. Where appropriate, collaborate with Pūlama Lānaʻi on the provision of  
 40 parks, facilities, and programs.  
 41
  - 42 4. Ensure that all new areas of development include adequate park space  
 43 based on a determined 'park ratio' of park space per 1000 residents.  
 44
  - 45 5. Ensure that public washroom facilities are available and open during  
 46 daylight hours in Dole Park or other central public facility or park.  
 47
  - 48 6. Ensure that any significant new active park include public washroom  
 49 facilities.  
 50  
 51

1  
2 **Actions**

<b>Table 8.1 Public Facilities and Services – Parks and Recreation</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>Lead County Agency</b>	<b>Partners</b>
8.01	Develop a master plan for the island's parks, recreational facilities, and programs. Survey residents to find out what their recreational needs are.	1	Parks & Recreation Dept. Planning Dept.	Pūlama Lāna`i
8.02	Maintain the quality and availability of the Cavendish Golf Course in perpetuity for Lāna`i residents.	1, 3		Pūlama Lāna`i
8.03	Work with the Company to prepare a Dole Park master plan which improves and preserves the Park's recreational, urban design and social functions.	1, 2, 3	Parks & Recreation Dept. Planning Dept.	Pūlama Lāna`i
8.04	Support the planning, design and development of action-sport facility such as a skateboard park, roller derby facility, or BMX (Bicycle-Moto-Cross) track.	1, 3	Parks & Recreation Dept. Planning Dept.	Pūlama Lāna`i
8.05	Support the opening of public washrooms during daylight hours in Dole Park or a central public facility.	5, 6	Parks & Recreation Dept. Planning Dept.	Pūlama Lāna`i

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## POLICE

### A. INTRODUCTION

As of 2012, Lāna`i had 10 officers and a part time Animal Control Officer who work out of an 8,000 SF facility that includes three jail cells, a juvenile cell, and office space. It opened in 2004 at a cost of \$4.1 million. The island makes up Maui Police Department (MPD) District II, which is in turn divided into two motorized beats, each of which is patrolled by one officer. Animal control is also aided by the Maui Humane Society as well as Lāna`i Animal Rescue Center (LARC), a non-profit community services organization that provides shelter, spay/neuter services, adoptions, sustenance, and humane education; they operate the 'Kitty Paradise' cat sanctuary.

The current number of officers slightly exceeds the estimate of need in the *Public Facilities Assessment* published in 2007 by RM Towill Corporation. This is necessary, however, because of the island's large area and because it includes many places that are remote. According to the RM Towill study, "expansion of existing service within the study period (to 2030) is not required". However, Pūlama Lāna`i LLC now plans to expand Lāna`i City, and create new residential areas at Mānele Mauka, above Kaunalapau Harbor, and to develop a third resort and rural housing at Halepalaoa Landing (Club Lanai site). It is likely that the population will increase more than the previous population forecasts projected. The population of the island could increase from about 3,100 to 6,000 or more, which would necessitate an increase in Police services.<sup>1</sup>

While the Police Station is a relatively new and well appointed facility, the island lacks an impound yard, and on-call or full-time tow truck services. There are numerous abandoned vehicles at the airport and at the Mānele Small Boat Harbor. However, since these are state operated facilities, jurisdiction and responsibility for these vehicles is unclear.

### B. ISSUES AND STRATEGIES

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**Issue 1: Adequate and affordable housing for future police staff.**

**Strategy 1:** Ensure that affordable workforce housing is provided for any expansion of police staffing.

**Issue 2: Additional animal control services and facilities will be needed to deal with an increase in pet and feral animal populations.**

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<sup>1</sup> Use updated population forecast figures, when they become available.

- 1 Strategy 2A: Explore options for shelter facilities for stray dogs.  
 2 Strategy 2B: Explore options for expansion of Animal Control services and facilities:  
 3 coordinate with LARC.  
 4  
 5 **Issue 3: Substance abuse is a problem on the island.**  
 6  
 7 Strategy 3: Maximize the island's minimal resources to properly enforce substance abuse  
 8 laws.  
 9  
 10 **Issue 4: High turnover of police personnel.**  
 11  
 12 Strategy 4: Encourage changes to MPD contract so that officers can stay on the island  
 13 longer than a 1 year rotation, especially the senior officer.  
 14  
 15  
 16

### 17 C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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18  
 19  
 20 **GOAL** An effective and efficient police force for the island of Lāna`i.

#### 21 22 23 **Objectives**

- 24 • A safe, peaceful and friendly community.

#### 25 26 27 **Policies**

- 28 1. Ensure that the staffing of the police office on Lana`i is enlarged
- 29 appropriately if the population of the island significantly increases.
- 30
- 31 2. Support the development and provision of workforce housing for police
- 32 personnel.
- 33
- 34 3. Support additional animal control services.
- 35
- 36 4. Support police taking an active role in civil defense.
- 37
- 38 5. Support policing strategies to deal with substance abuse.
- 39
- 40 6. Support longer tours of duty on Lāna`i for police personnel.

1 **Actions**

<b>Table 8.2 Public Facilities and Services – Police</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>Lead County Agency</b>	<b>Partners</b>
8.05	Explore options for expansion of Animal Control facilities and services.	3	MPD	Humane Society LARC
8.06	Provide public education on responsible pet ownership.	3	MPD	Humane Society LARC
8.07	Study options for development of impound yard and need for tow truck services, and whether a 4WD tow truck is necessary.		MPD	Pulama Lāna`i
8.08	Coordinate with community organizations in their prevention and treatment efforts to reduce substance use and abuse.  Continue working cooperatively with the Prosecutor's Office and the DEA to enforce substance abuse laws.	5	MPD	CDFL LCHC
8.09	Examine options for extending the length of time police personnel and officers are on Lanai for a tour of duty.	1	MPD	
8.10	Provide Lana`i orientation training classes and support for Police Staff.	1	MPD	Pulama Lanai
8.11	Create a position on the Police Commission for a Lāna`i representative	1	MPD Mayor's Office	

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3  
4

## **FIRE AND PUBLIC SAFETY**

### **A. INTRODUCTION**

There is one fire station on the island located on Fraser Avenue in Lāna`i City. A new 4 wheel drive truck was purchased for the Lāna`i Fire Department in 2009. The 2014 County budget includes funding to purchase a brush truck for the Fire Department.

### **B. ISSUES AND STRATEGIES**

**Issue 1:** Response time to Mānele can be 15-20 minutes; population growth and increased visitors at Mānele may warrant the location of a fire station at Mānele.

**Strategy 1:** Explore options for locating fire, safety, ambulance and ocean rescue services at Mānele.

**Issue 2:** Location of proposed 3<sup>rd</sup> Resort on the Keomoku Coast is remote; it will be challenging to provide fire and safety services to this location.

**Strategy 2:** Pūlama Lāna`i should work with Police, Fire and Safety to develop a plan for fire, safety and rescue services at 3<sup>rd</sup> Resort location.

**Issue 3:** There are no water rescue services based on Lāna`i.

**Strategy 3:** Explore options for establishing water rescue services on the island.

**Issue 4:** Firefighters sometimes have problems locating addresses in Lāna`i City.

**Strategy 4A:** Provide better orientation and maps of Lāna`i City streets, street names and address locations to firefighters.

**Strategy 4B:** Encourage Lāna`i property owners and managers to clearly place addresses on their structures with numbers that are visible from the street.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

**GOAL** To protect life, property and the environment by providing effective and efficient fire protection and rescue services for the island of Lāna`i.

### Objectives

- Improve ocean rescue services and fire protection by providing necessary equipment, training and staffing.

### Policies

1. Provide appropriate levels of fire, safety, and rescue services.
2. Encourage Pūlama Lāna`i to work with the Fire Department, Maui Police Department and Civil Defense while planning any development in remote areas of the island.

### Actions

Table 8.3 Public Facilities and Services – Fire and Safety				
No.	Action	Policy No	County Agency	Partners
8.12	Explore feasibility for locating fire, safety and rescue services and facilities at Mānele.	1	Fire Dept.	Pūlama Lāna`i
8.13	Support establishing ocean safety and rescue services on Lana`i.	1	Fire Dept.	Pūlama Lāna`i
8.14	Support orientation and training about living on Lana`i for Fire Department staff on the island for a tour of duty.		Fire Dept.	Pūlama Lāna`i
8.15	Work with homeowners, business owners, landlords to visibly mark addresses on structures or properties for easy identification in case of emergencies.	1	Fire Dept. Planning Dept.	Pūlama Lāna`i



## SCHOOLS

### A. INTRODUCTION

The Lāna`i High and Elementary School campus comprises approximately 10 acres of land on the western edge of Lāna`i City. While some of the existing facilities on the campus date back to 1937, many structures were added in 1970's, portables were added in the 1990's, and a few new classrooms were completed in 2013.

All of Lāna`i's student population is served by the combined Lāna`i High and Elementary School. It is the only school on the island and it is the largest K-12 school in the State of Hawai`i. The Department of Education (DOE) reports that the school has been experiencing an average decrease in enrollment of about 20 students per year for the past five years; however, that decline was during the years of a struggling economy on the Island. School enrollment would appear to be very much tied to the economy: as the recession caused fewer jobs, working families moved away, taking their children with them. It is expected that with increased economic activity on the island, there will be a subsequent increase in enrollment at all levels. Indeed, School year 2012-2013 enrollment was 530 students; while the Lāna`i High and Elementary School enrollment for the 2013-2014 school year is 585 students: an increase of over 50 students in a single year.

The DOE has developed a master plan to guide the future development of the school over the next 25 years. The master plan includes the upgrade and expansion of the school onto an additional 50 acres of County owned land west of the existing campus and includes facilities for pre-school to university level classes. Currently the University of Hawai`i Maui College (UHMC) has a small facility on Lāna`i. There is a pre-school in town that uses borrowed facilities.

### B. ISSUES AND STRATEGIES

**Issue 1:** Desire to separate elementary and high school facilities. While the facilities are adequate to accommodate the existing and short-term projected student population, the community has for a long time expressed the desire to separate the elementary and high schools.

**Strategy 1:** Expand and improve the elementary and high school campus as the population warrants, consistent with the campus master plan.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

**GOAL** High-quality educational facilities and programs that accommodate the community's diverse learning needs.

### Objectives

- Public school facilities and programs are provided in a more timely manner.
- An expanded array of post-secondary, vocational, English as a second language and career counseling programs are available on island for Lāna`i residents.
- Adequate and affordable preschool facilities and programs for Lāna`i families.

### Policies

1. Continue to support the Lāna`i High and Elementary School Master Plan 'P-20' -- Preschool to 20 concept.
2. Support public/private/non-profit partnerships to build and staff schools and improve existing facilities.
3. Encourage major employers on the Island to support or provide English as a second language education for employees.
4. Support Hawaiian Language Immersion Program.

### Actions

Table 8.4 Public Facilities and Services – Education				
No.	Action	Policy No	Lead County Agency	Partners
8.16	Implement the Master Plan for the expansion of the elementary and high school into separate campuses and the creation of a 'P -20' campus – i.e. that includes educational facilities and programs for Preschool – Post-Secondary education.	1		DOE UH Maui College
8.17	Continue to fund adult and post-secondary education programs.	1, 2		DOE UH Maui College
8.18	Continue to fund English as a second language classes.	3		DOE
8.19	Develop and implement a program for additional pre-school services.	1		DOE
8.20	Advocate for Hawaiian Language Immersion Program.	4		DOE

## HEALTH AND SOCIAL SERVICES

### A. INTRODUCTION

Health and social services on the island are limited in part due to the island's small population. The small size of the population makes it difficult to provide the full array of health and social services that are available to larger communities with larger markets. Demographically, the population is aging and there will be a need for increased health and social services for the elderly and aging populations.

Lānaʻi Community Hospital (LCH) is the only hospital on the island of Lānaʻi. A sister hospital to Kula Hospital and Maui Memorial Medical Center (MMMC), it is part of Hawaiʻi Health Systems Corporation (HHSC). LCH was originally built in 1927, however, the existing building was built in 1968, and the emergency room was remodeled in 2012-2013. It has 47 employees and approximately 30 admissions and 1,000 Emergency Room visits annually. In 2012, LCH had 1937 Laboratory patients and 591 X-Ray patients.

Lānaʻi Community Health Center is a non-profit which provides health services to all community members, but its particular focus is on a special focus on provided health services to those who live below 200% of the federal poverty level—nearly 40% of the island's population. Services are currently provided out of a three bedroom house that has been converted into temporary clinical space on Lauhala Place. Straub runs the Lānaʻi Family Health Center in Lānaʻi City which provides clinical services and some minor surgical procedures. Ke Ola Hou O Lānaʻi provides health care services for the island Hawaiian population.

### B. ISSUES AND STRATEGIES

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**Issue 1:** Some important health services are not available on the Island, such as maternity and neo-natal care, palliative care and hospice facilities; in addition, there is no pharmacy on the Island.

**Strategy 1:** State and County agencies should collaborate with with Hawaiʻi Health Systems, Straub, the Community Health Center and Pūlama Lānaʻi to develop and support improved health services and facilities on the island.

**Issue 2:** A growing and aging population with increased health and social service needs.

- 1 Strategy 2A: Increase health and support services for aging community members to allow  
2 them to 'age in place'  
3
- 4 Strategy 2B: Develop palliative care services and hospice facilities to allow terminally ill  
5 patients to remain on the island in their last days.  
6
- 7 Strategy 2C: Develop a means of inexpensive non-emergency medical transportation for  
8 Lānaʻi residents who are hospice patients within the State of Hawaii to return to  
9 Lānaʻi.  
10
- 11 Strategy 2D: Support the organization and development of an infrastructure for elder care on  
12 the island of Lānaʻi.  
13  
14
- 15 **Issue 3: Continue to support the expansion of social and mental health services**  
16 **including comprehensive foster care services.**  
17
- 18 Strategy 3: Expand the number and array of social services.  
19  
20  
21
- 22 **Issue 4: The island has multiple immigrant communities, who have limited English**  
23 **language skills; as a result there is a need for social and health services**  
24 **in multiple languages.**  
25
- 26 Strategy 4: Expand support services for new immigrants, including health and social  
27 services in their native language, whenever possible.  
28  
29
- 30 **Issue 5: The prevalence of alcohol and substance abuse is a concern to many**  
31 **Lanaʻi residents.**  
32
- 33 Strategy 5: Ensure that prevention, enforcement, treatment and educational services for  
34 alcohol and substance abuse are available on island and that there is a  
35 coordinated effort to minimize the harm to the community.  
36  
37
- 38 **Issue 6: The prevalence of domestic violence is a concern to the community.**  
39
- 40 Strategy 6: Ensure that support services for families in crisis, including domestic violence,  
41 are readily available on the island  
42  
43  
44

**C. GOAL, OBJECTIVES, POLICIES, ACTIONS**

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**GOAL**                      **An array of health and social services that provide for the needs of Lāna`i's population.**

**Objectives**

- A comprehensive, integrated health care system.
- Improved accessibility to medical, dental and vision care by increasing services available on the island.
- Expand public health programs, services, and facilities that support family planning and the special needs of children, elderly and immigrants.
- Ensure the long-term integrity of medical and emergency medical facilities and services with adequate funding for staff, programs and capital improvements.

**Policies**

1. Provide and support an eldercare infrastructure system, including health and social programs for the elderly, services and facilities for 'aging in place' as well as palliative care services and hospice facilities for the dying.
2. Provide and support social services for immigrants.
3. Provide and support social services for children and youth.
4. Provide for adequate emergency sheltering for family intervention needs.
5. Provide and support short term and long term nursing care on the island.

1 **Actions**

2

<b>Table 8.5 Public Facilities and Services – Health and Social Services</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No</b>	<b>Lead County Agency</b>	<b>Partners</b>
8.21	Develop a Master or Strategic Plan for health care services on Lāna`i	1, 2, 3, 4, 5	Housing & Human Concerns (HHC)	Pūlama Lāna`i LCH / HHSC STRAUB KE OLA HOU LCHC
8.22	Allocate funding to expand the number and array of social services		HHC	Hawaii Dept. of Health
8.23	Prepare a Master Plan for the Lāna`i Community Hospital and related medical facilities.	1	HHC	LCH / HHSC
8.24	Improve and enhance short term and long term nursing care services and facilities on the island.	1	HHC	LCH / HHSC Lāna`i Changes
8.25	Develop a plan for provision of services for elderly to 'age in place'	1	HHC	LCH / HHSC Pūlama Lāna`i Lāna`i Changes
8.26	Develop palliative care services and hospice facilities for the dying.	1	HHC	LCH / HHSC Lāna`i Changes
8.27	Ensure funding and support of the child welfare and social services network and ancillary support services Including foster care.	3	HHC	Hawaii Dept. of Health Partners in Development Partners In Development Foundation (PIDF)
8.28	Coordinate services for immigrants.	2	HHC	
8.29	Ensure support and funding for the network of services for alcohol and substance abuse.	4	HHC	Hawaii Dept. of Health
8.30	Ensure support and funding for the network of services for domestic violence and families in crisis.	5	HHC	Hawaii Dept. of Health

## 9 | LAND USE

### A. INTRODUCTION

Land use on Lānaʻi has been strongly influenced by water availability, ranching, and large-scale pineapple production. Vast open spaces have been retained by fallow agricultural fields, and barren, and rocky land areas. With the decline and then closure of pineapple production in 1992, tourism and resorts came to Lānaʻi. Today the population of 3,135<sup>1</sup> lives primarily in the historic small-town of Lānaʻi City, with some residences located near the resort hotels in the Kōʻele and Mānele Project Districts. A few rural residences are scattered along the leeward Keōmoku coast.

### Background

The vast majority of Lānaʻi's lands are designated as Agricultural or Conservation by the State Land Use Commission (see Table 9.1 and Map 9.1). A single landowner owns approximately 98%, while the State of Hawaiʻi, County of Maui, and other private landowners own the remaining 2% of the island.

**Table 9.1: Acreage by State Land Use District**

SLUC District	Acres	Percent
Urban	3,039	3.4
Rural	2,076	2.3
Agriculture	44,612	49.4
Conservation	40,570	44.9
<b>TOTAL</b>	<b>90,298</b>	<b>100%</b>

Source: State of Hawaii, Office of Planning, February 2013

Lānaʻi City, the Kōʻele and Mānele Project Districts and small scattered areas on the Keōmoku Coast make up the urban land use acreage. Lānaʻi City, built for the plantation workers in 1920, now remains as the last fully-intact plantation town in Hawaiʻi. As pineapple production phased out, tourism was brought to Lānaʻi by Castle and Cooke Resorts. The Lodge at Kōʻele opened in 1990; Mānele Bay Hotel opened one year later in 1991; and resort real estate development followed shortly after.

1. DBEDT 2010 Census Report

## Existing Conditions

Lānaʻi City continues to be the island's population and service center. Lānaʻi also has two Project Districts, Mānele and Kōʻele, with resort hotels and nearby, dispersed residential development. Future growth on the island is currently planned at the northwestern edge of Lānaʻi City and within the Mānele and Kōʻele Project Districts. The three large projects planned at the northwestern edge of Lānaʻi City include expansion of the Department of Hawaiian Home Lands' (DHHL) subdivision, the County's Lānaʻi City Affordable Housing Project, and the Department of Education's expansion of the Lānaʻi Elementary and High School campus<sup>2</sup> (see Map 9.2). The Mānele and Kōʻele Project Districts were approved 26 years ago (1986), yet only a small fraction of the approved units have been constructed. Approximately 6% of the entitled housing units in the Kōʻele Project District have been constructed and 18% of entitled housing units at Mānele<sup>3</sup>.

The island's primary industrial areas are located southwest of Lānaʻi City, off of Kaumālapaʻu Highway, near the Lānaʻi Airport, and at Kaumalapaʻu Harbor. The remaining lands are primarily open space, agricultural lands, barren rock lands, or conservation lands protecting the forest along the mountain ridge.

State Land Use Districts have designated all of the lands on Lānaʻi in the four land use classifications given in Table 9.1 and shown on Map 9.1. Currently there are differences in land use designations in the State Land Use Districts and the Lānaʻi Community Plan that need to be resolved. Major differences between the 1998 Lānaʻi Community Plan Land Use Map and classifications in the State Land Use Districts are along the windward and southern coast that are primarily designated open space in the Lānaʻi Community Plan, whereas, they are designated urban lands in the State Land Use Classifications. There are no permanent settlements on the windward and northern regions of the island as these areas are remote from existing development and services, lack infrastructure, and may have environmental and/or cultural constraints. In addition, most of the island has interim zoned lands that need specific zoning standards (Map 9.3).

2. Department of Hawaiian Home Lands. *Island of Lānaʻi Regional Plan*. June 2010, and Department of Education. *Lānaʻi High Elementary School Master Plan Final Environmental Assessment*. March 2011.

3. John M. Knox & Associates, Inc. *Draft Lānaʻi Economic Development Issue Paper*. May 2011, and County of Maui Department of Water Supply. *Draft Lānaʻi Island Water Use and Development Plan*. February 2011



## **Future Conditions – Planned Growth**

Five areas of Lāna`i have been proposed for future development by Pūlama Lāna`i (see detail maps within Land Use Designations Map 9.4). The composition of the land uses within these five areas is intended to provide economic diversity, sustainability, infrastructure improvements, diversity of housing options and locations, diversity in resort experiences, and educational opportunities. The five areas are seen as interrelated and supportive of each other in order to achieve economic and community sustainability.

Approximately 3,100 total acres are proposed with the following land uses: urban and rural residential, residential mixed use, hotel, commercial, airport, heavy and light industrial, public/quasi-public, parks, and conservation (see Table 9.2). The new development will incorporate smart growth principles of walkable neighborhoods, green infrastructure, and multi-modal transit oriented development while capturing the historic form of Lāna`i City and the rural, open spaces of the island.

Pūlama Lāna`i target for total population is approximately 6000 residents. To meet the future demand for housing Pūlama Lāna`i's proposal includes development of new urban and rural residential housing, as well as development of currently entitled lands in the Lana`i City affordable housing project site (372 units) and the Koele and Manele Project Districts.

## **Lāna`i City Area – Map 9.5**

The Lāna`i City Area proposes new development areas west of Lāna`i City to include: 9.5A Lāna`i City Expansion, 9.5B Tennis Academy, 9.5C Gateway Park, 9.5D the University, and 9.5E Paliamano Gulch Park. To the north there is 9.5F Rural Residential, and to the south is 9.5G Film Studios. The key features of these areas include an education and recreation core surrounded by residential areas and mixed use development. Building design would retain the plantation village character, and neighborhoods would be connected and walkable. There would be a diversity of housing types and affordability. The areas are in the conceptual planning phase (pre-design) and proposed as follows:

**9.5A Lāna`i City Expansion** – This area would be approximately 546 acres on the west end. It would include part of the existing County of Maui affordable housing lands and extend south, below 9<sup>th</sup> Street to include the land area of the current sewage treatment plant. The sewage treatment facility would be moved north of Paliamano Gulch. The Lāna`i City Expansion would be mixed use, which includes commercial, residential, and business development. Street pattern and housing form would be similar to the historic areas of Lāna`i City. Acreage for some of the housing may be exchanged by Pūlama Lāna`i for land within the County of Maui's affordable housing project, which currently has a 73 acre site. If approved, this would allow construction of housing to occur at an earlier date and, over time,

1

<b>Table 9.2 Lana'i Community Plan Acreage by Proposed Growth Areas Land Use Designations - Draft</b>												
<b>Proposed Growth Areas</b>	<b>Proposed Land Use Designations</b>											<b>Total Acres</b>
	<i>Lanai City Expansion</i>	<i>Residential</i>	<i>Hotel</i>	<i>Com-mercial</i>	<i>Airport</i>	<i>Light Industrial</i>	<i>Heavy Industrial</i>	<i>Public/Quasi-public</i>	<i>Park</i>	<i>Rural</i>	<i>Conservation</i>	
<b>Lāna`i City</b>												<b>1476</b>
Lāna`i City Expansion*	546											
University Campus								524				
Tennis Academy									50			
Linear Park /Drainage									270			
Gateway Park									16			
Rural Residential										50		
Film Studios						20						
<b>Kahalepalaoa</b>												<b>537</b>
Kahalepalaoa Village										250		
Retreat Resort			20									
Parks									7			
Conservation Buffer											260	
<b>Airport</b>												<b>878</b>
Airport Expansion					678							
Miki Basin Industrial						65	100					
Energy Park						35						
<b>Mānele</b>												<b>181</b>
Mānele Mauka		83										
Commercial				2								
Park									20			
Rural Residential										76		
<b>Kaumālapa'u</b>												<b>60</b>
Ocean Resource Industrial							10					
Residential		50										
<b>TOTAL ACRES</b>	<b>546</b>	<b>133</b>	<b>20</b>	<b>2</b>	<b>678</b>	<b>120</b>	<b>110</b>	<b>524</b>	<b>363</b>	<b>376</b>	<b>260</b>	<b>3132</b>
* Note: Includes proposal to incorporate County of Maui Affordable Housing Project into new land use designation. CPAC DRAFT 9-30-13												

intermix the affordable housing with other housing throughout the County of Maui lands and the Lāna`i City expansion area for a more balanced housing community. Existing 5<sup>th</sup> and 9<sup>th</sup> Streets would be extended to intersect with a new bypass road that would cross the Kaumālapa`u Highway and loop north then east to end at the corner of Lāna`i Avenue and Keōmoku Road.

**9.5B Tennis Academy Park** - The tennis academy is proposed as approximately 50 acres of park in the central education and recreation core. The concept is modeled after similar programs that train professional tennis players. The academy would have dormitory housing nearby and complete tennis facilities. Students would come from around the world seeking training to prepare for international level competition.

**9.5C Gateway Park** – This park area of 16 acres expands the existing park at the junction of Mānele Road and Kaumālapa`u Highway. The park would provide an attractive entrance to Lāna`i City. Mānele Road would split into two roadways approximately 1000 feet south of Kaumālapa`u Highway. The second bypass road would divide the core education and recreation area from the Lāna`i City Expansion area, and would intersect with the outer bypass road to the north.

**9.5D University** – Approximately 524 acres are proposed for a new university and research institute on the western edge of the Lāna`i City Expansion. The acreage reflects a reserve of land to allow enough space to achieve an attractive campus design.

**9.5E Paliamano Gulch Park** – Approximately 275 acres of linear park and drainage along the Paliamano Gulch.

**9.5F Rural Residential** – A rural residential area is proposed adjacent to Koele stables. The 50 acrearea is between Keomoku Road and Kopolihua Road with a proposed extension of Fraser Avenue for additional road access. This rural residential area is intended to provide larger lot sizes than lots within Lanai City and to allow farming. Lot sizes could range from one-half acre to ten acres under the current Maui County zoning code.

**9.5G Film Studios** - Twenty two acres of light industrial land will be used for film studio facilities. The warehouse-type structures will be sited to prevent the buildings from being visible from Mānele Road. For proposed development areas described above, and as shown on Lāna`i City Area Conceptual Plan – Map 9.5, a determination will be made at the time of entitlement as to whether a project district, detailed zoning, or other means, will achieve the goals stated above.

## **Kahalepalaoa Area– Map 9.6**

The Kahalepalaoa Area conceptual plan includes proposed new development located along the eastern Keōmoku Coast in the general area of Kahalepalaoa Landing (former Club Lāna`i site) and extending south toward Kikoa Point. The Kahalepalaoa Areas are as follows: 9.6A Kahalepalaoa Retreat Resort, 9.6B Kahalepalaoa Village rural residential, 9.6C Kikoa Point and Kahalepalaoa Landing Beach Parks, 9.6D Conservation Buffer. The new destination resort would provide an alternative hotel experience to the other two Lāna`i resorts by being small in scale, private, views toward both Maui and Moloka`i, and would feature a Hawaiian village style with low-impact, environmentally sensitive design. An open space coastal preserve would follow the coastline, while a permanent conservation buffer surrounds the proposed development areas. The new resort and residential area will require development of suitable access.

**9.6A Kahalepalaoa Retreat Resort** – The Retreat Resort would have up to 100 guest units on approximately 20 acres in the general location of Kahalepalaoa Landing (the former Club Lāna`i). Hotel units would be individual structures built in a Hawaiian Village style with a low-impact, eco-friendly design. There would be a Beach Club.

**9.6B Kahalepalaoa Village Rural Residential** – An area limited to 250 acres for rural residential would parallel the coastline between Kahalepalaoa Landing and Kikoa Point. Rural residential lots would be approximately 5-acre, or larger, estates for up to a maximum of 50 total residences within the village.

**9.6C Kikoa Point and Kahalepalaoa Landing Beach Parks** – Kikoa Point Beach Park would be approximately 4 acres and Kahalepalaoa Landing Beach Park would be approximately 3 acres. A shoreline access trail would connect the two beach parks parallel to the shoreline setback line and makai of Kahalepalaoa Village and Kahalepalaoa Retreat Resort. The shoreline access trail would also follow the shore to the south of Kikoa Point until meeting the relocated Old Government Road. Additional shoreline access trails will ensure public access to the coast per Maui County Code.

**9.6D Conservation Buffer** - A permanent conservation area, approximately 260 acres, will be established in, and managed by, a land trust in perpetuity, and will preserve lands surrounding the Kahalepalaoa Retreat Resort and the Kahalepalaoa Village rural residential areas. This conservation buffer shall prevent expansion of future development outside of the Kahalepalaoa Retreat Resort and Village Residential area. The Conservation Buffer shall be a minimum depth of 1000 feet on the mauka side of the Kahalepalaoa Village, and extend north and south along the coastline 1000 feet including the two parks' boundaries. Any existing privately owned rural residential parcels (in-holdings) will be excluded from the Conservation Buffer land trust. The Old Government Road would be partly within the Conservation Buffer, except for the relocated portion of the road that would follow the outside, mauka edge of the Kahalepalaoa Village residential area.

For proposed development areas described above, and as shown on Kahalepalaoa Area Conceptual Plan – Map 9.6, a determination will be made at the time of entitlement as to whether a project district, detailed zoning, or other means, will achieve the goals stated above.

#### **Airport Area– Map 9.7**

The Airport Area conceptual plan's goals are to improve the experience of flying into Lānaʻi by improving transportation facilities, and to consolidate industrial uses. The land use areas are as follows: 9.7A Airport Expansion, 9.7B Miki Basin Industrial, and 9.7C Energy Park.

**9.7A Airport Expansion** - The Airport Expansion would add approximately 680 acres to the existing airport to increase lift capacity of Lānaʻi airport with a new 7-8,000 foot runway. In addition, supporting facilities, a taxiway, and hangar area would support an anticipated increase in air transportation.

**9.7B Miki Basin Industrial** – The existing industrial uses on Miki Road would be expanded in a proposed industrial area of approximately 200 acres, divided into approximately 100 acres each of light and heavy industrial. Light industrial from within Lānaʻi City would also be moved and consolidated in this area. It would also serve as a staging area for shipments from the harbor to be distributed closer to town.

**9.7C Energy Park** - Approximately 35 acres of the light industrial would be adjacent to the industrial area and airport for energy generation. Example of uses may be solar energy or algae farms for biofuels.

#### **Mānele Mauka Area– Map 9.8**

Mānele Mauka Area conceptual plan proposes approximately 180 acres for primarily residential use and amenities such as a park and community center as the following areas: 9.8A Mānele Mauka, 9.8B Commercial, 9.8C Park, and 9.8D Rural.

**9.8A Mānele Mauka** – Mānele Mauka, approximately 83 acres, would be close to Mānele Bay Resort and Hulopoʻe Bay, and would have a variety of housing types, some with ocean views, within a compact walkable neighborhood. The concept includes compact, walkable, urban density residential with single and multi-family units, including housing for seniors. Mānele Mauka is located south of the junction of Mānele Road and Kaupili Road with open agricultural lands bordering both roads to retain views. Road access would initially be via Mānele Road and Kaupili Road; Hulopoʻe Drive would be opened at a later time to connect to the Mānele Project District.

**9.8B Commercial** – To service the Mānele Mauka community there would be approximately 2 acres of commercial land. It is anticipated that the businesses would reduce trips into town for gas, groceries and similar residential needs.

**9.8C Park** - An approximately 20 acre community park area would be centrally located in the Mānele Mauka residential area. The park would contain a community center and the reservoir on the outer, eastern edge.

**9.8D Rural Residential** – Due west of the Mānele Project District and above Poopoo and the coastline, 76 acres is proposed as rural residential housing.

For proposed development areas described above, and as shown on Mānele Area Conceptual Plan Area – Map 9.8, a determination will be made at the time of entitlement as to whether a project district, detailed zoning, or other means, will achieve the goals stated above.

#### **Kaumālapa‘u Area– Map 9.9**

The Kaumālapa‘u Area conceptual plan creates ocean resources heavy industrial and residential areas along the Kaumālapa‘u Highway above the harbor. The two areas are as follows: 9.9A Ocean Resource Heavy Industrial, 9-9B Kaumālapa‘u Harbor Residential.

**9.9 A Ocean Resources Heavy Industrial** – Approximately 10 acres of Ocean Resources Heavy Industrial is proposed as a new area up the highway from the harbor heavy industrial area. Industrial development will be limited to harbor or ocean related activities to potentially include aquaculture, fish farming, and processing facilities. The Ocean Resources Heavy Industrial area is south of the highway and adjacent to the western edge of the quarry.

**9.9 B Kaumālapa‘u Harbor Residential** – The concept proposes creating a residential area on approximately 50 acres of land above the harbor and south of Kaumālapa‘u Highway. There would be ocean view sites and a community garden/farm. Residential areas would be sited to reduce visibility of housing from the highway and to retain view corridors from the highway to the coast.

For proposed development areas described above, and as shown on Kaumālapa‘u Area Conceptual Plan Area – Map 9.9, a determination will be made at the time of entitlement as to whether a project district, detailed zoning, or other means, will achieve the goals stated above.

## B. ISSUES AND STRATEGIES

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**Issue 1: State Land Use designations and Lāna`i Community Plan designations are inconsistent.**

**Strategy 1:** Identify State land use designations that are inconsistent with Lana`i Community Plan land use designations and work to bring them into agreement.

**Issue 2: Interim zoned lands lack specific zoning standards.**

**Strategy 2:** Conduct a comprehensive review of interim zoned lands to identify appropriate zoning following a thorough review of updated Community Plan land use designations.

**Issue 3: Due to development, wetlands, riparian areas, forests, and traditional use lands need protection from degradation and loss.**

**Strategy 3:** Identify and map natural and cultural resource areas and provide guidelines for development, such as Best Management Practices, to ensure protection of significant natural and traditional use lands.

**Issue 4: Several Memorandum(s) of Agreement (MOA) and unilateral agreements may not be in compliance.**

**Strategy 4:** Work with landowner(s) to review MOA(s) and unilateral agreements, and determine actions needed to bring into compliance.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL**            **Retain and enhance Lānaʻi's rural character, respecting its vast open space lands and small island town environment, which are unique in the State of Hawaiʻi.**

### Objectives

- Urban expansion and development occurs in areas planned for such uses.
- Important agricultural lands are maintained and protected from urban development.
- Urban development occurs in a coordinated manner, consistent with the Community Plan, and in conjunction with the provision of infrastructure.

### Policies

1. Limit State Urban District boundary expansion and County urban zoning to areas designated as urban use on the Lānaʻi Community Plan Land Use map.
2. Limit new residential, commercial, or infrastructure development to existing communities and proposed expansion areas as shown on the Lānaʻi Community Plan Land Use map.
3. Manage Lānaʻi Airport lands to include commercial and industrial airport facility development within Airport boundaries wherever possible. Expand airport boundaries to allow extension of existing runway and to develop a second runway, with the least impacts to Lānaʻi City.
4. Encourage conservation of existing Agricultural Lands of Importance to the State of Hawaii (ALISH) agricultural lands classified as Unique Agricultural Land and Other Important Agricultural Land for agricultural use rather than for development.
5. Discourage developing or subdividing productive agricultural lands for residential uses where the residence would be the primary use and any agricultural activities would be secondary uses.
6. Encourage cluster housing, conservation subdivision design (CSD), or the use of green spaces/natural separations to protect the character of rural and agricultural landscapes.



- 1 7. Discourage approvals of Special Use Permits in State Agricultural and Rural  
2 Districts unless: (1) to accommodate public/quasi-public facility uses such as  
3 utility installations, landfills and wastewater treatment plants whose location is  
4 determined by technical considerations; (2) supportive of agricultural uses; or  
5 (3) required for the use or distribution of economic resources and not  
6 otherwise adversely affecting the environment or surrounding agricultural  
7 uses; or (4) to allow very low-impact accommodations (non-permanent  
8 structure or tent ) to support small-scale eco-, cultural-, or adventure-tourism.  
9
- 10 8. Discourage urban level development in remote areas that would create a  
11 future demand for public infrastructure, facilities, or services, unless (1) shown  
12 as urban on the Lana`i Community Plan Land Use Map and (2) a development  
13 agreement provides fiscal neutrality for the County by whatever means  
14 necessary.  
15
- 16 9. Establish a predictable and timely development approval process for requests  
17 that meet Community Plan policies and land use regulatory requirements.  
18
- 19 10. Ensure all lands are zoned and zoning standards are consistent with  
20 Community Plan policies and objectives.  
21
- 22 11. Facilitate the provision of infrastructure and public facilities and services prior  
23 to, or concurrently with, development, including provision for on-going  
24 maintenance through district funding or other funding mechanism.

## 1 Actions

Table 9.3 Land Use				
No.	Action	Policy No.	Lead County Agency	Partners
9.01	Conduct a comprehensive review of interim zoned lands to identify and adopt zoning that is consistent with the Community Plan. The process shall include consultation with affected property owners and assessment of potential impacts of rezoning.	4,10,11	Planning Department	Pūlama Lānaʻi
9.02	Work with landowner(s) and community stakeholders to make necessary adjustments to Project District zoning and development standards to facilitate project build-out.	2	Planning Department	Pūlama Lānaʻi
9.03	Evaluate and establish zoning for airport land expansion, when needed for runway improvements consistent with the Community Plan. Evaluate lands between airport and Lānaʻi City for compatible land uses, particularly with respect to sound attenuation.	3	Planning Department	Pūlama Lānaʻi State Department of Transportation – Airport Division
9.04	Amend the zoning ordinance to permit low-impact accommodations for small scale eco-, cultural-, or adventure tourism in Open Space, Parks or Conservation lands through the issuance of a State Special Permit or County Special Use Permit.	4, 8	Planning Department	DLNR
9.05	Develop and adopt regulations that establish permit review timelines and a more transparent, efficient, and equitable permit process.	10	Planning Department	
9.06	Revise subdivision regulation to permit clustering and Conservation Subdivision Design within the Rural and Agricultural Districts.	5, 6, 7	Dept. of Public Works Planning Department	
9.07	Develop and provide incentives to landowner(s) to preserve and protect agricultural lands.	5, 6, 7	Planning Department	
9.08	Revise guidelines and standards for provision and phasing of public facilities and services for new development.	9, 13	Dept of Public Works Planning Department	
9.09	Concurrent with new major development, revise the State Land Use urban and rural designations to be consistent with the Lānaʻi Community Plan Land Use map.	1	Planning Department	Pūlama Lānaʻi

# 10 | URBAN DESIGN

## A. INTRODUCTION

### Background

Lāna`i City was originally conceived by James Dole as a new town in 1923. Today it is the last intact plantation town in the State of Hawaii. Built to be a self-sufficient ‘company’ town, Lāna`i City’s commercial district is organized around the rectangular shaped Dole Park and surrounded by a grid pattern of residential streets. Most of the ‘plantation style’ structures were built between 1927 and 1938. One of the most significant character defining elements of Lāna`i City is the abundant plantings of Cook Island Pines throughout the town, which, now that the mature trees are 60-100’ tall, gives the town the unique ambiance of being nestled in a forest. The landscaping, the rectilinear street pattern, the centralized commercial land uses around a large green park and the small scale of the buildings embodies many of the best qualities of late 19<sup>th</sup> / early 20<sup>th</sup> century American town planning. In 2009, the National Trust for Historic Preservation included Lāna`i City on its list of the Top 10 “Most Endangered” historic sites in the United States.

### Existing Conditions

Most of Lāna`i City’s original structures are still standing, however in recent years some buildings— both commercial and residential - have been demolished and replaced with new construction. There are also a number of structures that are empty and falling into substantial disrepair, becoming so termite infested to the point where they cannot be renovated and restored resulting in what has amounted to ‘demolition by neglect’. Residents of Lāna`i greatly value the unique character of their town and would like to see the town’s design character maintained and enhanced, while, at the same time, allowing for improvements for safety, efficiency, expansion and viability. There are design guidelines for the Business Country Town area of Lāna`i City. The other settlements on the island – Kō`ele and Mānele - also have their own design character. As project districts these areas have design guidelines under their project district schedules.

There are three major projects proposed on the northwest edge of Lāna`i City (DHHL, County affordable housing and DOE campus expansion) that, taken together, represent a considerable extension of the existing town, totaling over 150 acres. In addition, Pūlama Lāna`i has conceptual expansion plans designed to accommodate projected population growth due to anticipated increased economic activity. The projects are planned to be constructed in phases over the next 25 years and will require infrastructure upgrades and expansions. Infrastructure needs, and urban design should be coordinated between all 3

projects and with the existing town so that efficiencies can be achieved and the urban design of the projects work together to provide an appropriate and seamless expansion of Lāna`i City.

The Cook Island Pines that were planted throughout Lāna`i City are mature, and some are reaching the end of their lifespan. Some trees will have to be cut down, and replaced, as they age, get diseased, and potentially cause property damage.

## B. ISSUES AND STRATEGIES

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**Issue 1: The array, quality, and integrity of the historic structures that make up the core of Lāna`i City are threatened by some structures not being adequately maintained, others being demolished, and others being renovated without care for their historic character.**

Strategy 1A: Explore, analyze and implement the most effective strategies for preserving and rehabilitating historic buildings within the BCT.

Strategy 1B: Protect Lāna`i City's unique small town character and plantation heritage by supporting collaborative efforts to develop a vision and master plan for Lāna`i City that includes historic preservation of historic structures in the Business Country Town (BCT) area. Prepare guidelines for the protection, preservation, rehabilitation and restoration of structures in the BCT

Strategy 1C: Review, revise and enhance as necessary the BCT design guidelines for Lāna`i City to provide more detailed guidance for new construction as well as renovation and reconstruction of existing structures. Review and amend the BCT ordinance to allow flexible adaptive re-use.

**Issue 2: Lāna`i City's intact and unique plantation era historic character could be compromised by inappropriate new development and insensitive renovation of existing structures.**

Strategy 2A: Develop design guidelines for structures not only in Lāna`i City but also outside of the BCT area to provide guidance on appropriate form, scale, architectural character, details and materials.

**Issue 3: County standard parking requirements for commercial operations make it expensive and difficult to obtain building permits, when the situation in**

- 1                   **Lāna`i City is that there is ample parking surrounding Dole Park for the**  
 2                   **surrounding businesses and institutions.**  
 3
- 4   Strategy 3A: Create a comprehensive parking strategy for Lāna`i City, and develop and  
 5                   adopting less restrictive parking requirements as part of the revised Lāna`i City  
 6                   BCT Design Guidelines which would allow businesses to utilize public parking  
 7                   surrounding Dole Park instead of developing new parking spaces on site. Review  
 8                   and amend the BCT ordinance to be consistent with proposed guidelines.  
 9
- 10
- 11   **Issue 4:       The rural character of Lāna`i City's streetscapes could be compromised**  
 12                   **by the imposition of modern street design standards which include**  
 13                   **requirements for curb and gutter, sidewalks, wider lane widths, etc.).**  
 14
- 15   Strategy 4: Develop specific rural and small town street design standards for Lāna`i, which  
 16                   would permit context sensitive street design and maintenance of the small town  
 17                   streetscapes found in Lāna`i City that includes streets without curbs and  
 18                   gutters, overhead utilities and sidewalks.  
 19
- 20
- 21   **Issue 5:       Previous expansions of Lāna`i City have utilized modern, curvilinear,**  
 22                   **street network forms, breaking the small grid and intimate scale of Lāna`i**  
 23                   **City's rural small town streets.**  
 24
- 25   Strategy 5: Maintain, where possible, the overall gridded street network pattern for Lāna`i  
 26                   City, including new subdivisions and areas of expansion.  
 27
- 28
- 29   **Issue 6:       Pūlama Lāna`i has conceptual plans to expand Lāna`i City in order to**  
 30                   **provide more housing (affordable as well as market rate) and a new**  
 31                   **commercial/mixed use area as the population grows due to increased**  
 32                   **economic activity.**  
 33
- 34   Strategy 6A: Encourage Pūlama Lāna`i to collaborate with the community and the County  
 35                   on the development of site plans, building types, planning and design  
 36                   standards, and design guidelines for any expansion of Lāna`i City, as well as  
 37                   for any new development areas, through interactive public design workshops  
 38                   and design charrettes.  
 39
- 40   Strategy 6B: Create design standards and guidelines for the expansion of Lāna`i City for  
 41                   both commercial and residential properties, as well as streetscape/street  
 42                   design guidelines.  
 43

- 1
- 2 **Issue 7: Loss of the array of Cook Island Pines in Lāna`i City due to age or**
- 3 **disease would significantly alter the urban design character of the town.**
- 4
- 5 Strategy 7: Develop a management and replanting plan for the Cook Island Pines
- 6 throughout Lāna`i City. Explore options for appropriate alternative tree
- 7 species, depending on location and site. Cook Pines could be replanted if
- 8 appropriate for that location, or other alternative, native or indigenous and non-
- 9 invasive species could be used.
- 10
- 11
- 12 **Issue 8: Inappropriate landscaping in settled areas consumes precious water**
- 13 **resources, has the potential to unleash invasive species, and blurs the**
- 14 **character of the native landscape.**
- 15
- 16 Strategy 8: Develop a street tree planting plan for existing areas and new development.
- 17 Develop a guidance document for homeowners and landowners to address
- 18 both new and existing and landscapes that would promote the use of non-
- 19 invasive drought tolerant and climatic zoned native plants wherever possible.
- 20
- 21
- 22 **Issue 9: Parks in Lāna`i City are concentrated in the central area; outlying**
- 23 **neighborhoods have a lack of parks.**
- 24
- 25 Strategy 9: Ensure that the urban design of any expansion of Lāna`i City or development
- 26 of new residential areas provides for adequate parks and open spaces, as
- 27 required by Maui County Code title 18.
- 28
- 29
- 30 **Issue 10: Unshielded street lights and playfield lighting cause glare and light**
- 31 **pollution that not only detracts from the rural character of Lāna`i but also**
- 32 **causes problems for migrating and nesting sea-birds.**
- 33
- 34 Strategy 10: Ensure that street lighting is minimized and that street lights use shielding to
- 35 prevent unnecessary light pollution.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL** Protect and enhance Lāna`i's unique urban design character through design standards and guidelines .

### Objectives

- Protect, preserve, maintain and enhance Lāna`i City's unique plantation town character.
- Maintain and enhance the traditional small town streetscape design and road network of Lāna`i City as well as the rural roadscapes outside of town.
- Enhance the landscape of Lāna`i City, and other settlement areas, through the use of native or other appropriate, indigenous, non-invasive and drought tolerant plants.
- Ensure that new development in Lāna`i City and expansion of Lana`i City respects and enhances the urban design character of the plantation town, including expansion of the gridded street network and the design character of new construction.
- Ensure that the urban and architectural design of new development areas is in keeping with the rural, small town character of the island.

### Policies

1. Encourage infill residential construction and development in Lāna`i City that responds to and enhances the architectural character of the plantation era buildings.
2. Ensure that proposed land uses and land use patterns in Lāna`i City are consistent and compatible with the historic design character of Lāna`i City.
3. Promote the development of a variety of recreational facilities for both active and passive uses.
4. Encourage the planting of suitable street trees species in new and existing areas and the replacement of Cook Island Pines, if appropriate.

1 **Actions**

<b>Table 10.1 Urban Design</b>				
<b>No.</b>	<b>Action</b>	<b>Policy No.</b>	<b>County Agency</b>	<b>Partners</b>
10.01	Explore, analyze and implement regulatory and financial mechanisms for preserving and rehabilitating historic buildings within the BCT .		Planning Dept.	Pūlama Lāna`i
10.02	Prepare a vision and master plan for Lāna`i City, through collaborative efforts that include historic preservation of structures in the BCT area.	2	Planning Dept.	Pūlama Lāna`i
10.03	Revise and enhance the BCT design guidelines for Lāna`i City to provide more detailed guidance for new construction as well as renovation and reconstruction of existing structures for adaptive re-use.	1, 2	Planning Dept.	Pūlama Lāna`i
10.04	Develop design guidelines for structures in Lana`i City, but outside of the BCT area to provide guidance on appropriate form, scale, architectural character, details and materials.	2	Planning Dept.	Pūlama Lāna`i
10.05	Create a comprehensive parking strategy for Lāna`i City: develop and adopt less restrictive parking requirements as part of the revised BCT Design Guidelines to allow businesses to utilize public parking surrounding Dole Park instead of developing new parking spaces on site.	2	Planning Dept.	Pūlama Lāna`i
10.06	Develop specific rural and small town street design standards for the Island which would permit context sensitive street design and maintenance of the rural streetscapes without curbs, gutters and overhead utilites, as found in Lāna`i City.	2	Public Works Planning Dept.	Pūlama Lāna`i
10.07	Develop a street tree planting plan, for existing and new development. Research and explore different street tree options for planting in Lāna`i City and the expansion areas.	4	Parks Department Planning Dept.	Pūlama Lāna`i
10.08	Develop subdivision standards and design guidelines for any expansion of Lāna`i City that continues and expands the rectilinear street grid and rural roadway standards, and the plantation town character of new buildings and residences.	(2)	Public Works Development Services (DSA) Planning Dept.	Pūlama Lāna`i



Table 10.1 Urban Design				
No.	Action	Policy No.	County Agency	Partners
10.09	The County and State will need to coordinate phasing and build-out of the three projects (DHHL, DOE, County Affordable Housing) and needed infrastructure improvements to maximize community benefits, minimize costs and ensure a seamless and complementary incorporation of these projects into the community.		Planning Dept. Public Works Housing and Human Concerns	Department of Hawaiian Homelands (DHHL) Department of Education (DOE) Pūlama Lāna`i
10.10	Develop an urban forestry management plan for the Cook Pines on County and public property throughout Lāna`i City. Include options for the planting of native, or indigenous and non-invasive species where appropriate, and consider replanting Cook Pines only where there is adequate space for the mature trees. Encourage Pūlama Lāna`i to adopt a similar plan.	4	Parks Dept. Planning Dept.	Pūlama Lāna`i
10.11	Produce a guidance document for homeowners and landowners to address new landscapes as well as renovation of existing landscapes to encourage the use non-invasive, drought tolerant and climatic zoned plants wherever possible	4	Planning Dept.	Pūlama Lāna`i
10.12	Develop standards for street lighting that mandate 'dark sky' shielding of lamps in order to minimize light pollution and glare. Explore options for LED Lighting to not only save energy but also to provide a more point-like light source.	2	Planning Dept. Public Works	Pūlama Lāna`i

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# 11 | HOUSING

## A. INTRODUCTION

During the 1920s, as pineapple production expanded to become the primary industry on Lāna`i, more than 600 plantation style houses were constructed by Hawaiian Pineapple Company to house the influx of workers. The island now has around 1,400 dwelling units, most of which were built as the economic base shifted to tourism during the 1980s and 1990s. Lāna`i may be on the cusp of another housing construction boom as plans to diversify the island's economy are realized.

While this new development will likely improve the economy, there are challenges. The provision of housing needs to address factors that affect affordability, as well as neighborhoods and communities. Special needs populations may require affordability and/or special housing types. In tourism or scenic areas, investment or second home purchases may put upward pressure on prices if the property is used for a tourism rental rather than an owner-occupied or long-term rental home.

Housing affordability is a problem throughout the County and Lāna`i is no exception. Without reasonably priced housing Lāna`i, like other Maui communities, will experience high rates of crowding, and lower ownership rates, and more people per household. The ability of residents to purchase or rent can improve when there is an accessory - `ohana - unit to provide rental income or to house family members. Housing affordability improves when residences are built in areas where infrastructure can be provided economically and within proximity of employment and services. Regulations or zoning may need modification to accommodate a variety of housing types, lot sizes, or mixed use neighborhoods that would bring housing closer to the workplace.

### Background

The County of Maui has a number of policies and provisions in place to address its stated goal of ensuring quality, island-appropriate housing is available to all residents. The *Countywide Policy Plan Section IV (E)(1)(a) Expand Housing Opportunities for Residents* specifically addresses affordable housing:

*Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.*

The Mānele and Kō`ele project district ordinances both contain provisions requiring the development and coordination of an affordable housing program for residents of Lāna`i.

In addition, the *Maui County Code of Ordinances Chapter 2.96 – Residential Workforce Housing Policy* requires that any new development of five or more dwelling units and/or lots include plans to ensure that a number of affordable residential workforce housing units will also be provided. The provision also applies to development of three or more lodging, dwelling, or time share units in a hotel; conversion of one or more hotel units to dwelling units or time share; or any hotel redevelopment or renovation project that increases the number of units. The workforce housing requirement can be satisfied by providing for-sale units, rental units, or by paying a fee. The number of workforce units required is either 25% or 50% of the total number of market rate units depending on their sales price.

### Existing Conditions

A majority of the island's population lives within Lāna`i City. Additional housing is located in the Mānele and Kō`ele project districts. Pūlama Lāna`i is the primary provider of rental housing, with 455 single-family and multi-family units within Lāna`i City. The American Community Survey (ACS) 2007-2011 5-year estimated home ownership rate on Lāna`i was 59.4%. This was slightly higher than the county rate of 58.3% and the state average of 58.7%, but less than the 64.6% national average<sup>1</sup>.

The ACS 2007-2011 5-year estimated median household income on Lāna`i was \$69,464, compared to Maui Island's \$64,583, and the State's \$67,116. For the same period the median Lāna`i home value was \$452,000 compared to Maui County at \$594,400. Housing prices and rents on Lāna`i have consistently been lower than Maui County as a whole. The U.S. Department of Housing and Urban Development (HUD) defines housing affordability as a household that pays less than 30% of its annual income on housing. Table 11.1 shows that an estimated 17% of Lāna`i renters pay more than the HUD affordable rate for housing costs versus 55% of Maui County renters and 56% of Hawaii renters.

Table 11.1. Gross Rent as a Percentage of Household Income

Gross Rent as a % of Household Income	Lāna`i		Maui County		Hawaii	
	Renter Households	Percent	Renter Households	Percent	Renter Households	Percent
Less than 30.0 percent	263	83%	8,871	45%	73,455	44%
30.0 percent or more	52	17%	10,793	55%	93,427	56%

<sup>1</sup> Source: U.S. Census Bureau, 2007-2011 American Community Survey 5-Year Estimates.

Table 11.2 shows that an estimated 61% of Lāna`i home owners with mortgages pay more than the HUD affordable rate for housing costs versus 53% of Maui County home owners and 49% of Hawaii owners. So although a relatively low number of Lāna`i renters pay unaffordable rents by HUD standards, the opposite is true for home owners on Lāna`i; a higher percentage of them are paying unaffordable monthly home ownership costs compared to owners in Maui County as well as the rest of Hawaii.

Table 11.2. Selected Monthly Owner Costs as a Percentage of Household Income (for homes with mortgages)

Monthly Owner Costs as a % of Household Income	Lāna`i		Maui County		Hawaii	
	Owner Households	Percent	Owner Households	Percent	Owner Households	Percent
Less than 30.0 percent	162	39%	10,128	47%	91,576	51%
30.0 percent or more	257	61%	11,642	53%	87,097	49%

The Department of Hawaiian Home Lands has had 55 lots available to qualified Native Hawaiians since 2005; about 65% of the lots are leased. DHHL recognizes that many homestead applicants are unable to qualify for home loans after being awarded a lot. To address this issue, DHHL developed the Home Ownership Assistance Program, which offers classes on financial literacy, job training, and placement services.

A proposed County affordable housing project is located on 73 gross acres on the west side of Lāna`i City. The project as planned is comprised of 372 affordable residential units: 199 for sale lots and 173 multi-family rental and for sale units. Two parks are planned including five acres for a community center and four acres for a detention basin. The project is planned in five phases over a period of 17 years.

Since Pūlama Lāna`i purchased Castle & Cooke's holdings on Lāna`i, there has been increased investment and increased employment on the island which has resulted in a shortage of housing. In the short term, Pūlama Lāna`i's options for building more housing are limited as the only entitled lands near Lāna`i City are within the County's planned housing project and within the Kō'ele Project District. In the long term, Pūlama Lāna`i would like to expand residential areas in order to accommodate what is expected to be a growing population.

Lāna`i also has a number of Transient Vacation Rentals (TVR's) and Bed and Breakfast accommodations. The conversion of houses to TVR's and B&B's has reduced the inventory of housing available for residents on Maui and has created some conflicts with neighbors. The County recently created/revised regulations regarding TVR's and B&B's: however those regulations were aimed at the situation on Maui. Vacation rentals on Lāna`i will require regulations that are tailored to the unique situation on Lāna`i.

## B. ISSUES AND STRATEGIES

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### **Issue 1: There is a lack of affordable housing on Lāna`i.**

Strategy 1A: Gain a better understanding of the problem by surveying Lāna`i residents (and temporary workers) about their present and future housing needs and desires.

Strategy 1B: Work with Pūlama Lāna`i to project future population growth and housing needs, based on their plans for new development.

Strategy 1C: Encourage Pūlama Lāna`i to explore all options for building new affordable housing.

Strategy 1D: Work with the community and public-private partners to establish a community land trust to reduce the affordability gap between median income levels and housing costs. Investigate whether Na Hale 'O Maui, a community land trust on Maui, would consider operating on Lāna`i.

### **Issue 2: The County Department of Housing and Human Concerns has land use entitlements, and preliminary plans, for an affordable housing development; however, the County does not currently have the funding to begin developing the project and there is an immediate need for more housing.**

Strategy 2: Encourage the Department of Housing and Human Concerns and the County to collaborate with Pūlama Lāna`i to swap land so that Pūlama Lāna`i can begin immediate development and construction of housing. In exchange, the County's affordable housing will be developed incrementally at multiple sites in the company's proposed expansion areas.

### **Issue 3: There is a lack of housing choices available at different price levels and housing sizes.**

Strategy 3A: Encourage new development to include a variety of lot sizes and housing types.

### **Issue 4: There is an increasing need for housing and services for special needs populations**

Strategy 4A: Form partnerships to establish and provide housing and residential care for special needs populations. Form partnerships between the County Department of Housing and Human Concerns, State Department of Health, non-profits,

- 1 private landowners, and the community to establish a elder care infrastructure
- 2 system. Housing that allows aging-in-place may require supportive building
- 3 code standards. Evaluate all special needs groups to ensure an adequate
- 4 supply of quality housing is provided at all income levels.
- 5
- 6 **Issue 5: Lāna`i has a number of vacation rental properties (including Bed and**
- 7 **Breakfasts) that cater to hunters, kama`aina tourists, short stay visitors**
- 8 **but most do not have County permits.**
- 9
- 10 **Strategy 5:** Work with Lāna`i residents and the Lāna`i Planning Commission to develop
- 11 unique vacation rental regulations for Lāna`i.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL**                    **Housing that meets the needs of all Lāna`i's residents in order to ensure a healthy and vibrant social and economic environment.**

### **Objectives**

- Increase the long-term supply of housing for multiple income levels.
- Housing opportunities that are affordable, safe, and environmentally and socially beneficial.
- Increase the variety of housing types that are available for sale or rent/lease.

### **Policies**

1. Support initiatives, plans, and regulations that keep housing affordable in perpetuity.
2. Require County mandated affordable housing be subject to buy back provision so that affordable units are not sold for profit and taken out of the affordable housing stock.
3. Require County subsidized affordable rental housing remain available as rental housing at affordable rents.
4. Expedite permit process and provide incentives for safe, environmentally, and socially beneficial housing projects.
5. Encourage development of a mix of quality multi-family and single family housing units to expand housing choices and price points.
6. Support opportunities for multigenerational housing and efficient use of existing infrastructure through the development of `ohana units on Lāna`i.
7. Ensure that elderly residents and residents with special needs have access to appropriate housing.
8. Support self-help housing as a means of addressing affordable housing needs for Lāna`i residents.
9. Promote the sale of rental residential properties to current occupants as a means of encouraging homeownership by residents.
10. Require the development of employee housing in connection with the establishment of major economic development initiatives.
11. Encourage the County to work collaboratively with Pūlama Lāna`i in order to build affordable housing incrementally throughout the town and the island.



## Actions

Table 11.3 Housing Actions				
No.	Action	Policy No.	County Agency	Partners
11.01	Develop and implement a comprehensive affordable housing plan for Lāna`i. within one year of adoption of the Community Plan.	1	Department of Housing and Human Concerns (DHHC)	Pūlama Lāna`i
11.02	Work with Pūlama Lāna`i to implement a housing rehabilitation loans, grants and/or technical assistance and community outreach.		DHHC	Pūlama Lāna`i
11.03	Revise the County's Workforce Housing Ordinance to address Lāna`i's particular situation.		DHHC	Pūlama Lāna`i
11.04	Amend zoning codes to allow for a greater variety of housing types, including: mixed-use, mixed housing types, co-housing, prefabricated homes, and small lot development.	1	Planning Dept.	
11.05	Provide assistance with securing / leveraging federal grants, Low Income Housing Tax Credits, and other resources that support affordable housing and price points.		DHHC	
11.06	Review and revise, as needed, building codes to allow aging-in-place housing adaptations.	7	Department of Public Works Planning Dept.	
11.07	Develop a plan for establishing a long-term care infrastructure on Lāna`i – including long term and short term supportive housing, palliative care and hospice facilities.	7	DHHC	Pūlama Lāna`i Lāna`i Changes
11.08	Provide adequate government-sponsored affordable housing units to be used by government personnel and Lāna`i residents.	3, 10	DHHC	
11.09	Work with Lāna`i residents and the Lāna`i Planning Commission to develop unique vacation rental regulations for Lāna`i.		Planning Dept.	Lāna`i Planning Commission
11.10	Work with Pūlama Lāna`i to re-configure and develop housing on the County's affordable housing site more rapidly.	1, 4	DHHC Planning Dept. Mayor's Office	Pūlama Lāna`i
11.11	Hold workshops with the community to explore different housing types and development patterns that could be utilized in an expansion of Lāna`i City, or in the development of new residential areas.	11	Planning Dept.	Pūlama Lāna`i

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## 12 | GOVERNANCE

### A. INTRODUCTION

Lāna`i is one of five islands that comprise the County of Maui and the County is the sole local government for the three inhabited islands of Maui Nui; there are no townships or villages with separate municipal governments. Legislative representation on the County level is served by a single member, who sits on the Maui County Council in Wailuku on Maui Island. The County civic center, also located in Wailuku, is distant and not readily accessible to Lāna`i residents.

Having the county seat located on the island of Maui makes participation in Council meetings difficult for Lāna`i residents, however, recent improvements in telecommunications have enabled them to participate remotely. Lāna`i has a diverse population, including residents who cannot speak English and need translation services in order to provide testimony or comments.

The Lāna`i Planning Commission has regularly scheduled monthly meetings providing a forum where residents bring forward various issues, but not always issues appropriate for land use and planning meetings. Occasionally, additional County-sponsored public meetings provide a more appropriate forum for a variety of community issues.

Approximately 98% of the island is the private property of a single landowner, Pūlama Lāna`i. As a result, some of the infrastructure and community services that are traditionally government responsibilities are the responsibility of the owner and public needs are subject to private funding limitations.

### B. ISSUES AND STRATEGIES

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**Issue 1:** There has been a history of a lack of effective communication between residents and the primary landowner.

**Strategy 1a:** Establish regularly scheduled forums for cooperative communication between Lāna`i residents, Pūlama Lāna`i, and the island's major employers.

**Strategy 1b:** Develop a formalized process that will ensure ongoing open communications between residents and the major land owner regarding issues of importance such as management of Lāna`i's water resources.

**Issue 2: There are insufficient opportunities for public participation in County government councils, commissions, committees, and boards.**

Strategy 2A: Provide a variety of information sources and technological connections for citizens to understand and participate in their community and government.

Strategy 2B: Develop improved government communications to address existing language barriers.

**Issue 3: Lāna`i residents are concerned that there is a lack of effective representation at all levels of government.**

Strategy 3A: Explore ways of improving representation at all levels of government.

Strategy 3B: Encourage elected officials at all levels of government to conduct regularly scheduled public information meetings on Lāna`i.

## C. GOAL, OBJECTIVES, POLICIES, ACTIONS

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**GOAL Efficient, accessible County, State, and Federal government services to all Lāna`i residents.**

### Objectives

- Improved communications to maintain cooperative working relationships.
- Opportunities for all residents to participate in all levels of government.

### Policies

1. Support the community in its efforts to have a more effective and communicative relationship with the major landowner.
2. Encourage residents to participate in government decision-making.
3. Support the centralization of government services in the Lāna`i City town core.
4. Encourage and support the use of telecommunications technology to enable Lāna`i residents to provide testimony at public meetings and to connect them with county government personnel.

5. Ensure elected officials at all levels of government conduct regularly scheduled public information meetings on Lānaʻi.
6. Maui County Boards and Commissions that make decisions on Lānaʻi issues should hold meetings on Lanai throughout the entire process.
7. Encourage and support collaborative partnerships between Pūlama Lānaʻi and government agencies regarding the provision of services, resource management, infrastructure improvements and other issues of importance.

### Actions

Table 12.1 – Governance Actions				
No.	Action	Policy No.	County Agency	Partners
12.01	Provide a forum and facilitate regular meetings for the entire community and Pūlama Lānaʻi representatives to discuss on-going issues and potential strategies for Community Plan implementation.	1	Planning Dept.	
12.02	Increase the number of posted agendas and public notices printed in multiple languages.	1	Council Services (OCS) Office of the Mayor	
12.03	Conduct regularly-scheduled public information meetings on-island	1, 2, 5	OCS Office of the Mayor	
12.04	Continue to improve, promote, and publicize the availability of telecommunications for county services and for participation in island of Maui based council meetings.	2, 4	Office of the Mayor	
12.05	Study the feasibility for a County government office building in Lānaʻi City and explore the possibility of sharing it with State and Federal partners.	2	Office of the Mayor	State Agencies Federal Agencies
12.06	Provide for timely decision making on the Island for all decision making bodies.	2, 6	OCS Office of the Mayor	
12.07	Create a program to educate and encourage the use of telecommunications technologies available for public participation.	2	Office of the Mayor	
12.08	Implement the use of social media to improve public communication.	1, 2	OCS Office of the Mayor Planning Dept.	

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# 13 | IMPLEMENTATION AND MONITORING

## INTRODUCTION

The preceding chapters identify programs, projects, and regulatory actions that need implementation to actualize the Lānaʻi Community Plan's vision, principles, goals, and policies. Maui County Code 2.80B specifies an implementation program for the plan's actions and milestones and status reports to monitor the progress of implementation. The implementation program includes a capital improvement element, a financial element and an implementation schedule.

The capital improvement element describes the infrastructure system and public facilities and services in two-year increments over a twenty-year planning period. Typical capital improvement projects might include roads, sidewalks, bike paths, and pedestrian ways; local water and utility systems, local drainage improvements; community and neighborhood parks; and local public utilities.

The financial element will describe a fiscally sound financial program for identified actions and capital improvements. Currently a consultant is developing this program for the Maui Island Plan and this Community Plan will adopt that methodology.

The implementation schedule is included in this chapter as a draft. Once actions are finalized as recommendations, they will be prioritized. After prioritization start dates and completion dates, estimated costs, and funding sources will be added to the implementation schedule.

To monitor the implementation of actions specific milestones will be developed to measure progress in meeting the plan's vision, goals, and policies. Milestones consider federal, state, and county economic, demographic, and other significant quality-of-life indicators. The implementation schedule indicates the agencies responsible for particular programs, capital projects, or regulations. These agencies are required to prepare annual status reports that are submitted to the Planning Director. The Planning Director will prepare a report that provides a detailed explanation of implementation and enforcement.

## Lānaʻi Community Plan CPAC DRAFT September 2013 Implementation Actions

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
ENVIR./NR								
Envir. / NR	3.01	Map primary water recharge areas for highest protection and restoration effort. Map secondary water recharge areas that may be susceptible to pollutant infiltration.	Project			Planning		County, State
Envir. / NR	3.02	Protect and restore both wet and dryland forests. Develop specific actions, baseline survey maps, and key messages. Increase implementation capacity and on-going stewardship Continue efforts to control feral animals. Conduct or coordinate public education and involvement events to increase community stewardship. Install interpretive signage, Educate shipping companies on invasive species Develop native tree planting program and establish nursery. Re-establish Forest and Watershed Partnership.	Program/ Projects			Environmental Coordinator		County
Envir. / NR	3.03	Develop a toolbox of green infrastructure best management practices.	Project			Public Works, Planning		County, State
Envir. / NR	3.04	Develop a toolbox of best management practices (BMPs) for use by citizens and business to improve ecosystems and water quality, in urban areas. Provide assistance or workshops on BMPs and education to change business and household practices. Maintain a website for public education on water quality pollution prevention and BMPs.	Project			Public Works, Planning		County, State
Envir. / NR	3.05	Use system of roads or trails as firebreaks. Construct small water storage reservoirs for fire suppression in consultation with the landowner(s).	CIP small-scale			Fire & Public Safety		County, Private landowner(s)
Envir. / NR	3.06	Hold educational forums on the protection of coastal waters to discuss current activities and programs, e.g. Hawaiian Islands Humpback Whale National Marine Sanctuary, or fish farms and water quality issues.	Program			Environmental Coordinator		County
Envir. / NR	3.07	Coordinate with landowner(s) to construct small-scale water retention projects to increase infiltration to the aquifer and control surface flow Include bioretention methods to reduce sediment and nutrient loads from entering coastal waters.	CIP			Public Works		Federal grant, County, Private landowner(s)
Envir. / NR	3.08	Conduct outreach to agricultural, ranching, and development interests to implement best management practices to reduce herbicides and pesticides.	Program			Environmental Coordinator		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.



Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Envir. / NR	3.09	Complete County inventory of scenic value lands to identify scenic resources Combine and map scenic resources with State's highest priority ecological areas to identify areas for protection.	Project			Planning - Long Range		County
Envir. / NR	3.10	Work with National Oceanic and Atmospheric Administration (NOAA) to initiate a Lānaʻi Makai Watch program to provide education and community involvement in the stewardship of the coastal areas.	Program			Environmental Coordinator		County, Federal grant
Envir. / NR	3.11	Develop a quarantine and inspection process for imported plant species.	Project			Environmental Coordinator		Federal grant, County, State, Private landowner(s)
Envir. / NR	3.12	Work with Pūlama Lānaʻi to establish a feral animal control program, conduct comprehensive study, and apply appropriate game management techniques.	Project			Environmental Coordinator		Federal grant, County, State, Private landowner(s)
<b>HAZARD MITIGATION</b>								
Hazard Mitigation	4.01	Establish Lānaʻi based Community Coordinator for County of Maui Emergency Operations. Develop community volunteer network to assist emergency responders.	Program			Civil Defense		County
Hazard Mitigation	4.02	Implement the Maui County Multi-Hazard Mitigation Plan, and subsequent updates, as far as it is consistent with the Lānaʻi Community Plan.	Program			Civil Defense, Police, Planning - Current		County, State, Federal
Hazard Mitigation	4.03	Seek community information on possible hazardous waste sites buried decades ago, investigate, and use remediation when needed.	Project			Civil Defense		County, State, Federal
Hazard Mitigation	4.04	Distribute information on hazard-mitigation: - Disaster planning, evacuation routes and formalized evacuation plans, and shelter location, - Steps that homeowners or businesses can take to strengthen and harden their buildings against disasters, - Fire prevention - Household and small business best management practices for toxics (heavy metals) and hazardous waste disposal (include pharmaceuticals).	Program			Civil Defense, Fire & Public Safety, Environmental Coordinator		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Hazard Mitigation	4.05	Identify whether additional shelter space is needed that is capable of withstanding hurricane force winds or other natural hazards, and the potential locations Provide back-up resources to have communication and emergency services if power is out.	Project			Civil Defense		County
Hazard Mitigation	4.06	Identify critical infrastructure, lifelines, roads, and structures that are vulnerable to coastal hazards and develop a more coordinated emergency response system of well-defined and mapped evacuation routes Distribute emergency response information at camping sites and through school programs.	Project			Civil Defense		County
Hazard Mitigation	4.07	Identify critical infrastructure, lifelines, roads, and structures that are vulnerable to wildfires and develop a more coordinated emergency response system of well-defined and mapped evacuation routes Train volunteers for community response and for fire-fighting crews.	Project			Fire & Public Safety		County
Hazard Mitigation	4.08	Work with the community and Pūlama Lānaʻi to develop a post-disaster recovery and reconstruction plan to increase resilience.	Project			Civil Defense, Planning		County
Hazard Mitigation	4.09	Strengthen building code to prevent or reduce destruction of land and property from natural hazards.	Project			Planning - Current, Public Works		County
Hazard Mitigation	4.10	Provide information and opportunities to participate in discussions on the impacts that climate change may have on the community.	Project			Civil Defense, Fire & Public Safety		County
Hazard Mitigation	4.11	Develop detailed mapping of hazards and review, and provide recommendations to revise, if needed, SMA boundary line.	Project			Civil Defense, Fire & Public Safety, Planning		County
<b>HISTORIC AND CULTURAL RESOURCES</b>								
Cult./Hist. Res.	5.01	Facilitate community meetings to determine the best methods for protecting and preserving the historic character of Lānaʻi City. - Educate property owners on the benefits of historic designation. - Provide technical support to property owners pursuing the nomination process.	Project			Planning – Long Range		County, Non-profit
Cult./Hist. Res.	5.02	Develop a comprehensive cultural resource protection plan for the entire coast. Conduct feasibility study for Federation Camp restoration and fisherman shacks. Conduct study for Maunalei Gulch.	Project			Planning – Long Range, Cultural Resources Commission		County, Non-profit

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Cult./Hist. Res.	5.03	Inventory and identify old plantation camps.	Project			Planning – Long Range		County, Non-profit
Cult./Hist. Res.	5.04	Restore and preserve the Brown House (Social Hall) for continued community use.	Program			Planning – Long Range		County, Non-profit
Cult./Hist. Res.	5.05	Provide educational materials, websites, events, and visitor brochures to educate and involve the community and visitors with Lānaʻi's history, cultural resources and cultural practices. Support cultural and historical festivals at Dole Park.	Project			OED, Planning – Long Range		County
Cult./Hist. Res.	5.06	Include visitors and community members in public involvement events and restoration projects.	Program			OED		County, State
Cult./Hist. Res.	5.07	Increase support of all Lānaʻi based non-profit organizations seeking additional funding sources for community stewardship.	Project			OED, Planning – Long Range		County
Cult./Hist. Res.	5.08	Support the current list, and the addition of sites, of significant historic properties on the State and National "Register of Historic Places" .	Project			Planning – Long Range		County
Cult./Hist. Res.	5.09	Support the current list, and the addition of sites, of significant historic properties on the State and National "Register of Historic Places" .				Planning – Long Range		County
Cult./Hist. Res.	5.10	Collaborate with State and community groups, such as the <i>'Aha Moku Council</i> or <i>similar Hawaiian advisory council</i> , to implement an ahupuaʻa / moku-based natural and cultural resources management system to protect sensitive cultural sites, trails, and landscapes.				Environmental Coordinator		County
Cult./Hist. Res.	5.11	Develop a comprehensive cultural resource protection plan for Lānaʻi.				Planning – Long Range		County
Cult./Hist. Res.	5.12	Provide education on Lānaʻi scenic best management practices (per Action 5.11)				Planning – Long Range		County
Cult./Hist. Res.	5.13	Identify and map cultural, historic, and archaeological sites that are within or near the SMA boundary and develop recommendations for expansion of SMA, if needed.				Planning – Current		County
<b>ECONOMIC DEVELOPMENT</b>								
Economic Development	6.01	Create a Rural Communities Economic Development Specialist position that will address Lānaʻi economic development challenges and opportunities.	Program			Office of Economic Development (OED)		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Economic Development	6.02	Develop an Agricultural Strategic Plan for Lānaʻi with attention to assisting both larger agri-businesses and small farms.	Project			OED		County
Economic Development	6.03	Work with farmers to refer them to State and Federal loan and grant programs.	Project			OED		County
Economic Development	6.04	Support small business training and loan program providers.	Program			OED		County
Economic Development	6.05	Partner with MEO Small Business Development Program to provide economic education workshops on Lānaʻi to increase the overall level of financial literacy among all residents.	Project			OED		County
Economic Development	6.06	Identify funding source and establish a Community Development Organization.	Project			OED		County
Economic Development	6.07	Develop an Alternative Tourism Strategic Plan to guide diversification of Lanaʻi's tourism sector including activities, lodging, and marketing.	Project			OED		County
Economic Development	6.08	Assess alternative shipping options including utilizing the ferry as a small cargo carrier between Maui and Lanaʻi.	Project			OED		County
Economic Development	6.09	Work with inter-island shippers and the Public Utilities Commission to keep shipping costs affordable and service frequency adequate.	Program			OED		County
Economic Development	6.10	Work with the State Department of Transportation to implement harbor improvements.	Program			Public Works		County
Economic Development	6.11	Work with inter-island airlines to keep airfares affordable and service frequency adequate to accommodate Lānaʻi visitors, residents, and businesses.	Program			OED		County
Economic Development	6.12	Work with the State Department of Transportation to expedite continued airport improvements.	Project			OED		County
Economic Development	6.13	Support the development of fee simple commercial and industrial properties for small business and operations.	Project			Planning - Long Range		County
Economic Development	6.14	Develop state-of-the-art information and communications technology infrastructure to support community education and business development/recruitment.				OED		
Economic Development	6.15	Establish agricultural programs at the community college.				OED		State, Federal

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Economic Development	6.16	Provide business courses to farm owners and agricultural entrepreneurs.				OED		County, State, Federal
Economic Development	6.17	Establish vocational programs such as the Future Farmers of America Program and 4H at Lāna`i High School.				OED		County, State, Federal
<b>INFRASTRUCTURE</b>								
Infrastructure - Water	7.01	Monitor and Implement the Water Use and Development Plan actions for Lāna`i .	Project			Lāna`i Water Co.		
Infrastructure - Water	7.02	Support a Memorandum of Agreement between Pūlama Lāna`i LLC and the community to create a Lāna`i Water Use and Development Committee that would monitor and implement the Water Use and Development Plan.	Project			Lāna`i Water Co.		
Infrastructure - Water	7.03	Develop and implement a comprehensive watershed protection plan, that would maximize fog drip and recharge.	Program			Lāna`i Water Co.		
Infrastructure - Water	7.04	Develop and/or continue to support public and quasi-public partnerships to protect and restore the island's watershed and maximize aquifer recharge.	Program			Lāna`i Water Co.		
Infrastructure - Water	7.05	Implement the County's Wellhead Protection Strategy.	Project			Lāna`i Water Co.		
Infrastructure - Water	7.06	Prepare an evaluation of the status of available water resources on the island if the Commission on Water Resource Management identifies major flaws in the monthly water status reports	Project			Lāna`i Water Co.		
Infrastructure - Water	7.07	Continue the use of the recycled or brackish water for irrigation.	Project			Lāna`i Water Co.		
Infrastructure - Water	7.08	Develop a water rate structure that encourages conservation.	Project			Lāna`i Water Co.		
Infrastructure - Water	7.09	Continue to improve landscape planting and irrigation guidelines that encourage drought tolerant plants and water conserving irrigation systems.				Planning		
Infrastructure - Water	7.10	Continue to implement leak detection and repair programs.				Lāna`i Water Co.		
Infrastructure - Water	7.11	Cover the 15 MG brackish reservoir to reduce evaporation.				Lāna`i Water Co.		Pulama Lāna`i
Infrastructure - Water	7.12	Plant more trees and foliage on the Hale and other areas to capture fog drip and help recharge the aquifer.						Pulama Lāna`i

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Infrastructure - Wastewater	7.13	Coordinate with the landowner(s) to develop a Comprehensive Wastewater Functional Plan for Lānaʻi that addresses the long-term goals for the maintenance and upgrading of facilities.				Env. Mgmt		County
Infrastructure - Wastewater	7.14	Maintain an on-going sewer inspection program for public and private multi-user systems to identify potential problems and forecast each system's residual life.				Env. Mgmt		County
Infrastructure - Wastewater	7.15	Coordinate with the landowner(s) to regularly update and implement the County's wastewater reuse plans.				Env. Mgmt		County
Infrastructure - Wastewater	7.16	Study options and necessary code and regulation changes to allow grey-water re-use systems for home garden irrigation and toilet flushing as long as the system meets County of Maui codes and is within health safety standards.				Env. Mgmt, Development Services (DSA)		
Infrastructure - Wastewater	7.17	Study options for biological sanitation treatment systems for large projects or WWTF expansion or relocation.				Env. Mgmt		
Infrastructure - Solid Waste	7.18	Provide funding to the Department of Public Works and Waste Management's Solid Waste Division for the proper landscaping and maintenance of solid waste facilities and surrounding environs.				Mayor's Office		County
Infrastructure - Solid Waste	7.19	Conduct an education program to discourage residents and tourists from dumping garbage, cars and machinery in remote locations, and locations other than the landfill or appropriate recycling site.				Env. Mgmt		
Infrastructure - Solid Waste	7.20	Study options for waste to energy through different technologies- such as HBAR, a small, ultra-high temperature incinerator.				Env. Mgmt		
Infrastructure - Solid Waste	7.21	Promote recycling by residential and commercial clients by advertising and promotional materials. Provide information on what can be recycled, where facilities are located, and operating hours and days.	Project			Env. Mgmt		
Infrastructure - Energy	7.22	Create a 'smart grid' that would allow for development of additional renewable energy sources.				Energy Commissioner		
Infrastructure - Energy	7.23	Support the use of electric vehicles on the island through the development of charging stations, powered from renewable energy.				Mayor's Office		
Infrastructure - Energy	7.24	Support the use of steel poles for main utility transmission lines.				Planning, Mayor's Office		
Infrastructure - Energy	7.25	Encourage and support the undergrounding of utility lines in new areas of development.				Planning, Mayor's Office, Public Works		

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Infrastructure - Energy	7.26	Encourage and support the undergrounding of utility lines in existing areas, where possible.	Project			Planning, Mayor's Office, Public Works		
Infrastructure - Transportation	7.27	Advocate for Study the need for increased barge service to and from Lāna`i if the population significantly increases and economic development warrants.	Program			OED		County
Infrastructure - Transportation	7.28	Advocate for increased ferry service to and from Lāna`i if the population significantly increases and economic development warrants.	Program			OED		County
Infrastructure - Transportation	7.29	Develop a long range land transportation master plan for Lāna`i, which utilizes a complete streets approach to roadway design and includes a pedestrian plan for Lāna`i City.	Project			Public Works, Planning		County
Infrastructure - Transportation	7.30	Develop low cost transportation option(s) for resort employees.	Project					
Infrastructure - Transportation	7.31	Establish who has jurisdiction/ownership and responsibility over Old Government Road.	Project			Public Works		County
Infrastructure - Transportation	7.32	Develop and implement trails, greenways and open space access plan, utilizing, where appropriate, old agriculture roads. The project should work in concert with storm_water, sedimentation and environmental protection plans to close down unnecessary or unused agricultural roads.	Project			Public Works, Planning		County
Infrastructure - Transportation	7.33	Restrict commercial trucks and buses exceeding 6,000 LB GVW to established routes through Lāna`i City pending the construction of a bypass road.				Public Works		
Infrastructure - Transportation	7.34	Develop Lāna`i specific roadway standards and guidelines.				Public Works, Planning		
Infrastructure - Transportation	7.35	The access road in and out of Mānele needs to be maintained in order to serve as a secondary and emergency access road. Encourage landowner to maintain a secondary and emergency access road to and from Manele.				Public Works		
Infrastructure - Transportation	7.36	Evaluate proposals and provide development services in a timely manner for the airport expansion proposal, which could include expansion of runway or addition of second runway.				DSA		
Infrastructure - Transportation	7.37	Study and evaluate options for shipping fuel to the island in order to reduce costs.	Project					
Infrastructure - Stormwater	7.38	Develop a stormwater management plan that emphasizes/ utilizes natural systems drainage, where possible.	Project			Public Works		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Infrastructure - Stormwater	7.39	Address dirt road runoff through dispersion and retention methods.	Project			Public Works		
Infrastructure - Stormwater	7.40	Implement Kō`ele Project District and Lāna`i City Master Drainage Plans.	Project			Public Works		County
Infrastructure - Stormwater	7.41	Repair stormwater drainage swales in Lāna`i City (swales and culverts) and remove blockages from drains and channels.	Project			Public Works		
Infrastructure - Telecommunications	7.42	Provide wireless high speed internet throughout the island.						
Infrastructure - Telecommunications	7.43	Provide cell phone service all around the island for complete coverage.						
<b>PUBLIC FACILITIES &amp; SERVICES</b>								
Public Facilities & Services - Parks & Rec	8.01	Develop a master plan for the island's parks, recreational facilities, and programs. Survey residents to find out what their recreational needs are.				Parks & Recreation, Planning		County
Public Facilities & Services - Parks & Rec	8.02	Maintain the quality and availability of the Cavendish Golf Course in perpetuity for Lāna`i residents.						
Public Facilities & Services - Parks & Rec	8.03	Work with the Company to prepare a Dole Park master plan which improves and preserves the Park's recreational, urban design and social functions.				Parks & Recreation, Planning		County
Public Facilities & Services - Parks & Rec	8.04	Support the planning, design and development of action-sport facility such as a skateboard park, roller derby facility, or BMX (Bicycle-Moto-Cross) track.				Parks & Recreation, Planning		County
Public Facilities & Services - Police	8.05	Explore options for expansion of Animal Control facilities and services.				Police		County
Public Facilities & Services - Police	8.06	Provide public education on responsible pet ownership.						
Public Facilities & Services - Police	8.07	Study options for development of impound yard and need for tow truck services, and whether a 4WD town truck is necessary.				Police		County
Public Facilities & Services - Police	8.08	Coordinate with community organizations in their prevention and treatment efforts to reduce substance use and abuse. Continue working cooperatively with the Prosecutor's Office and the DEA to enforce substance abuse laws.				Police		County
Public Facilities & Services - Police	8.09	Examine options for extending the length of time police personnel and officers are on Lanai for a tour of duty.				Police		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.



Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Public Facilities & Services - Police	8.10	Provide Lana`i orientation training classes and support for Police Staff.				Police		County
Public Facilities & Services - Police	8.11	Create a position on the Police Commission for a Lāna`i representative				Police		County
Public Facilities & Services - Fire & Public Safety	8.12	Explore feasibility for locating fire, safety and rescue services and facilities at Mānele.				Fire, Public Safety		County
Public Facilities & Services - Fire & Public Safety	8.13	Support establishing ocean safety and rescue services on Lana`i.				Fire & Public Safety		County
Public Facilities & Services - Fire & Public Safety	8.14	Support orientation and training about living on Lana`i for Fire Department staff on the island for a tour of duty.				Fire & Public Safety		County
Public Facilities & Services - Fire & Public Safety	8.15	Work with homeowners, business owners, landlords to visibly mark addresses on structures or properties for easy identification in case of emergencies.				Fire & Public Safety		County
Public Facilities & Services - Education	8.16	Implement the Master Plan for the expansion of the elementary and high school into separate campuses and the creation of a 'P-20' campus – i.e. that includes educational facilities and programs for Preschool – Post-Secondary education.						State
Public Facilities & Services - Education	8.17	Continue to fund adult and post-secondary education programs.				Housing & Human Concerns (DHHC)		State
Public Facilities & Services - Education	8.18	Continue to fund English as a second language classes.				DHHC		State
Public Facilities & Services - Education	8.19	Develop and implement a program for additional pre-school services.						County and State
Public Facilities & Services - Education	8.20	Advocated for Hawaiian Language Immersion Program.						State
Public Facilities - Health & Social Services	8.21	Develop a Master or Strategic Plan for health care services on Lāna`i				DHHC		County and State
Public Facilities - Health & Social Services	8.22	Allocated funding to expand the number and array of social services				DHHC		County and State
Public Facilities - Health & Social Services	8.23	Prepare a Master Plan for the Lāna`i Community Hospital and related medical facilities.				DHHC		County
Public Facilities - Health & Social Services	8.24	Improve and enhance short term and long term nursing care services and facilities on the island.				DHHC		County and State

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Public Facilities - Health & Social Services	8.25	Develop a plan for provision of services for elderly to age in place.				DHHC		County and State
Public Facilities - Health & Social Services	8.26	Develop palliative care services and hospice facilities for the dying.				DHHC		County and State
Public Facilities - Health & Social Services	8.27	Ensure funding and support of the child welfare and social services network and ancillary support services Including foster care.				DHHC		County and State
Public Facilities - Health & Social Services	8.28	Coordinate services for immigrants.				DHHC		County, State, Federal
Public Facilities - Health & Social Services	8.29	Ensure support and funding for the network of services for alcohol and substance abuse.				DHHC		County and State
Public Facilities - Health & Social Services	8.30	Ensure support and funding for the network of services for domestic violence and families in crisis.				DHHC		County and State
<b>LAND USE</b>								
Land Use	9.01	Conduct a comprehensive review of interim zoned lands to identify and adopt zoning that is consistent with the Community Plan. The process shall include consultation with affected property owners and assessment of potential impacts of rezoning.	Project			Planning – Long Range, GIS, Current		County
Land Use	9.02	Work with landowner(s) and community stakeholders to make necessary adjustments to Project District zoning and development standards to facilitate project build-out.	Project - regulations			Planning – Long Range, GIS		County
Land Use	9.03	Evaluate and establish zoning for airport land expansion, when needed for runway improvements consistent with the Community Plan. Evaluate lands between airport and Lānaʻi City for compatible land uses, particularly with respect to sound attenuation.	Project			Planning – Long Range, GIS		County
Land Use	9.04	Amend the zoning ordinance to permit low-impact accommodations for small scale eco-, cultural-, or adventure tourism in Open Space, Parks or Conservation lands through the issuance of a State Special Permit or County Special Use Permit.	Project			Planning – Current, DLNR		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Land Use	9.05	Develop and adopt regulations that establish permit review timelines and a more transparent, efficient, and equitable permit process.	Project - regulations			Public Works, Planning		County
Land Use	9.06	Revise subdivision regulation to permit clustering and Conservation Subdivision Design within the Rural and Agricultural Districts.	Project - regulations			Public Works, Planning		County
Land Use	9.07	Develop and provide incentives to landowner(s) to preserve and protect agricultural lands.	Project			Planning		County
Land Use	9.08	Revise guidelines and standards for provision and phasing of public facilities and services for new development.	Project			Public Works, Planning		County
Land Use	9.09	Concurrent with new major development, revise the State Land Use urban and rural designations to be consistent with the Lānaʻi Community Plan Land Use map.	Project			Planning		County
<b>URBAN DESIGN</b>								
Urban Design	10.01	Explore, analyze and implement regulatory and financial mechanisms for preserving and rehabilitating historic buildings within the BCT .	Project			Planning		County
Urban Design	10.02	Prepare a vision and master plan for Lānaʻi City, through collaborative efforts that include historic preservation of structures in the BCT area.	Project			Planning		County
Urban Design	10.03	Revise and enhance the BCT design guidelines for Lānaʻi City to provide more detailed guidance for new construction as well as renovation and reconstruction of existing structures for adaptive re-use.	Project			Planning		County
Urban Design	10.04	Develop design guidelines for structures in Lanaʻi City, but outside of the BCT area to provide guidance on appropriate form, scale, architectural character, details and materials.	Project			Planning		County
Urban Design	10.05	Create a comprehensive parking strategy for Lānaʻi City: develop and adopt less restrictive parking requirements as part of the revised BCT Design Guidelines to allow businesses to utilize public parking surrounding Dole Park instead of developing new parking spaces on site.	Project			Planning		County
Urban Design	10.06	Develop specific rural and small town street design standards for the Island which would permit context sensitive street design and maintenance of the rural streetscapes without curbs, gutters and overhead utilities, as found in Lānaʻi City.	Project			Public Works, Planning		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Urban Design	10.07	Develop a street tree planting plan, for existing and new development. Research and explore different street tree options for planting in Lānaʻi City and the expansion areas.	Project			Parks & Recreation, Planning		County
Urban Design	10.08	Develop subdivision standards and design guidelines for any expansion of Lānaʻi City that continues and expands the rectilinear street grid and rural roadway standards, and the plantation town character of new buildings and residences.	Project			DSA, Planning		County
Urban Design	10.09	The County and State will need to coordinate phasing and build-out of the three projects (DHHL, DOE, County Affordable Housing) and needed infrastructure improvements to maximize community benefits, minimize costs and ensure a seamless and complementary incorporation of these projects into the community.	Project			Public Works, Planning, DHHC		County
Urban Design	10.10	Develop an urban forestry management plan for the Cook Pines on County and public property throughout Lānaʻi City. Include options for the planting of native, or indigenous and non-invasive species where appropriate, and consider replanting Cook Pines only where there is adequate space for the mature trees. Encourage Pūlama Lānaʻi to adopt a similar plan.	Project			Parks & Recreation, Planning		County
Urban Design	10.11	Produce a guidance document for homeowners and landowners to address new landscapes as well as renovation of existing landscapes to encourage the use non-invasive, drought tolerant and climatic zoned plants wherever possible	Project			Planning		County
Urban Design	10.12	Develop standards for street lighting that mandate 'dark sky' shielding of lamps in order to minimize light pollution and glare. Explore options for LED Lighting to not only save energy but also to provide a more point-like light source.	Project			Public Works, Planning		County
<b>HOUSING</b>								
Housing	11.01	Develop and implement a comprehensive affordable housing plan for Lānaʻi within one year of adoption of the Community Plan.	Project			DHHC		County
Housing	11.02	Work with Pūlama Lānaʻi to implement a housing rehabilitation loans, grants and/or technical assistance and community outreach.	Program			DHHC		County, State, Private, Non-profit
Housing	11.03	Revise the County's Workforce Housing Ordinance to address Lānaʻi's particular situation.	Project			DHHC		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Housing	11.04	Amend zoning codes to allow for a greater variety of housing types, including: mixed-use, mixed housing types, co-housing, prefabricated homes, and small lot development.	Project - regulations			Planning - Current		County
Housing	11.05	Provide assistance with securing / leveraging federal grants, Low Income Housing Tax Credits, and other resources that support affordable housing and price points.	Program			DHHC		County
Housing	11.06	Review and revise, as needed, building codes to allow aging-in-place housing adaptations.	Project			Public Works, Planning - Current		County
Housing	11.07	Develop a plan for establishing a long-term care infrastructure on Lāna`i – including long term and short term supportive housing, palliative care and hospice facilities.	Project			DHHC		County
Housing	11.08	Provide adequate government-sponsored affordable housing units to be used by government personnel and Lāna`i residents.				DHHC		County
Housing	11.09	Work with Lāna`i residents and the Lāna`i Planning Commission to develop unique vacation rental regulations for Lāna`i.				Planning - Current		County
Housing	11.10	Work with Pūlama Lāna`i to re-configure and develop housing on the County's affordable housing site more rapidly.				DHHC, Planning - Current		County
Housing	11.11	Hold workshops with the community to explore different housing types and development patterns that could be utilized in an expansion of Lāna`i City, or in the development of new residential areas.				Planning - Long Range		County
<b>GOVERNANCE</b>								
Goverance	12.01	Provide a forum and facilitate regular meetings for the entire community and Pūlama Lāna`i representatives to discuss on-going issues and potential strategies for Community Plan implementation.	Program			Planning - Long Range		County
Goverance	12.02	Increase the number of posted agendas and public notices be printed in multiple languages.	Program			Council Services (OCS), Office of the Mayor		County
Goverance	12.03	Conduct regularly-scheduled public information meetings on-island.	Program			Planning - Long Range		County
Goverance	12.04	Continue to improve, promote, and publicize the availability of telecommunications for county services and for participation in island of Maui based council meetings.	Project			OCS, Office of the Mayor		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

Community Plan Chapter	Action No.	Description	Type	Timing	Duration (mths)	Lead / Coordinating Agency(s)*	Cost (\$)	Funding Source(s)
Goverance	12.05	Study the feasibility for a County government office building in Lāna`i City and explore the possibility of sharing it with State and Federal partners.	Project			Office of the Mayor		County
Goverance	12.06	Provide for timely decision making on the Island for all decision making bodies.				OCS, Office of the Mayor		County
Goverance	12.07	Create a program to educate and encourage the use of telecommunications technologies available for public participation.				Office of the Mayor		County
Goverance	12.08	Implement the use of social media to improve public communication.				OCS, Office of the Mayor, Planning - Long Range		County

\*State agencies that are identified as "Lead / Coordinating Agencies(s)" will be consulted with as coordinating agencies. The State and County will need to coordinate their efforts in order to implement the identified action.

## Appendix 1.1 Community Engagement

### **Lāna`i Community Plan –Meeting at Lāna`i Community Center April 7, 2011 6:30 to 8:30 PM**

#### **The Future of Lāna`i – A Public Discussion of Ideas and Strategies for the Next 20 Years**

During earlier community engagement events ideas and strategies for Lāna`i's future were generated by the community. Based on these ideas and strategies, questions were asked of four panelists who offered their perspectives on the island's future as a starting point for the discussion. The panel discussion was followed by an opportunity for community members to ask questions and make comments.

#### **Panel Members:**

Bob Agres - Executive Director of HACBED, the Hawai'i Alliance for Community-Based Economic Development, a statewide federally tax-exempt non-profit organization established in 1992 to encourage increased investments in sustainable and community based approaches to economic development.

Alan Fujimori – registered landscape architect and LEED Accredited Professional with over 30 years experience. He specializes in community planning, urban design, and landscape architecture.

Colbert Matsumoto – Chair of the board and CEO of Island Insurance Company and an attorney by training and practice for over 30 years. Born and raised on Lana`i.

Dr. Davianna McGregor – Professor and founding member of the Ethnic Studies Department at UH-Manoa. She is a historian of Hawai'i and the Pacific and a member of the Protect Kaho`olawe 'Ohana.

## Appendix 3.1 Ecosystem Services

### Supporting Services

- Nutrient cycling
- Soil formation
- Primary Production

### Provisioning Services

- Food (crops, livestock, wild foods, etc...)
- Fiber (timber, cotton/hemp/silk, wood fuel)
- Genetic resources
- Biochemicals, natural medicine, pharmaceuticals
- Fresh water

### Regulating Services

- Air quality regulation
- Climate regulation (global, regional, local)
- Water regulation
- Erosion regulation
- Water purification and waste treatment
- Disease regulation
- Pest regulation
- Pollination
- Natural hazard regulation

### Cultural Services

- Aesthetic values
- Spiritual and religious values
- Recreation and ecotourism



## Appendix 5.1 Historic and Cultural Resources

Note: List from 1998 Lāna`i Community Plan page 47-48 with 2013 CPAC edits.

1. Implement the Interpretive Master Plan for the island of Lana`i.
2. Establish a Maunalei Historic Preserve.
3. Fund and establish a cultural and resources preservation program which would address the protection, preservation and restoration needs of the following:
  - Historic cemeteries
  - Keomoku Church and surrounding environs
  - Hawaiian fishponds
  - Stone trail at Naha
  - Salt blocks and *pipi* chutes at Manele
  - Kaumalapau Village
  - Old locomotive engine at Halepalaoa
  - Train whistle at the top of the shop
  - Police Station building and jail
  - Old gymnasium
  - Old bowling alley
  - Old administration building
  - Old theater
  - First Hawaiian Bank building
  - Bomb shelter at Maunalei
  - Brackish water pond at Lōpā
  - Boat shelter at Naha
  - Old Lana`i School flagpole at Cavendish Golf Course
  - Hotel Lana`i
  - Community flagpole
4. Maintain the 8:00 p.m. siren.
5. Expand the community cemetery program.
6. Build and maintain interpretive trails at Kapiha`a and Hulupo`e, to provide educational opportunities about Hawaiian architecture, art, and social systems for residents and visitors.
7. Stabilize the hillside at Luahiwa to protect petroglyphs from erosion. Consider the potential effects of increased foot traffic on erosion in the vicinity of the petroglyphs before deciding to develop an interpretive trail or other access.
8. List significant historic properties and districts on the State and National "Register of Historic Places" including 1) massive *heiau* complexes at Ka`enaiki, Lōpā, Kāhe`a, Manele Site Complex 2) village and petroglyph sites at Kapiha`a, Ho`okio, Luahiwa, , Naha Site Complex, and Lōpā Fishpond. Plantation culture sites include the Keōmoku Church, Lāna`i Gym, Lāna`i Theater, Former Administration Building, and Hotel Lāna`i.

## Appendix 9.1 Comparison of State Land Use and County Community Plan Designations and Zoning Districts

STATE LAND USE DISTRICTS	COUNTY COMMUNITY PLAN DESIGNATIONS	COUNTY ZONING DISTRICTS
Urban	Single Family (SF)	<b>Residential Districts</b>
		R-1, 6,000 sq ft
		R-2, 7,500 sq ft
		R-3, 10,000 sq ft
		R-O Lot Line Residential
	Multi-Family (MF)	<b>Multiple-Family districts</b>
		Two-family duplex district
		A-1 Apartment District
		A-2 Apartment District
	<i>Residential*</i>	<i>Proposed mix of Residential and Multiple-Family Districts*</i>
	<i>Lanai City Expansion*</i>	<i>Proposed mix of Residential and Multiple-Family Districts, and Business/Commercial*</i>
	Hotel (H)	<b>Hotel Districts</b>
		H-1 Hotel District
		H-M Hotel District
		H-2 Hotel District
	Business/Commercial (B) Business/Industrial (BI) Business/Multi-Family (BMF) Service Business/Single Family Residential (SBR)	<b>Business Districts</b>
		B-1 Neighborhood Business District
		B-2 Community Business District
		B-3 Central Business District
	Light Industrial (LI) Heavy Industrial (HI)	B-CT Business Country Town District
		SBR Service Business Residential District
		<b>Industrial Districts</b>
		M-1 Light Industrial District
		M-2 Heavy Industrial District
		M-3 Industrial (no pyramid zoning)

STATE LAND USE DISTRICTS	COUNTY COMMUNITY PLAN DESIGNATIONS	COUNTY ZONING DISTRICTS
Urban (continued)	Airport (AP)	Airport District
	Public/Quasi-Public (P)	Public / Quasi-Public Districts
	Project District (PD)	Project Districts (PD)
	Future Growth Reserve (FGR)	
	Park (PK)	Park Districts
		PK-1 PK-2 PK-3 PK-4
Rural	Rural	Rural Districts
		RU-0.5 RU-1.0 RU-2.0 RU-5.0 RU-10.0
Agriculture	Agriculture	Agricultural Districts
	Open Space (OS)	Open Space Districts
		OS-1 Passive Open Space OS-2 Active Open Space
Conservation	Conservation (C)	
<p>* CPAC Final Draft Lāna`i Community Plan proposed new land use designations. Zoning to be developed concurrent with draft community plan.</p>		

## Appendix 9.2 County Community Plan Designations

The County's nine geographic community plan regions are: Wailuku-Kahului, West Maui, South Maui, Pa'ia-Ha'iku, Makawao-Pukalani-Kula, Hana, Moloka'i, Lana'i and Kaho'olawe. The following list includes the designations used in the most recently adopted community plan updates, though not every community plan uses all of these designations. The Lāna`i CPAC created two new designations, Residential and Lāna`i City Expansion

**Single-Family (SF):** This includes single-family, duplex, and ohana dwellings.

**Multi-Family (MF):** This includes apartments and condominiums having more than two dwellings.

**Residential:** CPAC proposed new designation that would include a mix of single family and multi-family residential.

**Lāna`i City Expansion:** CPAC proposed new designation that would include a mix of single and multi-family residential, and business/commercial uses.

**Hotel (H):** This applies to transient accommodations. Such hotel facilities may include permissible accessory uses primarily intended to serve hotel guests.

**Business/Multi-Family (BMF):** This includes a mixture of retail, office, and commercial services which are oriented to neighborhood service and single family and multi-family residential uses.

**Service Business/Single-Family Residential (SBR):** Includes single-family dwellings with small-scale and neighborhood-oriented businesses and services that are primarily established in existing residential dwellings or other structures. The business use should be compatible with the physical character of the residential neighborhood.

**Business/Commercial (B):** This includes retail stores, offices, entertainment enterprises and related accessory uses.

**Business/Industrial (BI):** Includes a mixture of warehousing, distribution, service operations, retail and offices uses.

**Light Industrial (LI):** Denotes warehousing, light assembly, service and similar industrial operations.

**Heavy Industrial (HI):** Denotes major industrial operations with potentially noxious impacts due to noise, airborne emissions or liquid discharges.

**Rural Light Industrial (RLI):** Includes uses that are related to agricultural activities, industries that are oriented to servicing agricultural and rural communities, and small light operations that would be consistent with the rural lifestyle.

**Airport (AP):** Includes all commercial and general aviation airports and accessory uses.

**Public/Quasi-Public (P):** Includes schools, libraries, fire and police stations, government buildings, public utilities, hospitals, churches, cemeteries and community centers.

**Project District (PD):** Provides for a flexible and creative planning approach, rather than specific land use designations, and allows for a variety of uses in accord with each individual project district objective.

**Future Growth Reserve (FGR):** Recognizes possible areas of urban growth that would occur beyond the projected ten year time frame of the community plan update, and encourages planning for infrastructure development and use allocations.

**Park (PK):** Applies to lands developed or to be developed for recreational use, including public and private active and passive parks. Golf courses are identified as "PK (GC)" in order to differentiate golf courses from other kinds of park uses.

**Rural (R):** Protects and preserves areas consisting of small farms intermixed with low-density single-family residential lots. The requirements of the State Rural District should govern this area.

**Agriculture (AG):** Indicates areas for agricultural activity, in keeping with the economic base of the County and the requirements of the State Agricultural District.

**Open Space (OS):** Intended to limit development on lands that may be inappropriate for intensive development due to environmental, physical or scenic constraints, including shore-line buffer areas, landscape buffers, drainageways, viewplanes, flood plains and tsunami-prone areas.

**Conservation (C):** Primarily recognizes the designation of lands in the State Conservation District and is used to protect and preserve wilderness areas, beach reserves, scenic areas and historic sites, open ranges, wetlands and watersheds; to conserve fish and wildlife; and to promote forestry and grazing.

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Prepared By:  
Long Range Planning Division  
Department of Planning  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

### Legend

-  Mānele-Hulopo'e Marine Managed Area
-  Hawaiian Islands Humpback Whale National Marine Sanctuary
-  Continuous Coral
-  Lāna'i Forest and Watershed Partnership
-  USFWS Critical Plant Habitat
-  Evergreen Forest Landcover DBEDT 2003
-  Preserve or Sanctuary
-  Lāna'i Cooperative Game Management Area
-  ALISH Agricultural Type: Unique
-  ALISH Agricultural Type : Other
-  Intermittent Stream / Drainage Way
-  Major Road
-  Road
-  Dirt Road







Prepared By:  
Long Range Planning Division  
Department of Planning  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

### Legend

- Primary Road
- Secondary Road
- Lānaʻi City/Kōʻele District
- Ahupuaʻa
- Trail
- Intermittent Stream / Drainage Way
- Cemetery
- Continuous Coral





**Legend**

Lānaʻi City/Kōʻele District

Golf Course

Primary Road

Secondary Road

**Infrastructure Ownership**

State

County

Private



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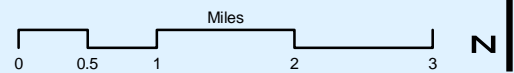




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Wailuku, Hawaii 96793

### Legend

- State Road
- County Road
- Private Road
- DHHL Road
- Undetermined Road
- Dirt Road
- Trail
- Ferry Route
- Air Route





**Legend**  

Proposed Second Runway

**Proposed Road**  

Public Road

Private Road

Proposed Trail

**Existing Road By Owner**  

State

County

Private

DHHL

Undetermined

**Other Existing Transportation**  

Airline Route

Ferry Route

Trail

Bike Trail

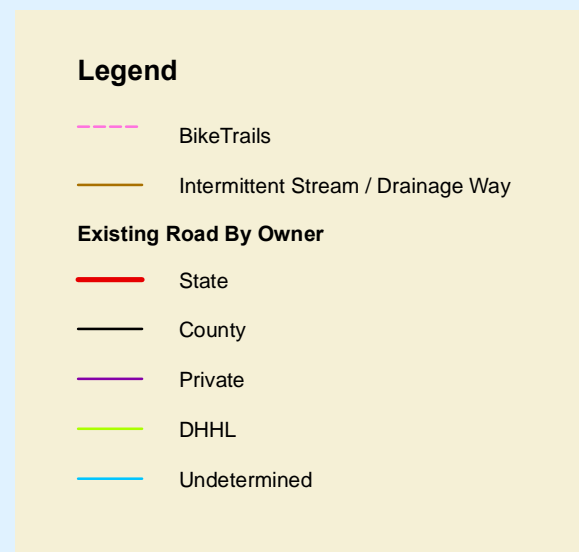
Prepared By:  
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Department of Planning  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

7.3 Transportation: Proposed Facilities

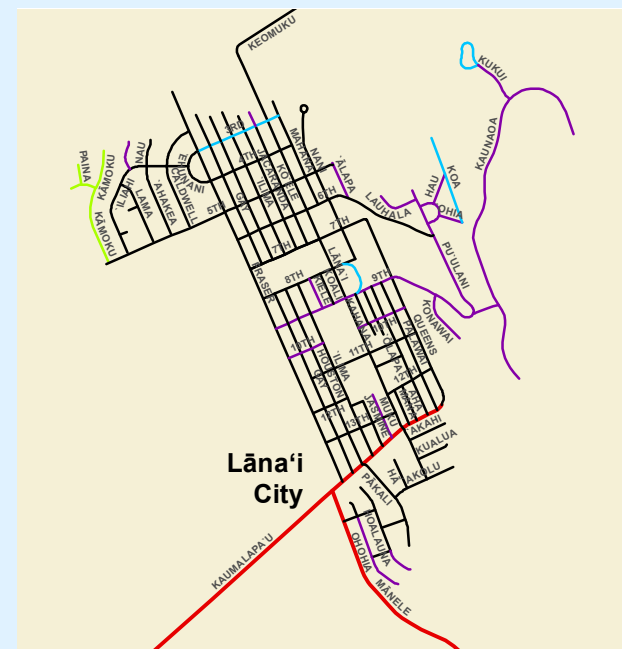
Lānaʻi Community Plan Update

**DRAFT** September 30, 2013





**Prepared By:  
Long Range Planning Division  
Department of Planning  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793**





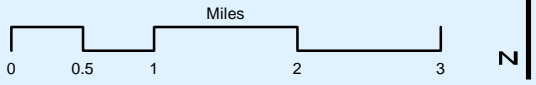
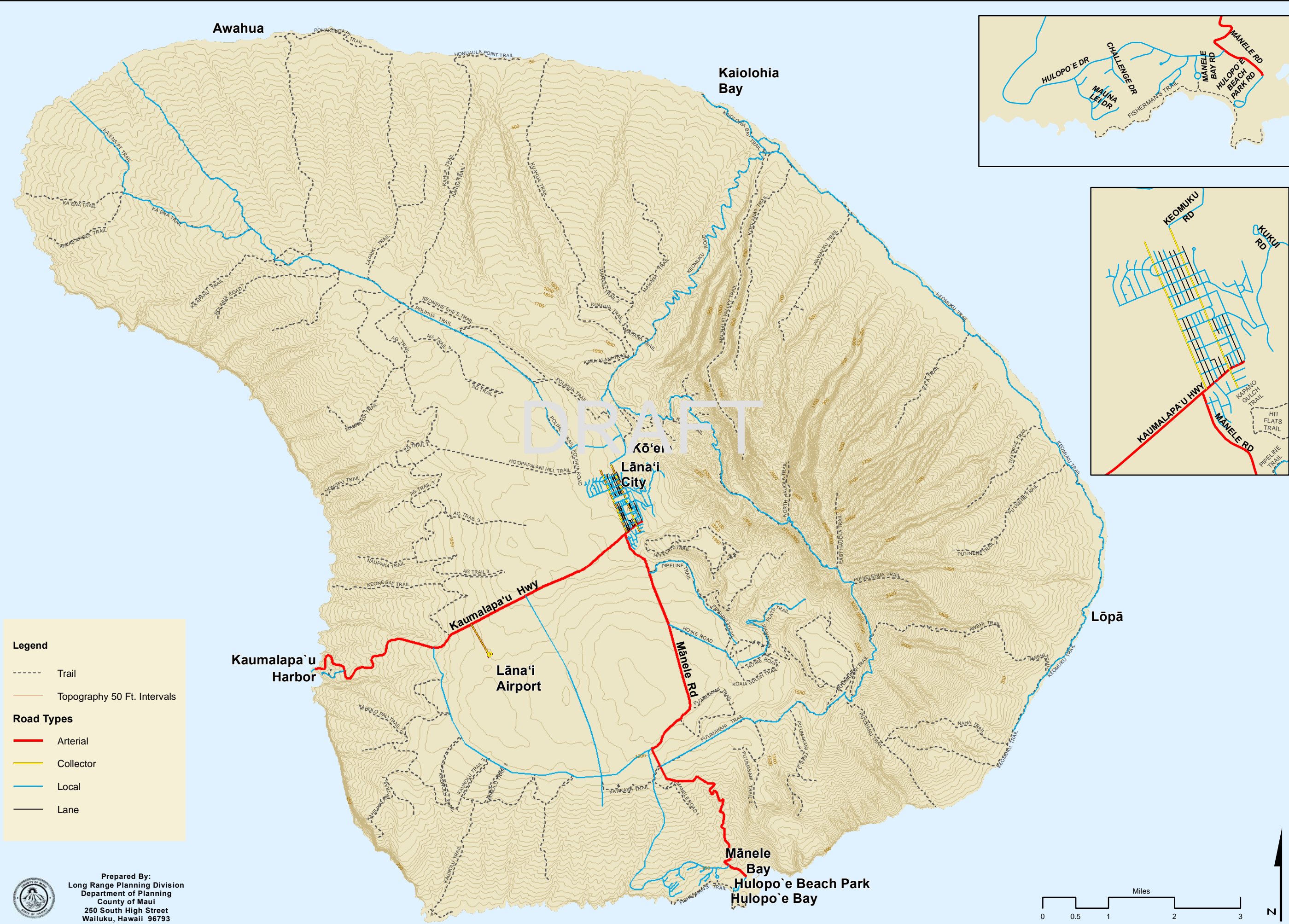
**Legend**

- Trail
- Topography 50 Ft. Intervals

**Road Types**

- Arterial
- Collector
- Local
- Lane

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Wailuku, Hawaii 96793



Map 7.5 Road Types



### Island Map Legend

#### Facility by Operator

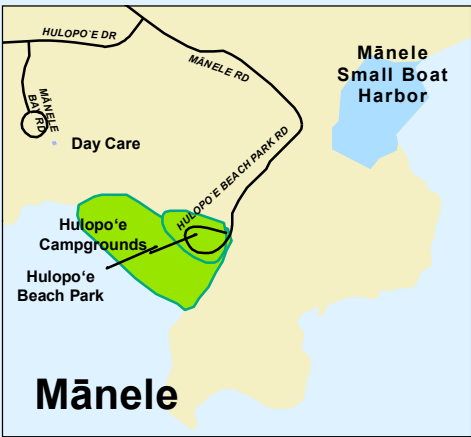
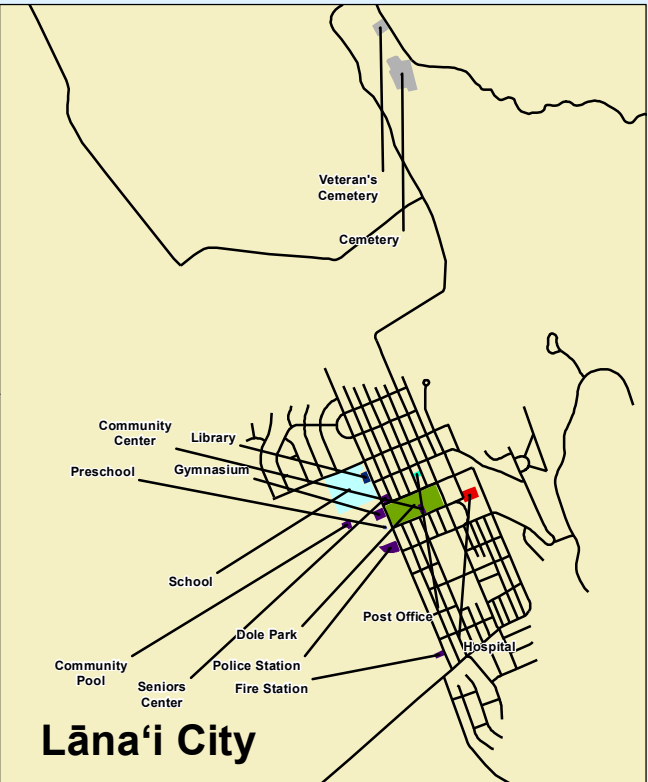
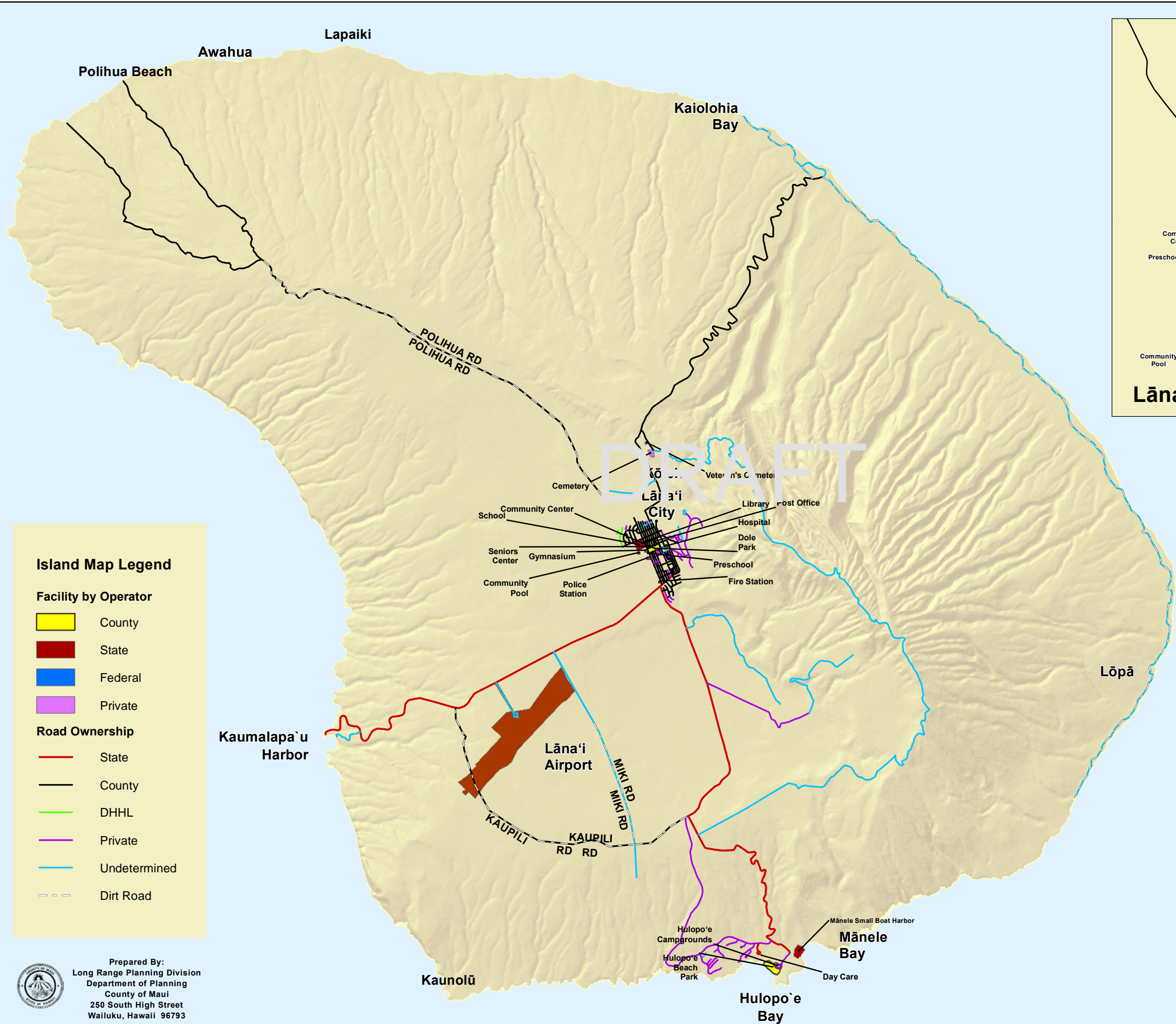
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<div></div>	State
<div></div>	Federal
<div></div>	Private

#### Road Ownership

<div></div>	State
<div></div>	County
<div></div>	DHHL
<div></div>	Private
<div></div>	Undetermined
<div></div>	Dirt Road



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County of Maui  
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### Inset Legend

#### Facility by Type

<div></div>	School
<div></div>	Childcare
<div></div>	County Service
<div></div>	Park
<div></div>	Post Office
<div></div>	Library
<div></div>	Hospital
<div></div>	Cemetery
<div></div>	Road









**Current Land Use**

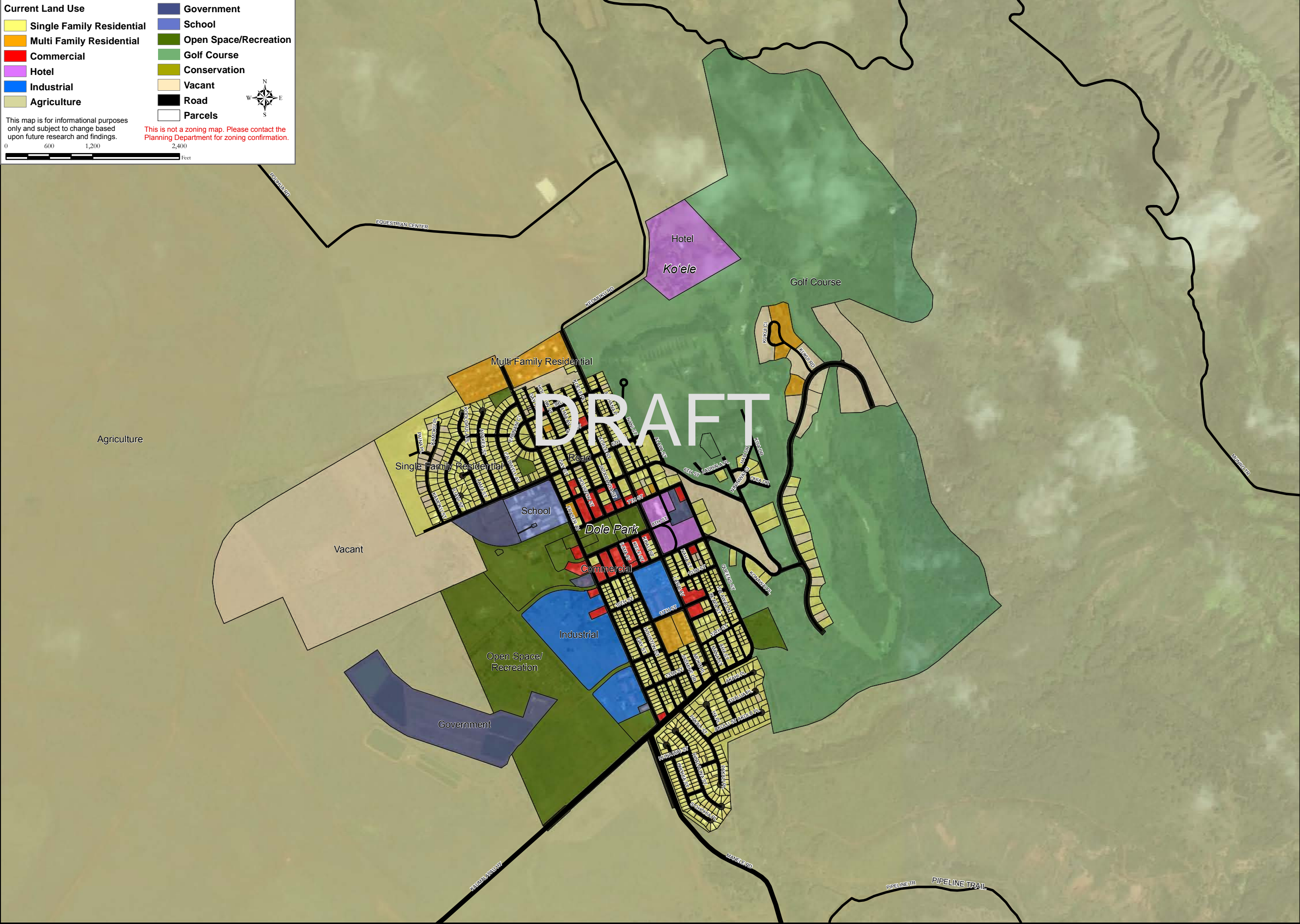
- Single Family Residential
- Multi Family Residential
- Commercial
- Hotel
- Industrial
- Agriculture

- Government
- School
- Open Space/Recreation
- Golf Course
- Conservation
- Vacant
- Road
- Parcels

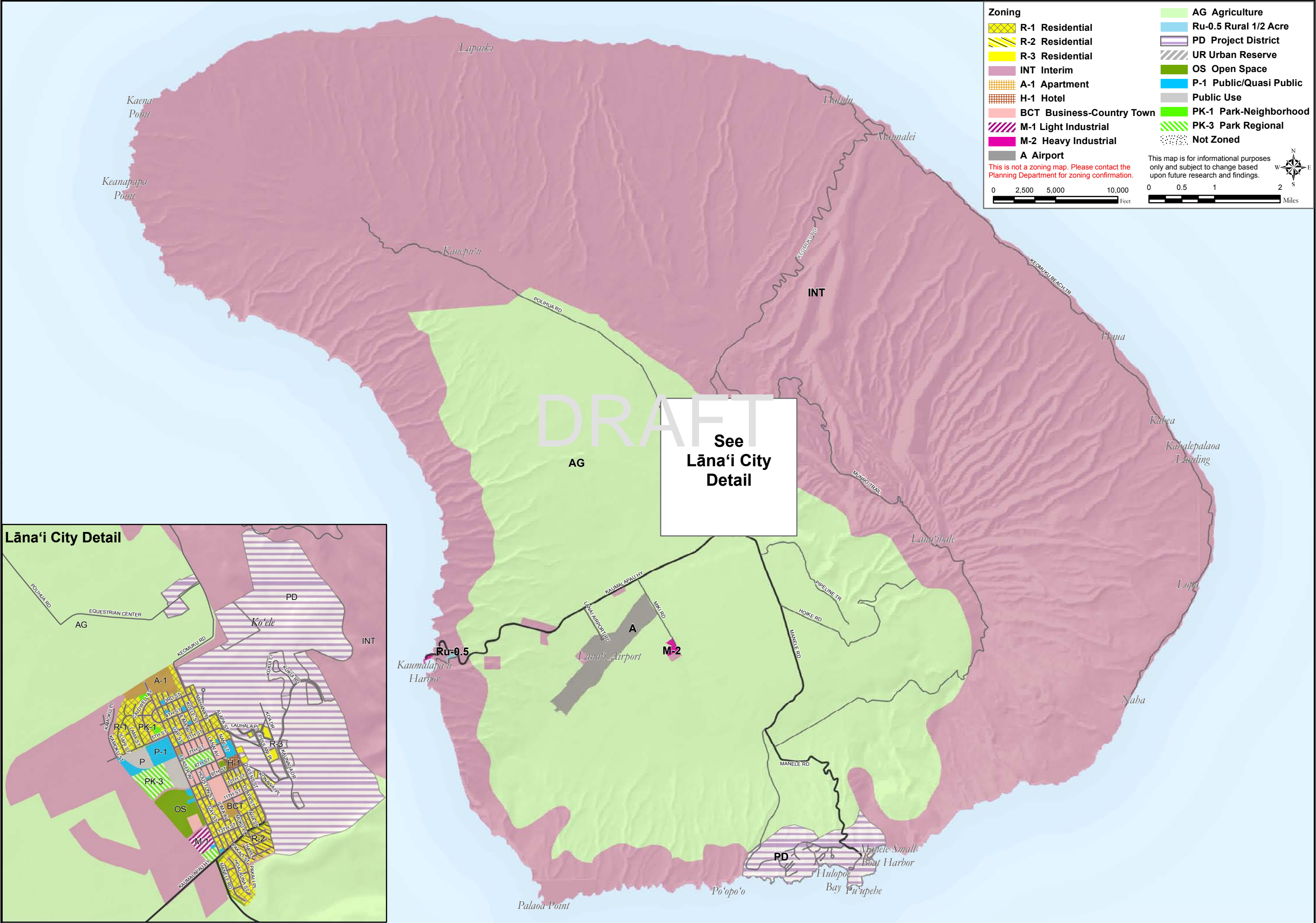
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*This is not a zoning map. Please contact the Planning Department for zoning confirmation.*

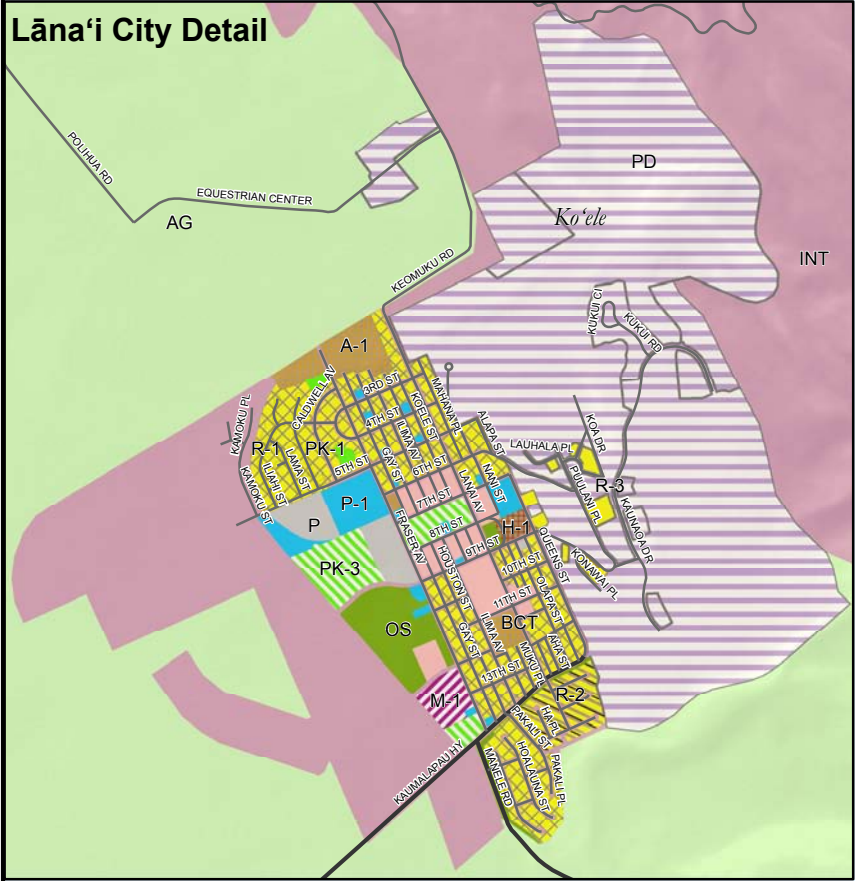
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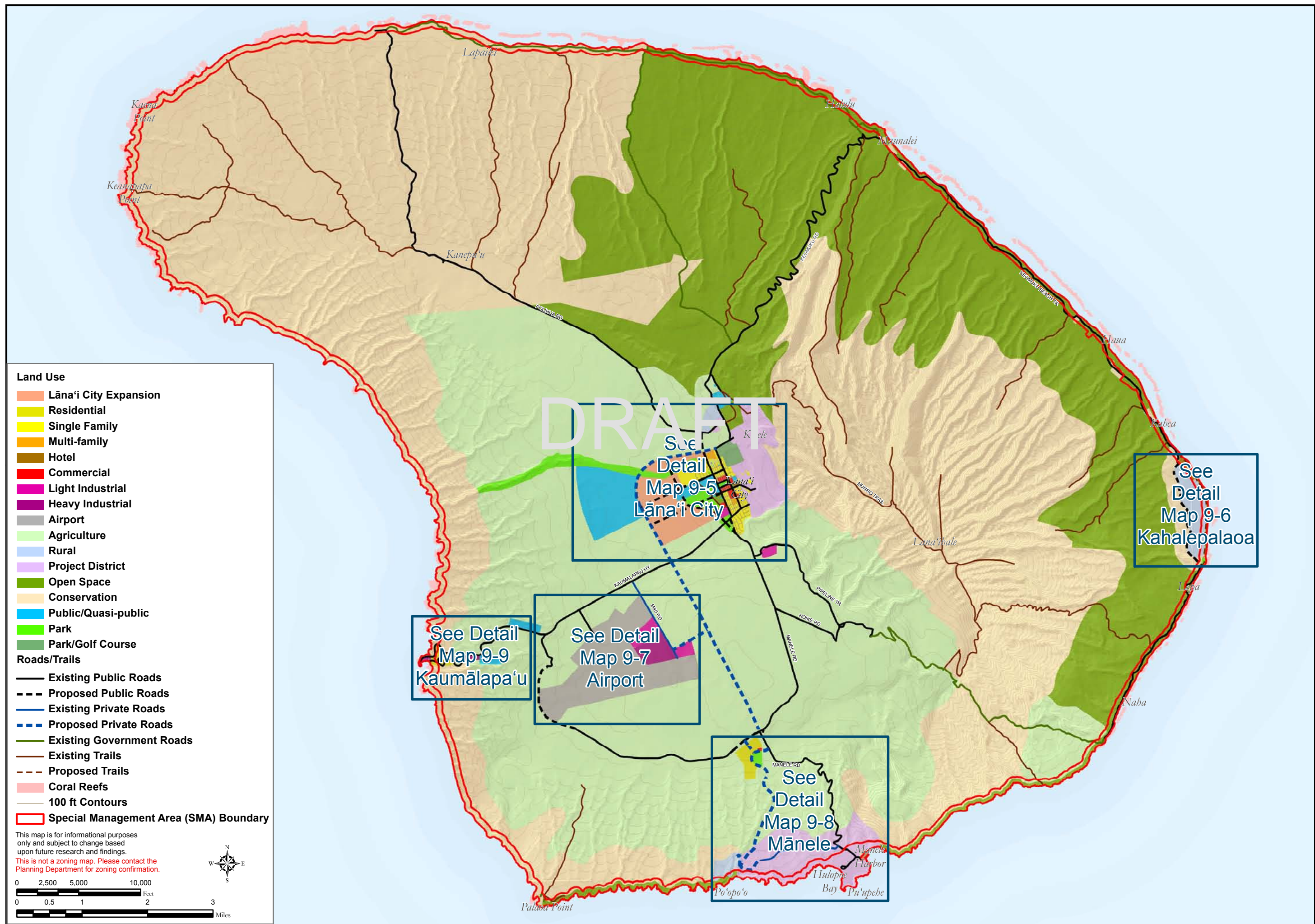




See  
Lāna'i City  
Detail











Land Use

Hotel

Rural

Open Space

Conservation

Park

Roads/Trails

Existing Public Roads

Proposed Public Roads

Existing Trails

Proposed Trails

Contours 100ft

Intermittant Streams/Drainageways

Parcels

Special Management Area (SMA) Boundary

This map is for informational purposes only and subject to change based upon future research and findings.

This is not a zoning map. Please contact the Planning Department for zoning confirmation.

060012002400

Feet

N

E

S

W

The map displays the Kahalepalaoa area with various land use designations and infrastructure. The central and largest area is labeled 'Open Space' in green. To the west and south are 'Conservation' areas in light orange. A large 'Rural' area (250 Acres 9-6 B) is shown in light blue along the coast. A 'Resort' (20 Acres 9-6 A) is designated in brown near the top right. Two 'Park' areas (9-6 C) are marked in bright green: one near the top right and another at 'Kikoa Point' at the bottom right. A 'Proposed Trail 9-6 C' is indicated by a dashed line along the eastern boundary. Roads include 'KEOMUKU BEACH ROAD' (existing and proposed) and 'Kahalepalaoa' (proposed). Trails shown are 'WAIOPAE TRAIL', 'PUUNEHE TRAIL', and 'Kahalepalaoa'. Intermittent streams like 'Kahea Gulch', 'Lapa Gulch', and 'Awehi Gulch' are marked with blue dashed lines. A red line outlines the 'Special Management Area (SMA) Boundary'. The word 'DRAFT' is prominently displayed in the center.

9.6 Proposed Kahalepalaoa Land Use Detail

Lānaʻi Community Plan Update

September 30, 2013

DRAFT

Land Use

Residential

Public/Quasi-Public

Light Industrial

Heavy Industrial

Airport

Agriculture

Roads

Existing Public Roads

Proposed Public Roads

Existing Private Roads

Proposed Private Roads

Contours 100ft

Intermittent Streams/Drainageways

Parcels

This map is for informational purposes only and subject to change based upon future research and findings.

This is not a zoning map. Please contact the Planning Department for zoning confirmation.

06001,2002,400

Feet

N

W

E

S

The map displays the Lānaʻi Airport area with various land use designations. A large 'DRAFT' watermark is centered over the map. Key features include:

- Land Use Zones:**
  - Light Industrial 65 Acres 9-7 C:** A pink-shaded area in the upper right.
  - Heavy Industrial 100 Acres 9-7 B:** A purple-shaded area in the center right.
  - Existing Heavy Industrial 27 Acres:** A smaller purple-shaded area within the Heavy Industrial zone.
  - Light Industrial 35 Acres 9-7 C:** A pink-shaded area on the far right.
  - Proposed Airport Runway Expansion 9-7 A:** A large grey-shaded area in the center.
  - Existing Airport Runway:** A smaller grey-shaded area within the proposed expansion.
- Roads:**
  - KAUMALAPAU HIGHWAY:** A thick black line running diagonally from the top left to the top right.
  - MIKI ROAD:** A blue line running diagonally from the top right to the center.
  - KAUJILIP:** A black line running vertically from the top left to the center.
- Geographical Features:**
  - Lānaʻi Landfill:** A blue-shaded area in the top left.
  - Kalamaiki Gulch:** A blue line running horizontally across the top.
  - Kaumakapau Gulch:** A blue line running horizontally across the center.
  - Kaunolu:** A blue line running horizontally across the bottom.
  - Anapuka:** A blue line running diagonally from the bottom right to the center.
- Contours:** Brown lines indicating 100-foot elevations.
- Intermittent Streams/Drainageways:** Dotted blue lines.
- Parcels:** Thin black outlines.

9.7 Proposed Airport Land Use Detail

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Land Use

Residential

Commercial

Agriculture

Rural

Project District

Open Space

Conservation

Park

Roads

Existing Public Roads

Proposed Public Roads

Existing Private Roads

Proposed Private Roads

Contours 100ft

Intermittant Streams/Drainageways

Parcels

Special Management Area (SMA) Boundary

This map is for informational purposes only and subject to change based upon future research and findings.

This is not a zoning map. Please contact the Planning Department for zoning confirmation.

06001,2002,400

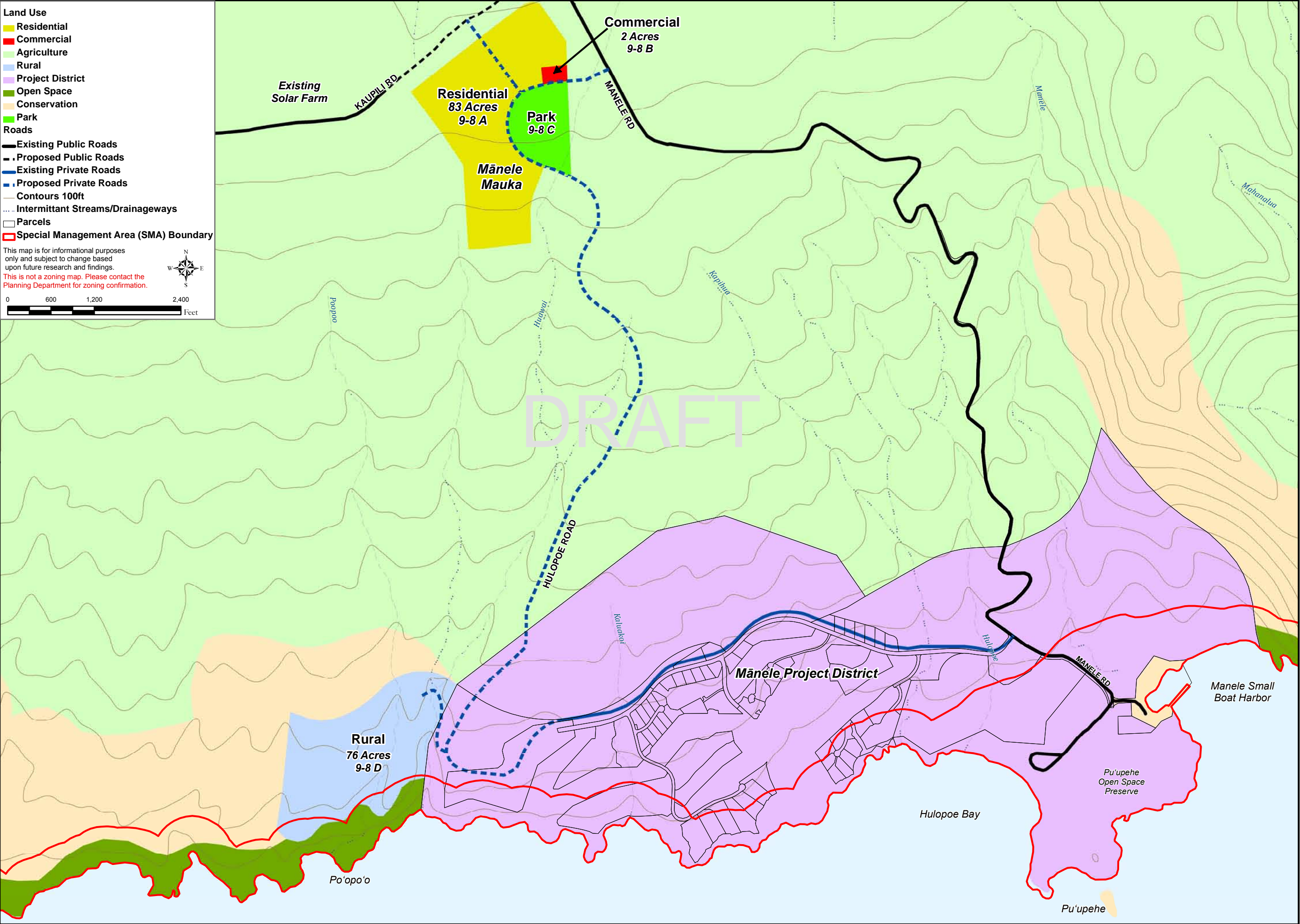
Feet

N

W

E

S



Land Use

Residential

Public/Quasi-Public

Heavy Industrial

Airport

Agriculture

Conservation

Roads

Existing Public Roads

Proposed Public Roads

Contours 100ft

Intermittant Streams/Drainageways

Parcels

Special Management Area (SMA) Boundary

This map is for informational purposes only and subject to change based upon future research and findings.

This is not a zoning map. Please contact the Planning Department for zoning confirmation.

N

W

E

S

0

600

1,200

2,400

Feet

The map displays the land use planning for Kaumālapa'u. It features several distinct zones: a yellow 'Residential 50 Acres 9-9 B' area, a purple 'Heavy Industrial 10 Acres 9-9 A' area, and a blue 'Existing Quarry' area. A 'Lānaʻi Landfill' is shown in a blue rectangle. The map is divided into larger colored regions: orange for 'Conservation', light green for 'Agriculture', and grey for 'Airport'. A red line outlines the 'Special Management Area (SMA) Boundary'. Roads are shown as solid black lines for existing and dashed black lines for proposed. Contours are indicated by thin brown lines, and intermittent streams/drainageways are shown as blue dashed lines. Key locations include 'Kaumālapa'u Harbor', 'Existing Heavy Industrial 6 Acres', 'Existing Airport Runway', and 'Kaunolu'. The map is overlaid with a large 'DRAFT' watermark.

9.9 Proposed Kaumālapaʻu Land Use Detail

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