EXHIBIT A

NORTH SHORE SUSTAINABLE COMMUNITIES PLAN

City and County of Honolulu
Department of Planning and Permitting

April 2011

NORTH SHORE
SUSTAINABLE COMMUNITIES PLAN

Prepared for the City and County of Honolulu
Department of Planning and Permitting

April 2011

Prepared by
Helber Hastert & Fee Planners

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LIST OF ACRONYMS

ALISH	Agricultural Lands of Importance to the State of Hawai'i
BFS	Department of Budget and Fiscal Services
BMPs	Best Management Practices
BWS	Honolulu Board of Water Supply
CIP	Capital Improvement Program
City OED	City Office of Economic Development
CLP	Coastal Lands Program
COEMAP	Coastal Erosion Management Plan
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
DBEDT	State Department of Business, Economic Development and Tourism
DCS	Department of Customer Services
DDC	Department of Design and Construction
DEM	Department of Emergency Management
DES	Department of Emergency Services
DFM	Department of Facility Maintenance
DLNR	State Department of Land and Natural Resources
DOA	State Department of Agriculture
DOE	State Department of Education
DOH	State Department of Health
DOT	State Department of Transportation
DPP	Department of Planning and Permitting
DPR	Department of Parks and Recreation
DTS	Department of Transportation Services
EA / EIS	environmental assessment / environmental impact statement
ENV	Department of Environmental Services
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact

HAR	Hawai'i Administrative Rules
HBMP	Hawai'i Beach Management Plan
HECO	Hawaiian Electric Company
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HPHA	Hawai'i Public Housing Authority
HRS	Hawai'i Revised Statutes
IAL	Important Agricultural Lands (Act 183, 2005)
LUC	Land Use Commission
LUO	Land Use Ordinance
mgd	million gallons per day
OMPO	O'ahu Metropolitan Planning Organization
OTS	O'ahu Transit Services
OWMP	O'ahu Water Management Plan
PIM	Public Infrastructure Map
PUC	Public Utilities Commission
ROH	Revised Ordinances of Honolulu
STIP	State Transportation Improvement Program
Tax Dept.	State Department of Taxation
TBD	To Be Determined
TMDL	Total Maximum Daily Load
UH	University of Hawai'i
USACE	U.S. Army Corps of Engineers
WMP	Watershed Management Plan
WO SWCD	West O'ahu Soil and Water Conservation District

PREFACE

The North Shore Sustainable Communities Plan has been prepared in accordance with the Charter-prescribed requirements for development plans, and is to be accorded force and effect as such for all Charter- and ordinance-prescribed purposes. It is one of eight community-oriented plans intended to help guide public policy, investment, and decision-making over the next 25 years. Each of these plans addresses one of eight planning regions on O'ahu, responding to specific conditions and community values of each region.

Two of the planning regions, 'Ewa and the Primary Urban Center, are areas where major growth in population and economic activity will be directed over the next 25 years and beyond. The plans for these regions are entitled "Development Plans," to indicate their role as the policy guides for development decisions and actions needed to support that growth.

The remaining six planning regions, including North Shore, are envisioned to remain relatively stable. The plans for these regions are entitled "Sustainable Communities Plans" and are focused on serving as policy guidelines in support of that goal. The vision statements and supporting provisions for these plans are oriented toward maintaining and enhancing each region's ability to sustain its suburban or rural character and lifestyle.

There has been a recent surge in widespread community discussions, actions and laws adopted to address sustainability. In 2005, the State Legislature convened a statewide group to draft a Hawai'i 2050 Plan, with the primary purpose to provide policy recommendations for creating a sustainable Hawai'i. In 2007, the State established a policy framework and requirements to reduce Hawai'i's greenhouse gas emissions to or below the 1990 levels by the year 2020 (Act 234, 2007). Public service announcements dealing with conserving water and electricity abound. The concept of buildings that are designed, built and occupied with environmental considerations at the forefront largely did not exist when the original Development Plans and Sustainable Communities Plans were first adopted. This setting raises the question about the role of such plans. Are they the City's version of a sustainability plan? The answer is that they are the land development portion of a larger blueprint for sustainability.

As discussed below, the General Plan sets long-term goals for the City and County of Honolulu, across 11 major elements. Perhaps its most substantive chapter deals with population, and hence land development distribution. It sets the growth management strategy for O'ahu. The Development Plans and Sustainable Communities Plans provide more detail on this land management strategy, assuring that how we use the land now, and in the future, responds to the three major elements of a Sustainable Place: economic health, social equity, and environmental protection. The issues addressed either directly or indirectly by these regional plans certainly overlap with other planning responsibilities of other departments, such as water

delivery and consumption, crime reduction, increasing public health, and developing responsive transportation systems. Collectively, these efforts comprise the strategy of developing a sustainable future for O'ahu.

P.1 THE SUSTAINABLE COMMUNITIES PLAN PROCESS

This document is the culmination of a planning effort led by the City and County of Honolulu's Department of Planning and Permitting. This effort comprised a process that encouraged and enabled significant involvement from the region's neighborhood boards, community associations, business leaders, religious and cultural organizations, private landowners, institutions and numerous individuals. In its final form, this plan will have incorporated input received from the Planning Advisory Committee, three community-wide meetings, and a number of meetings with community leaders and representatives of government agencies.

P.2 HONOLULU LAND USE PLANNING AND MANAGEMENT SYSTEM

The City and County of Honolulu guides and directs land use and growth through a three-tier system of objectives, policies, planning principles, guidelines and regulations. The General Plan forms the first tier of this system. First adopted by resolution in 1977, the General Plan is a relatively brief document, consisting primarily of brief statements of objectives and policies. It has been amended several times, but the basic objectives and policies set forth in the 1977 Plan remain intact.

The second tier of the system is formed by the Development Plans and Sustainable Communities Plans, which are adopted and revised by ordinance. These plans address eight geographic regions of the island, including the Primary Urban Center, East Honolulu, Central O'ahu, 'Ewa, Wai'anae, North Shore, Ko'olau Loa and Ko'olau Poko.

The third tier of the system is composed of the implementing ordinances, including the Land Use Ordinance (Honolulu's zoning code) and the City's Capital Improvement Program. Mandated by the City Charter, these ordinances constitute the principal means for implementing the City's plans. These ordinances are required to be consistent with the General Plan, the Development and Sustainable Communities Plans, and each other.

In addition to these three Charter-mandated tiers, the Development Plans and Sustainable Communities Plans are supplemented by two planning mechanisms that are not required by the Charter, including the functional planning process and special area planning. Functional planning activities, some of which are mandated by state or federal regulations, provide long-range guidance for the development of public facilities such as water, wastewater disposal, and

transportation. Special area plans are intended to give specific guidance for neighborhoods, communities or specialized resources.

P.3 AUTHORITY OF THE DEVELOPMENT PLANS AND SUSTAINABLE COMMUNITIES PLANS

The authority for the Development Plans and Sustainable Communities Plans (herein referred to as "Development Plans" for simplicity) is derived from the City Charter, which mandates preparation of a General Plan and Development Plans to guide "the development and improvement of the city." Together with the General Plan, the Development Plans provide policy guidance for the land use and budgetary actions of the City. This is the authority the originally adopted Development Plans carried, and it remains unchanged.

The Charter provides that "public improvement projects and subdivision and zoning ordinances shall be consistent with the development plan for that area." Although the Development Plans are not themselves regulatory, they "regulate the regulators." They are policy tools and are to be used, in conjunction with the programs and budgets of the City, to accomplish the objectives of the City and as guides for the decisions made in the private sector.

P.4 1992 CHARTER AMENDMENT TO REVISE THE DEVELOPMENT PLANS

In 1992 the City Charter Commission recommended, and the voters of Honolulu adopted, amendments to the City Charter. Chief among its findings, the Charter Commission concluded that the Development Plans were overly detailed and had created processes that duplicated the zoning process. To eliminate this unnecessary duplication, the 1992 Charter amendments changed the definition of Development Plans from "relatively detailed plans" to "conceptual schemes."

The 1992 Charter amendments established that the purpose of the Development Plans is to provide:

- "priorities ... (for the) coordination of major development activities"; and

- sufficient description of the "desired urban character and the significant natural, scenic and cultural resources ... to serve as a policy guide for more detailed zoning maps and regulations and public and private sector investment decisions."

In response to the 1992 Charter amendments, the Planning Department launched a thorough review of the Development Plans. The goal of that review was the revision of all eight of the Development Plans to bring them into conformance with the Charter-mandated conceptual orientation. The revised plan presented in this document conforms to that mandate.

EXECUTIVE SUMMARY

For many O'ahu residents and visitors, the North Shore represents "the country," where people go to find a laid-back island setting reminiscent of O'ahu's plantation days. In contrast to urban Honolulu's metropolitan setting, the North Shore is known for its colorful scenery and unspoiled natural beauty, including world-famous surf, scenic shoreline and white sand beaches, picturesque valleys and coastal *pali*, and vast, open expanses of agricultural lands set against dramatic mountain backdrops. Hale'iwa and Waialua, the region's two rural towns, still feature a country atmosphere with low-density residential structures and low-rise buildings housing retail establishments, restaurants, and surf shops. As Honolulu and its suburban areas continue to grow and become increasingly urbanized, it has become more important to maintain the North Shore as an essential haven and respite from the urbanized areas of O'ahu.

This plan is organized in five chapters and an appendix, as follows:

- **Chapter 1: North Shore's Role in O'ahu's Development Pattern** defines the region's role and identity within the overall framework of islandwide planning and land use management.

- **Chapter 2: The Vision for North Shore's Future** summarizes the community's vision for the future of the region, and describes important elements of that vision.

- **Chapter 3: Land Use Policies and Guidelines** is the Plan's policy core. It provides policy guidance for the region's various land use elements.

- **Chapter 4: Public Facilities and Infrastructure Policies and Guidelines** outlines policies and guidelines to support the land use policies of Chapter 3.

- **Chapter 5: Implementation** addresses needs for carrying out provisions outlined by the Plan.

The key recommendations contained in each chapter are summarized in the following section:

E.1 CHAPTER 1: NORTH SHORE'S ROLE IN O'AHU'S DEVELOPMENT PATTERN

Chapter 1 provides an overview of the relationship between O'ahu's General Plan, and the County's development plans and sustainable communities plans, and provides specific context for the North Shore Sustainable Communities Plan within this land use paradigm. Consistent

with the directed growth policies of the City's General Plan, the role of the North Shore is to maintain the rural character, agricultural lands, open space, natural environment, recreational resources and scenic beauty of O'ahu's northern coast. In line with the General Plan's policies to preserve the open space and country atmosphere of the rural areas, growth is limited to "infill" areas within or adjacent to built-up areas to accommodate existing and future housing and employment needs.

E.2 CHAPTER 2: THE VISION FOR THE NORTH SHORE'S FUTURE

This chapter presents the overarching concepts and goals of the North Shore Sustainable Communities Plan. It includes the Vision Statement for the long-range future of the region, and the Key Vision Elements that the policies and guidelines in this Plan are based upon.

The North Shore's Vision Statement focuses on retaining the unique qualities that have defined the region's attractiveness to residents and visitors alike; scenic open spaces, coastal resources, and the community's cultural and plantation heritage. A stable and diverse agriculture industry, which includes crop production, agricultural processing, and other support facilities, will play a key role in the region's economy and in protecting the region's agricultural lands and open space setting. Hale'iwa and Waialua remain the North Shore's principal commercial and civic centers while retaining their historic and "country town" character. The region will remain "country," with wide open space, vistas, and rural communities. Growth will be limited to Hale'iwa and Waialua.

E.3 CHAPTER 3: LAND USE POLICIES AND GUIDELINES

Chapter 3 presents policies and guidelines for the principal types of land uses on the North Shore. The Vision for the North Shore's future described in Chapter 2 is to be implemented through the application of these policies and guidelines. A summary of the major policies related to each land use type is below:

E.3.1 Open Space and Natural Environment

Emphasis for the policies and guidelines for Open Space and the Natural Environment is placed on an integrated approach to resource management that underscores the Native Hawaiian concept of "*ahupua'a*." Consistent with this approach, preservation and protection of valued natural features, sensitive lands, agricultural lands and recreational areas are highlighted.

E.3.2 Agriculture

The policies and guidelines related to Agriculture recognize the importance of protecting productive agricultural land; encourage the development of regional support facilities and infrastructure; and emphasize the importance of prohibiting improper use and subdivision of agricultural land.

E.3.3 Parks and Recreation

Policies and guidelines for Parks and Recreation stress the protection and expansion of recreational resources; the provision of integrated pedestrian and bicycle facilities; the compatibility of recreational resources and activities within the surrounding environment; and connecting expenditures for recreational resources to actual usage of the facilities.

E.3.4 Historic and Cultural Resources

The North Shore Sustainable Communities Plan emphasizes the importance of historic and cultural resources as an integral fabric of the North Shore community and underscores the need to properly identify these resources and protect them from development so they can be preserved for future generations.

E.3.5 Residential Communities

The policies and guidelines related to Residential Communities clarify the importance of maintaining the Community Growth Boundary and directing the development of new housing units to areas in and around Hale'iwa and Waialua. A mix of housing units is desired to meet the needs of all North Shore residents, in a manner consistent with rural design and principles of sustainability.

E.3.6 Commercial Areas

Guidance for Commercial Areas is focused on respecting rural design guidelines to maintain rural character, including appropriate scale. Importance is also placed on limiting new commercial development to areas within existing commercial districts.

E.3.7 Industrial Areas

The importance of Industrial Areas that are compatible with the character of the North Shore is a primary focus of the North Shore Sustainable Communities Plan. The policies and guidelines

emphasize that industrial areas should support regional lifestyles while maintaining environmental balance, and providing economic opportunities as well as goods and services for area residents. Preservation of the former Waialua Mill site is also important.

E.3.8 Visitor Accommodations

The policies and guidelines for Visitor Accommodations emphasize the importance of a rural lifestyle on the North Shore, and the desire to avoid impacts on residents associated with both increased and illegal visitor units. Provisions are supported that would allow small-scale visitor accommodations in Hale'iwa with appropriate regulatory review and approval. No new resort zoning is supported for the North Shore.

E.3.9 Institutional Uses

Policies and guidelines related to Institutional Uses support convenient public services consistent with the rural character of the region, which make efficient use of available land.

E.3.10 Military

Policies and guidelines in this section provide for the maintenance of military installations, and encourage these areas to be maintained in a consistent manner with applicable general policies for residential, industrial, commercial, and other related uses.

E.4 CHAPTER 4: PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

This chapter presents the policies and guidelines related to public facilities and infrastructure systems in the North Shore. General policies related to each facility type are summarized below:

E.4.1 Transportation Systems

Transportation Systems are a key element of the North Shore Sustainable Communities Plan and emphasize a variety of policies and guidelines, including: retaining Kamehameha and Farrington Highways as two-lane thoroughfares; improving mobility and connectivity for area residents; supporting multi-modal systems to reduce automobile dependency; and ensuring that existing roadways can accommodate development prior to construction.

E.4.2 Water Systems

This section of Chapter 4 provides an overview of the protection and regulation of water resources at the State and County levels, including the preparation of regional watershed management plans for O'ahu by the Board of Water Supply. Policies and guidelines emphasize the importance of responsible management of water resources; the need for useful water conservation measures (including recycling); the relationship between the health of the agricultural economy and the availability of adequate irrigation sources; and the protection of all water sources from pollutants.

E.4.3 Wastewater Treatment

Policies and guidelines for Wastewater Treatment call for the provision of adequate public and private wastewater treatment facilities and improvements to the existing wastewater management services to protect the North Shore's water resources and the health of the community, and support for alternative wastewater technologies that reflect the community's values and rural character.

E.4.4 Electrical Systems

Policies and guidelines for Electrical Systems emphasize the importance of adequate and reliable electric service, the need for visually compatible facilities, and support for the use of renewable energy sources and conservation measures.

E.4.5 Solid Waste Handling and Disposal

The section on Solid Waste Handling and Disposal focuses on providing adequate resources for trash removal, cleanup of illegal dumps, and enforcement of antidumping laws, in addition to stressing the continued importance of recycling and other source reduction programs dedicated to minimizing the amount of solid waste generated.

E.4.6 Drainage Systems

Policies and guidelines for Drainage Systems call for improvements to mitigate storm runoff and to provide adequate protection from flooding, with an emphasis on low-impact design strategies that minimize nonpoint source pollution and support the retention of storm water on-site and in wetlands.

E.4.7 School Facilities

Language in this section calls for the provision and maintenance of school facilities that serve the needs of the community, and a desire to integrate school facilities with other community uses.

E.4.8 Public Safety Facilities

Policies and guidelines for Public Safety Facilities promote an integrated approach to public safety, which enables police, fire, ocean safety, civil defense, and emergency medical efforts to share resources and information, as appropriate, and adequate staffing and facilities to ensure effective and efficient delivery of basic government services and protection of public safety.

E.5 CHAPTER 5: IMPLEMENTATION

This chapter discusses the various measures that support implementation of this Plan, including the regulatory mechanisms, physical improvements, and other actions that are needed to realize the Plan's vision. Section 5.7 presents an Implementation Matrix to help organize and facilitate plan implementation. The Implementation Matrix, which is based on the policies and guidelines presented in Chapters 3 and 4, identifies the specific actions, corresponding plans and/or codes, and public and private entities responsible for implementation.

E.6 APPENDIX A

The appendix contains three color maps that illustrate some of the plan's textual provisions. These maps are intended to be conceptual illustrations of the text, and should be considered secondary to the policies and guidelines articulated in the text.

1. NORTH SHORE'S ROLE IN O'AHU'S DEVELOPMENT PATTERN

The North Shore Sustainable Communities Plan area extends from Ka'ena Point in the west to Waiale'e Gulch near Kawela Bay in the east, with O'ahu's shoreline defining the northern edge and Helemano and the slopes of the Wai'anae and Ko'olau Mountain Ranges to the south. The region consists mostly of agricultural lands and open space, which surround the country towns of Hale'iwa and Waialua and the rural residential communities of Mokulē'ia, Kawailoa, and Sunset/Pūpūkea.

A number of distinguishing characteristics help define the North Shore's role within the City and County of Honolulu. In contrast to urban Honolulu's metropolitan setting, the North Shore is known for its colorful scenery and unspoiled natural beauty, including world-famous surf, scenic shoreline and white sand beaches, picturesque valleys and coastal *pali*, and vast, open expanses of agricultural lands set against dramatic mountain backdrops. For many O'ahu residents and visitors, the North Shore represents "the country," where people go to find a laid-back island setting reminiscent of O'ahu's plantation days. The North Shore's Native Hawaiian heritage, cultural diversity, and plantation past are reflected in its small rural communities, and its agricultural landscapes and open space resources. Hale'iwa and Waialua, the region's two rural towns, still feature a country atmosphere with low-density residential structures and low-rise buildings housing retail establishments, restaurants, and surf shops. For many, the North Shore is a place for rest and recreation that offers opportunities to enjoy the country atmosphere, numerous white sand beaches, and mountain areas. As Honolulu and its suburban areas continue to grow and become increasingly urbanized, it has become more important to maintain the North Shore as an essential haven and respite from the urbanized areas of O'ahu.

The General Plan directs growth to the Primary Urban Center, Central O'ahu and 'Ewa regions of O'ahu and limits growth in the urban fringe and rural areas (Exhibit 1.1). It designates the North Shore as a rural area where physical growth and development will be managed so that "an undesirable spreading of development is prevented," and "population densities are consistent with the character of development and environmental qualities desired for the area" (General Plan of the City and County of Honolulu, page 15). The General Plan also specifies that agricultural lands along the Windward, North Shore, and Wai'anae coasts are to be maintained for diversified agriculture.

In this context, the role of the North Shore Sustainable Communities Plan is to maintain the rural character, agricultural lands, open space, natural environment, recreational resources and scenic beauty of O'ahu's northern coast, in contrast to more urbanized areas of O'ahu such as the Primary Urban Center, East Honolulu, Central O'ahu, and 'Ewa. In line with the General

Plan's policies to preserve the open space and country atmosphere of the rural areas, the North Shore Sustainable Communities Plan limits growth to "infill" areas within or adjacent to built-up areas to accommodate existing and future housing and employment needs, and strives to maintain the region's population at 1.7 percent of the island-wide population for the year 2025[1].

This plan reaffirms the North Shore's role as a rural area by establishing the following policies for future land use in the North Shore Sustainable Communities Plan area:

- Maintain the region's rural character by promoting diversified agriculture, preserving scenic open space, and retaining the small-town, country atmosphere of the region's typically low-rise, low-density communities.

- Preserve agricultural lands for current and future agricultural uses and support the diversified agriculture industry.

- Protect and preserve the natural environment and natural resources and features, including: mountain, forest and watershed areas; marshes, rivers, and streams; shoreline areas, fishponds, and bays; and reefs and offshore islands.

- Preserve scenic views of the mountains, coastal *pali* and shoreline areas including *mauka* and *makai* views seen from near shore waters and heavily traveled areas such as Kamehameha Highway, Farrington Highway and Kaukonahua Road.

- Protect cultural, historical, and archaeological resources by promoting the interpretive and educational use of these sites, buildings, and artifacts.

[1] General Plan for the City and County of Honolulu, Section I: Population Objective C Policy 4 (Amended, Resolution 02-205, CD1) seeks a 2025 distribution of O'ahu's residential population as follows:

Distribution of Residential Population	
LOCATION	% SHARE OF 2025 ISLANDWIDE POPULATION
Primary Urban Center	46.0%
'Ewa	13.0%
Central O'ahu	17.0%
East Honolulu	5.3%
Ko'olau Poko	11.6%
Ko'olau Loa	1.4%
North Shore	1.7%
Wai'anae	4.0%
TOTAL	100.0%

- Manage and sustain ocean and nearshore resources to assure their long-term availability.

- Enhance opportunities for a wide range of recreational activities by providing community-based as well as natural resource-based parks, and by securing convenient public access, including public right-of-ways, bikeways, and pedestrian walkways to beaches and inland recreation areas.

- Facilitate the country lifestyle by establishing rural design guidelines emphasizing open space, landscaping, and the scenic qualities of an area, so that new development will be in keeping with the desired rural character of the region.

- Support businesses which serve the agricultural, educational, health, and tourist industries and the local population, and provide employment for North Shore residents consistent with the low-key rural atmosphere of the North Shore.

- Provide sufficient lands adjacent to built areas of Hale'iwa and Waialua for housing that is compatible with the region's rural character and affordable to area residents, without exceeding the General Plan's population guidelines for the region and remaining in line with General Plan policies to maintain the North Shore as a rural area.

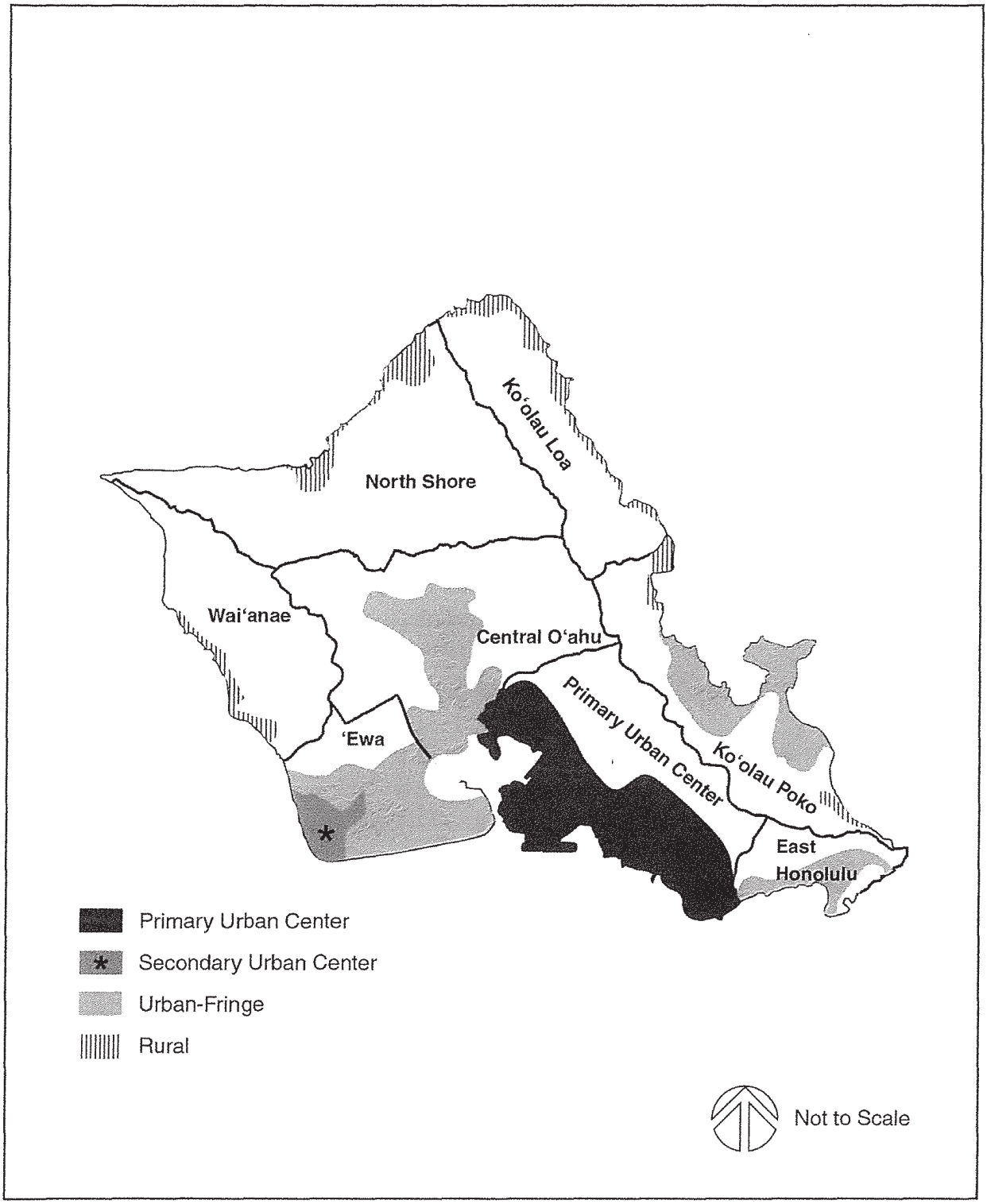

Exhibit 1.1: General Plan Designations

2. THE VISION FOR THE NORTH SHORE'S FUTURE

This chapter presents the vision for North Shore's future and describes the key elements of this vision. Based on community input and the General Plan's policies for the region, the Vision provides the basis for the Sustainable Communities Plan's policies and guidelines, which, in turn, will direct future land use decisions and natural resource management policies and programs on the North Shore.

The Vision for the North Shore extends to the year 2035, during which time the North Shore is projected to experience very little growth. The region will remain "country," with wide open spaces, agricultural lands and rural communities defining the regional landscape, and growth limited to Hale'iwa and Waialua Towns. Based on the General Plan's population distribution policy, the North Shore's population is projected to account for 1.7 percent of the island-wide population in 2025.

Following World War II and the resultant tourism boom on O'ahu, the North Shore has experienced a steady increase in population. In 1970, the North Shore's population was about 9,200 people, accounting for an estimated 1.4 percent of O'ahu's total population. By 2000, the North Shore's population doubled to nearly 18,400 people, accounting for about 2.0 percent of the island-wide population. Projections from the City's Department of Planning and Permitting (DPP) indicate an estimated 19,517 persons residing in the region in the year 2035.[2] Assuming that the region's population growth rate will continue at the same pace over the next 25 years, DPP projections indicate that there would be about 1,800 more people in the region by 2035 (based on the projected 2010 residential population of 17,724). At more than 1.8 percent of the 2035 projected island-wide population of 1,038,317 residents, the North Shore's 2035 projected residential population would be slightly more than the General Plan's population distribution policy for the North Shore (1.7 percent of the island-wide population). Although the projected regional population growth seems relatively minor when compared with the projected 2035 island-wide population (20,430 and 1,113,620 persons, respectively), many North Shore residents feel that the additional population growth – when compared to the North Shore's current population – is substantial, and also largely inconsistent with the existing rural character and the community's future vision.

2.1 VISION STATEMENT

The vision statement for the North Shore describes the desired future conditions in the year 2035 and beyond. This section is written in the present tense, from the perspective of the year 2035 looking back into the past.

[2] Department of Planning and Permitting. "Socio-Economic Projections, Year 2035." September 2009.

"The North Shore in the year 2035 retains the unique qualities that have long defined its attractiveness to residents and visitors alike. Scenic open spaces are protected and maintained, coastal resources are enhanced, and the region's Native Hawaiian heritage, cultural diversity, and plantation past have been carried forward in the revitalization of its communities.

Agriculture is a major contributor to the North Shore's economy, providing a multitude of jobs and economic opportunities for area residents. A varied quilt work of crops and forest products defines vast tracts of agricultural lands. All of O'ahu's residents enjoy the agricultural products grown on the North Shore, and value the North Shore's ability to provide food for the island's population and reduce O'ahu's dependency on imported foods. Coastal waters, beaches, and parks are linked by walkways and bicycle routes creating an ideal backdrop to host a rich array of recreational pursuits. Mountain areas provide safe havens for native plants and wildlife as well as wilderness settings for appropriate backcountry recreation. Hale'iwa and Waialua are the region's principal commercial and civic centers, and small pockets of rural residential areas remain clustered around Mokulē'ia, Kawailoa, and Sunset/Pūpūkea. Residents are proud of their close-knit communities and the many local families in their communities that have a history of multigenerational ties to the North Shore.

The growth of a stable and diverse agriculture industry has ensured the long-term protection of the North Shore's agricultural lands and open space setting and supported an array of flourishing agricultural enterprises, including crop production, agricultural processing and other support industries, farmers' markets and agricultural specialty outlets. Along with the continued success of the visitor and recreational industries, the growth of the agriculture industry has resulted in further needs for conventional commercial and industrial services, and an increase in cottage industries.

To maintain the region's rural character, these new activities are centered at Hale'iwa and Waialua. Hale'iwa continues to be the North Shore's regional commercial center, hosting a variety of specialty outlets, dining establishments, professional and business services, and water sport enterprises, along with low-key, small-scale, country-style visitor accommodations. Waialua is a renewed center for agricultural activity, boasting a revitalized town center for resident-focused commercial services and a resource center for technology education within its schools. While some of the needed new affordable housing has been located in Hale'iwa, most new residential neighborhoods are located at Waialua.

Both towns retain their historic character and rural charm, while serving as the main employment centers for the region. Similarly, all new residential neighborhoods and

their supporting parks, playgrounds, and public services have been developed to standards which reflect their rural settings. In these ways, the North Shore of O'ahu, long an attraction for Hawai'i residents and visitors alike, has emerged in the year 2035 as a thriving model rural community that successfully preserves its natural, cultural and historical heritage, links its past with the future, and blends "Old Hawai'i" with the 21st century."

2.2 KEY ELEMENTS OF THE VISION

Each of the key elements of the vision is described in the following sections.

2.2.1 Maintain the Community Growth Boundary to Protect Agricultural, Open Space, and Natural Resources

The North Shore is characterized by vast tracts of agricultural lands, open spaces, and natural and cultural resources. To protect these resources from development, the Community Growth Boundary was established to guide development and preserve open space and agricultural areas. It has remained fixed since it was first established in 2000, and no new development has occurred outside the Community Growth Boundary. The Community Growth Boundary has served as a valuable tool to guide resource management, future development or redevelopment within existing zoning designations or future zoning designations, and other standards or guidelines that have been developed in response to plan provisions, other established entitlements, or in accordance with pertinent policy and character described in this plan.

The Community Growth Boundary defines, protects, and contains communities in areas which the General Plan designates "rural" and which exhibit the physical characteristics of rural lifestyles. The boundary provides adequate lands for facilities needed to support established communities, and protects such communities from more intense land uses and patterns of development associated with more urban areas. The Community Growth Boundary also preserves areas outside the boundary for agriculture or other resource or open space values. Where appropriate, the area within this boundary also contains open space elements considered essential to the character of the rural community being defined. Open space elements within the Community Growth Boundary may include lands designated "Park," "Agriculture," "Preservation," or areas with development-related hazards such as steep slopes or unstable soils.

Rural communities defined by this boundary consist of residential communities and towns that are smaller, more dispersed, and less intensively developed than those in O'ahu's urban or urban fringe areas. Development character is generally low density, low rise, small scale, and reflective of a "country" setting. Within residential areas, the landscaping and front yards which

provide the foregrounds to their respective residences are the principal visual elements. In commercial areas, the pedestrian environment and associated amenities predominate, and storefronts are typically found on both sides of the street. Commercial buildings are oriented principally toward the street, relate readily to the human scale, and are organized to encourage interaction between the public and private domains.

As shown on Exhibit 2.1, the Community Growth Boundary on the North Shore conceptually defines the limits of residential, commercial, industrial, or other similar uses. As no proposals for these types of uses can be considered outside the Community Growth Boundary, this boundary also prevents the encroachment of development onto agricultural lands and open space resources.

Areas outside the Community Growth Boundary include agricultural lands as well as preservation lands with important open space, scenic, or natural resource values. Uses such as commercial and industrial development, public and private schools, and residential subdivisions with no bona fide agricultural activities are not permitted in these areas. Permissible land uses outside the Community Growth Boundary include agriculture and limited low-intensity types of outdoor recreational uses where appropriate, such as on nonagricultural lands or agricultural lands that are not suitable for intensive cultivation, provided they do not diminish the agricultural potential of these sites or jeopardize the open space, natural and scenic character of these resources. Other permitted uses outside the Community Growth Boundary include environmental and educational programs and facilities that are resource compatible, such as a high technology learning center that uses existing facilities at Camp Mokulēʻia and Camp Erdman in Mokulēʻia.

Rural communities within the Community Growth Boundary include concentrations of residential, commercial, and industrial uses as well as the network of roads, parks, and open spaces which define their edges or give them character. Relative to the State Land Use District boundaries, the Community Growth Boundary generally circumscribes built-up sections of Mokulēʻia, Waialua, Haleʻiwa, Kawailoa, and Sunset Beach that are within the State Urban District. It also includes portions of the State Agricultural District in Sunset Hills and Pūpūkea that are zoned Country, as well as portions of the State Agricultural District *makai* of the highway in Haleʻiwa and Waialua that are designated and zoned for agricultural use. However, except for limited "infill" areas in Haleʻiwa and Waialua Towns that are contiguous to lands designated for residential and commercial use, agricultural lands within the Community Growth Boundary continue to remain in the State Agricultural District and continue to be designated and zoned as Agriculture, so as to maintain the agricultural uses and/or open space value within the Community Growth Boundary.

Exhibit 2.1: Community Growth Boundary
North Shore Sustainable Communities Plan

Within this boundary, open space continues to define communities, and significant natural resources (such as streams, natural drainageways, wetlands, and fishponds) are protected. New development within the Community Growth Boundary has been limited to infill low-density, low-rise development contiguous to existing built areas, to promote a compact form of development with lower development costs and more efficient utilization of existing infrastructure systems. The infill areas within the Community Growth Boundary have had ample capacity to accommodate residential, commercial, and industrial needs to the year 2035.

2.2.2 Promote a Diversified Agricultural Industry

A healthy agricultural industry continues to generate economic opportunities that are appropriate to the region's open space and rural qualities. In addition to using the Community Growth Boundary to ensure long-range protection for agricultural lands, land use policies and guidelines are in place to protect agricultural lands from encroachment by incompatible uses and to encourage long-term investments in productive agricultural uses on those lands. Economic incentives to support the industry, including tax or other incentives or measures to maintain productive agricultural lands, facilitate conversion from plantation crops to diversified agriculture, and promote long-term leases or sale of lands for farming, have been enhanced and strengthened.

Industrial and commercial activities which support or service agricultural production are creating further economic opportunities. To promote the cost-efficient use of existing infrastructure and prevent urbanization of agricultural lands, major agricultural support facilities have been consolidated in designated areas that are accessible to existing infrastructure. In addition, visitor-based activities that are accessory to agricultural operations are providing additional revenue-generating sources to supplement farm incomes. Qualified uses which meet specific criteria outlined in Section 3.2 are being allowed on a permit basis.

Agricultural support facilities at the former Waialua Mill site have been expanded into the area *makai* of the Mill, and the area is the primary agricultural support area for the region. A secondary agricultural support area in Kawailoa near the Alluvion Nursery provides localized support for adjacent agricultural activities based in Kawailoa.

2.2.3 Enhance the Region's Recreational and Educational Potential

The North Shore is known for its numerous beach parks, world famous surf spots, and abundant *mauka* and *makai* resources. Recreational resources along the shoreline are preserved and enhanced, and access to the shoreline has been expanded. Facility improvements such as bathrooms, showers, and parking have been completed, and beach parks were expanded to meet island-wide demands on these resources. Maintenance and improvements to existing

beach parks, additional access to the shoreline, and acquisition of beach right-of-ways continue to be a priority.

Access to the *mauka* areas has been expanded for appropriate forms of recreational opportunities that do not compromise significant environmental resources or important agricultural activities. Above Mokulēʻia, Haleʻiwa, and Pūpūkea, *mauka* access has been expanded for hiking, camping, hunting, and horseback riding and other resource-compatible forms of recreation within the context of sound resource management.

Low-impact, resource-sensitive environmental, educational, and cultural interpretive programs are being accommodated at Kaʻena Point and in the *mauka* areas of Mokulēʻia, Haleʻiwa, Waimea and Pūpūkea. While promoting expanded access and recreational opportunities to coastal and *mauka* resources, the value of the resources remains protected from overuse. A high technology learning center is operating at Mokulēʻia, and a resource center for technology training and long-distance learning serves Waialua schools.

More community-based parks for area residents with better maintenance and amenities to support the community's recreational needs are being provided. As new housing areas were developed in Waialua, Puʻuiki Park was acquired to serve as a community-based park for area residents. In Haleʻiwa, the Haleʻiwa Beach Park Mauka (commonly known as the Haleʻiwa Regional Park) provides facilities for both active and passive recreational pursuits. In addition, an integrated system of pedestrian paths and bikeways links the parks, schools, and town centers in Waialua and Haleʻiwa.

2.2.4 Promote Haleʻiwa and Waialua Towns as "Country Towns"

Haleʻiwa and Waialua Towns are the main commercial districts on the North Shore, each with different functions and distinct characteristics. The historic Haleʻiwa Town with its "main street" ambience is the region's main commercial attraction for residents and visitors, while Waialua Town is a plantation town that primarily services the residents of Waialua and Mokulēʻia.

To maintain their rural "small town" character and to promote compact town development, the cores of both towns are designated as "country towns." While the built environment within each town's core reflects the town's distinct historic character and the region's rural landscape, both towns are celebrated for the unique mix of commercial, residential, and compatible industrial uses (such as small product or clothing manufacturing and assembly).

Haleʻiwa. Haleʻiwa Town features a diverse mix of shops and restaurants, professional and service businesses, enterprises with art and recreational themes, and specialty outlets featuring regional products. Entry features into the town, landscaping, pedestrian walkways, and off-

street parking behind buildings have spawned the town's revitalization, and new developments are concentrated along Kamehameha Highway. The Hale'iwa Special District Design Guidelines remain in force to ensure that all new development is compatible with existing built areas and the rural character of the region.

Small-scale visitor accommodations located within the Hale'iwa Country Town District provide overnight facilities for visitors wishing to vacation on the North Shore. These small scale visitor accommodations are one alternative to address community concerns about the illegal use of private homes as short-term vacation rentals. Short-term vacation rentals and the additional pressures such use places on surrounding residences have been addressed. Locational and performance criteria addressing the different types of visitor accommodations have been established and are actively enforced.

Waialua. Waialua Town is the quiet heart of the North Shore's residential and farming community, featuring the region's primary agricultural support area and a vibrant core with basic retail and commercial services and light industrial uses that support the local community. Although agricultural and light industrial businesses are the major employers in Waialua, the town's proximity to Ka'ena Point and the recreational opportunities in the area attracted recreational and environmental education activities to the area, including high technology and education industries that partner with area schools. Such partnerships have enhanced the quality of education and, along with the establishment of a private high school in the area, have created professional-level jobs for area residents. In addition, Waialua's central location and proximity to the schools and parks is ideal for locating civic and community services such as job training programs for the youth and support services for the elderly. To preserve its plantation heritage and rural character, design guidelines appropriate to Waialua Town are established.

The core of Waialua Town is centered around Goodale Avenue and Kealohanui Street. As envisioned in the Waialua Town Master Plan (2005), revitalization of the town's core has created a landscaped, pedestrian-oriented mall anchored by the Waialua Bandstand and the revitalized Waialua Mill site, an expanded farmers market, and community and commercial uses. Appropriate forms of small-scale, low-intensity tourist activities such as tours of nearby agricultural farms and processing facilities and recreational resources are helping to further revitalize the town's commercial center by attracting more people there.

2.2.5 Support Waialua as the North Shore's Industrial Center

The Waialua Mill site has been reinforced as the industrial center for the region. In addition to industrial uses that support the agriculture industry, general industrial uses such as boat and car repair, surfboard manufacturing and repair, manufacturing of crafts and island products, and warehousing are thriving. Development of the former Mill and expansion *makai* of the Mill site

has encouraged more commercial activity and enhanced the physical connection between the Mill and Waialua's town core.

2.2.6 Direct New Housing to Areas Contiguous to Hale'iwa and Waialua Towns and Use Rural Design Guidelines for Rural Residential Development

New residential development is located within designated areas adjoining Hale'iwa and Waialua Towns, with additional "infill" on or contiguous to existing lots in previously developed residential areas. New housing consists of a range of housing types and prices, including affordable housing that is allowing local residents to stay in the area. Attached and multifamily housing forms which were not traditionally associated with the rural setting have been developed, and the higher densities have supported the development of affordable housing. In Waialua, new housing has replaced the former mill camp once located between the Mill and Pu'uiki Road, and expanded into the area *mauka* of the mill camp between Pu'uiki Road and Goodale Avenue. In Hale'iwa, infill residential expansion has occurred north of Pa'ala'a Road on lands outside the flood plain.

Rural design guidelines and development standards have been adopted to ensure compatibility with the region's rural character and surrounding open space. Rural models such as the plantation community at Poamoho Camp, which is characterized by clusters of single-story dwellings with landscaping, narrow streets, and common parks and open spaces within the neighborhood, were used as examples to follow.

In addition to guidelines to limit building heights and lot coverage in order to maximize open space and landscaping, low-impact development principles that promote sustainable building design and alternative development options that allow for site design flexibility, creative site utilization, and open space preservation were adopted. Rural streetscape design that minimizes pavement surfaces and allows for grassed swales in place of sidewalks with curbs and gutters, as opposed to more urban and suburban models, is considered appropriate. Where feasible and appropriate, existing plantation homes were rehabilitated in a manner which allows them to be affordable to existing residents.

2.2.7 Provide Adequate and Appropriately-Sized Public Infrastructure, Facilities, and Services

Public agencies and private developers work together to provide adequate infrastructure and needed public facilities and services. Considering the large number of nonresidents that visit the North Shore and partake in the region's assets, additional resources to upgrade and

adequately maintain existing infrastructure systems and public facilities are being provided. Infrastructure does not detract from scenic amenities, recreational opportunities, open space, or other amenities.

Adequate, environmentally sensitive wastewater treatment systems that minimally impact groundwater and ocean resources and are consistent with the North Shore's rural character have replaced outdated and ineffective wastewater systems.

The quality of the North Shore's ground, surface, and nearshore waters is vital for ensuring public health, providing outdoor recreation, sustaining the integrity of ecological systems, and maintaining general environmental quality. In addition to drainage system improvements to mitigate storm runoff and regional flood hazards, adequate infrastructure for drainage systems has been established and is being maintained to ensure continuous runoff and protect the quality of coastal waters. Agricultural uses are implementing Best Management Practices (BMPs), including those recommended in the State Coastal Nonpoint Pollution Control Program, to minimize soil erosion.

An adequate circulation network that allows for efficient and safe travel supports all modes of transportation. Traffic on Kamehameha Highway between the heart of Hale'iwa Town and Waimea Bay flows freely since safety and operational deficiencies along the aged highway system were corrected. Kamehameha Highway remains a two-lane highway; no additional through lanes have been constructed, although improvements to reduce traffic impediments (for example, bicycle/pedestrian facilities to encourage the use of alternatives modes of transportation, dedicated storage/stacking turn lanes to minimize bottlenecks affecting emergency vehicle response time, turnouts and facility improvements to reduce the number of cars parked along the highway) have been completed. The provision of secondary/emergency access into and out of the region is also available. The transportation system encourages reduced automobile dependency, and includes an integrated network of bus routes, and pedestrian paths and bikeways that link the various residential communities, parks, schools, and the town centers of Hale'iwa and Waialua.

Other priority needs that have been addressed include retention of the public library in Waialua, maintenance of existing parks in the region, and adequate staffing and resources to ensure quality public safety services and protection from natural hazards. Use of proven renewable energy and energy conservation measures, including the use of solar energy systems and sustainable building technologies, is encouraged.

2.2.8 Preserve and Protect Cultural and Historic Resources

Preserving significant plantation era and other historic features such as at Hale'iwa Town, Waialua Town, the Waialua Mill, and other sites, as well as protecting Native Hawaiian cultural and archaeological sites, has been important in retaining the area's unique identity and country character. Historic site restoration and interpretive programs are integrated into the development of parks and shorelines and mountain access systems, to help enhance appreciation of these resources.

The North Shore has a wealth of historic and cultural resources signifying its rich history of land use that extends back to the precontact Native Hawaiian era. Native Hawaiians were the first known inhabitants of the region, arriving around 1100 A.D. and settling in villages built along valley floors, streams and shoreline areas. With an abundance of marine life, fertile soils, natural springs, and forest resources, the lands around Waialua and Kaiaka Bay are believed to have supported between 6,000 to 8,000 people prior to Western contact in the late 1700s. The concentration of archaeological and cultural sites remaining in the region indicates that the *moku* of Waialua was viewed as an important area to invoke and sustain *mana* (the spiritual force and energy that was integral to the religious, social and political well-being of the Native Hawaiian society.)[3]

Following the arrival of Western missionaries and the introduction of Western ideals in the early 1800s, there was a drastic reduction in the population of Native Hawaiians and their traditional land use practices. Like other places on O'ahu, Western entrepreneurs assumed control of large tracts of land for plantation agriculture purposes. With the establishment of the North Shore's first sugar cane plantation in 1865, plantation agriculture dominated the North Shore's economy for more than 100 years until the closure of the Waialua Sugar Mill in 1996. Most of the North Shore's present-day landscape – including the region's physical layout and formation of its towns and neighborhoods, its building forms and landmarks, sense of place, and demographic composition and social fabric of the community – have been influenced by the plantation and its distinctive lifestyle.

2.2.9 Adapt the Ahupua'a Concept as a Framework for Land Use and Natural Resource Management

Traditional Hawaiian life was based on the *ahupua'a* system of land management. An *ahupua'a,* or land division, was typically wedge-shaped and extended from the top of the mountain into the outer edge of the ocean reef. Defined by the natural geographic formations such as mountain ridges, gulches and streams, *ahupua'a* were complete ecological and

[3] Kamehameha Schools Bishop Estate. North Shore Plan. 2008.

economic production systems that provided all the resources to sustain the community living within the *ahupua'a*. Fish and marine resources were harvested from the ocean, *kalo* (taro) and *'uala* (sweet potato) were raised in the lowlands, and upland areas provided trees and other forest products.

The *mokupuni*, or island, of O'ahu is made up of six *moku*, or districts. There are two *moku* in the North Shore Sustainable Communities Plan area – the entire *moku* of Waialua and a portion of Ko'olau Loa. Waialua, the northwestern *moku,* extends from Ka'ena Point in the west to Kapaeloa at Waimea in the east. Ko'olau Loa is the northeastern *moku* that stretches from Waimea Bay to Ka'a'awa. The eighteen *ahupua'a* in the North Shore Sustainable Communities Plan area include: Ka'ena, Keālia, Kawaihāpai, Kikahi, Auku'u, Mokulēi'a, Kamananui, Pa'ala'a, Kawailoa, Lauhulu, Kuikuiloloa, Punanue, Kāpaeloa, Waimea, Pūpūkea, Paumalū, Kaunala and a portion of Waiale'e. While the communities in the various *ahupua'a* may be diverse, they share a common desire to preserve the natural, cultural and historical heritage of the region.

The *ahupua'a* concept is a holistic approach to land management that recognizes the connections between land-based and marine-based natural resources and the dependent relationships between ecological functions. Resources were managed for the collective good of all living within the *ahupua'a,* based on the principle that activities in one part of the *ahupua'a* affected all other parts (for example, inappropriate management of forestry and agricultural uses in the upland areas can negatively affect the quality of streams and coastal waters). Adapted to the context of today's community needs and technology, the *ahupua'a* concept provides useful principles for guiding the use and management of the North Shore's resources. The application of these traditional values to current land use activities and environmental regulatory and management practices promotes effective management of the North Shore's natural resources and deters land-based activities which contribute to their degradation. In keeping with this approach, the planning and implementation of land use decisions and land-based actions considers related effects on coastal waters and the nearshore environment. Moreover, all development and infrastructure improvement decisions recognize that the changes to one segment of the community will have consequences that extend beyond that particular action. Utilizing this approach, a relatively minor project involving a small segment of land or a short stretch of roadway could have significant implications on other parts of the community when the various systems that make up the community are considered as a whole. On a broader scale, there is a need to recognize the connection between the North Shore and its neighboring regions (i.e., Central O'ahu, Ko'olau Loa and Wai'anae), and the many ways that events and activities occurring in one region may affect the others.

2.2.10 Integrate Principles of Sustainability into Decision-Making Processes

Change is inevitable. It is a fact of life that cannot be ignored. Change in small, rural communities – whether good or bad, big or small – is especially evident and often times controversial. By nature of its population size and scale of development, rural communities tend to be more sensitive to change, and residents of rural areas tend to be more directly affected by the actions of others. While change can be difficult, it is necessary because an inability to adapt to changing conditions can lead to stagnation and failure.

A community that successfully manages change will flourish and prosper in the future. For the North Shore, this means ensuring that planned growth and development respects and adheres to the principles of sustainability.[4]

The North Shore's principles of sustainability have promoted the long-term health of the land and community resources for both current and future generations of residents:

- Protect the environment, natural resources, existing flora and fauna, and where appropriate, open spaces and view planes.
- Use resources so they are not depleted, permanently damaged or destroyed.
- Avoid pollution and exceeding the limits of existing infrastructure systems.
- Respect the cultural, social and physical resources that shape residents' sense of community and rural quality of life.
- Honor the process of change. Make no decisions without first understanding the effects such change will have on the land and community resources.
- Strive for balance between economic prosperity, social and community well-being, and environmental stewardship. Adopt a multidisciplinary approach acknowledging the importance of our community capital in land use and infrastructure planning decisions.

[4] The most widely quoted definition of sustainable development is from the United Nations Brundtland Commission (1987): "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." It recognizes that development can be broken into three equivalent parts (environmental, economic and sociopolitical sustainability) and is based on development that balances economic prosperity with the integrity of natural ecosystems and social equity.

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3. LAND USE POLICIES AND GUIDELINES

The vision for the North Shore described in Chapter 2 will be implemented through the application of the land use policies and guidelines presented in Chapters 3 and 4.

The region's character is typified by pockets of low-rise, small-scale rural centers and residential communities surrounded by large expanses of agricultural lands, open space, and scenic view planes. To ensure that this regional landscape is maintained, proposed land use policies need to reflect an island-wide regional growth policy, resource protection, and community desires to maintain the region's rural setting and unique physical and lifestyle character. These policies focus on the preservation of agricultural lands and open space while directing limited growth toward Hale'iwa and Waialua.

Proposed land use policies are intended to outline future actions and agency decision-making once the Plan is adopted. Policies are broad statements of intent that express the City's overall philosophy toward particular land uses. Guidelines provide more specific guidance to public agencies and private entities in terms of planning, design and implementation of projects and programs in the various land use categories.

It is intended that existing current uses and structures that are legal but are not consistent with the Sustainable Communities Plan policy would be recognized as existing uses and allowed to remain at their locations in their current purpose, character, and level of use. Future proposed land use changes at those locations, however, would have to conform with the policies of the adopted Sustainable Communities Plan.

Chapter 3 is organized under the following headings:

SECTION

3.1 OPEN SPACE AND NATURAL ENVIRONMENT
3.2 AGRICULTURE
3.3 PARKS AND RECREATION
3.4 HISTORIC AND CULTURAL RESOURCES
3.5 RESIDENTIAL COMMUNITIES
3.6 COMMERCIAL AREAS
3.7 INDUSTRIAL AREAS
3.8 VISITOR ACCOMMODATIONS
3.9 INSTITUTIONAL USES
3.10 MILITARY

3.1 OPEN SPACE AND NATURAL ENVIRONMENT

Open space preservation is a key element of the vision for the North Shore. The natural landscape (the Koʻolau and Waiʻanae Mountain Ranges, coastal *pali*, gulches, and shoreline areas) and man-made elements (agricultural fields and parks) are key open space resources that define the North Shore Sustainable Communities Plan area. Preservation of these resources is essential in maintaining the rural character of the North Shore.

The vast majority of the open space elements in the region are designated as Preservation, Agriculture, and Park on the North Shore Sustainable Communities Plan Land Use Map. Of the estimated 77,000 acres of land within the North Shore Sustainable Communities Plan area, approximately 97 percent is in open space uses, including 53 percent designated as Preservation, 41 percent as Agriculture, and 3 percent as Park (see Open Space Map and Land Use Map in Appendix A). Areas designated as Preservation include lands with significant environmental resources, including watersheds; sites with scenic, historic, cultural, archaeological or ecological significance; and areas with natural ecosystems of endemic plants, fish and wildlife. They may also include lands that may be impacted by natural hazards such as tsunami-prone or flood hazard areas, or steep slopes (see Exhibit 3.1: Environmental Resources/Characteristics).

The City and County of Honolulu Land Use Ordinance (LUO) and accompanying zoning maps (Chapter 21, Revised Ordinances of Honolulu) prescribe the allowable uses of land for the City and County of Honolulu. The LUO identifies the various zoning districts, the uses allowed within each zoning district, and the applicable development standards within each district. Table 3-1 presents the acreage within each zoning district. More than 90 percent of the land within the North Shore region is zoned for either preservation or agricultural use, with approximately 55 percent zoned either AG-1 Restricted Agricultural or AG-2 General Agricultural District and about 41 percent zoned either P-1 Restricted Preservation or P-2 General Preservation District.

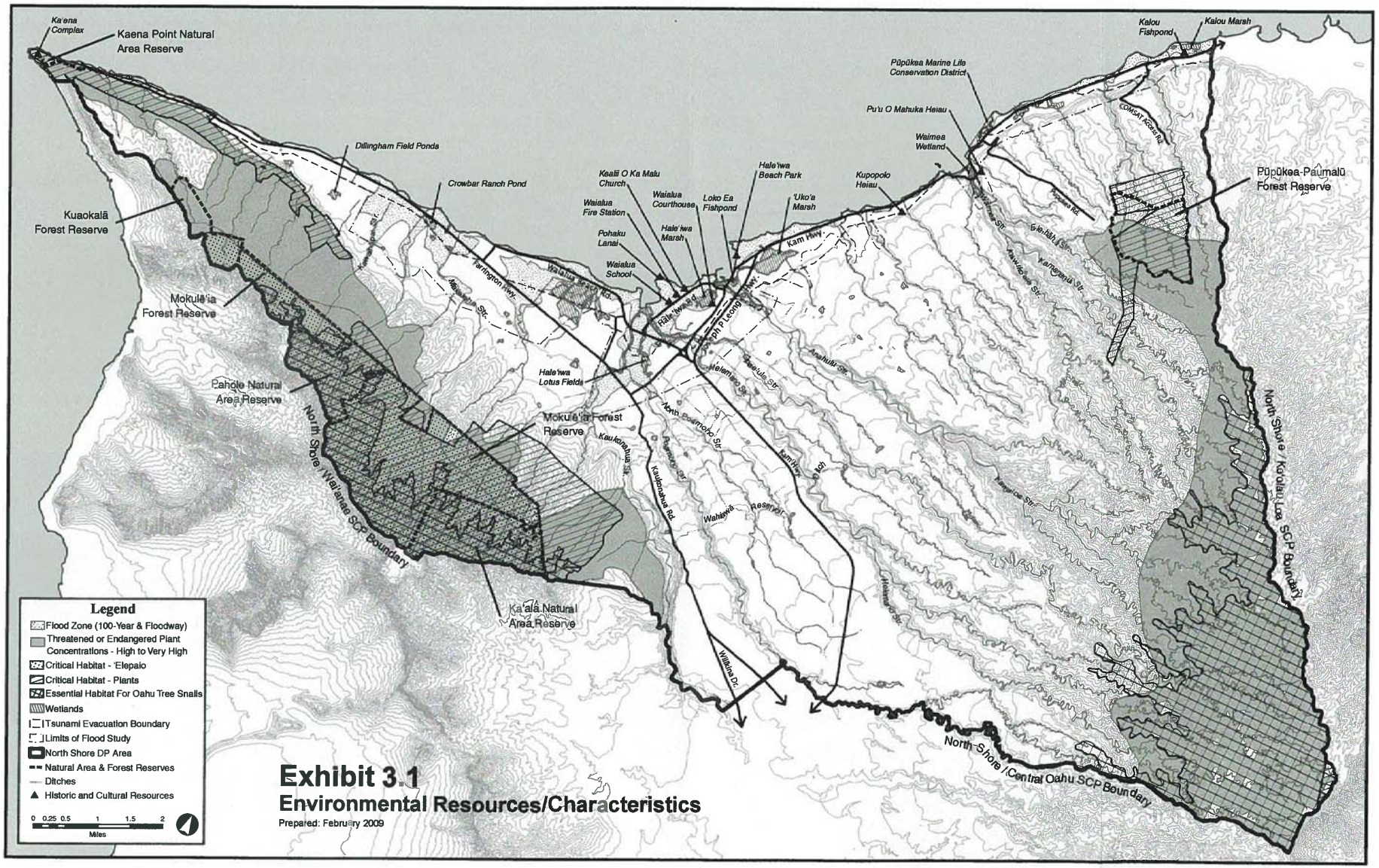

Exhibit 3.1
Environmental Resources/Characteristics

Prepared: February 2009

Table 3-1
City and County of Honolulu Zoning Districts, 1998 and 2007

District	1998 Acreage	2007 Acreage	Acreage Change
R-10 Residential	10.1	10.1	0
R-7.5 Residential	89.0	89.0	0
R-5 Residential	674.5	656.1	-18.4
A-1 Low Density Apt	15.8	15.8	0
A-2 Medium Density Apt	3.7	3.7	0
B-1 Neighborhood Business	30.4	31.1	+0.7
B-2 Community Business	10.4	10.4	0
I-1 Limited Industrial	1.8	1.8	0
I-2 General Industrial	28.9	28.9	0
I-3 Waterfront Industrial	12.0	12.0	0
AG-1 Restricted AG	29,156.9	29,128.1	-28.8
AG-2 General AG	12,560.9	13,590.6	+1029.7
Country District	1,924.3	1,152.6	-771.7
P-1 Restricted Preservation	29,307.1	29,307.1	0
P-2 General Preservation	2,816.8	2,605.5	-211.3
F-1 Military/Federal Preservation	349.6	349.6	0

SOURCE: Department of Planning and Permitting. "1998 Land Use File" and "Zone Changes Approved Between 1998 to 2007." September 2008.

The public acquisition of approximately 1,100 acres at Pūpūkea-Paumalū in 2007 exemplifies the community's commitment to open space preservation. Since the late 1980s when the Obayashi Corporation introduced plans for the proposed Lihi Lani subdivision[5], the North Shore community has consistently opposed the proposed residential development. As a result of residents' determination to protect the land from future development, the community – with the support of the Trust for Public Land Hawai'i and the cooperation of the landowner – was able to successfully organize the purchase of the property from the Obayashi Corporation. Today, after almost twenty years of community lobbying, the property is held by the State and City and County of Honolulu for open space and natural area preservation and future park use. To

[5] As proposed, the Lihi Lani subdivision involved 1,129 acres of land in Pūpūkea-Paumalū *mauka* of Kamehameha Highway behind Sunset Beach Elementary School. The proposed development called for a golf course, equestrian facility, 300 new homes on one- to three-acre lots, and related infrastructure systems, including a sewage treatment plant.

further ensure the long-term preservation of the land for agriculture and open space and prevent any future development, the property was also rezoned to the AG-2 General Agricultural District.

3.1.1 Policies

The following are policies for the preservation of open space and the natural environment:

- Promote integrated resource management principles that support the Native Hawaiian concept of *ahupua'a.*

- Protect and enhance significant natural features and ecologically sensitive lands, including mountain areas, shoreline areas, wetlands, fishponds, natural gulches, streams and drainageways. Provide protective buffer zones and setbacks around biologically sensitive areas to minimize habitat disturbance.

- Ensure State and County land use designations are consistent with the desired long-term use of the land. Important watershed areas should be classified to the State Conservation District and zoned P-1 Restricted Preservation District.

- Protect forested areas and promote expansion of these areas through reforestation to ensure the long-term preservation of native species, watershed protection and aesthetic enhancement. Possible candidate sites that may be eligible for future Natural Area Reserves should be protected, including the Central Ko'olau Mountains, Upper Makaleha adjacent to Pahole Natural Area Reserve, and areas adjacent to Ka'ena Point.

- Ensure the long-range protection and continuation of agricultural uses on agricultural lands.

- Protect recreational areas that contribute to the North Shore's open space quality, including the ocean and its resources, the shoreline and mountain areas, park spaces, and other quasi-public recreational facilities.

- Protect and preserve views of scenic resources, including the Wai'anae and Ko'olau Mountain Ranges, coastal *pali*, the coastline, and the Pacific Ocean.

- Limit visual impacts from utility installations. Ensure that permitted utility installations are developed and/or managed in ways that maintain or enhance the natural, cultural, and scenic resource qualities of the surrounding landscape.

- Maintain open space around existing communities by locating new developments within or next to existing developments within the Community Growth Boundary. Encourage compact development patterns and balance the development of desired or necessary land uses such as affordable housing and public facilities such as schools with the need to preserve open space.

- Promote cooperative interagency and/or public-private partnerships in the long-term protection and management of natural resources.

- Establish adequate shoreline setbacks that consider shoreline changes resulting from erosion hazards and rising sea levels using data such as the annual average erosion rate from the University of Hawai'i shoreline erosion studies.

- Base governmental expenditures for natural resources management and protection, including shoreline maintenance and improvements, on actual site usage (including visitors) rather than on resident population ratios or land values.

- Improve and enhance access to mountain and shoreline recreational areas by obtaining use of Federal and State lands and waters and acquiring available excess lands.

- Establish permanent instream flow standards for perennial streams that weigh the benefits of instream and non-instream uses of water resources, including the economic impact of restrictions of such uses.

- Allow outdoor lighting at the minimum level necessary for public safety, security and community aesthetics consistent with the goals of energy conservation and environmental protection.

3.1.2 Guidelines

This section provides a brief description of the regional open space resources on the North Shore (see Exhibit 3.1 Environmental Resources/Characteristics), followed by guidelines to carry out the policies related to each open space element.

3.1.2.1 MOUNTAIN AREAS

Mountain areas within the North Shore include segments of both the Ko'olau and Wai'anae Mountain Ranges. Mountain areas are designated as Preservation on the Open Space Map. While most of the mountain areas are in the State Land Use Conservation District, some acreage along the foothills of the Wai'anae Mountain Range is in the State Land Use

Agricultural District and zoned AG-2 General Agricultural District. These lands should be rezoned to P-2 General Preservation District as most of them have slopes of 30 percent or more and some contain endemic plants; but they should remain in the State Land Use Agricultural District, so as to allow for some agricultural uses that are permitted on P-2 lands, such as forestry and livestock grazing, where appropriate, which would help to contain the threats of brushfire on the mountain slopes.

Within the State Land Use Conservation District are several significant environmental resources, including forest reserves and natural area reserves managed by the State Department of Land and Natural Resources (DLNR).

Table 3-2
State DLNR Forest Reserves and Natural Area Reserves

Forest Reserves	Natural Area Reserves
Kuaokalā Forest Reserve	Pahole Natural Area Reserve
Mokulēʻia Forest Reserve	Mount Kaʻala Natural Area Reserve
Pūpūkea-Paumalū Forest Reserve	Kaʻena Natural Area Reserve

The Forest Reserve System[6] is comprised of important *mauka* lands containing watershed areas, where rainfall that is intercepted by trees and other vegetation percolates slowly through the soil to recharge aquifers and streams. Forest reserves also serve as wildlife refuges and recreational areas, with most of the forest reserve areas open to the public for certain recreational uses, such as hiking, camping, gathering and seasonal hunting. Some forest reserve areas are considered closed watershed areas, which means that the public is prohibited from entering without a permit. These areas are important resources for protecting watersheds, aesthetic beauty, wildlife habitats, undisturbed ecosystems, and rare native species, while providing forestry use and public recreation.

The Natural Area Reserve System[7] was established by the State to protect and preserve representative examples of the Island's unique native ecosystems and geological formations. They require active management to counteract damage from non-native feral animals (i.e., pigs, goats, deer and cattle, dogs, cats and rats), noxious weeds, and human disturbance. Permanent funding and staffing are needed to continue careful management of these areas.

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[6] The Forest Reserve System was created by the Territorial Government of Hawai'i through Act 44 on April 25, 1903. Management of the Forest Reserve System is guided by the Hawai'i State Constitution, Hawai'i Revised Statutes (Chapter 183) and associated Hawai'i Administrative Rules (Chapter 104).

[7] The Natural Area Reserve System was established by the Hawai'i State Legislature in 1970. Management of the Forest Reserve System is guided by the Hawai'i State Constitution, Hawai'i Revised Statutes (Chapter 195) and associated Hawai'i Administrative Rules (Chapter 209).

Access to the mountain areas is available via public hiking trails managed and maintained by the State DLNR Na Ala Hele Program. The Kuaokalā Trail, the Mokulē'ia Trail, and the Kealia Trail form a network that passes through the Mokulē'ia Forest Reserve and the Pahole Natural Area Reserve. In Pūpūkea, the Kaunala Trail passes through the Paumalū Forest Reserve. A number of trails are on private lands and permission is needed for access to these private trails.

Mountainous land forms also include coastal *pali* which occur *mauka* of many of the North Shore's shoreline areas. Their scenic characteristics should be protected and preserved for general public enjoyment.

Guidelines pertaining to mountain areas are as follows:

- Maintain, protect and restore native forests and ecosystems within the State Conservation District and lands designated Preservation on the North Shore Sustainable Communities Plan Land Use Map. Ensure the protection of State conservation lands, especially those on the Ka'ena coastline and Mokulē'ia foothills.

- Reclassify important watershed areas which are designated but unused State Agricultural or Urban Districts to the State Conservation or City Preservation Districts.

- Identify and protect endangered species habitats, native ecosystems, and other important ecologically sensitive areas, including the natural area reserves and forest reserves, from such threats as fire, alien species, feral animals, and human activity.

- Identify mountain areas within the AG-2 General Agricultural District that are suitable for rezoning to P-2 General Preservation District.

- Avoid the establishment of utility corridors and other uses that would disturb areas with high concentrations of native species.

- Encourage coordination of natural resource protection and management efforts between the State DLNR and private landowners, as well as with the U.S. Military, especially where the Kahuku and Kawailoa Training Areas overlap with environmentally sensitive areas.

- Acquire and maintain public access easements to trailheads and public campgrounds, including parking and signage at trailheads, where appropriate. Such access should be required, as appropriate, for any new development.

- Support State efforts to seek opportunities for cooperative agreements with private landowners to gain access to trails leading to public lands.

- Implement recommendations in the State's Na Ala Hele Program Plan to maintain and enhance *mauka* trail systems.

- Identify historic trails and old government roads of cultural and recreational value to the public.

3.1.2.2 SHORELINE AREAS

The North Shore's shoreline extends for over 27 miles between Ka'ena Point and Waiale'e. This world-renowned shoreline, together with its nearshore resources, provides residents and visitors with significant active and passive recreational opportunities, and is a key element in defining the region's rural character and lifestyle. In addition to their recreational and cultural value, shoreline areas are critical to the health of the coastal marine ecosystem and provide significant scenic value.

The North Shore shoreline varies from the rugged rocky coastline at Ka'ena Point to the popular sandy beach at Sunset Beach. Portions of the shoreline, including notable sections of Mokulē'ia, Kawailoa, and Sunset Point, have experienced beach narrowing or loss as a result of natural shoreline processes and inappropriate development and armoring along the shoreline. The City Department of Parks and Recreation recently completed the City Beach Parks Erosion Study Island of O'ahu, Hawai'i (April 2010) to identify causes and possible measures to address erosion problems at various City parks, including Hale'iwa Beach Park.

An integrated coastal erosion management system to mitigate beach erosion and preserve coastal resources is needed. The State DLNR has developed a Coastal Lands Program (CLP) to manage and protect beaches and coastal areas. The CLP aims to balance preservation of marine and coastal areas with responsible development of appropriate land uses. The CLP is involved with initiating and developing innovative shoreline management techniques that will help the long-term goal of beach and coastal preservation, and oversees the implementation of technical recommendations and policies embodied in the Coastal Erosion Management Plan (COEMAP). In an effort to develop a comprehensive strategy to manage the conservation and restoration of Hawai'i's beaches, the State DLNR is preparing the Hawai'i Beach Management Plan (HBMP). Once completed, the HBMP will provide a single, comprehensive document with implementation tools that all management agencies will reference for any land use applications pertaining to a specific coastal region.

Guidelines for shoreline areas are listed. Additional guidelines for recreational uses in shoreline areas can be found in Section 3.3.2.3.

- Preserve rare and sensitive coastal resources including coastal strand vegetation, sand dunes, and anchialine pools. Establish buffer zones around these areas where necessary.

- Prohibit off-road vehicle, motorcycle and bicycle use in ecologically sensitive areas, including coastal dunes and shoreline beaches. Identify and maintain recreational areas specifically designated for such use.

- Protect nearshore coral reefs and other marine life from damaging activities such as soil erosion, nonpoint source pollution, dredging of coral reefs, and alterations to nearshore water circulation.

- Establish access where justified by public demand, traditional use patterns, high quality recreational resources, or to circumvent barriers that exist along the shoreline.

- Improve and expand public access to the shoreline at approximately ½-mile intervals with vehicular and bicycle parking and lateral access along the shoreline.

- Implement the recommendations of the State of Hawai'i's Coastal Nonpoint Pollution Control Program and utilize best management practices in agricultural land use and operations to avoid or minimize chemical runoff and other "nonpoint" contaminants in shoreline areas.

- Support research to determine causes of coastal erosion and identify appropriate management strategies to avoid future erosion hazards.

- Encourage interagency coordination and public/private cooperation in developing and implementing beach management plans, with an emphasis on nonstructural approaches.

- Discourage development or activities which result in beach loss, and encourage development practices or activities such as increased shoreline setbacks which result in beach preservation or enhancement.

- Require buildings along the shoreline to adhere to the City's and Federal Emergency Management Agency (FEMA) minimum building elevations and structural guidelines. In addition, adopt development standards that require new structures to incorporate

building styles compatible with coastal hazards such as coastal erosion, tsunami and hurricane overwash.

- Discourage visual obstructions such as walls and fences along the coastal highway to maintain and enhance existing panoramic views. Clear shrubs and vegetation on vacant State- and County-owned properties that would maintain views of the ocean from public roadways along the shoreline.

- Implement active protection and management practices that preserve and enhance native and other resident fish and aquatic species populations and habitats, including nearshore coral reefs. Efforts to enhance opportunities for commercial and recreational fishing should use management practices and techniques that sustain fish populations and habitat quality so as to maintain a quality aquatic environment for public enjoyment.

- Place sand from channel, stream, and harbor mouth dredging projects on local beaches in accordance with Hawai'i Revised Statutes Chapter 205A.

3.1.2.3 WETLANDS

Wetlands are generally described as areas which are covered or saturated with water, whose substrate is primarily characterized by undrained moist or saturated soils and which support water-loving plants. Wetlands are important environmental resources that can provide irreplaceable benefits including flood protection, water quality improvements, habitat for fish and wildlife, and opportunities for recreation, education, and research. The U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency as well as State and County agencies have responsibilities for the protection and management of wetlands. Table 3-3 lists the major wetland areas on the North Shore.

Table 3-3
Major Wetland Areas

Hale'iwa Marsh
'Uko'a Marsh
Loko Ea Fishpond
Kalou Marsh
Crowbar Ranch Pond
Dillingham Field Ponds
Waimea Wetland and Estuary
Hale'iwa Lotus Fields
Waialua Beach Road Lotus Fields

Guidelines pertaining to wetland areas are as follows:

- Preserve and maintain all North Shore wetlands and wildlife habitats. When considering future activities/construction in the vicinity of biologically sensitive areas such as wetlands, the preferred sequence will be to:
  - avoid ecologically sensitive areas entirely;
  - if not possible, minimize potential project impacts; and
  - if negative impacts are unavoidable, require mitigation that will offset the loss of resources.

- Support the restoration and protection of 'Uko'a Marsh. Protection can be achieved through fee acquisition, land banking, cooperative agreements with public agencies and private landowners, conservation easements, or other strategies.

- Support efforts to restore Loko Ea Fishpond as an interactive, productive and functioning aquaculture resource. Promote the development of a cultural learning center providing both visitors and residents opportunities to experience the unique environment around Loko Ea Pond and 'Uko'a Marsh. Possible activities may include tours of a working aquaculture farm, as well as cultural and environmental education programs that teach traditional and modern aquaculture techniques and the history of the Pond and its adjacent areas. Walkways extending north to 'Uko'a Pond could provide opportunities for interpretive nature walks.

3.1.2.4 NATURAL GULCHES, STREAMS, AND DRAINAGEWAYS

The ridges and valleys of the Ko'olau and Wai'anae Mountain Ranges form streams and natural drainageways which are integral elements of the open space on the North Shore. Several intermittent and perennial streams provide essential habitat for Hawai'i's flora and fauna, and function as scenic, recreational and cultural resources. To protect stream resources, major streams and stream corridors are designated as Preservation on the North Shore Sustainable Communities Plan Land Use Map.

Streams are also the primary means for carrying water from the inland areas to the ocean and are normally capable of handling runoff from normal rainfall amounts. During periods of intense rainfall, however, a number of these drainageways overflow (see Section 4.6).

Sedimentation as well as chemical and biological contaminants affect stream water (surface water) quality. Chemical and biological contaminants, as well as untreated sewage from leaking cesspools, also affect groundwater quality. The polluted surface and groundwater eventually reach the ocean and affect nearshore water quality.

Table 3-4 lists the major gulches and streams on the North Shore that are identified on the North Shore Sustainable Communities Plan Land Use Map.

Table 3-4
Major Gulches and Streams

Hāli'i Gulch	Anahulu River/Kawailoa Gulch
Makaleha Stream/Gulch	Waimea River
Kaukonahua Stream/Gulch	Kaiwiko'ele Stream/Gulch
Ki'iki'i Stream	Kamananui Stream/Gulch
Poamoho Stream/Gulch	'Elehāhā Stream/ Kauwalu Gulch
North Poamoho Stream/Gulch	Kalahopele Gulch
Paukauila Stream	Kalunawaika'ala Stream/Gulch
Helemano Stream/Gulch	Pakulena Stream/Gulch
Ōpae'ula Stream/Gulch	Kaunala Gulch
Kawailoa Gulch	Paumalū Stream/Gulch

Guidelines pertaining to natural gulches and drainageways are as follows:

- Preserve the aesthetic and biological values of the natural gulches, streams, and drainageways as part of the North Shore's open space system. Where feasible, establish wildlife habitat protective buffer zones and/or setbacks along rivers, streams, and shoreline areas. Where possible, provide public access to these open space and recreational resources.

- Minimize soil erosion, runoff of pesticides, fertilizers and other nonpoint source contaminants into streams, wetlands, and marine habitats. In addition to stream setbacks, utilize erosion control devices, integrated pest management plans, and revegetation of disturbed areas. Incorporate erosion control measures and best management practices, as recommended in the State Coastal Nonpoint Pollution Control Program, to prevent pollution of wetlands, streams, estuaries, and nearshore waters.

- Limit uses in these areas to conservation uses, compatible recreational uses such as hiking, traditional hunting, fishing, gathering, religious and cultural practices, and controlled diversion for agricultural purposes. Avoid development in ecologically

sensitive areas; if activities are allowed, minimize impacts and implement mitigative measures that will fully offset any loss of resources.

- Preserve and maintain the natural streams and drainageways within the developed areas by designating them as part of the open space system. To the extent possible, limit any modifications to natural gulches and drainageways, unless they are necessary for flood protection, to preserve water quality and protect aesthetic and biological resources.

- If modifications are necessary, mitigate impacts on biological habitats by using stream-side vegetation, rip-rap boulder lining of steam banks, v-shaped bottom channels to maintain a stream flow during low rainfall periods, and other designs to promote aeration.

- Integrate planned improvements to the North Shore drainage system into the regional open space network by emphasizing the use of retention basins and recreational access in the design approach.

3.1.2.5 AGRICULTURAL AREAS

Preservation of agricultural areas is essential to promoting agriculture and maintaining the scenic open space features and rural character of the region. In addition to the Community Growth Boundary, policies and guidelines are established to protect agricultural lands from development. Policies and guidelines pertaining to agricultural areas are listed in Section 3.2 relating to Agriculture.

3.1.2.6 PARKS

Parks provide important open space areas to meet the recreational needs of the North Shore residents and island-wide visitors. While beach parks serve island-wide needs, parks within the community meet the recreational needs of North Shore residents. In addition to meeting recreational needs of the residents and visitors, parks play a major role in preserving the open space setting on the North Shore. Policies and guidelines on parks are included in Section 3.3 relating to Parks and Recreation.

3.1.2.7 SCENIC RESOURCES AND SCENIC VIEWS

With its vast open spaces, scenic shorelines, and the backdrops of the Waiʻanae and Koʻolau Mountain Ranges and the coastal *pali*, the North Shore is blessed with an abundance of scenic resources.

Panoramic views throughout the region are identified on the Open Space Map. The significant scenic views that should be protected and enhanced include the following:

- Views of the Waiʻanae and Koʻolau Mountains, the Pacific Ocean and shoreline, Waialua and Haleʻiwa Towns from Kamehameha Highway and Kaukonahua Road as one enters into the North Shore.

- *Mauka* views of the Waiʻanae Mountains from Farrington Highway, Kaukonahua Road, Kamehameha Highway, and Weed Junction.

- Stationary views from the shoreline between Kaʻena Point and Makaleha Beach.

- Views of the Waiʻanae Mountain Range and agricultural fields from Crozier Drive.

- *Makai* views of Kiʻikiʻi Stream to Kaiaka Bay from Farrington Highway near Thompson Corner.

- *Makai* view of open space to Puʻuiki Beach Park from Puʻuiki Street and cane haul road crossing.

- *Makai* views along Haleʻiwa Road into Haleʻiwa Aliʻi Park, Haleʻiwa Boat Harbor and Haleʻiwa Beach Park.

- Stationary *mauka* and *makai* views from Kaiaka Bay Beach Park, Haleʻiwa Aliʻi Beach Park and Haleʻiwa Beach Park.

- Views of Kaiaka Bay from Haleʻiwa Road at Paukauila Stream.

- *Mauka* views along Kamehameha Highway of Anahulu Stream and Loko Ea Pond.

- Intermittent *makai* views from Kamehameha Highway between Kawailoa and Sunset Beach.

- Stationary views from beach parks and access areas from Kawailoa to Waialeʻe Beach Park.

- *Mauka* views of the Koʻolau Mountains and p*ali* along Kamehameha Highway from Haleʻiwa to Waialeʻe.

- Views from the road pullover above Waimea Bay, from the shoreline at Waimea Bay and from the coral formation at Pūpūkea Beach Park.

- *Mauka* and *makai* views of Waimea Valley and Bay from the Kamehameha Highway bridge over the Waimea River.

- Lateral views from Pua'ena Point.

- Lateral views from Pūpūkea Beach Park.

- Panoramic view from the area near the hairpin turn on Kawailoa Drive.

- Panoramic view of the coast from Pūpūkea Heights.

- View from Pu'u o Mahuka Heiau State Monument.

- *Mauka* views from nearshore waters.

Guidelines pertaining to scenic resources and scenic views are as follows:

- Conduct planning with attention to preservation of natural open space, protecting coastal and *mauka* views from public roadways, and conserving important viewsheds.

- When view reductions may come from agricultural activities which intrude into viewplanes or otherwise degrade or diminish scenic qualities, the protection of roadway views should be balanced with the operating requirements of agriculture.

- Evaluate the impact of land use proposals on the visual quality of the landscape, including viewplane and open space considerations.

- Site new antennas, telecommunication equipment and alternative energy systems in appropriate locations to minimize their impact on visual resources. Encourage site clustering and techniques that blend the equipment into the natural landscape.

- Discourage the use and installation of overhead utility lines and poles. Strong consideration should be given to placing replacement and new transmission lines underground. Undergrounding utility lines will enhance viewplanes and increase highway safety. Whenever possible, relocate or place underground overhead utilities that significantly obstruct public views. If unavoidable, locate any future overhead utilities on the *mauka* side of the public coastal highway.

- Minimize the adverse effects of artificial lighting on wildlife and human health by balancing the need of outdoor lighting for night utility, security, and desire for reasonable architectural expression with the need to conserve energy and protect the natural environment.

- Adopt outdoor night lighting standards that encourage efforts to minimize glare and stray light, and reinforce the differences between urban and rural communities.

3.1.2.8 UTILITY CORRIDORS AND GREENWAYS

Utility corridors and greenways are required to provide for a distribution system throughout the region. Where located in settlement areas, these corridors may provide for greenways that can serve as pedestrian or bicycle routes, if issues of safety, liability, and maintenance can be adequately addressed.

Guidelines pertaining to utility corridors and greenways are as follows:

- Provide sufficient easement width for the major trunk lines and transmission lines for utility systems, when their alignment is not within a road right-of-way, to permit the growth of trees within the easement.

- When overhead transmission lines are located within or adjacent to a road right-of-way, there should be sufficient width to permit the growth of trees adjacent to the transmission line, consistent with the applicable operations, maintenance, and safety requirements. The purpose of the landscaping is to divert attention from the overhead lines and, preferably, obscure views of the overhead line from the travelway and adjacent residential areas.

- Permit the use of utility easements for pedestrian and bicycle routes. Encourage coordination between utility companies, landowners, pertinent agencies, and the community to ensure that safety, liability, and maintenance issues are adequately addressed.

- Encourage the use of indigenous vegetation that is slow growing and thus minimizes the need to use herbicides for vegetation control.

- Promote technologies that support alternative energy sources, including solar, wind, and wave power. Allow community and agency review of individual proposals to ensure compatibility and suitability.

3.1.3 Relation to Open Space Map and Land Use Map

The following areas shown on the Open Space Map and Land Use Map in Appendix A are components of the regional open space system:

Mountain and Agricultural Areas. Mountain areas, including areas within the State Conservation District, are designated as Preservation and are located outside of the Community Growth Boundary. Agricultural lands outside and within the Community Growth Boundary are shown.

Natural Gulches and Drainageways. Gulches and streams outside and within the Community Growth Boundary are indicated for preservation to maintain proper drainage functions.

Shoreline Areas and Parks. Shoreline parks and district parks are shown. Neighborhood parks within the residential areas are not shown.

Panoramic views. Continuous and intermittent panoramic views are identified on the Open Space Map. Other significant scenic views identified in Section 3.1.2.7 are not shown.

3.2 AGRICULTURE

Agricultural lands are a key component of the North Shore's rural character. Cultivated fields extending towards the mountains significantly contribute to the form and character of the North Shore's rural landscape and the visual qualities that the region is known for. The protection of agricultural lands and agricultural uses, together with the assurance of a thriving agriculture industry, is essential to retaining the rural character and scenic open space features that are so valued by North Shore residents and visitors.

Nearly 45,000 acres, or about 60 percent, of the 77,000 total acres of land within the North Shore Sustainable Communities Plan region are located within the State Agricultural District. This includes the plateaus that extend north from Helemano Plantation towards Mokulēʻia and Sunset Beach, to the areas bordering Haleʻiwa and Waialua Towns. Of the 45,000 acres, around 20,000 acres are considered high-quality agricultural lands suitable for commercial cultivation of crops, with the balance providing agricultural land for smaller-scale, less-intensive forms of agriculture. In general, productive agricultural lands include lands designated "Prime," "Unique," or "Other" by the State ALISH (Agricultural Lands of Importance to the State of Hawaiʻi) system, rated "A" or "B" by the Land Study Bureau (LSB), and which have irrigation sources or other enabling infrastructure. On the North Shore, the most productive agricultural lands are located near or below the Wahiawā Reservoir Ditch. Most of these lands are

favorable for cultivation because they are well-drained and generally free of stones; nearly level or gently sloping with good machine tillability; have deep soils and adequate sunlight; served by an extensive agriculture infrastructure network already in place (roads, irrigation and power to drive water pumps); and are located within reasonable trucking distance to serve local markets and for overseas shipping. Less productive lands include lands with steep slopes, lands at higher elevations where moisture/irrigation cannot be controlled, and lands with lower-rated soils. These include some of the Mokulēʻia, Kemoʻo and Waimea fields and fields in the foothills of the Koʻolau Mountain Range.

Following the decline of the corporate sugar and pineapple industries during the 1990s, large acreages of agricultural lands that were historically controlled by the plantations became available for other uses, creating new opportunities for smaller-scale, entrepreneurial diversified agriculture ventures. In contrast to the plantation days, the agriculture industry on the North Shore is currently comprised mainly of small farms, with a few larger, corporate farms (e.g., Pioneer Hi-Bred International). While large portions of the agricultural land remain in the ownership of Dole Food Company and Kamehameha Schools, most of it is now leased to a number of farmers growing a variety of products.

Some of the crops that are being successfully grown on the North Shore include coffee, papaya, banana, lychee, mangoes, truck crops, taro, tropical flowers, cattle feed, and seed corn. Small-scale commercial forestry and ranching, including free range cattle, has been initiated at the upper elevations where intensive cultivation of crops is not feasible. Aquaculture, which contributes to the diversification of the agricultural base and provides additional opportunities for economic development, occurs at specific sites in Mokulēʻia, Haleʻiwa and Kawailoa. Continued cleanup of the former Dillingham Quarry site in Mokulēʻia and further expansion of existing aquaculture operations in the area would support the future growth of the aquaculture industry. As diversified agriculture continues to develop and adapt to changing market conditions, other suitable agricultural crops and uses may be introduced in the future.

The successful development of a viable agriculture industry on the North Shore provides residents with jobs and economic development opportunities that foster a connection with the land. It can also increase the production of locally grown foods and products, which may encourage greater consumption of local agricultural products, contributing to increased self-sufficiency and a reduction in Oʻahu's dependency on imported foods. More importantly, it ensures that land designated for agriculture remains in active agricultural production and is not developed for higher value uses (such as housing and commercial development). Like other rural communities, the North Shore has experienced a steady increase in land values due to a growing demand by individuals seeking a rural lifestyle. With rising land values affecting agriculture's profitability, many landowners have been seeking alternative development schemes that involve higher-intensity uses and greater economic returns, making agricultural lands increasingly vulnerable to nonagricultural development. To minimize the market

pressures to subdivide agricultural lands into large-lot, rural-style estates where agriculture is no longer the primary land use, agricultural lands need to be protected and dedicated for agricultural use and the economic barriers that impede the industry's growth need to be addressed. Appropriate incentives for maintaining the long-term availability of important agricultural lands and industry development should be explored, designed, and implemented as high priority action items by pertinent agencies and parties.

Lake Wilson (located within the Central O'ahu Sustainable Communities Plan area) serves as the reservoir for the Wahiawā Irrigation System and is the primary and irreplaceable source of irrigation water for the majority of the productive agricultural lands in the North Shore area. The provision of high-quality irrigation water from Lake Wilson greatly enhances agricultural productivity and crop diversity.

Agricultural Support Facilities. In addition to the cultivation of products, agricultural land uses also include the related industrial and commercial activities that support crop production and sales. Agricultural support activities are an essential part of the industry, and include crop storage, processing, packing, and manufacturing of products, distribution facilities, and agriculturally related administrative, management, marketing, and sales facilities. These support activities are directly dependent on crop production and need to be located on Agriculture-designated lands in close proximity to the activity it serves.

While certain agricultural support facilities may require large structures and base-yard operations, the overall nature of agricultural support activities differs from typical forms of industrial and commercial uses and relates harmoniously with adjacent agricultural uses. The consolidation of agricultural support facilities in designated areas will promote the cost-efficient use of existing infrastructure and prevent the urbanization of productive agricultural lands. Potential facilities to be located within the designated support areas may include a regional agricultural wholesale and distribution center with processing and packing plants and warehouse spaces, a vacuum cooling plant and refrigerated storage, a fruit fly disinfestation facility, and maintenance facilities for farm equipment.

Agriculture-Based Tourism. Agriculture-based tourism is an alternative revenue-generating activity that combines education about agricultural products with recreation and the experience of interacting with the land and the grower. It involves visiting a working farm or agricultural venture to enjoy, learn about or participate in the operation, and may include activities such as farm tours with retail sales of locally grown produce, hunting, fishing, horseback riding and/or bicycling tours, farmers' markets, restaurants featuring regional cuisine, and agricultural fairs and festivals. By providing an additional revenue source, such visitor-related activities can supplement farm incomes and contribute to the economic viability and stability of the farm. Overnight visitor accommodations on agricultural lands are not appropriate.

3.2.1 Policies

The following policies are applicable to agricultural lands:

- Protect all productive, high-value agricultural lands, regardless of current crop production capabilities, from uses that would undermine or otherwise irreversibly compromise their agricultural potential and crop production capabilities.

- Promote the long-term viability of diversified agriculture on the North Shore and ensure the continued productive use of the land.

- Maintain a healthy and competitive industry that supports a range of different types and scales of agriculture.

- Ensure that agriculture is the primary use of agricultural lands. Prohibit the improper use of agricultural lands, including the development or subdivision of agriculturally designated and zoned lands for residential and other nonagricultural uses, unless accessory to agricultural use. Do not allow token farming (i.e., "fake farms") or ranching as a ruse to exploit agricultural land.

- Maintain the current agricultural land use and zoning designation of agricultural lands within the Community Growth Boundary that are in the State Agricultural District and zoned for agriculture, except for limited "infill" areas contiguous to Hale'iwa and Waialua Towns that are designated for future residential.

- Minimize soil erosion, pesticide and fertilizer runoff, and other nonpoint source contaminants that flow from agricultural lands to protect streams, wetlands and marine habitats.

- Maintain and upgrade the existing agricultural infrastructure (irrigation system and roads).

- Encourage the development of regional agricultural support facilities at Waialua and Kawailoa through the use of economic and tax incentives.

- Develop and enforce a stringent set of criteria that define the minimum requirements for the meaningful and credible use of agricultural land.

- Encourage landowners to provide affordable long-term leases to farmers. Incentives for landowners may include subdivisions with reduced infrastructure requirements,