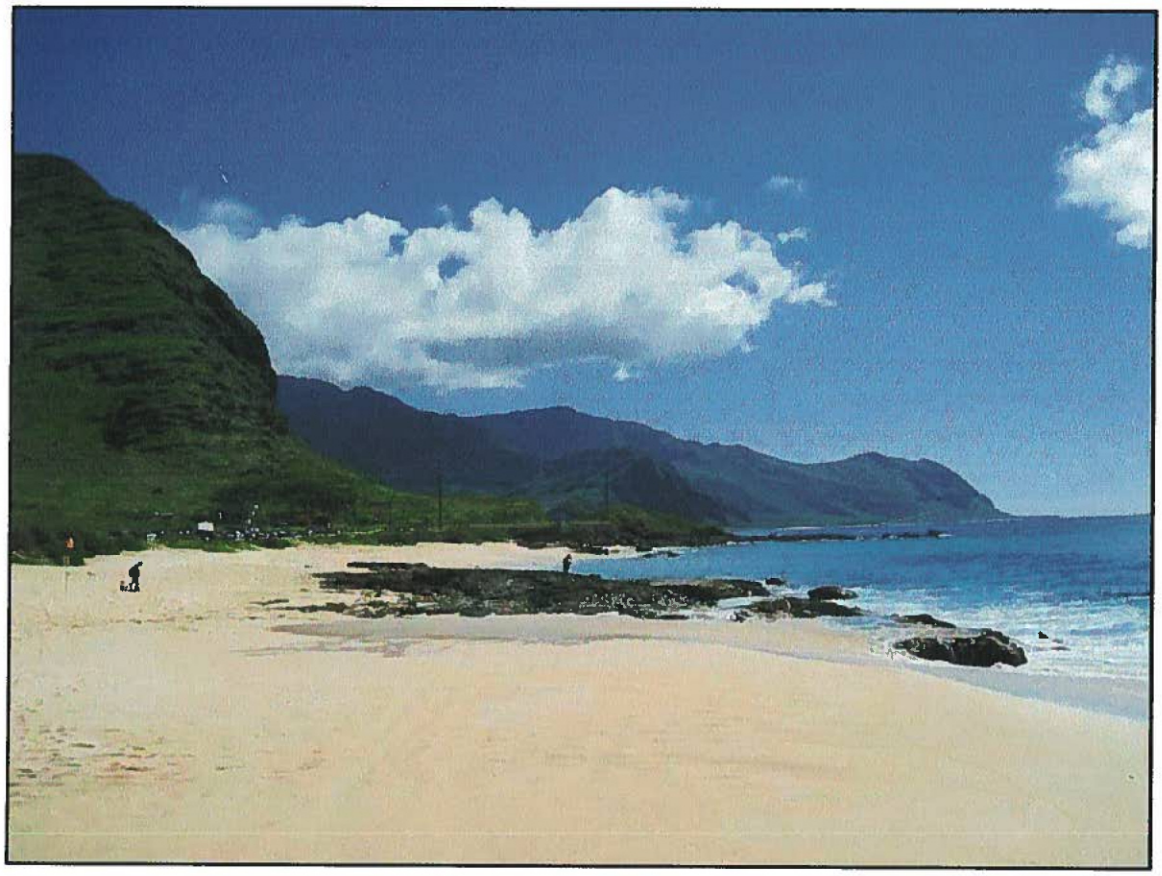
WAI'ANAE
SUSTAINABLE COMMUNITIES PLAN



Department of Planning and Permitting
City & County of Honolulu

FEBRUARY 2012

EXHIBIT A, BILL 50 (2011), CD2

WAI'ANAE
SUSTAINABLE COMMUNITIES PLAN

Prepared for:
Department of Planning and Permitting
City & County of Honolulu

Prepared by:
Townscape, Inc.

FEBRUARY 2012

WAI'ANAE SUSTAINABLE COMMUNITIES PLAN

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WAI'ANAE SUSTAINABLE COMMUNITIES PLAN

PREFACE

The Wai'anae 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 a set of eight community-oriented plans intended to help guide public policy, investment, and decision-making over the next 25 years. Each of the plans addresses one of eight planning regions of O'ahu, responding to specific conditions and community values of each region. The map in Chapter 1 illustrates these planning regions.

Of the eight documents, the plans for 'Ewa and the Primary Urban Center, to which growth and supporting facilities will be directed over the next 25 years, have been entitled "Development Plans" (DPs). They will be the policy guide to development decisions and actions needed to support that growth.

Plans for the remaining six areas, which are envisioned as relatively stable regions in which public programs will focus on supporting existing populations, have been entitled "Sustainable Communities Plans" (SCPs) in order to appropriately indicate their intent.

The Plan for the Wai'anae District is a Sustainable Communities Plan. This Plan's vision statement and supporting provisions are oriented to maintaining and enhancing the region's ability to sustain its unique character, current population, growing families, rural lifestyle, and economic livelihood, all of which contribute to the region's vitality and future potential.

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, whose primary purpose is to provide policy recommendations for creating a sustainable Hawai'i. In 2007, greenhouse gas emissions goals for 2020 were enacted. 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 current Development Plans and Sustainable Communities Plans were adopted. This setting raises the question of the role of the Development Plans and Sustainable Communities 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 is the one that 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.

INTEGRATING PRINCIPLES OF SUSTAINABILITY INTO DECISION-MAKING PROCESSES

A community that can successfully manage change will flourish and prosper in the future. For this plan, this means ensuring that planned growth and development respects and adheres to the principles of sustainability.

These principles of sustainability are intended to promote the long-term health of the land and its people, and its community resources for current and future generations:

- Protect agricultural lands, physical and biological resources, and where appropriate, open spaces and view planes.
- Use resources so they are not depleted, permanently damaged, or destroyed.
- Encourage planning, development, and construction technologies that minimize negative environmental impacts.
- Respect the cultural, social, and physical resources that shape and reinforce residents' sense of community and quality of life.
- Guide the process of change. Strive to make decisions based on an understanding of the effects such decision will have on the land and community resources.
- Strive for balance between economic prosperity, social and community well-being, and environmental stewardship.
- As an integral part of the planning process, consider the long-term impact of proposed actions and prepare plans that can accommodate the needs of future generations accordingly.

P.1 THE SUSTAINABLE COMMUNITIES PLAN PROCESS

This document is the culmination of a planning program led by the City and County of Honolulu's Department of Planning and Permitting. This planning process 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.

P.2 THE 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 goals, objectives, policies, guidelines, and regulations. The General Plan forms the first tier of this system. First adopted by City Council resolution in 1977, the General Plan is a relatively brief document, consisting primarily of one-sentence statements of goals, 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, 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. Under the current revision program, the Primary Urban Center and 'Ewa plans retain the title "Development Plan." The plans for the other regions are now referred to as "Sustainable Communities Plans" to reflect their policy intent.

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 principle means for implementing the City's plans. These ordinances are required to be consistent with the General Plan, the Development Plans, and each other.

In addition to these three Charter-mandated tiers, the Development Plans are supplemented by two planning mechanisms that are not required by the Charter: 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 the water system, 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 (hereinafter 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.

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 and require implementing ordinances (the "third tier" discussed in Section P.2 above), they guide the regulators and decision-makers who are the implementers. 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 decisions made by the private sector. Consistent with the Charter's description of the Development Plans as "conceptual schemes" and "a policy guide," the language, maps, and illustrations of the Development Plans should not be deemed to be regulatory.

P.4 WHY THE DEVELOPMENT PLANS HAVE BEEN REVISED

As amended in 2000, this Plan is to be reviewed every five years to:

1. Measure progress toward achieving the Vision, Policies, and Guidelines, and determine if they are still appropriate;
2. Identify land use development trends and potential new development proposals that have implications for this Plan and the General Plan;
3. Identify relevant, significant issues that the previous Plan did not adequately address;
4. Propose modified or new Policies and Guidelines for those on which satisfactory progress has not been achieved, and for emerging or new needs that require attention.

WAI'ANAE SUSTAINABLE COMMUNITIES PLAN

EXECUTIVE SUMMARY

The District of Wai'anae is characterized by rugged mountains and beautiful welcoming beaches. Its people have historically been as rugged as its mountains and as welcoming as its beaches. In times of old and into the present-day, the people of Wai'anae have been independent, but have also allowed their home to be a place of refuge. This Plan seeks to share the people of Wai'anae's desire to maintain their home's rural character, built upon a Hawaiian cultural foundation, added to by various immigrant cultures, while allowing minimal increases of housing, resort, and light industrial development. Future development in Wai'anae should encourage agriculture, renewable energy generation, green technology, ecosystem and cultural site restoration, and economic development, all for the benefit of future generations. If development does not meet these criteria, then it should not be approved.

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

Chapter 1: Wai'anae's Role in O'ahu's Development Pattern defines the region's role and identity within the overall framework of islandwide planning and land management.

Chapter 2: The Vision for the Future of the Wai'anae District summarizes the community's vision for the future of the region, and describes important elements of that vision.

Chapter 3: Land Use Polices 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 provides Policies and Guidelines needed to support the planned land uses.

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

Appendix: The Conceptual Maps illustrate the long-range Vision for the Wai'anae District and the major land use, open space, and public facility Policies that are articulated in the Plan.

Summarized below are the key recommendations contained in each of these chapters.

CHAPTER 1: WAI'ANAE'S ROLE IN O'AHU'S DEVELOPMENT PATTERN

Consistent with the directed growth policies of the City's General Plan, the Wai'anae District is targeted for very little growth over the 25-year timeline of this Plan. The focus of the Plan is thus preservation of the rural landscape and of the rural lifestyle of the Wai'anae District's people.

It is also noted in this chapter that land development and population trends in the Wai'anae District over the past 40 years are such that "keeping Wai'anae country" will be a difficult policy to implement. Since 1950, this District's population has increased from only 7,000 people to almost 50,000 people by 2010. Together with this population growth, there has been a tremendous growth in all forms of urban and suburban development, including residential, commercial, industrial, and public infrastructure and facilities.

Wai'anae is the most "developed" of O'ahu's rural districts. Without strong City policies and actions, this District may soon lose its remaining rural qualities.

CHAPTER 2: THE VISION FOR THE FUTURE OF THE WAI'ANAE DISTRICT

This chapter presents the overarching concepts and goals of the Wai'anae Sustainable Communities Plan. It includes the **VISION STATEMENT** for the long-range future of the Wai'anae District, a brief summary of the **COMMUNITY PARTICIPATION PROCESS** by which the Wai'anae Sustainable Communities Plan was updated from 2007 to 2010, and a description of the 10 **VISION ELEMENTS**.

The **VISION STATEMENT**:

THE VISION FOR THE FUTURE OF THE WAI'ANAE DISTRICT IS THAT ALL MEMBERS OF OUR COMMUNITY – FROM THE KŪPUNA (GRANDPARENTS/ ELDERS) TO THE MO'OMO'O (CHILDREN, INCLUDING THOSE YET UNBORN) HAVE THEIR ESSENTIAL NEEDS MET.

We envision our physical environment as rural and pristine, protected from degradation so that we can enjoy her elements: the kai (salt waters), wai (fresh waters), ea (air, sky and heavens), 'āina (land, soil), and all of the animate and inanimate aspects of nature which make up our home. We have access to our mountains, valleys, and sea. We have a variety of economic opportunities. Lastly and most importantly, our children are surrounded and guided by their strong, kind, and loving 'ohana (family).

The **Vision Elements** include the following:

1. Recognize the traditional *ahupua'a* of the Wai'anae District and adapt the *ahupua'a* concept as a framework for land use and open space planning
2. Delineate the four major land use types: Preservation Lands, Agricultural Lands, Rural Community Areas, and Coastal Lands
3. Restrict coastal urban, suburban, or resort development *makai* of Farrington Highway
4. Preserve all lands north of Kepuhi Point as open space lands
5. Preserve and restore streams and stream corridors
6. Preserve and protect cultural sites and cultural landscapes
7. Improve transportation systems within the District
8. Designate, plan, and develop Town Centers and Community Gathering Places for Wai'anae, Nānākuli, Lualualei, and Mākaha
9. Develop and support community-based businesses
10. Government agencies should partner with community-based organizations in order to better manage Wai'anae's natural and cultural resources

CHAPTER 3: LAND USE POLICIES AND GUIDELINES

This chapter of the Wai'anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal types of land use that should be provided for in the District. The Vision for the future of the Wai'anae District described in Chapter 2 will be implemented through the application of these Policies and Guidelines.

The first section provides an overview of the existing conditions in the Wai'anae District – the land use, population, economics, and environment. The other 11 sections deal with each of the major types of land use within the District.

The principal land use Policies are summarized as follows:

3.2 Open Space and Important Views

- Do Not Allow Significant Negative Impacts on Large Open Spaces
- Address Project Impacts on Open Space
- Do Not Allow Significant Negative Impacts on Important Public Views
- Address Project Impacts on Important Public Views
- Limit Urban Development
- Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Open Spaces
- Minimize Outdoor Lighting

3.3 Coastal Lands

- Do Not Allow New Coastal Development
- Incrementally Acquire Coastal Properties
- Discourage Shore Armoring
- Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Coastal Lands
- Prohibit Projects that Negatively Impact Coastal Lands
- Prevent the Introduction of Alien Species
- Maintain Beaches/Sand

3.4 Mountain Forest Lands

- Protect Mountain Forest Lands
- Develop Forest Restoration Program
- Do Not Grant Permits that Negatively Impact Mountain Forest Lands
- Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Mountain Forest Lands
- Protect Rare and Endangered Species
- Prevent the Introduction of Alien Species
- Allow Public Access to Hiking Trails
- Develop Wildfire Management Plan

3.5 Streams and Floodplains

- Establish Stream Conservation Corridors
- Restrict Uses Within the Stream Conservation Corridors
- Establish Minimum In-Stream Flow Standards
- Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Streams and Stream Corridors

3.6 Historic and Cultural Resources

- Preserve Major Concentration of Cultural Sites and Allow Access for Cultural Practices
- Do Not Allow Development that Negatively Impacts Important Cultural Sites or Access to such Sites
- Government Agencies Should Partner with Community-based
- Organizations in order to Better Manage Wai'anae's Cultural Sites
- Create Signage for Cultural Sites
- Protect and Allow Access for Cultural Practices at Sites on City-Owned Lands
- Protect and Allow Access for Cultural Practices at Sites on Federal, State, or Private Lands
- Conduct a Thorough Cultural Survey of the Wai'anae District

3.7 Agricultural Lands

- Maintain the Boundary for Agricultural Lands
- Support Agriculture through Zoning Regulations and Tax Assessments
- Limit the use of "Agriculture" Land to Agriculture and other Compatible Land Uses
- Prohibit Incompatible Land Uses of "Agriculture" Land
- Coordinate Farmer's Markets and Other Low-Cost Marketing Outlets

3.8 Residential Land Use

- Do Not Increase Lands Designated "Residential"
- Coordinate with the Department of Hawaiian Home Lands (DHHL)
- Preserve Agricultural Lands
- Support Home-Based Businesses
- Although Allowed to be Exempt by State Law, 201 H Projects Should Meet Wai'anae Sustainable Communities Plan Guidelines

3.9 Commercial and Industrial Uses

- Encourage the Continuation of Existing Commercial Establishments
- Encourage Establishment of Commercial Businesses that Serve the Community
- Support the Continued Viability of the Mākaha Resort
- Prohibit "Big Box" Stores
- Encourage Light Industrial Businesses
- Do Not Allow Heavy Industry

3.10 Country Towns, Rural Community Centers and Gathering Places

- Establish a Phased Development Program

3.11 Parks and Recreational Areas

- Develop Adequate Public Parks
- Prohibit More Golf Courses That Compete with Agriculture or Open Space Resources
- Plan for a System of Hawaiian Cultural and Educational Parks

3.12 Military Land Use

- Preserve and Transition Military Lands to Civilian Use
- Organize and Implement Cooperative Programs

CHAPTER 4: PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

This chapter of the Wai'anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal infrastructure systems that the Wai'anae Community would like to see provided for the District.

The following Policies are overarching to many of the infrastructure systems included in this chapter:

- The latest technology that allows the Wai'anae Community to be as sustainable, or "green" as possible, should be implemented whenever possible (while remaining consistent with other community objectives).
- Rural Infrastructure Standards should be considered and, where possible, developed by the City. The goal of this recommendation is to allow the area to maintain its country feel, with features such as narrower roads, and still ensure that they would be safe and the City would maintain them.

The principal infrastructure Policies are as follows:

4.1 Transportation Systems

- Implement Farrington Highway Safety Improvements for Pedestrians and Motorists
- Beautify Farrington Highway
- Establish an Emergency Bypass Road
- Enhance Public Transportation
- Encourage Other Modes of Transportation

4.2 Potable and Nonpotable Water Systems

- Implement Watershed Protection Strategies to Improve Forest Health & Perennial Stream Flows
- Encourage Water Conservation
- Diversify Water Supply, Matching Quality with Use
- Support the Goals and Objectives of the Adopted Wai'anae Watershed Management Plan

4.3 Wastewater Collection and Treatment Systems

- Continue Phased Program for Replacement of Old Sewer Lines
- Improve the Wai'anae Wastewater Treatment Plant
- Coordinate with DHHL regarding Sewer Connections

4.4 Electrical Power and Communications

- Reduce the Visual Impact and Improve Safety of Utility Lines and Poles and Reliability of Service
- Encourage the Development of Alternative Energy Sources

4.5 Drainage Systems

- Develop Wai'anae District Local Drainage Improvements Plan and Program
- Establish a Sediment Control Program

4.6 Solid Waste Handling and Disposal

- Enforce Anti-Dumping Laws
- Encourage Green Waste Composting

4.7 Civic, Public Safety and Education Facilities

- Improve Quality of Facilities and Adequacy of Staffing
- Selection of Sites for New Schools should comply with the WSCP Criteria
- Consider Multi-Purpose Function of Schools
- Encourage Charter Schools
- Increase Ambulance Service
- Provide Adequate Emergency Shelters

4.8 Health Care Facilities

- Support Quality, Community Health Care Facilities
- Assess the Need for New Health Care Facilities and Services

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 5.2 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.

APPENDIX: THE CONCEPTUAL MAPS

This appendix contains three colored maps that illustrate some of the Plan's Policies and Guidelines. These maps are intended to be illustrations of the text, and therefore should there be any conflicts between the maps and the text, the text shall govern.

1. WAI'ANAE'S ROLE IN O'AHU'S DEVELOPMENT PATTERN

The General Plan for the City and County of Honolulu sets forth broad policies for the future harmonious growth and development of the island of O'ahu. Revised in 2002, the General Plan's section on "Population" establishes several key growth management policies for the rural districts of O'ahu, including the Wai'anae District:

> ***"Objective C***
> ***To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.***
>
> *Policy 1:* *Facilitate the full development of the primary urban center.*
>
> *Policy 2:* *Encourage the development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe areas to relieve development pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.*
>
> *Policy 3:* *Manage physical growth and development in the urban-fringe and rural areas so that:*
>
> *a. An undesirable spreading of development is prevented; and*
>
> *b. Their population densities are consistent with the character of development and environmental qualities desired for such areas."*

The map on the following page demonstrates the General Plan's intended development pattern, as well as the boundaries of the eight Development Plan Areas for O'ahu.

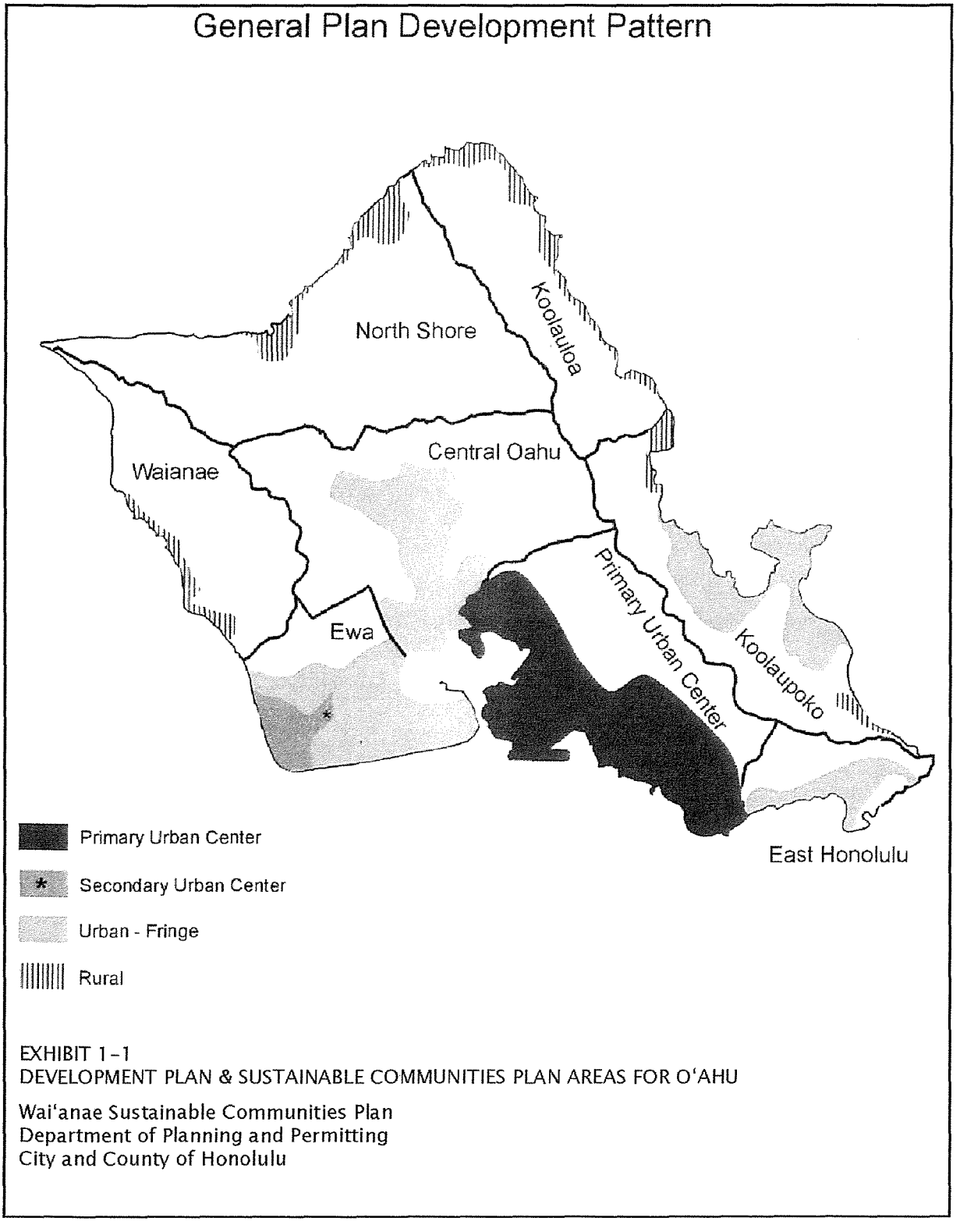


EXHIBIT 1-1
DEVELOPMENT PLAN & SUSTAINABLE COMMUNITIES PLAN AREAS FOR O'AHU

Wai'anae Sustainable Communities Plan
Department of Planning and Permitting
City and County of Honolulu

The 1989 Amendments to the General Plan included some important language on rural areas that applies to Wai'anae (Physical Development and Urban Design, Object D, Policy 4):

> *"Maintain rural areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses."*

Or, more simply stated, "keep the country, country."

Thus, the General Plan sets forth policies that emphasize the preservation of agriculture and rural land uses in Wai'anae, as well as in the other rural districts of the North Shore, Ko'olau Loa, and parts of Ko'olau Poko. The General Plan directs that Wai'anae's proportional share of O'ahu's 2010 population should be 4.0 percent in 2025. However, according to the 2000 U.S. Census, Wai'anae's population was 42,259, which represented 4.8% of O'ahu's total population of 876,156. The City and County of Honolulu's Department of Planning and Permitting now estimates that Wai'anae's proportion of O'ahu's population will be 4.9% in 2010, and will remain at 4.7% in 2035.

The community has expressed numerous concerns regarding population counts and projections for Wai'anae. To begin with, some believe that the most recent U.S. Census (2000) count for the District was low. This is primarily due to many homeless people not being counted. During the past five years, there has been a significant increase in the homeless population in Wai'anae, many of whom are from other areas of O'ahu. There is also a growing number of "hidden homeless" people – those who are living "doubled up" or "tripled up" with friends or family. This issue is discussed more in-depth in Chapter 3 (Section 3.1.2).

In addition, some residents have expressed concern with the General Plan's use of a distributive percentage for Wai'anae's population for two reasons. First, such population "quotas" have not been achieved and cannot be enforced. Second, if O'ahu's total population eventually reaches 1.5 million, then Wai'anae's "share" at 4% would be 60,000. The District's infrastructure cannot currently handle 60,000 people, and the rural character of the area would be lost. Thus, some community members believe that a maximum carrying capacity may need to be determined for the District. It would still be difficult to enforce a maximum capacity, but it could drastically limit new housing developments within the District.

Land development and population trends in the Wai'anae District over the past 40 years suggest that "keeping Wai'anae country" will be a difficult policy to implement. The Farrington Highway corridor in the District, from Nānākuli to Mākaha, is already heavily developed. This developed coastal zone is about 8 miles long, and varies in width from about 1/4 mile to over 1 mile. Land uses on the *mauka* side of Farrington Highway are typically suburban types of use rather than rural uses: single-family residential small lot development, multi-family residential development, shopping centers, a scattering of small commercial and industrial establishments, and various institutional and public uses including schools, health centers, fire and police stations, and a regional wastewater treatment plant. The *makai* side of the highway is dominated by beaches and beach parks, with some small subdivisions and a few larger apartment buildings. Recently developed residential subdivisions are expanding this coastal development strip into the rural farm valleys of the District.

Overall, important parts of the District's infrastructure are being stressed and overloaded, especially Farrington Highway, the sewer system, the public school system, and police and fire protection services.

The Wai'anae Sustainable Communities Plan addresses these core issues of preservation, growth, development, population, housing, infrastructure, and public facilities.

2. THE VISION FOR THE FUTURE OF THE WAI'ANAE DISTRICT

The purpose of Chapter 2 is to present the overarching concepts and goals of the Wai'anae Sustainable Communities Plan. Chapters 3 and 4 then provide the specific **Policies** and **Guidelines** that are intended to implement these ideas. This Chapter includes the following:

2.1 VISION STATEMENT for the long-range future of the Wai'anae District,
2.2 Summary of the COMMUNITY PARTICIPATION PROCESS by which the Wai'anae Sustainable Communities Plan was updated, and
2.3 Description of the 10 VISION ELEMENTS.

2.1 VISION STATEMENT

THE VISION FOR THE FUTURE OF THE WAI'ANAE DISTRICT IS THAT ALL MEMBERS OF OUR COMMUNITY – FROM THE KŪPUNA (GRANDPARENTS/ ELDERS) TO THE MO'OMO'O (CHILDREN, INCLUDING THOSE YET UNBORN) HAVE THEIR ESSENTIAL NEEDS MET. *Our physical environment is rural and pristine, protected from degradation so that we can enjoy her elements: the kai (salt waters), wai (fresh waters), ea (air, sky and heavens), 'āina (land, soil), and all of the animate and inanimate aspects of nature which make up our home. We have access to our mountains, valleys, and sea. We have a variety of economic opportunities. Lastly and most importantly, our children are surrounded and guided by their strong, kind, and loving 'ohana (family).*

2.1.1 Inside Our Vision

This Vision Statement comes from the longer passage below, which was developed by a group of Wai'anae's long-time community leaders who have been intimately involved in many of the community's planning efforts. It explains the deeper meaning of the Vision Statement and how it relates to the physical planning Guidelines and Policies found in this Plan:

> *"THE VISION FOR THE FUTURE OF THE WAI'ANAE DISTRICT IS THAT OUR MO'OMO'O (CHILDREN INCLUDING THOSE YET UNBORN) WILL BE ABLE TO HAVE THEIR ESSENTIAL NEEDS MET.*

"To fulfill this vision, we are called upon to keep in the forefront of our planning, the children of our future. All decisions made which impact the Wai'anae society, must be made with the children in the forefront of our minds, including:

"A child must have a safe and healthy physical environment in which to be raised; we must maintain our environment in as pristine condition as possible. It therefore behooves us to protect the physical environment from degradation which would deprive our children of the use and enjoyment of her elements: the *kai* (salt waters), *wai* (fresh waters), *ea* (air, sky and heavens), *'āina* (land, soil), and all of the animate and inanimate aspects of nature which make up this physical environment. Our children must have access to our mountains, valleys, and sea. Activities that threaten our environmental conditions or interfere with such access must be treated with the greatest caution, and if approved due to special circumstances, must have deadlines for which the activities will be discontinued and reversed in order to return the environmental conditions and accessibility to its earlier state.

"Interlaced within a child's physical environment is a social environment containing cultures, religions, history, family life, educational experiences, health, and healthy living conditions. Our children must be raised within a culture of caring which expresses respect for all peoples, encourages opportunities for love, compassion, kindness, and inclusiveness. Our children must be raised in environments of peace and righteousness - in *pono*. These environments include the child's needs for healthy relationships within family, neighborhoods, and wider *ahupua'a*.

"Opportunities for our children to have religious or spiritual guidance and the ability to identify their own chosen religious or spiritual followings (if any) without undue pressure from peers, institutions, or family members should be available to every child.

"Our children should be raised with a clear understanding of their history, and the legacy of the Native Hawaiian people and of the Hawaiian Nation. They must be given the opportunity to compare people's histories, to explore their own visions of their futures, to challenge authority, and to question 'conventional wisdom.'

"Our children must be raised in an environment of strong, kind, and loving families, and larger circles of support in an extended lei of guiding children by an extended *'ohana*.

"Our children must be given educational opportunities compatible with their ways or styles of learning. Their educational experiences should include literacy and oracy. It must include science and art, poetry and politics, physical and mental development, character building, and responsibility. Every child's educational challenge should be met with vigor and determination. Education must support a full lifetime of learning.

Education should be a community practice and not merely another bureaucratic function of a society.

"Our children should have immediate access to health and food resources: medicine and food from our environment to meet their physical as well as spiritual, emotional, and psychological needs. They should have knowledge of their own conditions, and have experience and opportunity in using a variety of medical and sustenance methods to meet their needs.

"All changes to the physical environment planned by the society must be done within this framework of the community vision."

2.1.2 Native Hawaiian Connection to the Land

The above Vision Statement also demonstrates many Wai'anae community members' desire to incorporate Native Hawaiian values into the Wai'anae Sustainable Communities Plan. The community contains a large percentage of people who identify themselves as at least partly Native Hawaiian or other Pacific Islander (62%), and many others who have lived in the area for a significant amount of time and have adapted to the local culture. The majority of community members involved in this Sustainable Communities Plan (SCP) review process strongly supported the idea of incorporating Native Hawaiian values into the Plan as much as possible. One long-time resident, who is of Native Hawaiian ancestry, wrote the following passage to describe the Native Hawaiian connection to the land and its suggested relation to this SCP:

"In the Native Hawaiian tradition, as shared by many indigenous peoples throughout the world, the earth is the foundation of life. It is the seat of spirituality, the source from which indigenous cultures and languages flourish. In ancient Hawai'i, the natural resources of the land and the sea provided food, medicine, shelter, and clothing, and formed the foundation of social and cultural life. For example, the various landforms found throughout Wai'anae have specific place names and *mo'olelo* (stories/legends) associated with them that give meaning to their existence and to those who live here. Thus, in many ways, natural and cultural resources are one and the same to Native Hawaiians.

"Given the special significance that the land and sea have for the Native Hawaiian people, and the strong commitment of the Wai'anae community to pay special regard to this significance in the planning for a sustainable Wai'anae community, the Policies and Guidelines presented in this Plan are intended to not only protect these resources, but where possible, enhance them."

2.2 COMMUNITY PARTICIPATION PROCESS

Both the original Wai'anae Sustainable Communities Plan (2000) and the updated Wai'anae Sustainable Communities Plan (2010) emerged through extensive and intensive **Community Participation Processes** led by the planning team. Development of the original Plan involved numerous meetings with various community groups and individuals. The SCP revision program continued this community involvement process.

The goal of both processes was to produce a Plan that is based on the community's Vision and is implementable, in that it presents realistic Policies and Guidelines that the various City agencies and private organizations can use to help make the Vision a reality.

The details of the Original Planning Process (1997 – 2000) and the Planning Process for the 5-Year Review (2007 – 2010) are included in the Technical Report (2010).

2.3 VISION ELEMENTS

1. Recognize the traditional *ahupua'a* of the Wai'anae District and adapt the *ahupua'a* concept as a framework for land use and open space planning
2. Delineate the four major land use types: Preservation Lands, Agricultural Lands, Rural Community Areas, and Coastal Lands
3. Restrict coastal urban, suburban, or resort development *makai* of Farrington Highway
4. Preserve all lands north of Kepuhi Point as open space lands
5. Preserve and restore streams and stream corridors
6. Preserve and protect cultural sites and cultural landscapes
7. Improve transportation systems within the District
8. Designate, plan, and develop Town Centers and Community Gathering Places for Wai'anae, Nānākuli, Lualualei/Mā'ili, and Mākaha
9. Develop and support community-based businesses
10. Government agencies should partner with community-based organizations in order to better manage Wai'anae's natural and cultural resources

These 10 **Vision Elements** emphasize some of the key goals of this Wai'anae SCP. Each of these Vision Elements is explained in the following pages:

2.3.1 Recognize the traditional *ahupua'a* of the Wai'anae District and adapt the *ahupua'a* concept as a framework for land use and open space planning

In traditional Hawaiian culture, the *ahupua'a* – a division of land that usually stretched from the fishing and gathering waters of the sea to the top of the mountains – provided the principal physical and social structure for the society. Each *ahupua'a* had its own name and carefully defined boundary lines. The *ahupua'a* boundaries were important and were respected.

To many Wai'anae residents, the *ahupua'a* land division system is primarily about values, about man living in nature and taking care of the land and the natural resources within their *ahupua'a*, also known as *mālama 'āina*. Native Hawaiian communities fed and housed themselves with that which they harvested from the ocean, agricultural fields, and forests within their *ahupua'a*. Thus, the *ahupua'a* is the ideal model of sustainability and self-sufficiency. Wai'anae residents want to make sure that the values and lessons of this ancient system and their ancestors are not lost, but are instead remembered and applied to their modern-day planning.

Contemporary regional planning concepts and methods that could incorporate these lessons include: Watershed Planning, Ecosystem Planning, and Town Center Planning. As such, *ahupua'a* planning could be a powerful tool for physical planning for areas such as Wai'anae, where the *ahupua'a* are strongly defined and still recognized by many of the residents. There are nine *ahupua'a* in the Wai'anae District, which are shown on the map on page 2-8:

- Nānākuli
- Lualualei
- Wai'anae
- Mākaha
- Kea'au
- 'Ohikilolo
- Mākua
- Kahanahāiki
- Keawa'ula

The *ahupua'a* of the Wai'anae Coast range in size from the great valley of Lualualei, which covers some 10,000 acres, to the relatively small *ahupua'a* of 'Ohikilolo, which is about 250

acres. It should also be noted that the Wai'anae "*moku*" extended across the Wahiawa plain and up to the ridgeline of the Ko'olau Mountains. During the 19th century ranching era and the early 20th century sugar plantation era in Wai'anae, the principal *ahupua'a* in terms of economic activity and population were Lualualei, Wai'anae, Mākaha, and Mākua. Archaeological research and oral histories indicate that all of the nine *ahupua'a* were settled by the early Hawaiians. Today, the four major populated *ahupua'a* include Nānākuli, Lualualei, Wai'anae, and Mākaha. It is interesting to consider the following:

- The major *ahupua'a* in the Wai'anae District are all physically distinct valleys with associated ridges and mountain areas, and are at the same time distinct and separate stream watersheds.

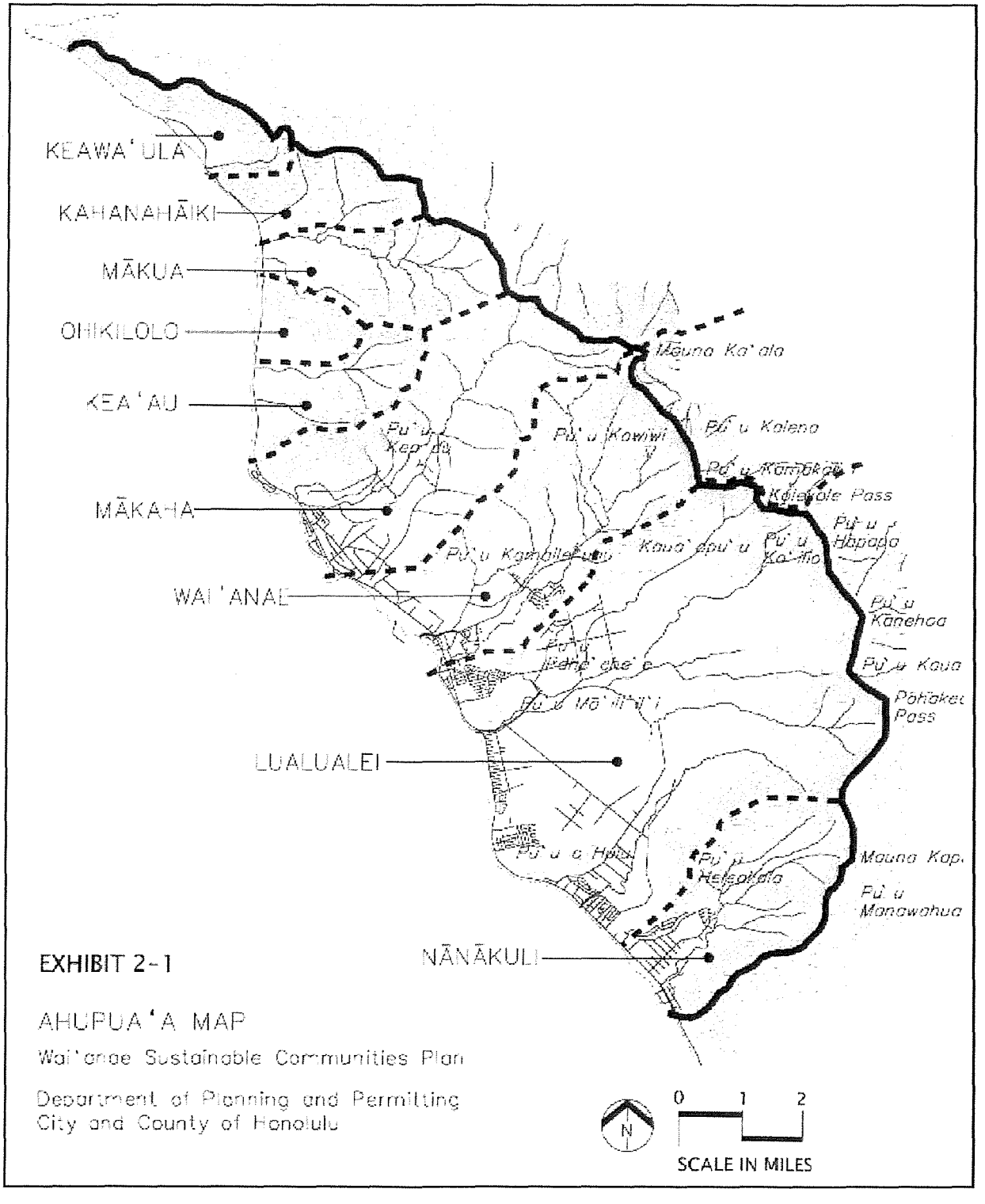
- Each of the major *ahupua'a* has a similar range of topographic/climatic zones that support similar ecosystems: a coastal/beach zone, a lower valley zone, an upper valley zone, dry valley walls, moister mountain slopes at the backs of the valleys.

- The major *ahupua'a* are to some degree identified with a particular subcommunity. This seems to be especially true of Nānākuli and is somewhat the case for Wai'anae, with its identifiable town center. The Lualualei *ahupua'a* has a diversity of development, including the village of Mā'ili, the farmlot communities along Hakimo Road and Lualualei Valley Road, and the two large U.S. Navy installations. Mākaha includes residential subdivisions near Farrington Highway, farmlots in the lower part of the valley, and the Mākaha Resort, Mākaha Towers, and Mākaha Estates developments in the central part of the valley.

The four major *ahupua'a* have different concerns and needs, and thus, the Wai'anae Sustainable Communities Plan must be flexible enough to take this into account. For example, the current land use and economic opportunities in Mākaha Valley are very different from the circumstances in the Lualualei and Nānākuli *ahupua'a*. As such, the land use policies and guidelines must allow for variance among the different *ahupua'a*.

The awareness and respect for boundaries continues to be an important part of the Wai'anae Coast culture even today. Many of the local people feel a strong identity with their *ahupua'a*, and its distinct community fabric. In 1994, the Wai'anae Coast Coalition, with the support of Queen Liliuokalani Children's Center Nānākuli Unit, began to organize "*Ahupua'a* Councils" for the four major populated valleys: Nānākuli, Lualualei, Wai'anae, and Mākaha. Throughout the initial years of formation, these Councils developed a way of working together through the "Wai'anae Coast Coalition," a community-based organization that consisted of representatives from many of the principal community groups and social service agencies in the District. However, since that time they have waned in membership and activities. It is recommended that these Councils be re-established and continue their important community connecting work.

Clearly then, the concept of the *ahupua'a* has great significance and importance in the Wai'anae District – in terms of natural landscape, historical patterns of land use, traditional social and cultural practices, contemporary customs, and recent community organization. It is thus important to adapt the *ahupua'a* concept into the land use planning process for the Wai'anae Coast. The primary way in which this concept could be implemented is through organizing residents of each *ahupua'a* by re-establishing the Ahupua'a Councils, and using their mana'o (knowledge, advice) for deciding the future of their community. Additionally, all land use, town center, and environmental planning should use the values of the Ahupua'a Concept as a guide or framework for planning.


KEAWA'ULA
KAHANAHĀIKI
MĀKUA
OHIKILOLO
KEA'AU
MĀKAHA
WAI'ANAE
LUALUALEI
NĀNĀKULI
Mauna Ka'ala
Pu'u Kaleno
Pu'u Kowiwi
Kolekole Pass
Pu'u Hāpaoa
Pu'u Kānehoa
Pu'u Kaua
Pōhakea Pass
Mauna Kap.
Pu'u Manawahua
EXHIBIT 2-1
AHUPUA'A MAP
Wai'anae Sustainable Communities Plan
Department of Planning and Permitting
City and County of Honolulu
N
0 1 2
SCALE IN MILES

2.3.2 Delineate the four major land use types: Preservation Lands, Agricultural Lands, Rural Communities Areas, and Coastal Lands

The Wai'anae Sustainable Communities Plan establishes the following four principal land use types:

- The **PRESERVATION LANDS** consist generally of the steeper lands, mountainous lands, coastal ridges, and pu'u, including such prominent coastal features as Pu'u Heleakalā, Pu'u o Hulu, Pu'u Mā'ili'ili'i, Pu'u Pāhe'ehe'e, Pu'u Kamaile'unu, and Mauna Lahilahi. Land uses within these areas should be limited to those uses that are compatible with the preservation and conservation of natural ecosystems and traditional and cultural sites and resources. Access to preservation lands should be ensured for cultural practices.

- The **AGRICULTURAL LANDS** should encompass the farmlands and undeveloped valley lands in the ten *ahupua'a* of the Wai'anae Coast. Agricultural land uses within these areas, including commercial farms, family farms, and family gardens, should be preserved and encouraged. Land uses within these areas should be limited to agriculture and other uses that are compatible with a rural landscape and country lifestyle. These compatible uses include farm dwellings, small country stores, agricultural support facilities including storage and small-scale processing of farm products, and cultural places and preserves. Residential subdivisions, including large acreage "gentlemen estates," public or private schools, and golf courses are not compatible uses.

- **RURAL COMMUNITY AREAS** are defined by a line that generally follows the limits of the Community Growth Boundary, which consists of existing urban and suburban development along the Farrington Highway corridor. Within the Rural Community areas, there is some acreage for infill residential and commercial development. With the exception of a small number of isolated farm lots that are already surrounded by housing development, no other agricultural lands should be included within these development areas. Continued small-scale agricultural uses on these farm lots should be encouraged.

- **COASTAL LANDS** include the surf zone, the beaches, and lands just inland of the beaches, generally all lands *makai* of Farrington Highway. Coastal lands should be preserved and protected for open space, beach parks, and public access. New residential, commercial, or resort development should generally not be permitted *makai* of Farrington Highway. Over time, inappropriate coastal development, including mid-rise

condominium buildings, should be phased out and these sites should be restored to public use. Access to coastal lands should be ensured for cultural practices.

In addition to establishing and recognizing these four land and resource types, the Wai'anae community has been adamant in their desire to keep Wai'anae as RURAL as possible overall. Although their population has increased significantly in recent times (from approximately 7,000 in 1950, to almost 50,000 in 2010), they still believe their community has retained their **RURAL VALUES**, which are expressed and exemplified by:

- The small farms, many of them family-owned and operated that grow various crops. These farms are found primarily in Lualualei and Wai'anae Valleys;
- The extensive open spaces and special visual and cultural qualities of the principal valleys of the District: Nānākuli, Lualualei, Wai'anae, Mākaha, and Mākua;
- The rugged beauty of the Wai'anae Mountains that shape and define the District;
- The miles of shoreline, sandy beaches, and beach parks;
- The "small town values" of many of Wai'anae's people, who are open, friendly, family-oriented, and strongly attached to the land and the sea.

Population growth and land development in the Wai'anae District over the past 50+ years have been more typical of a suburbanizing urban fringe community than that of a stable rural community. These growth and development trends are likely to continue unless the City implements a strong "growth control" plan for the District. Continued urban and suburban development will consume open agricultural lands and add more demand on Wai'anae's roads, schools, parks, and other facilities, which are already overcrowded. The country values and lifestyle that are of such great importance to the Wai'anae community will be further eroded and undermined.

2.3.3 Restrict coastal urban, suburban, and resort development *makai* of Farrington Highway

Lands *makai* of Farrington Highway are at present mostly beach parks and undeveloped shore lands. There are also a number of small lot subdivisions, a few apartment buildings in Wai'anae and Mākaha, the former Nānāikapono Elementary School site in Nānākuli, some small commercial buildings in Wai'anae Town, Wai'anae High School, and the Wai'anae Small Boat Harbor.

Further development encroachment on these coastal lands should not be permitted, with the exception of some very limited redevelopment of small commercial properties in Wai'anae town. The long-range goal should be to return developed coastal lands to public use. Toward that

end, the City should act on opportunities to purchase coastal properties when such uses become nonviable due to economic conditions, storm damage, or other causes.

One other possible use of coastal lands is for a walking/jogging/biking path and Community Gathering Places. In Section 3.11 of this Wai'anae Sustainable Communities Plan, there is a program for such a path that would run along the coast, connecting the various *ahupua'a*. The program also calls for four Community Gathering Places to be located just off of the path in four of the District's beach parks, one in each of the major *ahupua'a*. The Wai'anae Sustainable Communities Plan supports this limited development *makai* of Farrington Highway since it would serve the community's daily needs.

2.3.4 Preserve all lands north of Kepuhi Point as open space lands

The Land Use Map demonstrates a general policy that there should be NO urban, suburban, resort, or golf course development, or any other type of commercial land development, or landfills, permitted or approved north of Kepuhi Point and north of Mākaha Valley. There is strong community consensus that no highway be built around Ka'ena Point due to its environmental sensitivity and cultural status. There is general consensus among State and City agencies that these lands should be preserved and protected for open space, environmental preservation, and cultural and religious practices.

The present use of Mākua Valley by the U.S. Army for live fire combat training is not in keeping with this general resource preservation policy. The Army's use of Mākua in recent years has been minimal, due to environmental and cultural concerns. Many in Wai'anae believe that the Army has demonstrated its ability to train at alternate locations, thus negating the need for Mākua Valley as a training area. The community is particularly concerned with the restrictions placed on access for cultural and religious practices at sites on these lands that the Army controls. Military land uses within the Wai'anae District are addressed in detail in Section 3.12.

2.3.5 Preserve and restore streams and stream corridors

The major streams and stream corridors of Wai'anae's valleys are very important elements of the landscape and the natural ecology of the region, as well as of the Native Hawaiian heritage. Some of these streams are perennial streams near their origins high in the Wai'anae Mountains, but all are intermittent, or "interrupted," streams as they flow down through the valleys. Hundreds of years ago, when the Hawaiian people first began to settle in the *ahupua'a* of the Wai'anae Coast, they located themselves near the streams with year-round flows and tapped these streams for water for extensive terraced *lo'i kalo* (taro patches), located in the upper

sections of the larger valleys: Nānākuli, Lualualei, Wai'anae, Mākaha, and Mākua. The streams were also essential as a source of drinking water, and for their natural plants and freshwater fish.

"Modern" development practices have severely impacted many of these streams. Impacts include alteration of stream channels through grading operations for roads and houselots, siltation from eroding farm fields and residential subdivisions, trash and debris dumped into stream channels, and "improvement" of major stream channels near the coast by means of concrete-lined, engineered channels.

A coordinated City/State/Federal and Private landowners program is needed for the protection and restoration of Wai'anae's natural streams and stream corridors. The Wai'anae Sustainable Communities Plan designates all important perennial and intermittent streams and stream channels as special **STREAM CONSERVATION CORRIDORS**. The purpose of such a designation is to prompt appropriate State and City agencies to initiate a program that will enhance stream flow and protect the natural ecology of Wai'anae's streams, stream floodplains, and associated plants and animals. This program should include a "no dumping" rule within the Stream Conservation Corridor, requirements for siltation basins or other means of controlling urban and agricultural stormwater runoff, and a program for the restoration of natural vegetation within stream floodplain areas. A community-based "adopt-a-stream" program could be an important part of this overall stream conservation program. More details are included in Chapter 3, Section 3.5.

2.3.6 Preserve and protect cultural sites and cultural landscapes

The entire Wai'anae Coast is considered by many residents to be a "cultural landscape." It is widely acknowledged that the District is filled with important cultural sites, such as house sites, *heiau* (temples/shrines), *ko'a* (fishing shrines), and agricultural terraces. To Native Hawaiians, natural resources are considered cultural resources as well, including the *pu'u* (hills), *pōhaku* (stones), *kai* (ocean), streams, coastline, and more. Considered all together, these cultural and natural features were the components of the community's original infrastructure. Today, they form one of the most intact cultural landscapes on the island of O'ahu.

Almost every valley in the District contains extensive cultural sites associated with the region's history. Many of these sites are important to local people as cultural sites and are frequently visited, where possible. The upper valleys, beyond the limits of today's housing developments and small farms, have numerous cultural sites. The coastal dunes contain sites and burials that are hidden beneath the surface of the ground. Some sites even survive under existing buildings. *Heiau* and *ko'a* are also scattered throughout the area.

The first step to protecting this cultural landscape is to do a complete archaeological survey of the area. The only fairly complete surveys that have been done were for upper Nānākuli, upper Lualualei, mid-to-upper Mākaha, and on the coastal flats of Kea'au. Many areas have had little or no surveying.

In addition, the community would like to see community-based groups eventually take over responsibility and management of important cultural sites. The end goal is to both preserve the sites and to allow appropriate levels of access. This is a difficult balance to achieve, since unlimited access can lead to more visitors going to a site, and can sometimes result in vandalism. More discussion on the responsibilities of such groups is included in Section 3.6.2.

2.3.7 Improve transportation systems within the District

One way in which the lives of Wai'anae residents could be greatly improved is through the enhancement and improvement of the District's transportation systems. Currently, Farrington Highway is the only public road that leads into and out of the Wai'anae District, as well as the main route for travel within the District. There have been several times over the years that the highway has been closed due to downed utility lines and poles, automobile accidents, and other situations. In each incident, residents have been unable to travel – meaning some could not get home to their children, others could not get to work, and other critical needs could not be met. To prevent this problem from re-occurring, the community would like to have a road that provides an alternative way in and out. Many would like to see a full-fledged second access highway. However, the cost of building such a road is estimated to be too high to be feasible for the foreseeable future. Thus, most residents agree that their first priority is to open an emergency bypass road, possibly through the Kolekole Pass, and to continue to plan for a second access highway.

In addition to improving access and traffic flow within the District for private vehicles, Wai'anae residents would also like to see the enhancement of alternative transportation modes, such as public transportation, including boats/ferries and rail, as well as paths for walking, jogging, and biking.

Lastly, residents support HECO's plans to under-ground the utility lines that run along Farrington Highway. The communication and power lines pose a significant threat to drivers, since they have the potential to blow over and block the highway, as has happened in the past (including in December 2007).

2.3.8 Designate, plan, and develop Town Centers and Community Gathering Places for Wai'anae, Nānākuli, Lualualei, and Mākaha

Related to Vision Element #1, *ahupua'a* planning, this Element recognizes the need for each of the principal *ahupua'a* to have fully functioning Town Centers – to allow people to carry out their daily tasks largely within their *ahupua'a*, and Community Gathering Places – to encourage community members to spend time together participating in cultural activities with their *'ohana*.

Within the Rural Community areas of each of the principal developed *ahupua'a* – Nānākuli, Lualualei, Wai'anae, and Mākaha – there is the need for the development of more strongly defined commercial and service centers.

This concept includes the proposed designation of Wai'anae town center as a "Country Town" commercial and service center. Historically, at least from the mid-19th century, Wai'anae Town was the most important settlement in the District. Today, with Wai'anae Mall and the mix of small older buildings and newer buildings in the vicinity of Pōka'i Bay, Wai'anae Town Center is the area of the District that is recognized as the largest concentration of commercial and services facilities. Smaller "Village Centers" are schematically shown on the Land Use Map for the communities of Nānākuli, Lualualei, and Mākaha. These smaller commercial centers would provide shops, stores, restaurants, and social service offices for the residents, as well as a stronger physical identity and an enhanced sense of community. Such developments would also reduce traffic in the District.

The Nānākuli Hawaiian Homestead Community Association (NHHCA) has taken the initiative to develop such a Center – the "Nānākuli Village Center", which is currently under construction. When it is completed in 2012, it will include a multi-purpose cultural center, an affordable housing rental complex, commercial rental spaces, and the International Surfing Hall of Fame.

For both the Wai'anae Country Town and the Village Centers of Mā'ili and Mākaha, a phased action program for capital improvements and investment needs to be developed. More details on the Nānākuli Village Center and the needs of these other areas are included in Section 3.10.

Similarly, Community Gathering Places, of several acres each, are needed within each of the major *ahupua'a* (Nānākuli, Lualualei, Wai'anae, and Mākaha). These Gathering Places would be quite different from the Country Town and Village Centers. As envisioned by the community, the Gathering Places are open areas with perhaps a few small buildings where people can gather informally to visit and talk story; have celebrations; stage festivals and special events; teach and learn traditional crafts, music, and dance; buy, sell, and barter homegrown produce and homemade items; and generally renew contact with friends and neighbors.

One plan for these Gathering Places is to locate them in the beach parks of the four major *ahupua'a*, and connect them by a walking/jogging/biking path that extends along the entire Wai'anae Coast. The path would be wide enough for Police Cushmans to utilize for patrolling. It could also provide photovoltaic-powered lights, safety phones, and water fountains. The major benefits of this plan include: allowing people to utilize the beaches and feel safe doing so, providing a venue for exercise and possible sporting events, allowing people to get around the District by bike safely, among others. More details are included in Section 3.11.

2.3.9 Develop and support community-based businesses

In order to create a community that is more self-sufficient, members of the community have expressed a strong interest in developing more employment opportunities within their District, including fewer restrictions on working from home. Such a situation would also allow people to work closer to where they live, which would reduce commute time and increase their time at home with their families.

The sector with the most community support for expansion is agriculture, for several reasons. First, Wai'anae has a history rooted in agriculture, from ancient Hawaiians growing *kalo* (taro) and *'uala* (sweet potato), to more recent times, when the District was a leader in the state in production of many vegetable and animals food products, such as pork, chicken, eggs, milk, and various truck crops. In addition to historical reasons, the expansion of agriculture would allow the community to protect significant amounts of land from development.

There is also substantial interest in increasing cultural, educational, and healthcare facilities and job opportunities. Some possibilities include expanding the hands-on educational programs, such as those offered by Ka'ala Farm and MA'O Organic Farm (Mala Ai 'Opio Organic Farm). There is currently one charter school in the District, and more could be created. In addition, various community members brought up the idea of creating a place to train teachers, for which there is a huge demand. Also, the Wai'anae Coast Comprehensive Health Center is currently expanding its facilities in order to increase its training capabilities.

Other economic opportunities discussed include expansion of retail and commercial centers in the four major *ahupua'a* and the creation of a light industrial park in Lualualei. Similar to the other sectors, it is recommended that locally-owned businesses be given priority, and that they hire residents as much as possible.

Another employment possibility along these lines is the formation and development of the recommended community-based groups to help manage the District's natural and cultural resources (see Vision Element #10).

2.3.10 Government agencies should partner with community-based organizations in order to better manage Wai'anae's natural and cultural resources

There are a number of community-based organizations in Wai'anae that are actively engaged in caring for important cultural and natural resources, both *mauka* and *makai*. The number of these community organizations, and their range of interests and activities, is likely to continue to expand in the future. By partnering with these community entities, city, state, and federal agencies that have natural and cultural resources management responsibilities can benefit from local knowledge and community energies, and thus develop stronger and deeper resource management programs.

3. LAND USE POLICIES AND GUIDELINES

This chapter of the Wai'anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal types of land use that should be provided for in the District. The Vision for the future of the Wai'anae District described in Chapter 2 will be implemented through the application of these Policies and Guidelines.

The first section provides an overview of the existing conditions in the Wai'anae District – the land use, population, economics, and environment. The other 11 sections deal with each of the major types of land use within the District. The Chapter includes the following sections:

3.1 Overview of Land Use, Population, Economics, and Environmental Conditions
3.2 Open Space and Important Views
3.3 Coastal Lands
3.4 Mountain Forest Land
3.5 Streams and Floodplains
3.6 Historical and Cultural Resources
3.7 Agricultural Lands
3.8 Residential Land Use
3.9 Commercial and Industrial Uses
3.10 Country Towns, Rural Community Commercial Centers and Gathering Places
3.11 Parks and Recreational Areas
3.12 Military Land Use

Each section contains **Policies**, which are statements that express the Wai'anae community's overall philosophy and the City's long-range planning intent with regard to particular land uses. The **Guidelines** are more specific statements that are meant to provide guidance to City agencies and other public and private entities in relation to how the planning, design, and implementation of various types of programs and projects should be achieved. Guidelines have been provided for those land uses with more detailed physical planning concepts (Sections 3.8 through 3.11).

For each major land use type, the presentation of Policies and Guidelines is preceded by an "Overview" section that provides a summary of important facts and trends relating to that land use type.

3.1 OVERVIEW OF LAND USE, POPULATION, ECONOMICS, AND ENVIRONMENTAL CONDITIONS

Before proceeding with detailed policies and guidelines for the Wai'anae District, this section summarizes the key facts pertaining to existing land use, including State and City land use designations, population growth trends, and economic and environmental conditions.

3.1.1 General Physical Setting

Wai'anae is an area of great physical beauty. The overall form of the landscape consists of white sand beaches along the coast, a narrow coastal plain, large valleys that extend from 3 to 5 miles inland, and the dramatically eroded, steep walls of the Wai'anae Mountains. The major valleys – Nānākuli, Lualualei, Wai'anae, Mākaha, and Mākua – are defined and separated from each other by steep-sided basalt ridges, the remnants of the flanks of the great volcano that emerged from the ocean some 3 million years ago. The waters of the Pacific Ocean here are a deep blue, and the offshore currents are strong and often treacherous.

The area included in the Wai'anae Sustainable Communities Plan consists of 38,089 acres, which is about 59.5 square miles, slightly less than 10 percent of O'ahu's 602 square miles. Of the eight Development Plan/Sustainable Communities Plan Districts, Wai'anae ranks 5th in size – between Ko'olau Poko (41,279 acres) and Ko'olau Loa (37,060 acres).

The climate of Wai'anae is generally hot and dry along the coastal areas and in the lower sections of the valleys. Cooler and wetter conditions prevail in the upper sections of the valleys and up into the Wai'anae Mountains. Average annual rainfall ranges from less than 20 inches along the coast to more than 75 inches near the summit of Mount Ka'ala.

Mount Ka'ala, the highest peak on O'ahu at 4,025 feet (USGS), is visible (clouds permitting) from much of the coastal area of Wai'anae.

This landscape is one of unique grandeur and beauty. Many of Wai'anae's residents, especially the Native Hawaiian population, also have a much deeper appreciation of and connection to the land based on their culture.

3.1.2 Population

The table below shows the recent and projected trends in Wai'anae's population.

Table 3-1: Population Trends for Wai'anae

Year	Population	Percentage of O'ahu Total
1950	7,024	1.99%
1960	16,452	3.29%
1970	24,077	3.82%
1980	31,487	4.13%
1990	37,411	4.47%
2000	42,259	4.82%
2010	44,490	4.88%
2020	46,776	4.83%
2030	48,667	4.78%
2035	49,217	4.74%

Source: US Census, 2000 and DPP, 2009
(Note: Numbers for years 2010 through 2035 are projections from DPP, 2009)

The community has expressed concern regarding population counts and projections for Wai'anae. To begin with, some believe that the most recent U.S. Census (2000) count for the District was low. This is due primarily to the recent increase in homelessness, since government population surveys usually do not count individuals without addresses. It is estimated that in 2008 there were over 6,000 homeless individuals in Wai'anae. This figure includes the following estimates:

- **2,675** people living on the Leeward Coast beaches (Wai'anae Community Outreach, 2008)
- **3,230** "hidden homeless" – individuals who are currently living "doubled up" with friends or family members (SMS, 2006)
- **594** living in transitional shelters located within the District (information gathered from various shelters)
  (Note: some of those counted as living on beaches could have transitioned into family homes or shelters. To account for this, the total of 6,500 was rounded down to 6,000)

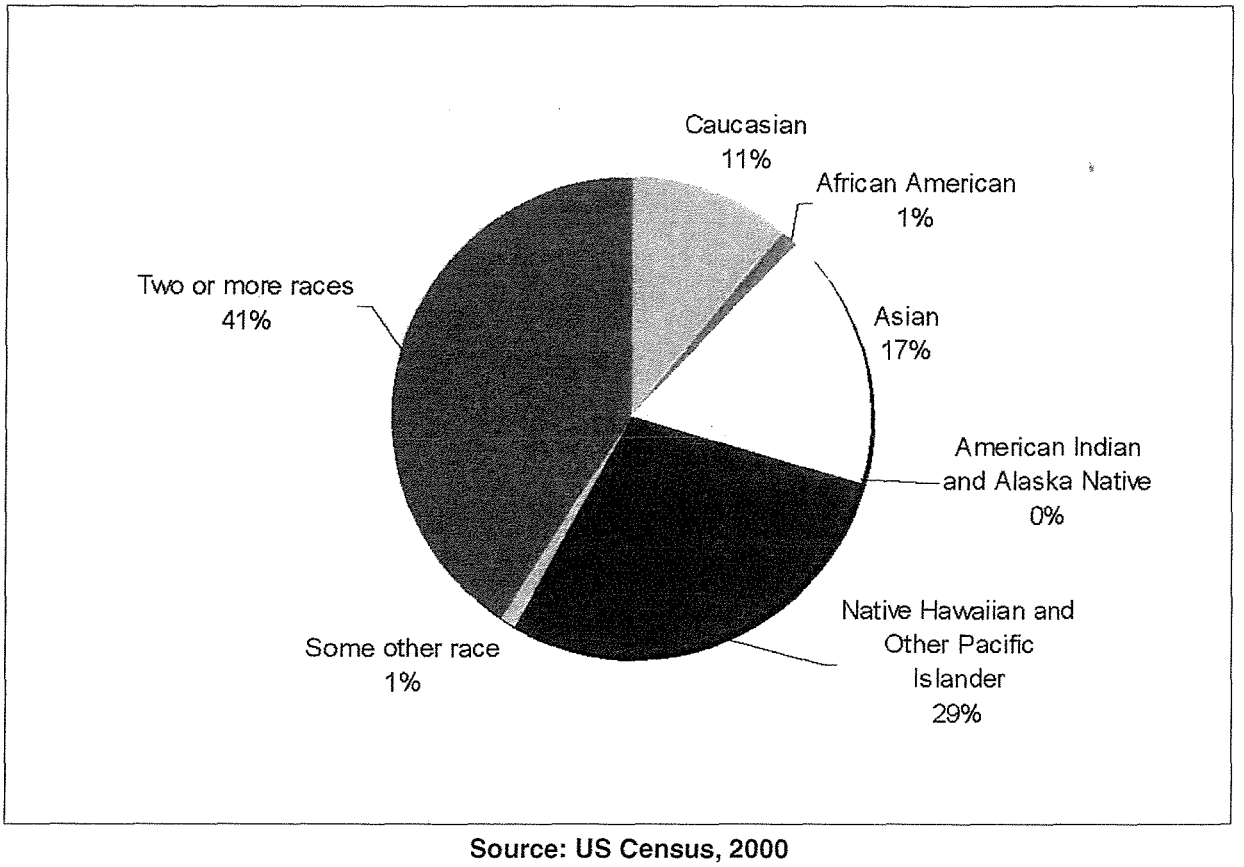
This total (6,000) added to the 2007 population estimate of 43,655 (DBEDT, 2007), brings the current population estimate for Wai'anae up to well over 49,000 people.

Thus, the projections for the future population of Wai'anae may be low as well. DPP currently projects that the Wai'anae District will have 46,776 people living there by 2020, but the figures noted above indicate that the population may already have been over 49,000 in 2010.

Overall, these findings have serious implications for the Wai'anae District, especially when combined with the economic data in Section 3.1.3. Namely, the District's poverty and homelessness may continue to worsen. These social and economic trends indicate that there is a need for more social services, from both private/non-profit and public service providers.

The chart below shows the racial distribution within the Wai'anae District as of the 2000 Census. One key statistic to note is that the largest racial group was "Native Hawaiian and other Pacific Islanders" (28.7%). When residents were asked to indicate their race alone or in combination with other races, over 62% identified themselves as at least partly Native Hawaiian or other Pacific Islander, compared to 21.6% for all of O'ahu (US Census, 2000).

Exhibit 3-1: Wai'anae's Racial Distribution



Source: US Census, 2000

3.1.3 Economics

Overall, the Wai'anae community has 'lagged' behind the rest of O'ahu in terms of economic development and employment opportunities for its residents.

The following information is contained in the Draft Leeward Coast Initiative Inventory Report (August 31, 2007):

- In 2000, the per capita income of Wai'anae community residents was about 61% of the State average.
- In 2000, more Wai'anae community households were in low-income categories than the State average.
- In 2000, the percentage of Wai'anae community individuals below the poverty level was much higher than the State average.
- The average wage gap has been widening. In 2004, the Wai'anae community wages were 20% less than the State average wage.
- According to the U.S. Census Bureau, it was found that in 2000 most of the workers in the Leeward Coast work elsewhere and that Wai'anae community workers spend 16 more minutes traveling to work than the State average.
- The unemployment rate in the Wai'anae community has been much higher than the State average and the gap has widened over the past twenty years.

Also, economic data and reports from other sources, including the following, urge the need for immediate action to stimulate economic growth and to create new jobs directly within the Wai'anae community:

- The Wai'anae community has poverty levels near 20%, with some census tracts exceeding a 50% poverty level. Over 90% of households in the district earn less than $50,000 per year. The median household income is $25,638. Historically, all of the communities along the Wai'anae community have been economically depressed. Unemployment is estimated to be twice the national average (Mr. Michael Pecsok, Vice Chancellor for Academic Services, Leeward Community College, May 4, 2005).
- The Wai'anae community is ranked first in unemployment and poverty, with an average per capita income of $13,348, compared to Honolulu County's per capita income of $21,998. The Wai'anae community's unemployment rate is 8.6 percent, which is more than double that of Honolulu County's average of 3.8 percent. The poverty rate is 21.9 percent, compared to Honolulu County's average of 9.9 percent. (University of Hawai'i - West O'ahu, December 13, 2005).

In addition, the economic data and reports indicate that the economic gap between the Wai'anae community residents and the rest of O'ahu has been widening since 1980 (DBEDT, 2007).

Finally, the 2007 Annual Report on the Status of Land Use on O'ahu, prepared by the Department of Planning and Permitting, reveals that the Wai'anae community is projected to be the only area on O'ahu that will be experiencing a decrease in the total number of jobs from 2000 to 2030. This decline in jobs projected for this 30-year period is especially alarming when considered together with the existing economic conditions as reported in the studies cited above.

3.1.4 Existing Land Use

Most of the existing urban and suburban development in the Wai'anae District is clustered along the Farrington Highway corridor, in a developed strip that varies from about 1/4 mile to 1 mile in width. The valleys are largely agricultural or military lands, and the steeper ridges and mountains are generally undeveloped grasslands and forest lands.

Recent City data indicate the following land uses, as permitted by the current City and County Zoning:

Table 3-2: Land Use Permitted by Current City & County Zoning

Land Use	Acreage
Agriculture	8,578
Residential	2,260
Apartment	78
Industrial	79
Resort	97
Preservation	19,561
Military	7,148
*Other	288
TOTAL:	**38,089**

Source: DPP, 2008

(*Other acreage is primarily in Business and Country zoning)

3.1.5 Potential Developments

In 2008, approximately 20 transitional shelters and affordable housing projects were proposed for the Wai'anae District. Several of these project plans have since been terminated. However, the District has a significant amount of land currently permitted for such developments. Residents have expressed concern that allowing such developments could increase the District population. Details of developments that are still planned for the District are included in Section 3.8.

3.1.6 Environmental Conditions and Implications for Planning

The overview of Wai'anae's environmental resources presented in the Wai'anae Sustainable Communities Plan Background Report (1999) provided some strong guidelines for land use and development planning for the District. These environmental conditions are still generally applicable today and may be summarized as follows:

- **Wai'anae's climate is very favorable for many types of agriculture.** The District also has large acreages of good soils, especially in Lualualei Valley, the largest valley of the *moku*. Much of the soil found in Lualualei is from the vertisol series, which is regarded as fertile soil that makes excellent agricultural land when it occurs in large, level tracts, such as in Lualualei (CTAHR, 2008). However, only a limited area of Lualualei is available for agricultural uses, since most of the valley is occupied by the U.S. military.
- **Expansive Soils are a constraint.** Some of the soils in the valleys, and most of the soils on the lower slopes of the ridges and mountains are highly expansive clay soils that are not good for construction of foundations for homes and other structures. These expansive soils can be built on – with special foundation construction techniques – on relatively level sites. However, steeper sites are subject to slumping and sliding, and should not be developed.
- **The District's aquifers have a very small sustainable yield.** The sustainable yield of the Wai'anae and Mākaha Aquifer System Areas, where active Board of Water Supply (BWS) wells are located, is only about 6 million gallons per day (mgd) combined. In the year 2000, the City pumped about 4.9 mgd from these wells. This volume of water was less than the CY2000 District demand of approximately 11.1 mgd. The balance of about 6.2 mgd was imported into the District from the much larger Pearl Harbor Aquifer Sector Area.

  The Wai'anae District's limited groundwater resources suggest that major water users like golf courses should not be developed here. Further, since all new development will increase the amount of potable water that will have to be imported, and since the long-

range prospect for potable water on O'ahu is for a continued future increase in both demand and cost, significant growth of housing and commercial uses in Wai'anae should not be encouraged. Non-potable water sources, including reclaimed water, will need to be further developed so that the limited local supply of potable water can be put to best use.

- **There are large natural and cultural resource areas in the Wai'anae District that should be protected and managed so that the resources are preserved or enhanced.** These important areas include the higher elevations of the Wai'anae Range, where there are important plant and animal ecosystems, and the undeveloped upper valley areas of Nānākuli, Lualualei, Wai'anae, Mākaha, and Mākua, where there are extensive cultural sites.

  Consideration is given to identifying areas that need special resource protection or resource management zones in this Wai'anae Sustainable Communities Plan's graphic plans and policy statements.

- **Special attention should be given to the protection and preservation of Wai'anae's coastal resources, including the District's beaches, coral reefs, and estuaries.** There should be no further commercial or residential development on the *makai* side of Farrington Highway. The construction of "shore armoring" structures should be discouraged. There should be no coastal development at all beyond Mākaha. A long-range program for the control of non-point source pollution of nearshore waters needs to be developed.

- **A comprehensive plan needs to be developed for specific drainage and roadway improvements to alleviate local flooding problems.** An emergency roadway route needs to be created so that people have an alternate means of moving into and out of the district when Farrington Highway is blocked by storm flooding or other problems.

3.1.7 Wai'anae Watershed Management Plan (BWS, 2010)

The Wai'anae Watershed Management Plan (WWMP) provides a long-range plan for the preservation, restoration, and balanced management of ground water, surface water, and related watershed resources in the Wai'anae District. The City and County of Honolulu Board of Water Supply (BWS) began developing the WWMP in collaboration with the City and County of Honolulu Department of Planning and Permitting, the State's Commission on Water Resource Management, and the Wai'anae community, in 2004. The Public Review Draft was submitted in June 2006, and the Plan was adopted by City Council in 2010.

Clearly, management of land and water is interrelated, since the majority of "developed" land uses, such as residential, commercial, industrial, and even agricultural, result in an increased

demand for water. Thus, BWS has made extensive efforts to ensure that the WWMP is in alignment with the Policies and Guidelines of the original Wai'anae Sustainable Communities Plan (2000). Likewise, the process of updating this SCP has included reviewing the WWMP and ensuring that the SCP is in alignment with the Watershed Plan's Goals and Objectives. Please refer to the WWMP (BWS, 2010) for details.

3.2 OPEN SPACE AND IMPORTANT VIEWS

3.2.1 Overview of Open Spaces and Important Views

Wai'anae is considered by many people, including both residents and visitors, to be one of the most scenic regions of the island of O'ahu.

The Wai'anae landscape is a large-scale, bold landscape. The major elements of this landscape are the deep blue of the ocean; the long ribbons of white sand beach; the green valleys; the rugged pu'u and ridges along the coast, including Pu'u Heleakalā, Pu'u O Hulu, Pu'u Mā'ili'ili'i, and Pāhe'ehe'e Ridge; the steep, harsh side walls of the valleys, and the greener, softer walls at the backs of the valleys; the high peaks of the Wai'anae Range, including Pu'u Kaua at 3,127 feet, Pu'u Kalena at 3,504 feet, and Mount Ka'ala at 4,025 feet.

The large-scale open spaces of the region are not immediately apparent from Farrington Highway, the main coastal roadway. Along most of the highway, residential and commercial development blocks the driver's view of the great valleys of the region. Once people leave the highway and turn up into the valleys, they are greeted with dramatic views of open valley lands and the steep-walled ridges and mountains beyond.

The Coastal View Study commissioned by the City Department of Land Utilization and published in 1987 identifies a number of "Significant Stationary Views": from Mākaha Beach Park, Mauna Lahilahi Beach Park, Pōka'i Bay Beach Park, and Mā'ili Beach Park. The Study also lists "Significant Road Views." In addition, there are many dramatic *mauka* views, and special views from higher elevations looking toward the coast, including spectacular views from the scenic overlook near Kolekole Pass. The views from the Coastal View Study are documented with recent photographs in the Technical Report (2010).

Open space and views across open spaces are cultural resources, and should be protected as such. Various *mo'olelo* talk about specific place names, as well as the relation between, and views of, the places. **Thus, the views referenced above are significant to Wai'anae residents and should be protected. This means that no development should be allowed that negatively impacts these views.**

Lands north of Kepuhi Point, which marks the northern coastal limits of Mākaha Valley, are largely undeveloped lands. Land uses include beach parks, ranch lands, the Army's training area at Mākua Valley, and extensive areas of State-owned forest lands. The undeveloped, rugged beauty of this part of the Wai'anae coast still provides a sense of what most of the leeward coast once looked like. The *ahupua'a* of Kea'au, 'Ōhikilolo, Koiahi, Mākua, Kahanahaiki, and Keawaula are of great cultural importance to the Native Hawaiian community, as is open space in general.

In contrast to the dramatic natural beauty of the area, much of the residential and commercial development along Farrington Highway is run down and dilapidated. These man-made elements detract from the scenic qualities of this coastal highway.

Certain types of potential future development would also have an adverse impact on the visual quality of the district, including any further commercial or multifamily housing development on the *makai* side of Farrington Highway, residential subdivisions replacing valley farmlands, or large lot subdivisions being developed on the lower slopes of the Wai'anae Range.

Types of land uses and activities that are supported in these large open spaces include farming, ranching, gathering, and other cultural activities. In addition, Wai'anae residents have expressed their desire to have a cemetery in their District. This is another possible use of open space.

The open space character and the dramatic views of Wai'anae's shorelands, valleys, and mountains must be preserved and protected for the enjoyment of many generations to come.

3.2.2 Polices Pertaining to Open Spaces and Important Views

3.2.2.1 Do Not Allow Significant Negative Impacts on Large Open Spaces

The preservation of open space and scenic beauty should be a high priority consideration for all public and private programs and projects that may affect the coastal lands, valleys, and mountains of the Wai'anae District. Any proposed project that would have a significant negative impact on a large open space within the District should not be allowed.

3.2.2.2 Address Project Impacts on Open Space

The environmental impact analysis for any large proposed project, whether public or private, that may be planned for coastal, valley, or mountain sites within the Wai'anae

District shall include a detailed analysis of the project's potential impact on open space and scenic beauty.

3.2.2.3 Do Not Allow Significant Negative Impacts on Important Public Views

The preservation of all important public views shall be a high priority consideration for all public and private programs and projects. Any proposed project that may affect any significant view, including but not limited to the views noted in the "Coastal View Study," should not be allowed.

3.2.2.4 Address Project Impacts on Important Public Views

The environmental impact analysis for any large proposed project, whether public or private, that may be planned for coastal, valley, or mountain sites within the Wai'anae District shall include a detailed analysis of the project's potential impact on important public views, as described above.

3.2.2.5 Limit Urban Development

Future urban and suburban development in the Wai'anae District shall be limited to the Rural Residential areas, and shall not be allowed to intrude into the Agricultural area or the Preservation area (see Land Use Map in Appendix A), nor *makai* of Farrington Highway. The undeveloped open spaces north of Kepuhi Point shall be protected and preserved as open space lands in perpetuity. Uses of lands north of Kepuhi Point shall be limited to cultural and religious uses, conservation uses, beach parks, limited ranching and low-impact public recreational uses.

3.2.2.6 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Open Spaces

Government agencies should partner with community-based organizations to better manage open spaces and their natural and cultural resources, as described in Section 2.3.10. Specific to the management of open spaces, the groups should oversee the appropriate gathering of various natural resources – only certain resources should be allowed to be gathered at certain times. One of the greatest potential challenges for these groups will be dealing with property rights and working with land-owners.

3.2.2.7 Minimize Outdoor Lighting

Outdoor lighting should be the minimum necessary for public safety, home security, and community aesthetics, while maintaining consistency with the goals of energy conservation and environmental protection. Specifically, artificial lighting should not negatively impact wildlife, nor should it disrupt the large, unlit open spaces in the back of the District's valleys.

3.2.3 Guidelines Pertaining to Open Spaces and Important Views

3.2.3.1 Minimize Adverse Effects of Artificial Lighting

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.

3.2.3.2 Adopt Outdoor Night Lighting Standards

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

3.2.4 Relation to Open Space Map

Areas shown as "Agricultural" and as "Preservation" on the Open Space Map generally include the District's large-scale open space resources.

3.3 COASTAL LANDS

3.3.1 Overview of Coastal Lands

The Waiʻanae District has about 20 miles of coastline, measured from the beginning of the District about 1/2 mile south of Piliokahi Avenue in Nānākuli to the northern end of the District near Kaʻena Point.

About 18 miles of the District's 20-mile coastline are beaches, and most of the beaches are City beach parks with some facilities for beach users. The remaining 2 miles of coastline are rocky ledges and residential coastal development. From south to north, the beach parks and coastal access areas are:

- Nānākuli Beach Park
- Ulehawa Beach Park
- Māʻili Beach Park
- Lualualei Beach Park
- Pōkaʻi Bay Beach Park
- Waiʻanae Kai Military Reservation Beach (U.S. Army)
- Waiʻanae Boat Harbor

- Mauna Lahilahi Beach Park
- Mākaha Beach Park
- Kea'au Beach Park
- Mākua Beach Park (state-owned)
- Ka'ena Natural Area Reserve

There are at least four sections of the Wai'anae shore zone that are experiencing significant chronic erosion: Mā'ili Beach, Mauna Lahilahi Beach Park, Mākaha Beach, and Keawa'ula Bay. The erosion of shores and beaches is a natural process that affects certain coastal areas. Generally, "shore armoring" devices such as seawalls and rock groins are not appropriate solutions to these erosion problems. Shore armoring often results in still more severe shore erosion in areas near the "armored" site.

In addition, these coastal areas may eventually be affected by sea level rise. In response, all planning for these areas should consider both the known and potential effects of sea level rise.

Overall, the coastal lands of the Wai'anae District are important cultural, scenic, and recreational resources, and must be preserved and protected for the benefit of present and future generations.

3.3.2 Policies Pertaining to Coastal Lands

3.3.2.1 Do Not Allow New Coastal Development

There should be no new residential, commercial, industrial, resort, or other urban or suburban type of development *makai* of Farrington Highway, with the exception of new development or redevelopment of low-rise commercial and public buildings associated with the development of Wai'anae Country Town and future improvements to the Wai'anae Boat Harbor.

3.3.2.2 Incrementally Acquire Coastal Properties

The long-range goal for the coastal lands of the Wai'anae District should be the establishment of a coastal zone that is free of urban or suburban development and that is open to public access and public recreation. In working toward this goal, opportunities to acquire parcels or rights-of-way in coastal areas for public use should be pursued, especially for lands adjacent to public parks. Any such acquired parcels should be restored to open space and made available to public access and/or public recreational use.

The acquisition of land for the expansion and improvement of Pōka'i Bay Beach Park should be a top priority. The U.S. Army Rest Camp should be programmed for eventual return to the general public.

3.3.2.3 Discourage Shore Armoring

Shore armoring along any beaches of the Wai'anae District, including seawalls, groins, and breakwaters, should generally be discouraged.

3.3.2.4 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Coastal Lands

Government agencies should partner with community-based organizations to better manage coastal lands and their natural and cultural resources, as described in Section 2.3.10. Specific to the management of coastal lands, these groups should educate and monitor the community on using best fishing and gathering practices along the coast, such as the prohibition of laying net and leaving it unattended.

3.3.2.5 Prohibit Projects that Negatively Impact Coastal Lands

Approvals should not be granted for uses or projects that may negatively impact the natural ecology, scenic beauty, or cultural practices on coastal lands, or that may increase user conflicts on the beach or in nearshore waters.

3.3.2.6 Prevent the Introduction of Alien Species

Every effort should be made to prevent the introduction of marine alien species.

3.3.2.7 Maintain Beaches/Sand

All sand that is found along the Wai'anae Coast, whether it is part of a formally recognized beach or not, should be maintained as much as possible. Any proposed projects along the coast should not significantly impact the sand found there naturally.

3.3.3 Relation to Land Use and Open Space Maps

Coastal Preservation lands are shown on the Land Use and Open Space Maps in Appendix A.

3.4 MOUNTAIN FOREST LANDS

3.4.1 Overview of Mountain Forest Lands

The important forest lands of the Wai'anae District include the steep ridges and *pu'u* near the coast and the slopes and peaks of the Wai'anae Mountains that form the backbone and scenic backdrop of the region.

Botanical historians believe that Wai'anae once supported a dryland forest in the lower coastal plain area, grading gradually to wetter forest types in the upper parts of the valleys and the slopes of the mountains, and finally culminating in the wetland forest of the high elevations, with abundant ohia lehua, sandalwood, and associated native plant species.

The natural landscape began to change with the first settlements of Native Hawaiian people here some 800 to 1,000 years ago (Cordy, 1998). Today, little of these natural forest communities remain, except in the highest elevations of the Wai'anae Mountains. The higher elevations of the mountains are still important habitat for rare and endangered plants, as well as for endangered animal species like the Elepaio, a rare forest bird, and the Achatinella tree snail.

Preservation and restoration of these upper mountain forest lands, the lowland forests, the forest resources, and their cultural uses are of great importance to the Native Hawaiian people, to the Wai'anae community, and to the people of O'ahu.

These forests and the resources found there are of great cultural, historical, and medicinal importance to Native Hawaiians. The forests are tied to religious beliefs and are referenced in various *mo'olelo* as places where the *mo'o* (lizard) and other *aumakua* (deified ancestors) live. Numerous herbs and plants have long been gathered from the forests for a variety of uses, including medicinal, as well as for special items used in *hula* (traditional Hawaiian dance) and *lua* (Hawaiian martial art). Those plants used for these purposes should be protected, and in some cases, re-planted. The existence of these forest resources is inextricably connected to the health and wellness of Wai'anae residents, especially the Native Hawaiian population. An issue related to the protection of mountain forest resources is access to these resources. Access should be ensured for such gathering purposes.

Another use of these lands is hiking. There are numerous hiking trails that lead into the mountains, and some along the dramatic ridgelines. This Plan advocates for public access to existing hiking trails, including those that require passage through residential areas, as well as through military and agricultural lands.

Lastly, it should be noted that these forest areas can become extremely dry, especially during the summer months, and hence, are prone to wildfires. Accordingly, a wildfire prevention plan should be developed to prevent future fires.

3.4.2 Policies Pertaining to Mountain Forest Lands

3.4.2.1 Protect Mountain Forest Lands

Preserve and protect the Mountain Forest Lands of the Wai'anae District in their natural state – both the upper and lowland forests.

3.4.2.2 Develop Forest Restoration Program

Coordinate plans and programs towards the restoration of endemic and indigenous forest plants and animals in the Forest Lands of the Wai'anae District. Examples of appropriate native trees to plant include: Kamani, Ulu, Ohi'a'ai, Lama, Kawila, Iliahi, Koae'a, and the Hala bush. Additionally, the herbs and plants used for Native Hawaiian medicinal and cultural practices should be identified, protected, and re-planted where needed.

3.4.2.3 Do Not Grant Permits that Negatively Impact Mountain Forest Lands

Land use permits should not be granted to any uses of the District's forest lands that may degrade the natural ecology, scenic beauty, or restrict access to Native Hawaiian cultural practices carried out on these lands.

3.4.2.4 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Mountain Forest Lands

Government agencies should partner with community-based organizations to better manage Wai'anae's mountain forest lands and their natural and cultural resources, as described in Section 2.3.10. Specific to the management of forest lands, these groups should develop a list of appropriate native trees, plants, and herbs that should be protected and re-planted, and where. They should also educate the community about the amount and seasonal times that the various resources can be gathered, and monitor the gathering activities. One of the greatest potential challenges for these groups could be dealing with property rights and working with land-owners.

3.4.2.5 Protect Rare and Endangered Species

Avoid or minimize development and human impacts in areas known to provide important habitat for rare species, especially those that are listed as threatened or endangered

species. The Wai'anae SCP Background Report (1999) contains information from the U.S. Fish and Wildlife Service (USFWS) on such species.

3.4.2.6 Prevent the Introduction of Alien Species

Prevent the introduction of alien plant, mammal, bird, and insect species that could compete with, prey upon, or hybridize with native species. Additionally, alien or invasive species should be eradicated, or at least controlled. The current control measures for goats and pigs, including fencing and hunting, should be enhanced.

3.4.2.7 Allow Public Access to Hiking Trails

The public should be allowed to access existing hiking trails, including those that require passage through residential, military, and agricultural lands.

3.4.2.8 Develop Wildfire Management Plan

A wildfire management plan should be developed for the Wai'anae District.

3.4.3 Relation to Land Use and Open Space Maps

Mountain Forest Lands to be preserved are designated as "Preservation" on the Land Use and Open Space Maps.

3.5 STREAMS AND FLOODPLAINS

3.5.1 Overview of Streams, Stream Systems, and Floodplains

The streams of the major valleys of the Wai'anae Coast have always been considered a sacred part of the natural landscape. The streams traditionally provided precious fresh water for drinking, agriculture, production of special marine life, cultural practices, as well as for other daily uses, including bathing and washing.

The major valleys – Nānākuli, Lualualei, Wai'anae, Mākaha, and Mākua – have well-articulated systems of intermittent streams: Nānākuli Stream, Ulehawa Stream and Mā'ili'ili'i Stream in Lualualei Valley, Kaupuni Stream and Kawiwi Stream in Wai'anae Valley, Mākaha Stream and Mākua Stream. In recent years, the *makai* sections of the streams in Lualualei and Wai'anae Valleys have been replaced with concrete drainage channels.

Descriptions of these streams in the source material label them as "perennial" (flowing all year round) in the upper reaches of Wai'anae Valley and Mākaha Valley, and "intermittent" (flowing only after significant rainfalls) in the lower parts of these two valleys and in the other valleys of the region. Groundwater stored in the high elevation dike-structure of volcanic rocks discharges as seeps and springs that form the "base flow" – the fair weather flow – of the higher level perennial streams. The relative absence of perennial streams here is a reflection of the generally arid climate and the alluvial soils of the valleys, through which the streams become nonvisible "underflow."

The point at which a particular Wai'anae stream changes from perennial flow to intermittent flow depends on a number of natural factors, including:

- The season: with flows stronger during the wetter winter months;
- The year: with flows stronger during wetter years.

During the past 1 million+ years, the region's streams have accomplished the immense job of sculpting the slopes of the Wai'anae volcano and forming the deep valleys that we see today. Thus we can see that these streams are powerful shapers of the landscape. However, these streams are relatively small water features, and are vulnerable to the negative impacts of human development.

Negative impacts include runoff from agricultural lands, with sometimes high concentrations of silt, herbicides, pesticides, and farm animal wastes; runoff from urban lands, with herbicides, oils, grease, paint products and other harmful and toxic substances; dumping of trash, broken appliances, old cars, etc.; and various acts of grading and filling that result in faster runoff into area streams, with attendant erosion of natural stream banks. Unfortunately, development which results in damage to natural streambeds often eventually requires the construction of concrete channels to "manage" the urban runoff. The net result: the natural stream channel and flood plain are completely obliterated.

Wai'anae's streams are important elements of the landscape. They are the natural "arteries" of the valleys, bringing water down into the valleys from the mountains. They are a special environment for fresh water plants and animals, and also provide ribbons of fertile floodplain soils through the predominantly plastic and sticky soils of the alluvial valleys. Healthy streams are an indicator of a healthy landscape; sick streams indicate poor land use practices and uncontrolled agricultural and urban runoff.

3.5.2 Polices Pertaining to Streams and Floodplains

3.5.2.1 Establish Stream Conservation Corridors

Stream Conservation Corridors should be established where feasible as an element of the Wai'anae Sustainable Communities Plan. These Stream Conservation Corridors are illustrated on the "Open Space Map" in Appendix A.

Appropriate City, State, and Federal agencies should work with the community to establish a strong, pro-active program for the detailed delineation of Stream Conservation Corridors and the establishment of appropriate and enforceable rules, regulations, fines, penalties, and community monitoring and oversight programs for the protection of streams and stream floodplains.

Streams where Stream Conservation Corridors should be established include the following:

- Nānākuli Stream
- Ulehawa Stream
- Mā'ili'ili'i Stream
- Kaupuni Stream
- Kawiwi Stream
- Mākaha Stream
- Mākua Stream

Existing residential and other development may limit the delineation of Stream Conservation Corridors in some areas. However, these corridors should be established to the fullest extent possible.

3.5.2.2 Restrict Uses Within the Stream Conservation Corridors

Uses and activities within these Stream Conservation Corridors should be restricted to natural resources conservation uses and programs, compatible recreational uses such as walking and gathering of native plants and stream animals, and controlled diversion of stream waters for agricultural purposes. Other compatible uses should be permitted as may be defined by the agency with jurisdiction. There should be no dumping, littering, disposal of toxic or hazardous materials, disposal of animal or human wastes, or other activities that may be deleterious to stream quality and stream ecosystems. There should also be no filling, grading, or other significant changes to the natural contours within a Stream Conservation Corridor unless there is an overriding need for such action that relates to public health, safety, or welfare.

3.5.2.3 Establish Minimum In-Stream Flow Standards

There is a need to develop a cooperative government-community program toward the establishment of minimum in-stream flow standards for the perennial streams of the upper valleys of Wai'anae, Mākaha, Mākua, Lualualei, and Nānākuli. The overall objective of such a program would be to adequately protect fishery, wildlife, recreational, aesthetic, scenic, and other beneficial in-stream uses. The setting of instream flow standards would weigh the benefits of instream and non-instream uses of water resources, including the economic impact of restrictions of such uses. The establishment of flow standards is a scientifically and culturally complex process that will require a significant amount of time.

3.5.2.4 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Streams and Stream Corridors

Government agencies should partner with community-based organizations to better manage Wai'anae's Streams and stream corridors, as described in Section 2.3.10. One of the greatest potential challenges for these groups will be dealing with property rights and working with land-owners.

3.5.3 Relation to Open Space Map

Stream Conservation Corridors are schematically shown on the Open Space Map.

3.6 HISTORIC AND CULTURAL RESOURCES

3.6.1 Overview of Historic and Cultural Resources

The Wai'anae Coast, from Honouliuli to Ka'ena, is a geographical area that is known for its religious and spiritual significance. Kuilioloa, Puehu, Keaupuni, Kahoali'i, Haua, Haena, Malaihakoa, Kamaile, Punanaula, Kaneaki, and Laukinui are just some of the *na heiau* (ancient temples) that were used and designated for war, agriculture, astronomy, navigation, and religious purposes. Numerous places on land and in the ocean have historic and religious significances that are still being handed down from generation to generation, including land areas, rocks (such as Leina A Ka'uhane – from where spirits leaped into the nether world at Ka'ena), cliffs, and reefs.

The Wai'anae area was first settled by Hawaiians about 800 to 1,000 years ago. Current models of Hawaiian history have permanent settlement on O'ahu being focused on the wet, windward sides of the island from perhaps A.D. 0 to A.D. 900. During those years, residents of that side of the island often visited the leeward sides to use various resources -- fishing areas, bird colonies, the shellfish of Pearl Harbor, etc. to sustain themselves. Small campsites associated with those visits may be found throughout the leeward area. In the Wai'anae District, such a site appears to have been present in Wai'anae Valley along Pōkai Bay in the Wai'anae Army Recreation Center.

Beginning about A.D. 1000, it appears that the population spread over into the leeward areas of O'ahu, and people settled the lower valleys of leeward O'ahu from the 1000s-1300s. Dates from Pearl Harbor, Kalihi, and Mākaha and Wai'anae Valleys all show people were residing in coastal areas and farming the lower valleys.

In the 1300s, oral histories indicate larger moku formed on O'ahu -- apparently Kona district (Honolulu), Ko'olau Poko/Ko'olau Loa, and 'Ewa (with Wai'anae and Waialua) were the three moku which formed. This marked the start of more complex and more stratified societies. By the 1400s, the entire island was unified. Large *heiau* in the islands started to be built in the 1400s, based on archaeological information, and large fishponds also began to be built by this time – all evidence of more stratification and countries with larger populations. From the 1400s-1700s, population grew on the island. People spread up into the upper valleys, where scattered houses and fields were established. In the 1700s, oral histories show that O'ahu expanded to control all of Molokai and parts of Kauai. However, the O'ahu kingdom fell to Maui in 1783, and Maui fell to the Hawai'i Kingdom in 1795.

Throughout these years, the Wai'anae District was distant from the ruling centers of the O'ahu and later kingdoms – which were primarily in Waikiki, the 'Ewa area, and in Kailua. Within the Wai'anae District, Wai'anae Valley was the political and religious center of the area. The high chief controlling much of the area had a residence in Wai'anae Valley (where the ruler resided when passing through) and large sacrificial temples (*luakini*) were present in Wai'anae, with one also in Mākaha. All of the Wai'anae lands filled in during these years, with farms covering the land up into the uppermost valleys, and with houses scattered among these farms.

Almost every valley in Wai'anae District today still contains archaeological sites associated with O'ahu's and Wai'anae's history. Many of these sites are important to local people as traditional and cultural sites. The upper valleys, beyond the limits of contemporary development, are nearly all covered with archaeological sites. The coastal dunes contain sites (including burials), which are hidden under the ground surface. Sometimes these sites survive under existing buildings, and scattered *heiau* also still survive.

Based on archaeological studies completed to date, the Historic Preservation Division of the State Department of Land and Natural Resources provided a summary of the important cultural sites and resources of the Wai'anae district, as follows:

> "Information on archaeological properties in the Wai'anae District varies with survey coverage. Since 1987, most developments have been preceded by an archaeological survey (if needed) as part of the historic preservation laws' review process. Also, the Army and Navy have conducted surveys of their lands. Lands that were developed for housing, schools, businesses, etc., prior to 1987 often were not surveyed, and information on archaeological sites in those areas comes from older 1930 or earlier archaeological studies which usually simply identified *heiau*. Copies of these reports are on file in the library at the State Historic Preservation Division (Department of Land and Natural Resources, State of Hawai'i)."

The only fairly complete large archaeological surveys that have been done are in upper Nānākuli (done by the State Historic Preservation Division), in upper Lualualei (done by the Bishop Museum), in mid to upper Mākaha (done by the Bishop Museum), and on the coastal flats of Kea'au (done by International Archaeological Research Institute, Inc.). Other areas of the district have much smaller areas that have received complete coverage, or areas where only initial reconnaissance information is available. Many areas of the district have yet to undergo archaeological survey.

Many of these historical and cultural sites and concentrations of sites are of great importance to the community, including those that have not yet been officially documented. The community would like to see funds dedicated to archaeological surveys of areas not yet surveyed, and to the creation of a cultural resource map that more thoroughly shows the extensive number of cultural sites located in the area.

The following map shows only a small percentage of the numerous sites located within the District.

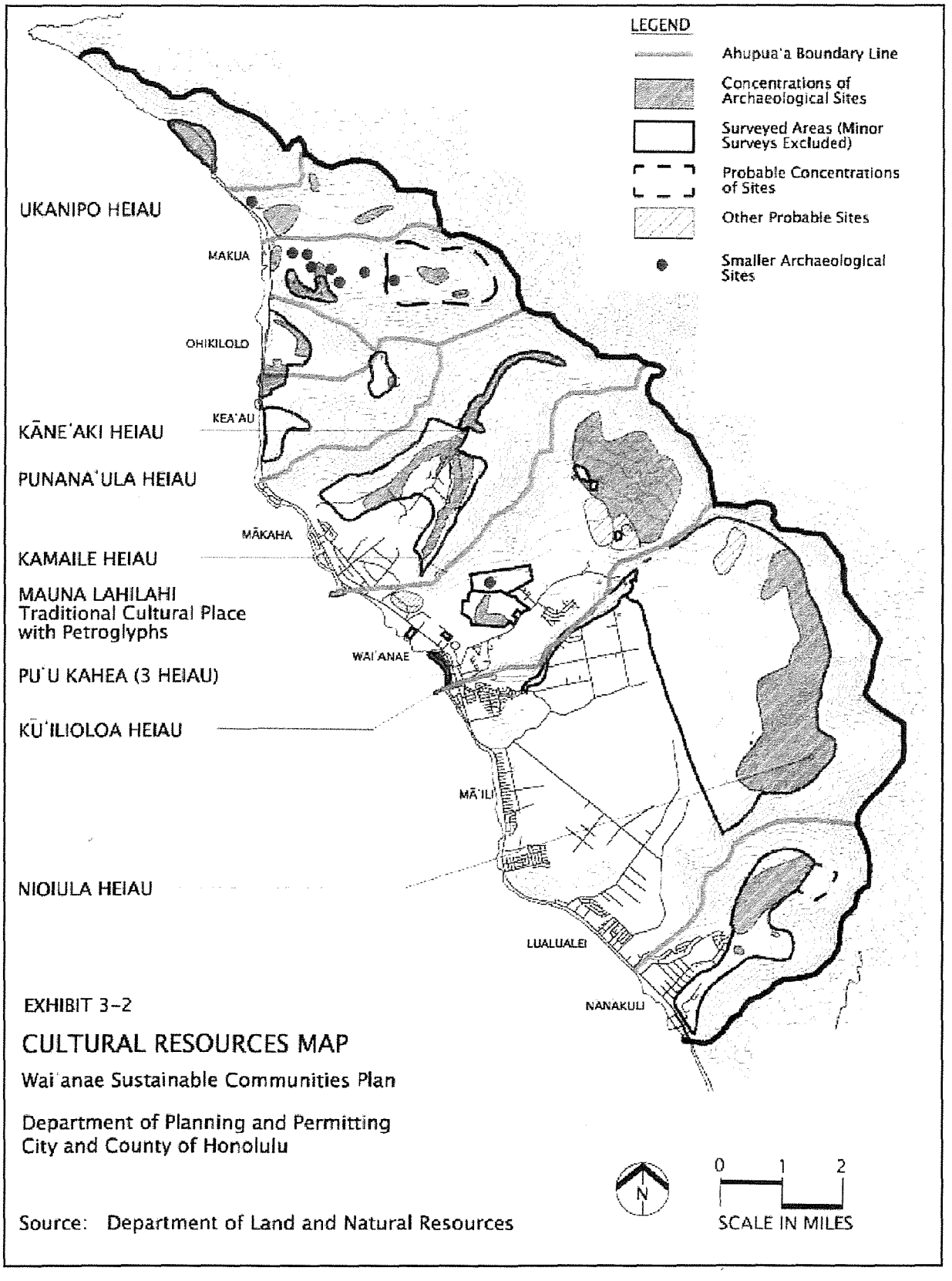


EXHIBIT 3-2

CULTURAL RESOURCES MAP

Wai'anae Sustainable Communities Plan

Department of Planning and Permitting
City and County of Honolulu

Source: Department of Land and Natural Resources

3.6.2 Policies Pertaining to Historic and Cultural Sites

3.6.2.1 Preserve Major Concentrations of Cultural Sites and Allow Access for Cultural Practices

The large concentrations of historical and cultural sites found in the upper reaches of the valleys of the Wai'anae District are included in the Preservation areas. These important cultural landscapes should be preserved and protected for the benefit of the community and of future generations. Careful restoration of important sites should be undertaken by qualified professionals.

3.6.2.2 Do Not Allow Development that Negatively Impacts Important Cultural Sites or Access to such Sites

Other important historical and cultural sites not located within the Preservation areas should also be recognized and protected wherever possible. Urban or agricultural development projects should not be permitted to degrade or destroy important historical or cultural sites. "Important historical and cultural sites" should be determined by the State Historic Preservation Division in collaboration with the community.

3.6.2.3 Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Cultural Sites

Government agencies should partner with community-based organizations to better manage Wai'anae's cultural sites, as described in Section 2.3.10. Such management will include preservation, restoration, and monitoring of cultural sites. One of the greatest potential challenges for these groups will be dealing with property rights and working with land-owners.

3.6.2.4 Create Signage for Cultural Sites

Many of the cultural sites within the District are in need of signage that displays the proper Hawaiian place name, as well as the *mo'olelo* associated with it. Such an undertaking should be overseen by the community-based group discussed above. Funding should come from a variety of sources, including City, State, and Federal sources, especially when they are the land-owners of the site.

3.6.2.5 Protect and Allow Access for Cultural Practices at Sites on City-Owned Lands

Plans and programs are needed for the protection of important historical and cultural sites found on City-owned land within the District – which is primarily in Mākaha Valley. These programs should include provisions for community access to important sites for the observance of cultural practices, and involvement of members of the community in the protection and preservation program.

3.6.2.6 Protect and Allow Access for Cultural Practices at Sites on Federal, State, or Private Lands

For lands owned by Federal or State agencies, or owned by private parties, the appropriate public agencies should develop pro-active and cooperative efforts to preserve and protect these important sites and provide for community access. The State Department of Land and Natural Resources is developing a community-based management program to better protect resources of the Wai'anae Kai Forest Reserve. Similar community access and forest management programs involving the U.S. Navy for sites in Lualualei Valley, the State Department of Land and Natural Resources for sites in Ohikilolo Valley and other state-owned areas, and the Department of Hawaiian Home Lands in Nānākuli need to be developed.

3.6.2.7 Conduct a Thorough Cultural Survey of the Wai'anae District

Residents recommend that the District be more thoroughly surveyed, and that associated cultural maps be created. It is accepted that these maps will not include every cultural site, due to funding limits, knowledge limits, as well as the fact that often times, cultural practitioners do not want every site to be public knowledge. Thus, the outcome should be maps that show numerous cultural sites and a boundary around areas that should be considered cultural landscapes – or areas with numerous sites that are both important in themselves and in their relation to each other.

It is also possible to create a map that shows cultural uses that should be protected from destruction. Examples of what such a map could demonstrate include:

a) areas of traditional use by Native Hawaiians, such as for fishing, conducting cultural practices [*uniki* (graduation from cultural practices), *kapu kai* (ceremonial seabath), etc.], recreating, and temporarily residing;
b) places for observation of historic/cultural significance, such as the resurrection or re-enactment of Makahiki activities; and
c) accesses to resources for cultural, sustenance, and traditional economic purposes, along with the appropriate protection of the areas where these resources are found, for the use by future generations.

3.6.3 Relation to Open Space Map

Major concentrations of archaeological sites are shown with a "dot screen" texture on the Open Space Map.

3.7 AGRICULTURAL LANDS

3.7.1 Overview of Agricultural Lands in the Wai'anae District

Although the Wai'anae District's climate is very favorable for many types of agriculture, and the district has large acreages of good soils, the amount of agricultural activity is on the decline. A few decades ago, Wai'anae hosted 12 dairy farms, the last of which (Pacific Dairy) closed in January 2008. In 2004, the Kakazu and Shigeta families closed O'ahu's last broiler chicken farms, which were located in Nānākuli.

In 2007, the National Agricultural Statistics Service listed 172 farms in the Wai'anae zip code, with only 9 farms over 50 acres in size. The farms included a handful of livestock operations (pig, egg layer, and goat), orchid growers, and vegetable growers. Many of these listed farms are small-scale family farms, and not working commercial farms. Increasing costs for land, transportation, feed and fertilizers from the mainland are factors in the feasibility of farm operations. According to local farmers, Wai'anae lacks large, contiguous open spaces that would allow larger-scale farms. Wai'anae farmers may need to find ways to combine adjacent parcels. Although there is land available for small farm operations, such farms have a difficult time competing, due to economies of scale. Also, many of the older farms that have gone out of business used to raise livestock, which means the soil may not be good for growing crops.

Lualualei Valley, the largest valley of the *moku*, is particularly well-suited for agriculture, since it is flat, there are a number of wells for irrigation purposes, and the soil type is the unique vertisol series soil. CTAHR's Soils of Hawai'i states that,

> "Vertisols are fertile soils. Their dark color is often mistakenly attributed to organic matter, but our Vertisols have lower organic matter contents than most other soils in the state. When they occur in large, level tracts of land as in Lualualei Valley on O'ahu, they make excellent agricultural land."

If agriculture is to grow and expand here, most local market studies point to sustainable agriculture, indigenous crops, and a diversity of premium quality products that can take advantage of the favorable climate. Organic fruit and vegetable production fits well with both the climate and soil, especially as it relies heavily on feeding the soil to increase organic matter content (through such methods as use of compost and animal manure, cover cropping, and green manures), and because there is high demand for organic products, it could bring in revenue and create jobs in the community.

The preservation of agricultural lands – both lands currently in agricultural use as well as fallow land that has agricultural use potential – is of critical importance to the Wai'anae community.

Agricultural uses of the land are important in Wai'anae for both commercial agriculture and part-time family farming. The continued protection and availability of agricultural lands for commercial farms, family farms, part-time farmers, and rural homesteads with backyard gardens are essential if the Wai'anae community is to preserve its rural lifestyle. The perpetuation of agriculture is also important for providing jobs within the District, as well as for increasing the level of self-sufficiency.

Various issues that present challenges to the long-term protection of agricultural lands and the development of diversified agriculture, along with proposed solutions, are included in the Technical Report (2010).

3.7.2 Policies Pertaining to the Agricultural Lands

3.7.2.1 Maintain the Boundary for Agricultural Lands

The Wai'anae Sustainable Communities Plan Land Use Map includes "Agriculture" lands. The agricultural lands generally lie between the coastal "Rural Residential" areas and the steep lands of the "Preservation" areas. The intent is to preserve active farms as well as agricultural lands that contribute to the open space and rural character of Wai'anae and provide areas for the potential expansion of agricultural activity. The Community Growth Boundary should serve to limit urban development and prevent the encroachment of residential and commercial development into agricultural areas.

3.7.2.2 Support Agriculture through Zoning Regulations and Tax Assessments

The City should use its powers of zoning and real property tax assessments in a manner that will support the preservation of agricultural lands and agricultural uses in the Wai'anae District.

3.7.2.3 Limit the use of "Agriculture" Land to Agriculture and other Compatible Land Uses

Land uses within the Agriculture area shall be limited to agriculture and other uses that are compatible with a rural landscape and country lifestyle. Compatible uses include uses such as farm dwellings, existing small country stores, small-scale facilities for the storage or processing of farm products, and cultural places and preserves. The more detailed Land Use Ordinance (LUO) should govern the detailed determination of compatible and incompatible uses in Agriculture areas. Other potentially appropriate uses include recreational or educational programs or other uses consistent with the character of a rural agricultural area, which provide supplemental income necessary to sustain the primary agricultural activity. There should be a direct connection between

those activities and the maintenance of agricultural uses on the same or nearby properties.

3.7.2.4 Prohibit Incompatible Land Uses of "Agriculture" Land

New residential subdivisions with lot sizes less than two acres, new commercial uses, public and private schools, congregate housing or elderly care homes, golf courses, resorts, theme parks, and other forms of large-scale commercial or industrial development should generally not be permitted in the agricultural area. Large lot subdivisions intended for luxury homes with no bona fide agricultural activities are also not a compatible land use.

3.7.2.5 Coordinate Farmer's Markets and Other Low-Cost Marketing Outlets

Various public and private entities should coordinate their efforts and resources with community groups to create more opportunities for local family farmers to get their farm products to market at the lowest possible cost. The larger commercial farmers that are active in the Wai'anae District have well established marketing channels for their products. The small farmers and family farmers, however, have fewer opportunities to market their products. Local "Farmers' Markets," if well organized and held regularly, could provide low-cost marketing opportunities for small farmers. Other low-cost marketing concepts, including co-operatives, should also be explored.

3.7.3 Relation to Land Use and Open Space Maps

Agricultural land that should be protected and preserved is shown as "Agriculture" on the Land Use and Open Space Maps. Included in this land use category are most of Lualualei, Wai'anae, and 'Ohikilolo Valleys, and portions of Nānākuli and Mākua Valleys.

3.8 RESIDENTIAL LAND USE

3.8.1 Overview of Existing and Planned Residential Uses

Existing residential land uses in the Wai'anae District consist of about 2,144 acres of land zoned for residential use. These developed lands support a total of an estimated 12,356 dwelling units, mostly clustered along the Farrington Highway coastal corridor. "Medium Density" residential development is found on two sites in Mākaha Valley: Mākaha Valley Towers condominiums and Mākaha Valley Plantation townhouses. The residential acreage of 2,144 acres, computed against the 12,356 dwelling units, yields an average density of 5.76 units per residential acre, which is relatively high for a "rural" district like Wai'anae. As a comparison, the

overall gross density of the Villages of Kapolei planned community in the 'Ewa District, with about 3,500 single-family homes and 1,500 multifamily units, is about 10 units per residential acre.

Year 2000 Census data for housing units in the Wai'anae District showed that the Median Year Built for the District's homes was 1974, the median value was $158,700, as compared to the O'ahu median value of $309,000 and the median gross rent was $680 a month, as compared to O'ahu at $802/month. About half of the units were owned and half were rented. Since 2000, home prices have continued to increase dramatically. The "2008 Second Quarter Residential Resales Statistics" showed the median sales price for a single family home on the Leeward Coast was $399,000 (compared to $636,000 for O'ahu), and $170,000 for a condominium (compared to $330,000 for O'ahu) (Hawai'i Real Estate Central, 2008).

Table 3-3: Housing Trends in the Wai'anae District: 1980 to 2000

Housing Data Category	Wai'anae 1980	Wai'anae 1990	Wai'anae 2000
Occupied Units	9,528	10,680	10,562
Owner Units	4,090	4,879	6,098
Renter Units	3,874	4,538	4,464
Median Year Built	1974	1971	1974
Median House Value	$77,000	$136,200	$158,700
Median Gross Monthly Rent	$264	$602	$680
Median Rent as % of Income	20.0	30.1	33.5

Source: U.S. Census

An analysis of housing data from the 1980, 1990, and 2000 Census' shows some alarming trends. Wai'anae's population during this period increased by 4,848 people. However, the number of occupied housing units actually declined during this time, by 118. This disparity between population growth and the decline in the number of occupied units suggests a trend towards larger households – and more overcrowding – and/or more homeless people.

In 2000, Wai'anae had a slightly higher percentage of homeowner units and a slightly lower percentage of renter units when compared with O'ahu overall. Housing units in Wai'anae were slightly "newer" than the O'ahu average, and median rents were slightly lower. However, median rent as a percent of income was somewhat higher for Wai'anae than for O'ahu. The median house value in Wai'anae was much lower than the O'ahu median.

Table 3-4: Housing Data for 2000: O'ahu vs. Wai'anae

Housing Data Category	O'ahu 2000	Wai'anae 2000
Occupied Units	286,450	10,562
Owner Units	156,233	6,098
Renter Units	130,217	4,464
Median Year Built	1972	1974
Median House Value	$274,600	$158,700
Median Gross Monthly Rent	$802	$680
Median Rent as % of Income	27.5%	33.5%

Source: U.S. Census

The Annual Report on the Status of Land Use on O'ahu (DPP, FY 2007) showed the following planned developments for the Wai'anae District:

Table 3-5: Planned Developments for the Wai'anae District

Project Name	Year Built Out	% Built	Total Units	Units Completed (as of 6/30/07)	Units to be Built
Hale Wai Vista	2010	0%	215	0	215
Kahikulo Ohana Hale O Wai'anae	2008	u.c.	88	0	88
Keola O Pokai Bay	2009	u.c.	125	0	125
Maili Kai, Phase II	2014	51%	838	430	408
Maili III Self-Help	2009	0%	77	0	77
Nanaikeola Senior Apts	2009	u.c.	70	0	70
Nanaikeola Village	2011	0%	142	0	142
Seawinds Apts	2008	0%	50	0	50
TOTAL UNITS PLANNED:					1,175

Source: DPP, 2007
("u.c." = under construction)

Given past owner/renter trends in Wai'anae, it appears that about one-half of any new units should be for owner occupants and about one-half should be for renters. Affordable house prices and affordable rentals will be needed. According to affordability numbers provided by the Hawai'i Housing Finance Development Corporation (HHFDC) and the U.S. Department of Housing and Urban Development (HUD) for 2009, an "affordable home" for a family of 4 persons with an income of 50 percent of the O'ahu median income, assuming financing at 6.0 percent, would be priced at $194,800. Affordable Rentals, based on 30 percent of income and

including utilities, for a family with an income of 50 percent of the O'ahu median, would be $1,236/month for a 3-bedroom unit.

For Wai'anae, the typical 2008 for-sale house price, including land, was in the range of $350,000 to $400,000 and the typical rent for a 3-bedroom unit was in the range of $1,000 to $1,200 (Honolulu Board of Realtors). Thus, for Wai'anae, house prices were higher than HHFDC/HUD's affordability guidelines, but rents were slightly lower. For many Wai'anae families, however, these rent levels were still very high.

Housing affordability is a critical issue throughout the State of Hawai'i, and the need for affordable housing is especially acute in lower income areas like Wai'anae. The 1980's were a period of accelerating housing prices throughout the State. By 1990, the median price for a single-family home on O'ahu was over 300 percent of the national median price. The 1990's brought a period of economic stagnation for Hawai'i, and housing prices declined from the peak levels of 1989-1990. However, housing costs have risen dramatically since 2000, and there is little likelihood that these high prices will become significantly lower in the future.

One major factor that could substantially affect the future population growth of the Wai'anae Sustainable Communities Plan area – and thus affect all aspects of the District's development, including housing – is the development of the "Second Urban Center" in the 'Ewa District.

'Ewa and Kapolei

The neighboring district of 'Ewa, and the planned development of the City of Kapolei may have a major impact on the Wai'anae District's population, housing resources, and land use. The City government is strongly committed to the development of the City of Kapolei, especially in terms of the creation of new jobs at Kapolei, with hopefully an accompanying easing of commuter traffic to downtown Honolulu. However, assuming that the City of Kapolei does develop as planned, housing prices there will probably escalate faster than the O'ahu average, and more pressure will be brought to bear on nearby, lower cost housing markets like Waipahu to the east and Wai'anae to the west. It is likely that there will be many more "affordable" housing projects like the Mā'ili Kai project proposed for development. Wai'anae could thus become the "low cost" bedroom community for the City of Kapolei.

Mākaha Valley

Lastly, there are approximately 450 acres of undeveloped State "Urban" designated lands in Mākaha. According to one recent conceptual planning study, as many as 1,830 new units could be constructed on these lands. There are about 3,334 housing units in Mākaha. Additional development under the current zoning could thus raise the number of units to 5,000+ units. Existing City zoning would allow for single-family and duplex units, condominium-hotel, club house, ranch/farms, additional golf courses, recreation, grocery stores, and group living facilities.

The Mākaha Special Area Plan (SAP), completed in early 2009, provides guidelines for accommodating future development while preserving the rural character of Mākaha Valley. It presents a "Mākaha Rural Development Plan" that includes:

- Mākaha Vision
- Rural Development Concept
- Rural Development Policy Framework
- Rural Development Guidelines

The "Rural Development Policy Framework" provides the following guidance for future planning and development for Mākaha:

"Guiding Principle:

> *Land located in the rural development area shall be compatible with, or provide protection for, the natural environment and shall be designed to integrate with the existing rural settlement patterns.*

The framework for the Mākaha Rural Development Concept supports the Wai'anae Sustainable Communities Plan theme of 'keeping the Country – Country' through the following policies:

- Future developments, i.e., resort and residential, should promote rural character in terms of scale and physical design, i.e., relatively low density, low building heights, informal landscaping, and lots of open space.
- Energy and water conservation measures should be applied to all future developments in Mākaha Valley.
- Preserve *mauka* and *makai* view planes and open space.
- Preserve natural stream banks and waterways.
- Provide opportunities for small-scale farming.
- A roadway circulation plan should address pedestrian safety and movement, especially in the existing residential areas.
- Private roadway maintenance should be enforced with City oversight.
- Some affordable housing should be provided in all future development proposals that involve residential housing.
- Some local small businesses should be provided for, as well as small-scale farming and possibly retirement residential units."

3.8.2 Policies Pertaining to Residential Lands

3.8.2.1 Do Not Increase Lands Designated "Residential"

For the foreseeable future, there should be no increase in lands designated for Sustainable Communities Plan "Residential" in the Wai'anae District. Existing undeveloped lands within the Community Growth Boundary should be sufficient to accommodate infill housing development that may be needed over the next 25+ years (see Land Use Map in Appendix A).

3.8.2.2 Coordinate with the Department of Hawaiian Home Lands (DHHL)

The City and the Department of Hawaiian Home Lands should establish an ongoing dialogue, with the objective of coordinating the City's General Plan and the Wai'anae Sustainable Communities Plan with DHHL's Regional Plans for the District. The City's focus should be on minimizing adverse impacts on the Wai'anae District from potential major DHHL housing developments. DHHL should develop agricultural lots and sustainable farming practices that are compatible with the City's General Plan and the Wai'anae Sustainable Communities Plan. The City recognizes DHHL's plans and DHHL's right to develop residential subdivisions in their lands located in the rural areas of Wai'anae Valley and Nānākuli Valley. However, DHHL should concentrate home building within the Community Growth Boundary (see Land Use Map in Appendix A).

Overall, the timing and conditions of the development of DHHL's Wai'anae lands are not subject to the Policies of the Wai'anae Sustainable Communities Plan, nor to review and approval by the City Council because DHHL is exempt from City and County zoning and land use regulations.

3.8.2.3 Preserve Agricultural Lands

Future housing development should be limited to undeveloped lands that are designated by the Wai'anae Sustainable Communities Plan for urban use, and should not be allowed to encroach upon agricultural lands.

3.8.2.4 Support Home-Based Businesses

Many Wai'anae residents currently work from home, and many more are interested in doing so. However, they are limited in the types of activities they can carry out, and in the number of people they can have working there. While it is recognized that there are some occupations that are not compatible with residential neighborhoods (*i.e.*, vehicle repair), there are others that are. Home-based businesses should be supported in Wai'anae to help increase the number of local jobs, and decrease people's commute time to jobs outside of the District.

3.8.2.5 Although Allowed to be Exempt by State Law, 201H Projects Should Meet Wai'anae Sustainable Communities Plan Guidelines

A relatively high proportion of the island's affordable housing projects have been built in the Wai'anae District. Although they are often built with the intention of helping the District's residents, there are significant negative impacts, such as increased population and higher demand on infrastructure and public facilities. Therefore, the Wai'anae community is not opposed to new affordable housing projects, but they would like to see them distributed more equally around the island. In addition, if they are built in Wai'anae, they should follow the guidelines listed in Guideline 3.8.3.1.

3.8.3 Guidelines for Residential Development

3.8.3.1 Follow Wai'anae Sustainable Communities Plan Affordable Housing Guidelines

Proposed new affordable housing projects should meet the following criteria:

- Affordable housing projects should be distributed equally around the island (i.e., Wai'anae should not have a significantly higher proportion of affordable housing units than the other Districts).
- The project needs to address the needs of the community, such as new and/or improved infrastructure and facilities. These needs should be discussed and decided upon through extensive community outreach and collaboration initiated by the proposed developer.
- 201 H projects should conform to the Policies and Guidelines within the Wai'anae Sustainable Communities Plan.

3.8.3.2 Limit the Height of Residential Structures

Residential building heights should generally not exceed two stories or 30 feet, including the roof form, with heights above 30 feet allowed only when necessary due to the required flood elevation, steep slope of the site, or the desire to protect important natural features.

3.8.3.3 Encourage Clustered Housing in Wai'anae Country Town

Encourage the development of clustered housing in the vicinity of the designated Wai'anae Country Town. Public agencies could provide incentives to landowners in the form of infrastructure improvements in the Country Town; the provision of public amenities including parks, gathering places, and main street landscaping; and special abatements for real property taxes. Clustered housing would help to create a people-oriented Country Town, where more residents could easily walk to local shops, stores,

and service businesses. In the context of the Wai'anae District, "clustered housing" does not mean high-rise or even mid-rise structures. Small lot single-family housing, duplex homes, townhomes, and other types of residential structures can be constructed at densities from 10 to 20 units per acre. The traditional configuration of apartments over first floor commercial spaces should be brought back to the Wai'anae Country Town. These somewhat higher densities could result in housing for a population of up to several thousand people within a 10-minute walk of the Town Center.

3.8.4 Relation to Land Use Map

Residential lands are part of the Rural Residential lands illustrated on the Land Use Map (Exhibit A-1). These development lands are bounded by the Community Growth Boundary, and include existing residential uses, small-scale commercial and industrial uses, institutional uses, and undeveloped residentially-zoned lands suitable for "infill" development. Also included in this land use designation are as yet undeveloped residentially-zoned lands in Mākaha Valley. The Mākaha Special Area Plan recommends that these parcels be developed at a lower density than their current zoning allows.

3.9 COMMERCIAL AND INDUSTRIAL USES

3.9.1 Overview of Commercial and Industrial Uses

Wai'anae's retail commercial and industrial areas generally serve the needs of the resident population: Wai'anae does not contain "destination retail" centers like the Waikele Power Center in Central O'ahu or Ala Moana Center in Honolulu, or "regional industrial" centers like Campbell Industrial Park in 'Ewa. Mākaha Resort is the area's only significant destination resort area. During the 1970's and 1980's, this resort provided as many as 300 jobs, many of them filled by Wai'anae residents. The Resort closed in 1996 due to low occupancy levels. It has since re-opened, but the number of jobs it provides is significantly lower than at its peak.

In keeping with the overall theme of a "rural Wai'anae," the General Plan does not foresee significant growth in commercial or industrial land use for this area. There is general community support for the development of more strongly defined local commercial and service centers (discussed more in Section 3.10), although recent trends indicate a shifting of shopping habits away from local stores to the larger commercial centers in the 'Ewa District.

Regarding industrial uses, the Wai'anae community agrees that their District needs local jobs, including industrial jobs within a light industrial park with moderately priced lease rents or fee

simple prices for industrial lots. However, there has not been community-wide consensus on the most appropriate size or location for such industrial activities.

Local small businesses and light industrial operations are an important source of jobs for Wai'anae's people. A healthy level of small local businesses is essential for the local economy and also lessens the volume of commuter traffic that causes severe congestion on Farrington Highway during morning peak traffic periods.

3.9.2 Policies Pertaining to Commercial and Industrial Uses

3.9.2.1 Encourage the Continuation of Existing Commercial Establishments

Encourage the continued viability of the District's existing commercial businesses, including the many small neighborhood retail stores and restaurants as well as the larger commercial centers like Wai'anae Mall and Nānākuli Shopping Center. Parcels already zoned for commercial use should continue to be zoned commercial.

3.9.2.2 Encourage Establishment of Commercial Businesses that Serve the Community

Encourage the establishment of appropriate commercial businesses that will provide jobs and goods and services in the Wai'anae District, especially within the designated Country Town and Village Center areas. Public agency actions in this area may include the approval of appropriate commercial zoning, provision of infrastructure, beautification of main streets, tax abatements, technical assistance, training in small business management, grants, and loans. Commercial businesses should be allowed only in the Rural Residential areas, except for those small-scale country businesses that are compatible with agricultural land uses (see Land Use Map in Appendix A).

3.9.2.3 Support the Continued Viability of the Mākaha Resort

The Mākaha Resort has been an important resource for the Wai'anae community – as an employer, a community gathering place, and a resort where visitors can enjoy the beauty of the Wai'anae coast. The continued economic viability of this resort, including the possibility of some expansion of its facilities, is thus very desirable. However, the development of new resorts in Wai'anae may not be economically or environmentally feasible. Therefore, no other land in the district is designated for new resort development.

3.9.2.4 Prohibit "Big Box" Stores

Prohibit the building of any "big box" stores in the Wai'anae District. In commercial development terminology, "big box" generally refers to a physically large chain store, with more than 50,000 square feet of retail space, as well as to those company names that are commonly known as such. The terms superstore, megastore, and supercenter also refer to these types of retail establishments.

3.9.2.5 Encourage Light Industrial Businesses

Encourage the establishment of light industrial businesses that provide jobs for local people, and that are generally compatible with the predominantly residential uses of the Rural Residential areas along the coast, but not in Mākaha Valley. Light industrial uses should be allowed only in the existing Industrial areas in Wai'anae and Lualualei Valley, as shown on the Land Use Map (Exhibit A-1).

The Industrial site in Lualualei Valley is intended for light industrial uses that are not noxious or socially objectionable in nature. Light industrial lots at this location should be affordably priced for Wai'anae businesses, and include vocational training and other facilities that will benefit the Wai'anae community.

Special areas such as the Wai'anae Small Boat Harbor may also provide opportunities for ocean-related light industrial and research uses.

3.9.2.6 Do Not Allow Heavy Industry

New heavy industrial uses should not be permitted in the Wai'anae District. Such uses should be sited in the Campbell Industrial Park in 'Ewa.

3.9.3 Guidelines for Commercial and Industrial Uses

3.9.3.1 Design Guidelines for Neighborhood Commercial Establishments

Neighborhood commercial establishments in the Wai'anae District typically consist of one to several buildings that are one or two stories in height, with associated parking areas. The two main shopping centers, Nānākuli Shopping Center and Wai'anae Mall, are not included in this classification of "Neighborhood Commercial." The scale of neighborhood commercial buildings is generally compatible with the surrounding residential land uses. Design guidelines for any future new neighborhood commercial buildings thus include the following:

- Buildings should be residential in scale: Height, size, and massing of the building should be compatible with adjacent residential structures.
- Total floor area of any building should not exceed 10,000 square feet.

- Building forms and roof lines should incorporate some design variation in order to avoid large uniform walls or large roof plates.
- Exterior materials and colors should be compatible with those used in adjacent residences.
- Access to parking and loading areas should be from an arterial or collector street.
- Storefronts should be oriented to pedestrian ways, with parking in the rear of the commercial buildings.
- Parking and loading areas should be screened from nearby residential areas and from the street.
- Lighting and signage should be relatively low key so as to avoid conflict with nearby residential areas.

3.9.4 Relation to Land Use Map

Most of the District's existing commercial and industrial uses are small in scale and are included within the Community Growth Boundary. One significant industrial-zoned area is in the vicinity of the Wai'anae Wastewater Treatment Plant. The other is in Lualualei Valley.

3.10 COUNTRY TOWNS, RURAL COMMUNITY COMMERCIAL CENTERS, AND GATHERING PLACES

3.10.1 Overview of Concepts for Country Towns, Rural Community Commercial Centers, and Gathering Places

Within the "Rural Residential" areas for each of the subcommunities of Nānākuli, Lualualei, Wai'anae, and Mākaha, there is the need for the development of more strongly defined **local commercial and service centers**. These Centers should contain a concentration of small retail businesses, restaurants, professional offices, medical clinics, and social services centers. They should also contain some clustered housing units, including second-story housing units above ground-level commercial space. Structures would be one or two stories in height. This more compact development pattern would provide for a stronger local community identity, further reinforce the concept of the *ahupua'a*, encourage more pedestrian traffic and less dependence on cars, support small local businesses, and potentially alleviate the strong "strip mall" development pattern that presently exists along Farrington Highway.

After several years of intensive community-based planning, the Nānākuli Hawaiian Homestead Community Association (NHHCA) has taken the initiative to develop such a village center project. It will include a multi-purpose cultural center (The Agnes K. Cope Cultural Center), an affordable housing rental complex, commercial retail spaces, and the International Surfing Hall of Fame. The project, which has a total estimated development cost of nearly $70 million, will be located on a 13.57-acre site centrally located within the Nānākuli community (adjacent to the Nānāikapono elementary school). NHHCA was awarded a long-term 65 year lease from the DHHL. The Nānākuli Village Center will be completed in 2 phases over the next 2-3 years.

There is also a need for the development of **Community Gathering Places**. These Gathering Places should be park-like areas of several acres that would be managed and maintained by a community organization. People would gather here informally to visit and talk story; have parties and celebrations; stage festivals and special events; teach and learn traditional crafts, music, and dance; buy, sell, and barter homegrown produce and homemade items; and renew contact and communication with friends and neighbors.

Originally, the community discussed developing these Community Gathering Places *mauka* of Farrington Highway, relatively close to the town centers. More recently, residents discussed the possibility of instead putting the Community Gathering Places on the beaches, one in each of the major *ahupua'a*. The idea was that these gathering places could help bring the community back to the beaches. They also envisioned connecting these areas by a paved walking/jogging/biking path that extends along the entire Wai'anae Coast. The path would be wide enough for Police Cushmans to utilize for patrolling. It could also be lit by photovoltaic-powered lights, and provide safety phones and water fountains.

The major benefits of this concept include: allowing people to utilize the beaches and feel safe doing so, providing a venue for exercise and sporting events, and allowing people to get around the District by bike safely, which could also help to reduce traffic within the District.

The existing commercial center of Wai'anae Town is designated a "Country Town." Smaller "Rural Community Commercial Centers" are designated for the communities of Nānākuli, Lualualei, and Mākaha. Community Gathering Places are also schematically shown on the Land Use Map for all of these communities.

3.10.2 Policies Pertaining to Country Towns, Rural Community Commercial Centers and Gathering Places

3.10.2.1 Establish a Phased Development Program

A program should be established for the phased development and improvement of Community Commercial Centers and Community Gathering Places for Nānākuli, Lualualei, Wai'anae and Mākaha (note: as of 2010, the Nānākuli Village Center has been planned, but is still under development). The development program should include the coordination of various public planning and financial resources and partnering with local landowners and local businesses. The overall goal of the phased development program should be to establish: (1) physically distinct and economically viable Rural Community Commercial Centers that will serve local commercial needs, provide local jobs, encourage pedestrian and bicycle circulation, and foster a spirit of community identity and community pride, and (2) Community Gathering Places that will provide a setting for cultural, educational, and social activities.

Actions toward the achievement of these objectives should include the appropriate use of zoning, special tax abatements, provision of infrastructure, beautification of main streets, construction of mini-parks and gathering places, technical assistance, training in small business management, clustering of public structures and services, and the provision of grants, loans, and loan guarantees.

3.10.3 Guidelines for Country Towns, Rural Community Commercial Centers and Gathering Places

3.10.3.1 Geographic Size of the Centers

As a general guide, the geographic extent of the commercial and residential land uses that make up the Centers should be relatively small in scale.

Thus, the area to be developed as "Wai'anae Country Town" could extend from Wai'anae Mall to Old Government Road, and from Pōka'i Bay Beach Park to the vicinity of Wai'anae Elementary School. This area is about 4/5 mile long by about 1/4 mile wide, or about 100 acres in area. Walking time at a reasonable pace from the farthest edges of Wai'anae Country Town to the commercial establishments in the middle of the Center would be about 5 minutes.

The focal concept for Waiʻanae Town Center is the improvement and expansion of Pōkaʻi Bay Beach Park, including the development of a Community Gathering Place there, and the revitalization of traditional "town center" commercial properties located on both sides of Farrington Highway. Ideally, improvements to the Park would include bringing park greenery and open space up to the Farrington Highway corridor, such that the Park and Pōkaʻi Bay are visible from the highway. More detailed plans for Waiʻanae Country Town should be developed in the near future.

The Rural Community Commercial Centers would range in size from about three to five acres. Nearby homes would be within a reasonable walking distance of Center commercial establishments.

3.10.3.2 Commercial Establishments in the Centers

Commercial buildings located within the Country Town and Rural Community Commercial Centers should be low-rise one-, two-, or at most three-story buildings. Where possible, existing older buildings that have some architectural interest should be preserved. New buildings should be designed and sited to create a strong building line along the main street. Parking lots should generally be located behind the buildings. The typical configuration for strip commercial development, with a large parking lot fronting the street and the commercial building located at the back of the parking lot, should not be allowed. A limited amount of "fast turnover" parking stalls could be located in front of new commercial buildings. The design of new buildings should incorporate elements and materials from traditional local architectural styles. Where possible, commercial buildings should be designed as multipurpose structures, with retail commercial space on the ground floor, and space for professional offices or residential apartments on the second floor.

3.10.3.3 Residential Structures in the Centers

The proposed Waiʻanae Country Town should be developed incrementally. There are some vacant commercial and residential lots along Farrington Highway between Waiʻanae Mall and the Waiʻanae Community Center. Over time, there will be more opportunities to replace obsolete structures.

New residential development within Waiʻanae Country Town should be built at a higher density than the typical local housing that has been developed along the Farrington Highway corridor, which usually has minimum lot sizes of 5,000 square feet. Although it is recognized that many residents would prefer to have larger lots – 10,000 or 20,000 or more square feet – clustered housing is important for the overall design and commercial success of these Centers. Thus, the suggested housing types are 2-story townhomes, duplex units, and clustered single-family homes that may have average lot sizes of about 4,000 square feet. High-rise and mid-rise apartment and condominium buildings are not

appropriate for the Wai'anae Coast. These kinds of structures are urban in character and are not compatible with the character of the Wai'anae District.

If the redeveloped Wai'anae Country Town eventually has about 40 gross acres of clustered residential use, and the average density is about 10 units per acre, the Country Town would have about 400 homes. This would mean that about 1,600 people would be within a few minutes walk of essential shopping and services.

3.10.3.4 Center Amenities

The Country Town and Rural Community Commercial Centers should be landscaped and contain other amenities to identify them as special places for people to frequent. These amenities could include:

- Street trees along the main streets of the Center;
- Mini-parks and gathering places;
- Wider sidewalks to accommodate outdoor cafes and sidewalk displays of merchandise;
- Pedestrian-scale street lights;
- Street furniture at appropriate places: benches, trash receptacles, bike racks, planters with flowering plants.

3.10.3.5 Guidelines for Community Gathering Places connected by a walking/jogging/biking path located along the coast

Wai'anae residents would like to create four Community Gathering Places, one in each of the major *ahupua'a* (Nānākuli, Lualualei, Wai'anae, and Mākaha), in their beach parks. The Gathering Places should be connected by a walking/jogging/biking path that would be constructed from Mākaha to Nānākuli. The Gathering Places should reflect the needs and preferences of the community that it serves. As a general guide, the following facilities should be considered:

- One or more acres of park-like space. This open space would be used for informal gatherings, games, parties, and performances
- A hula mound
- A picnic area
- Restrooms
- A multipurpose building that could be used for community meetings, indoor classes, and storage of materials and equipment
- Adequate parking
- Signage, lighting and landscaping

The walking/jogging/biking path should have the following characteristics and amenities:

- ADA compliant
- Wide enough for Police Cushmans to utilize for patrolling the area
- Lit by photovoltaic-powered lights
- Safety phones
- Water fountains

Land acquisition and capital funding for the development of the Community Gathering Places will be a challenge. A combination of City, private sector, and community resources will probably be needed. The management and maintenance of a Gathering Place should be the responsibility of the local community. A system of volunteer labor for routine maintenance chores will be needed. Some funds will also be needed for maintenance materials and supplies.

3.10.4 Relation to Land Use and Open Space Maps

Wai'anae Country Town and Rural Community Commercial Centers for Nānākuli, Mā'ili, and Mākaha are schematically shown on the Land Use Map. Community Gathering Places for Nānākuli, Mā'ili, Wai'anae, and Mākaha are schematically located on the Open Space Map.

3.11 PARKS AND RECREATIONAL AREAS

3.11.1 Overview of Existing Parks and Recreational Areas

The Wai'anae District has a diverse number of parks as shown in Table 3-6, and contains the world-renowned Mākaha Beach for surfing competitions. The District has one (undeveloped) Regional park, eight Beach Parks, one District Park, four Community Parks, one Neighborhood Park, one Cultural Park, and four Beach/Shoreline Access Points. The location of these parks is shown in Exhibit 3-3.

One of the last semi-wilderness areas on O'ahu, Ka'ena Point State Park, consisting of approximately 2,236 acres, encompasses rugged lava shorelines, large white sand beaches, cliffs, gorges and valleys as well as forested mountain regions that contribute to a wide variety of recreational, educational, and cultural opportunities.

Overall, there are two major issues currently associated with the District's parks. First, there is a significant shortfall in the number of community-based parks and in the total acreage of park lands. This shortfall was pointed out in the original Wai'anae Sustainable Communities Plan, but has still not been addressed. (The details are in the subsequent pages of this chapter.) The second major issue related to Wai'anae's parks is the large number of homeless living on the beaches. Many of these areas are City Beach Parks, which normally offer camping through the Parks Permitting System.

There is no simple solution to this difficult situation. The Wai'anae Sustainable Communities Plan recognizes that this "user conflict" further aggravates the shortfall of parks.

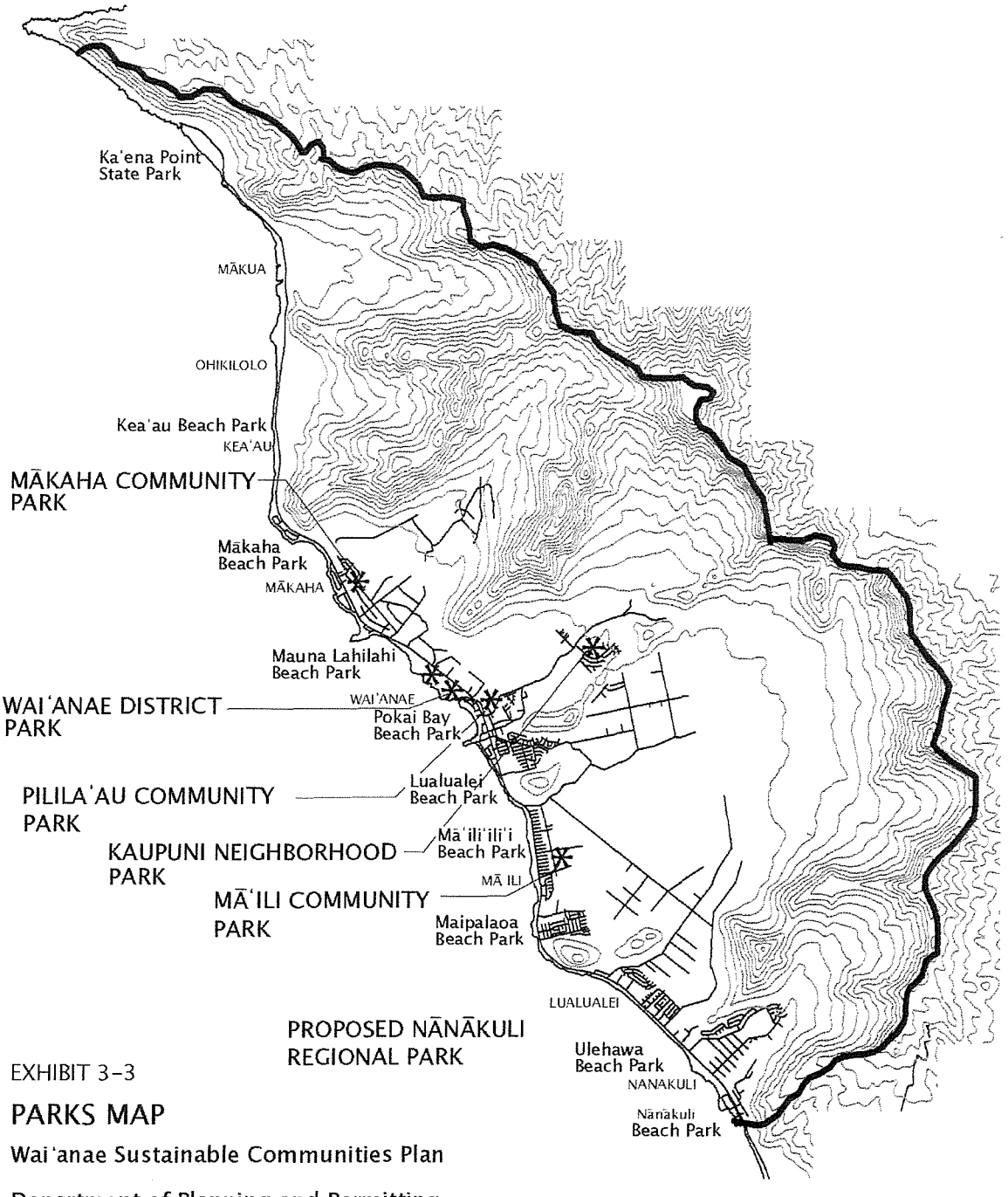


EXHIBIT 3-3

PARKS MAP

Wai'anae Sustainable Communities Plan

Department of Planning and Permitting
City and County of Honolulu

Source: Department of Planning and Permitting
and Department of Parks and Recreation

Table 3-6: City Parks and Park Acreage

Park Name (and type)	Acreage
Regional Park	
Nānākuli Regional Park (proposed)	(50)
Beach Parks	
Kea'au Beach Park	38.05
Lualualei Beach Park	17.75
Mā'ili Beach Park	39.56
Mākaha Beach Park	20.62
Mauna Lahilahi Beach Park	8.74
Nānākuli Beach Park	39.63
Poka'i Bay Beach Park	15.49
Ulehawa Beach Park (1 and 2)	57.65
District Park	
Wai'anae District Park	22.92
Community Parks	
Mā'ili Community Park	3.68
Mākaha Valley Community Park	4.32
Herbert K. Pilila'au Community Park	10.44
Pu'u o Hulu (or Mā'ili Kai) Community Park	11
Neighborhood Park	
Kaupuni Neighborhood Park	7.51
Others:	
Mauna Lahilahi Cultural Garden	14.3
Makau Street A Beach Right-of-Way	0.02
Makau Street B Beach Right-of-Way	0.02
Moua Street Beach Right-of-Way	0.02
Total Acreage:	**331.29**

Source: DPR, 2008

(Note: the acreage from the proposed Nānākuli Regional Park was not added into the total.)

The City and County of Honolulu Parks Department has plans to expand the Mākaha Beach Park by adding lands *mauka* of Farrington Highway. The plan is to reroute a portion of Farrington Highway *mauka* to allow for this expansion. However, because rerouting of Farrington Highway will be a major undertaking, controlled by the State DOT, the expansion will occur in phases. The Wai'anae community is generally in favor of rerouting the highway *mauka*, to allow people safer access to the restrooms, shower, and paddling *halau wa'a* (canoe storage).

There are two 18-hole golf courses in the Wai'anae District: 1) Mākaha Valley Country Club and 2) Mākaha Golf Club. These courses are privately owned, but open to the public.

The City's community-based park standards for the various types of parks are:

- Neighborhood Parks (4 to 6 acres): one per 5,000 population Service Area ½ Mile
- Community Parks (10 acres): one per 10,000 population Service Area 1 Mile
- District Parks (20 acres): one per 25,000 population Service Area 2 Miles

Table 3-7: City Park Requirement per City Standards for 2009 Wai'anae District Population (+/- 45,000

Park Type	Current: Number/Acreage	City's Park Standards per 45,000 (approximate 2009 population)	Shortfall: Number/Acreage
Neighborhood	1 / 7.5 acres	9 / 45 acres	8 / 37.5 acres
Community	4 / 29.4 acres	4 / 40 acres	0 / 10.6 acres
District	1 / 22.9 acres	2 / 40 acres	1 / 17.1 acres
TOTAL:	6 / 59.8 acres	15 / 125 acres	9 / 65.2 acres

Source: DPR, 2008

As shown in the table above, the total park acreage requirement for the Wai'anae District is 125 acres based on an estimated population of 45,000 people. In 2009, there were still just under 60 acres of these parks, which is a shortfall of approximately 65 acres of park space. Most notably, the Wai'anae District has a shortfall of **eight** Neighborhood Parks.

It should also be noted that two of the four existing Community Parks are substandard in size: Mā'ili Community Park at 3.68 acres, and Mākaha Community Park at 4.32 acres. The City's creation of Mā'ili Kai Community Park fulfilled the need for a fourth Community Park in the District, however, it is not yet fully developed.

In addition, a Nānākuli Regional Park was proposed in May 2010. It replaces the previously planned Wai'anae Regional Park, and will be the District's first Regional Park, consisting of 50 acres. It will provide facilities for active recreational sports activities such as baseball, softball, football, tennis, basketball, and volleyball.

3.11.2 Policies Pertaining to Parks and Recreational Facilities

3.11.2.1 Develop Adequate Public Parks

Parks and recreational facilities are of great importance to the health and welfare of the Wai'anae community, and are especially important to the health and well-being of Wai'anae's children and young people. At least the minimum number and size of community-based parks should be developed by the Year 2020. According to Table 3-7, in 2009, the District had a shortfall of eight Neighborhood Parks, one District Park, and 10 acres of Community Parks. By 2020, the District will need at least one more

Neighborhood Park (total requirement of 9 parks) and one additional Community Park (total requirement of 1 park and 20.6 acres). The development of the Nānākuli Regional Park should also be a high priority. In addition, at least some of the parks in the District should be "dog-friendly."

3.11.2.2 Prohibit More Golf Courses That Compete with Agriculture or Open Space Resources

There is no land available within the Rural Residential areas of the Wai'anae Land Use Map (Exhibit A-1) that would be large enough for a golf course. Golf courses may be incompatible with Agricultural lands or Preservation lands of the Wai'anae District. Therefore, public agencies should discourage new golf courses within the Wai'anae District that compete with Agricultural and Preservation land to the detriment of agricultural or open space resources.

3.11.2.3 Plan for a System of Hawaiian Cultural and Educational Parks

The Wai'anae community would greatly benefit from the development of numerous Hawaiian Cultural and Educational Parks throughout the District.

3.11.3 Guidelines for Parks and Recreational Facilities

3.11.3.1 Increase Neighborhood Parks Based on City's Park Standards

In the Wai'anae District, there is a shortfall of 8 Neighborhood Parks based on the City's park standards. This shortfall should be addressed through an incremental park development program. Generally, there should be two neighborhood parks for each of the main settlement areas of the District: Nānākuli, Mā'ili/Lualualei, Wai'anae, and Mākaha. There are some but not many undeveloped lands within these Rural Residential areas. The needed acreage for park development should be secured before infill residential development of vacant/residentially zoned lands precludes the location of neighborhood parks in close proximity to these developed areas.

There is a recognized deficiency in the number and acreage of active, community-based public parks. It is a condition that exists across the entire island and is largely due to the fact that park development standards were only adopted about 30 years ago, although much of the residential development occurred earlier. Also, City park dedication requirements were included in its subdivision ordinance about the same time – in 1976. At locations where the military or other institutions will eventually vacate substantial land areas of six acres or more, these will present opportunities for the City to consider, as funds permit, developing new public parks with active-type recreational facilities.

3.11.3.2 Create Flexible Criteria for Recreational Facilities

In developing neighborhood parks, there is a need for more flexibility within the criteria for "allowed" recreational facilities. For example, current City standards specify the development of a comfort station for a neighborhood park, but a "recreation building" is not included. However, depending on the service population, the location of the neighborhood park, and the distance to a community park that provides a recreation building, a recreation building or multi-purpose building should be provided for a neighborhood park if there is a clear need for one. Since building maintenance and supervision services are always an issue – in terms of both personnel and overall cost – a cooperative program utilizing the Department of Parks and Recreation's Adopt-a-Park Program could be established at parks where there is community interest whereby a community organization could share in supervision responsibilities and maintenance costs of a recreation building.

3.11.4 Relation to Open Space Map

Existing beach parks and active recreation parks are schematically shown on the Open Space Map.

3.12 MILITARY LAND USE

3.12.1 Overview of Military Land Use in the Wai'anae District

The U.S. Navy obtained, via Executive Order, 7,498 acres of Lualualei Valley – "Naval Magazine Lualualei Headquarter Branch" – which the Navy uses for the storage of various kinds of ordnance needed for the different branches of the U.S. Military in Hawai'i. The Navy also obtained, via Executive Order, and controls an additional 1,729 acres of Lualualei – "NCTAMS EASTPAC, RFT Lualualei" – which is used for high and low frequency radio signal transmissions.

The U.S. Army uses a portion of the 4,130 acres of Mākua Valley, although on a limited basis, due to community concerns on environmental issues. The Army's Mākua lands consist of 170 acres of "fee simple" land, 782 acres of land leased from the State of Hawai'i, and 3,237 acres of ceded lands, also leased from the State. The leases expire in the year 2029. The Army's use of Mākua for live fire training dates back to World War II. Prior to that time, Mākua lands had been used for ranching, fishing, and farming. In earlier times, Mākua Valley and its sister valleys, Kahanahāiki and Koiahi were home to a large Native Hawaiian population.

There has been considerable discussion in recent years about the return of some Military controlled lands to public use. About 1,000 acres of the Navy's Radio communications installation at Lualualei was identified by the Federal Government as possibly excess. The Navy has a long range plan for the relocation of its stored ordnance from Lualualei to the Naval Magazine at West Loch. The Wai'anae community looks forward to the return of these lands and has many concerns about the health impacts of the communication towers at Lualualei and the cumulative impacts of storing ordnance upwind of the community.

The Army's use of Mākua Valley is controversial and has been so from the time that the Army took control of the Valley. For many members of the Wai'anae community, Mākua Valley has a special cultural and religious significance. This significance predates the Army's presence and use of Mākua Valley. There are a number of important *heiau* and other significant cultural and religious sites found there. Many in the Wai'anae community advocate for the return of Mākua Valley. The Army's use of Mākua in recent years has been minimal, due to environmental and cultural concerns. Many in Wai'anae believe that the Army has demonstrated its ability to train at alternate locations, thus negating the need for Mākua Valley as a training area.

3.12.2 Policies Pertaining to Military Lands

3.12.2.1 Preserve and Transition Military Lands to Civilian Use

In keeping with the Wai'anae Concept Map, the overall long-range land use policy for the military lands at Lualualei and at Mākua Valley is that these lands should be preserved as agricultural/open space and returned to public use. These lands should also be preserved for cultural uses, and not be used for any other purposes, such as the creation of a new landfill or new private or public development.

The importance of U.S. military uses of lands at Lualualei and in Mākua Valley is controversial and debatable.

Therefore, the continued use of these lands for military purposes should be debated, and transition to public use should be pursued. Access to certain sites for cultural and religious practices should be allowed as per existing Federal Statutes and Rules. Upon such a time that Mākua Valley is released from military use, there should be a community participation process to plan for its re-use.

3.12.2.2 Organize and Implement Cooperative Programs

The City is committed to working with the community and with the Army and Navy to organize and implement programs for the ongoing protection and preservation of important cultural and natural resources found on the military lands of the Wai'anae District.

3.12.3 Relation to Land Use Map

The two Navy installations at Lualualei and the Army's Mākua Training Area are shown on the Land Use Map by a "dot screen" pattern that allows the overall land use designation colors for "Agriculture" and "Preservation" to be seen.

4. PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES

This chapter of the Wai'anae Sustainable Communities Plan presents **Policies** and **Guidelines** for the principal infrastructure systems that the Wai'anae Community would like to see provided for the District.

The infrastructure issues presented here include the standard systems that the various City agencies are in charge of constructing and maintaining. The Wai'anae Planning Advisory Committee has also discussed the importance of recognizing their community's "original infrastructure" – the landscape and cultural resources, such as the *pu'u* and *heiau* that the ancient Hawaiians living here used. They would like to ensure that this cultural infrastructure is recognized and preserved as much as possible.

The following are **General Policies** that are overarching to many of the infrastructure systems included in this chapter:

- The latest technology that allows the Wai'anae Community to be as sustainable, or "green" as possible, should be implemented, while remaining consistent with other community objectives.
- Rural Infrastructure Standards should be considered and, where possible, developed by the City and State to maintain and reinforce a country feel and character. Standards would consider less impervious surfaces, attention to roadway quality of service – in addition to level of service, preference for bioretention solutions for storm waters, and alternative landscaping requirement for street trees. These standards would need to be such that they would not result in potentially hazardous conditions for vehicular or pedestrian traffic, or negatively impact abutting private property.

This Chapter includes the following sections:

4.1 Transportation Systems
4.2 Potable and Nonpotable Water Systems
4.3 Wastewater Collection and Treatment Systems
4.4 Electrical Power and Communications
4.5 Drainage Systems
4.6 Solid Waste Handling and Disposal
4.7 Civic, Public Safety, and Education Facilities
4.8 Health Care Facilities

4.1 TRANSPORTATION SYSTEMS

4.1.1 Overview of Transportation Systems in the Wai'anae District

ROADWAYS

The major roadway in Wai'anae is Farrington Highway. In the "old days," Farrington Highway was a narrow, dusty track. Paved roads ended in Waipahu, and the ride out to the Wai'anae Coast was a long haul. Then as now, Farrington Highway was the only road linking the Wai'anae District to 'Ewa and to Honolulu beyond. During the heyday of rail transportation on O'ahu, a single track ran along the Wai'anae Coast to Ka'ena Point, and around to Mokuleia and Waialua on the North Shore. The embankment for this old railroad right-of-way still exists along a portion of the coast.

Today in 2010, Farrington Highway in the Wai'anae District has four travel lanes as far as Mākaha Valley Road, and thereafter two lanes to its terminus at Keawaula. It serves as both the local coastal road for trips within the District as well as the only commuter highway for trips outside of Wai'anae. During peak traffic, Farrington Highway is heavily congested, especially between Wai'anae Town Center and Nānākuli. Important local collector roadways include Nānākuli Avenue, Heleakala Avenue, Lualualei Naval Road, Hakimo Road, Pa'akea Road, Wai'anae Valley Road, and Mākaha Valley Road (Exhibit 4-1).

The 2020 O'ahu Regional Transportation Plan (ORTP) recommended safety and operational improvements for Farrington Highway in the 1995 to 2000 time frame, including sidewalks, pedestrian crosswalks or bridges, additional traffic signals, and continuous left-turn lanes. The O'ahu Transportation Improvement Program (TIP) for FY 2006 through FY 2008 included bridge replacements and intersection improvements at numerous locations on Farrington Highway. The 2030 ORTP recommends congestion relief projects for Farrington Highway, consisting mostly of highway widening.

In the 2006-2020 time period, the ORTP recommends that Farrington Highway be widened to 6 lanes from Kapolei to Nānākuli. This would improve the highway level of service (LOS) to a projected LOS "C."

In recent years, with the increase in the Wai'anae District's population, and the general trend of more automobile use by most citizens, traffic congestion on Farrington Highway has grown progressively worse. Congestion during the peak traffic period for morning commuters – about 5:00 to 7:00 a.m. – has been aggravated by the addition of unsynchronized traffic signals, which the State Department of Transportation has had some success in remedying. In the 8 miles between Mākaha Valley Road and Nānākuli Valley Road, there are 27 signalized

intersections. That 8-mile drive can take up to 45 minutes during the morning peak period. However, commuters headed for jobs in the downtown Honolulu or Waikiki area are still faced with another 1 to 1-1/2 hour drive, which continues to worsen with increased development in the 'Ewa and Kapolei areas.

As a possible solution to this increasingly severe commuter problem, some area residents have advocated the construction of a Second Access Highway. This is different from the Emergency Bypass Road, which would only be opened in times of emergency. It is also different from the Wai'anae Coast Emergency Access Road. The three projects are described briefly here for clarification/distinction:

- The **Emergency Bypass Road** would go from Farrington Highway, up Lualualei Naval Road, and through the Kolekole Pass to Kunia Road. It would only be opened in times of emergency.
- The **Wai'anae Coast Emergency Access Road** was completed in 2009. This project connects existing roads *mauka* of Farrington Highway to provide an alternate way in and out of the District during those emergency situations when Farrington Highway is closed.
- In contrast, the concept for the **Second Access Highway** is to provide an alternate route to commute into and out of the District – at all times, not just during emergencies. The proposed alignment for a Second Access Highway is from Farrington Highway, up Lualualei Naval Road, through the Wai'anae Mountain Range at Pōhakea Pass, to connect to Kunia Road in the 'Ewa District. In 2001, the City's Department of Transportation Services published the Lualualei Naval Road/Kunia Road Connector Road Concept Study. This report estimated the cost of building the road, which would include a tunnel, to be approximately $250 million. More recent estimates put the cost closer to $500 million.

The Second Access Highway concept raises some difficult and fundamental issues concerning regional transportation systems and regional growth management. Traffic congestion on Farrington Highway is severe, and will probably grow worse. However, the construction of a major new commuter roadway that would ease traffic congestion and shorten commuting time to areas outside of the District will facilitate urban growth and development. The fundamental policies of preservation of agricultural lands and support of a rural lifestyle for the Wai'anae community will be more difficult to sustain if major new infrastructure projects like a new highway are implemented.

Overall, most of the community agrees that the first priority is the opening of the Emergency Bypass Road for emergency situations, and continue to discuss options for a Second Access Highway for the future. The Emergency Bypass Road, of course, would not help the issue of lengthy commuting times to downtown Honolulu. Since the Second Access Highway will not be developed in the foreseeable future, public transportation options are encouraged.

PUBLIC TRANSPORTATION

Traffic congestion could be alleviated through an enhanced public transportation system for the Wai'anae District. Recent improvements to TheBus system include the completion of Phase 1 of the Wai'anae Community Transit Center, consisting of a transit station with bus stops and shelters. There is also adjacent land available for a future park-and-ride lot. This would increase residents' ability to utilize TheBus services.

There are currently several bus routes and shuttle services in operation in the Wai'anae community. Routes C, 40, 40A, 93, and 93A offer regional service, while Routes 401, 402, and 403 operate as a neighborhood shuttle service.

In addition, the Honolulu Rail Transit Project has plans to run buses along the Wai'anae Coast to connect with a rail station at Kapolei. TheBus connection to the planned Honolulu Rail Transit Project has the potential to decrease commute time and increase transportation options for residents who commute to Honolulu regularly.

BIKEWAYS, SIDEWALKS, AND REDEVELOPMENT OF TOWN AND VILLAGE CENTERS

The development of more and safer bikeways and sidewalks, along with the redevelopment of Town and Village Centers, could decrease automobile use within the District. There is a need for a safe bicycle route along the entire Wai'anae Coast, and up some of the major valley roads, at least as far as the concentrations of urban/suburban development. Farrington Highway and the major valley roads also need safe sidewalks for pedestrian use. The provisions for the creation of more local jobs and the clustering of homes near Town Centers and Village Centers, as discussed earlier in this Plan, and thus less dependence on out-of-District commuting, would also be beneficial.

One specific idea is the development of a bike path on the old railroad right-of-way. Part of the right-of-way is under DOT jurisdiction, and part is incorporated within City park areas. The old railroad right-of-way has also been proposed for use by "antique trains" that would bring tourists into Wai'anae to shop. This concept may have some appeal to local business people, but such a use would not alleviate the traffic problem. In contrast, developing a bikeway along this route could help the situation.

In addition, residents are advocating for the creation of a walking/jogging/biking path along the coast (see Section 3.10.3.5).

COMPLETE STREETS

Act 54 (May 2009), requires State and County transportation departments to adopt and implement a complete streets policy and establishes a task force to determine necessary standards and guidelines. The intent of a complete streets policy is to create and configure a connected street system that provides for all users; including, but not limited to, pedestrians, bicyclists, and transit passengers of all ages and abilities.

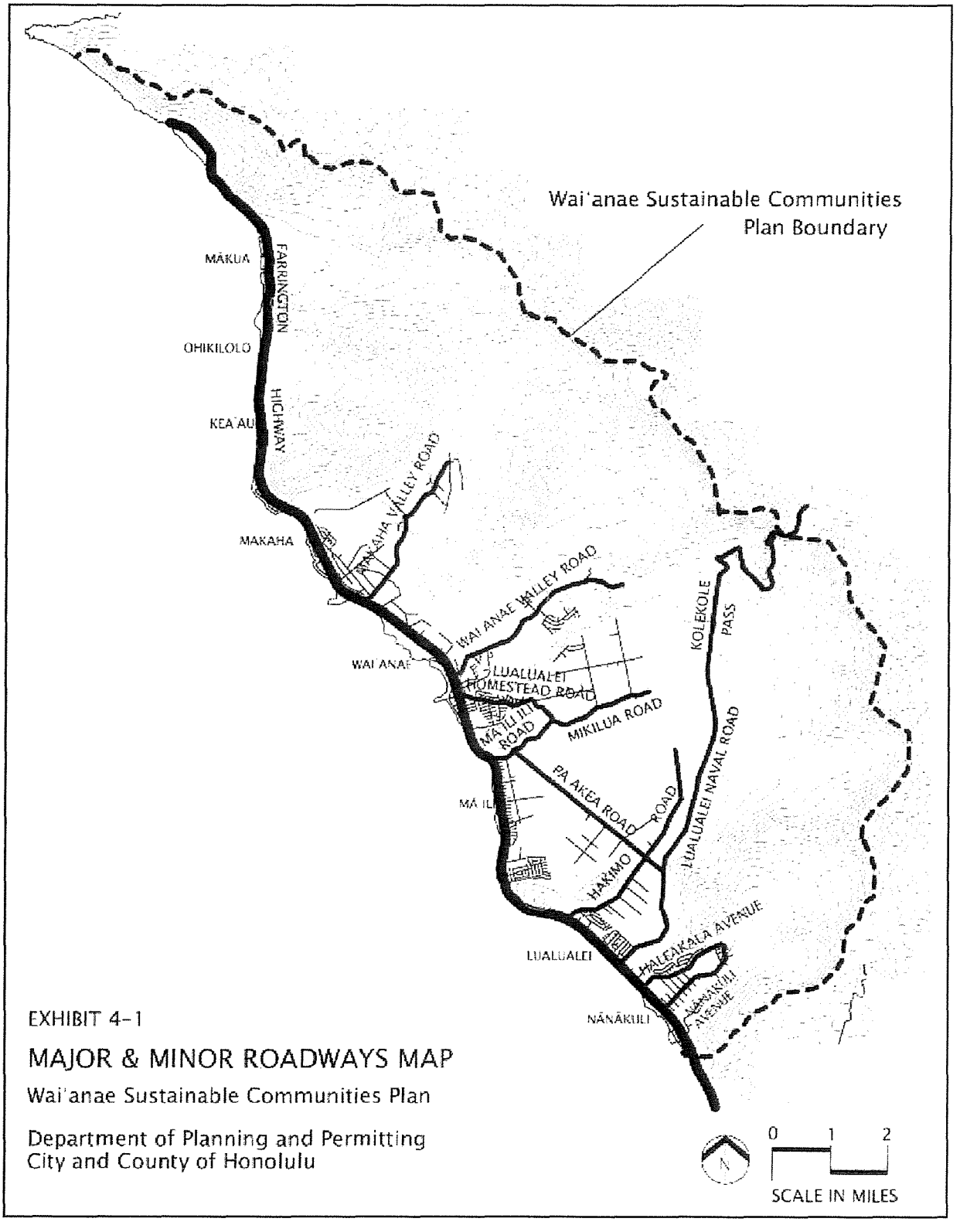


EXHIBIT 4-1

MAJOR & MINOR ROADWAYS MAP

Wai'anae Sustainable Communities Plan

Department of Planning and Permitting
City and County of Honolulu

4.1.2 Policies Pertaining to Transportation Systems

4.1.2.1 Implement Farrington Highway Safety Improvements for Pedestrians and Motorists

A thorough study of safety improvements should be undertaken for Farrington Highway in Waiʻanae, and needed safety measures should be implemented in a timely manner. Safety improvements to be considered should include:

- Sidewalks, dedicated bike lanes, improved lighting, relocating utility poles and fire hydrants that are too close to the edge of the travelway, left turn lanes, deceleration and acceleration lands, bus pull-outs, traffic signals, traffic islands, median strip, pedestrian overpasses, and signalized pedestrian crosswalks.
- Use of a contra-flow system during the A.M. peak period and synchronization of traffic signals would also improve traffic flow and traffic safety.

To the extent possible, these safety measures should not impede the movement of vehicles on Farrington Highway, but where there is a conflict between pedestrian safety and vehicular flow, pedestrian safety should be the primary concern.

4.1.2.2 Beautify Farrington Highway

A comprehensive program for the incremental beautification of Farrington Highway in Waiʻanae should be established by the State DOT with community involvement. The program should consider undergrounding of overhead wires and elimination of utility poles, the planting of shade trees and other landscaping, with an emphasis on native, drought-tolerant plants; attractive signage announcing the entrance to the Waiʻanae District and the entrance into the subcommunities of Nānākuli, Māʻili, Lualualei, Waiʻanae, and Mākaha; and special design elements within the Country Town and Village Centers, including planting, lighting, signage, paving, and street furniture. Curb to curb pavement width could also be reduced. The overall objective should be to return at least parts of Farrington Highway to a more human and pedestrian-friendly scale.

Action should be taken to screen visually unattractive industrial facilities such as the Waiʻanae Wastewater Treatment Plant and the Department of Transportation's Base Yard. Eventual relocation of the Base Yard should also be considered.

4.1.2.3 Establish an Emergency Bypass Road

There is a need to establish an Emergency Bypass Road that can be used as an alternate to Farrington Highway for those times when one or more sections of Farrington Highway may be impassable due to storm damage, a severe vehicular accident, or some other cause. The recommended alignment is from Farrington Highway up the Lualualei Naval Road through the Kolekole Pass to Kunia Road. This should begin with an analysis of upgrading the Kolekole Pass.

4.1.2.4 Enhance Public Transportation

TheBus has made recent improvements within the District, including the completion of Phase 1 of the Wai'anae Community Transit Center, consisting of a transit station with bus stops and shelters. There is also adjacent land available for a future park-and-ride lot. The construction of the park-and-ride is recommended, since it would increase residents' ability to utilize TheBus services.

In addition, the Honolulu Rail Transit Project has plans to run buses along the Wai'anae Coast to connect with a rail station at Kapolei. This SCP supports TheBus connections to the planned Honolulu Rail Transit Project, since it has the potential to decrease commute time and increase transportation options for residents who commute to Honolulu.

4.1.2.5 Encourage Other Modes of Transportation

Encourage plans and programs for other modes of transportation, including bikeways, pedestrian walkways and paths, and creative use of existing unutilized transportation corridors such as the old OR&L railroad right-of-way (ROW). This ROW could be used for a multiuse path for bikers, roller bladers, skateboarders, personal transportation vehicles, and pedestrians that would be safe from vehicular traffic. The community also supports the development of a walking/jogging/biking path along the coast.

4.2 POTABLE AND NON POTABLE WATER SYSTEMS

4.2.1 Overview of Potable Water Systems

The potable water system currently servicing the area consists of seven source wells in Mākaha, the Mākaha shaft, three wells in Wai'anae Valley, the Wai'anae Tunnel, and the Plantation Tunnel.

The sustainable yield of the Wai'anae and Mākaha Aquifer System Areas, where active BWS sources are allocated, is only about 3 mgd each, as adopted by the State Commission on Water Resource Management (CWRM) in the August 2008 Water Resource Protection Plan. In the year 2005, the City produced about 4.9 mgd from these sources. This volume of water was less than the 2005 District demand of approximately 11.1 mgd. The balance of about 6.2 mgd is currently imported into the District from the much larger Pearl Harbor Aquifer Sector Area. Additionally, Wai'anae is supplied by small, in-district Federal, State, and private sources.

The Wai'anae Watershed Management Plan (BWS, 2010), described in Section 3.1.7, indicates that the District will need to diversify its water supply sources in the future, since there will be competing demands for currently undeveloped water from the Pearl Harbor Aquifer Sector Area, and Wai'anae's ground water withdrawals are already maximized.

BWS projections for the year 2030 indicate that the Wai'anae District will consume 13.37 mgd of potable water. These projections are based on a BWS-served population of 50,616, and DPP estimated growth in jobs. It is projected that the Wai'anae District will have to import approximately 7.21 mgd to provide for this projected 2030 scenario.

Potable water is conveyed to users through a system of water mains that follow the major roads in the District: Farrington Highway, Nānākuli Avenue, Heleakala Avenue, Hakimo Road, Kaukama Road, Pa'akea Road, Mā'ili'ili'i Road, Lualualei Homestead Road, Wai'anae Valley Road, and most of the major roads in Mākaha Valley. The water distribution system along Farrington Highway ends at the last 1-acre lot just past Kepuhi Point.

The cost of installing water service, especially for irrigation of crops on a small family farm, is an issue in Wai'anae. These charges are large capital outlays for the small family farms of the Wai'anae Coast. Federal and State assistance could help farmers offset infrastructure costs.

4.2.2 Overview of Nonpotable Water Systems

Regarding the use of non-potable water in Wai'anae, there is some potential, but it is limited. As of 2009, BWS only provided non-potable water from Glover Tunnel in Mākaha, with water from this system directed into the Mauna Olu Non-Potable Open Reservoir, which stores irrigation water for the Mākaha Resort's West Golf Course. Additionally, there are two existing unused brackish water sources that, in the past, supplied drinking water to the old suburban water supply company, which served the Nānākuli and Lualualei area. The two sources that could possibly be rehabilitated for brackish water irrigation are the Nānākuli Shaft, State Well No. 2308-01, and the Lualualei Shaft, State Well No. 2508-02.

In addition, the BWS conducted a feasibility study on water re-use. It found that the water is too brackish for re-use due to seawater intrusion into the District's sewer lines. In order to re-use Wai'anae's wastewater, the sewer lines would need to be upgraded to reduce/eliminate seawater intrusion. One possible alternative would be the use of Membrane Bioreactor units (MBRs). MBRs provide an alternative method of producing recycled water adjacent to the areas of use for irrigating golf courses and landscaped areas (R-1 quality). More details on this technology and other alternatives can be found in the Wai'anae Watershed Management Plan (BWS, 2010).

4.2.3 Water Conservation in the Wai'anae District

The O'ahu Watershed Management Plan encourages water conservation. In Wai'anae, water conservation is especially important, since the community has expressed the desire to be as self-sufficient as possible. Thus, the Wai'anae Watershed Management Plan (WWMP) includes numerous strategies to reduce water use and extend existing supplies. Those strategies are incorporated into the following Policies regarding both potable and nonpotable water systems.

4.2.4 Policies Pertaining to Potable and Nonpotable Water Systems

4.2.4.1 Implement Watershed Protection Strategies to Improve Forest Health & Perennial Stream Flows

Watershed protection is essential, since healthy forests sustain streams and groundwater aquifers. They provide a buffer for drought mitigation, as well as educational and vocational opportunities. Two critical watershed protection strategies include: (1) Restoration of natural watershed structure and functions, and (2) Preservation of species and habitat biodiversity by assessing and restoring critical water-related habitats. Details of these strategies are included in the WWMP.

4.2.4.2 Encourage Water Conservation

Public education and coordination to develop conservation programs to efficiently utilize potable water are needed to reduce the District's reliance on imported Pearl Harbor aquifer water. Some conservation measures include: leak detection/repair, low-flow fixtures, and use of rain catchments.

4.2.4.3 Diversify Water Supply, Matching Quality with Use

The Wai'anae water supply should be diversified, so nonpotable water use can be maximized, and potable water can be reserved for potable uses. Brackish sources should be developed and innovative new technologies like Membrane Bioreactors should be utilized to produce recycled water. In addition, The Wai'anae water system infrastructure should be expanded to allow this diversification, as well as to improve adequacy and dependability of the supply, transmission, and storage.

4.2.4.4 Support the Goals and Objectives of the Adopted Wai'anae Watershed Management Plan

The five major objectives are: (1) Promote sustainable watersheds; (2) Protect and enhance water quality and quantity; (3) Respect Native Hawaiian rights and traditional and customary practices; (4) Facilitate public participation, education, and project

implementation; and (5) Meet future water demands at reasonable costs. The specific details of how to implement those objectives are included in that Plan.

4.3 WASTEWATER COLLECTION AND TREATMENT SYSTEMS

4.3.1 Overview of Wastewater Collection and Treatment Systems

Wastewater for the Wai'anae District is collected at the Wai'anae Wastewater Treatment Plant (WWTP) located north of Pu'u Mā'ili'ili'i and south of Wai'anae Mall. The treatment plant has been designed for average dry weather flows of 5.2 mgd with a peak flow of 13.8 mgd. 2007 average flows to the treatment plant were approximately 3.5 mgd, an increase of 0.3 mgd since 1997. Thus, the plant still has excess capacity to handle additional flows.

Based on 80 gallons per capita per day, the current design capacity of the wastewater treatment plant could handle an additional 18,750 people, or an additional 4,688 households (based on an average of 4 persons per household) tied into the system.

The location of the WWTP – fronting on Farrington Highway and next to Wai'anae Mall, the largest shopping center in the Wai'anae District – is less than ideal. A community landscaping project has helped to screen the WWTP.

The major sewer lines generally follow Farrington Highway and the major valley roads, with the exception of Lualualei Valley, where the sewer lines do not extend beyond the more densely developed coastal zone.

Although the treatment plant has excess capacity to handle new flows, many of the existing residences that were initially developed with cesspools have not yet connected to the wastewater system. The Wai'anae Sustainable Communities Plan (2000) estimated that approximately 1,180 residences that are near existing sewer lines were not yet connected.

Based on City records from the 1990s, approximately 20 percent of the residences in the Wai'anae District were not hooked up to the wastewater collection system. Many of these residences are on property that was developed by the Department of Hawaiian Home Lands. The responsibility for tying into the wastewater collection system lies with the residents. The sewer lines have been sized to handle these house lots. However, since many people have not connected to the system, low flows in the lines cause septic conditions in the sewer lines, which often result in odors.

The Wai'anae Wastewater Treatment Facility was recently upgraded to secondary level treatment. The ocean outfall was also extended to a greater depth.

Although the wastewater treatment plant has adequate capacity to handle additional flows, sewer lines in the District may need to be upgraded, depending on where and when new development occurs. The first sewer lines were installed during the 1950s, and some of these lines may be nearing the end of their useful lives.

4.3.2 Policies Pertaining to Wastewater Collection and Treatment

4.3.2.1 Continue Phased Program for Replacement of Old Sewer Lines

The program for the phased replacement of old sewer lines in Farrington Highway and in the main valley roadways should be continued.

4.3.2.2 Improve the Wai'anae Wastewater Treatment Plant

Implement landscaping improvements to the Wai'anae WWTP to minimize this facility's visual impact on the community. Monitoring of the operations that contribute to odor problems should be continued and operational improvements should be implemented if needed to minimize odor impacts.

4.3.2.3 Coordinate with DHHL Regarding Sewer Connections

Develop a strategy to assist Hawaiian Homesteads homeowners to connect to the City's wastewater collection system. The cooperating entities should seek federal, state, and local assistance in establishing a program of small grants and low interest loans that can be made available to lower income families to finance these hookups.

4.4 ELECTRICAL POWER AND COMMUNICATIONS

4.4.1 Overview of Electrical Power and Communications Systems

The Wai'anae District is at present adequately served in terms of electrical power, and both telephone and cable television systems. Hawaiian Electric Company is planning a new electrical substation in the vicinity of Wai'anae Valley Road/Plantation Road to provide a more reliable system. As relatively little growth is planned for this District to the Year 2035, upgrading these systems is not a significant issue for the Wai'anae Sustainable Communities Plan.

Renewable Energy

Hawaiian Electric Company continues to engage in a broad spectrum of renewable energy-related initiatives and activities, including projects that will occur in Wai'anae. They include:

- *Solar Water Heating*
  Since commencing in 1996, Hawaiian Electric's residential solar water heating program has resulted in more than $34 million in rebates to help over 39,000 Hawai'i households statewide to install rooftop solar water heating systems. Hawaiian Electric continues to advocate maintaining demand-side management programs, including solar water-heating.

- *Bio fuels*
  Hawaiian Electric provides research funding for biofuels crop research conducted with the University of Hawai'i. Some of this research includes the evaluation of promising oil-producing crops.

- *Photovoltaics*
  The number of photovoltaic (PV) systems installed under net energy metering continues to grow in Hawai'i. Hawaiian Electric expects continued interest in PV by both residential and business customers. In addition, Hawaiian Electric is developing a program that will offer its customers another option to install PV systems at customer sites.

  Hawaiian Electric is in its 12th year of the *Sun Power for Schools* program with the State of Hawai'i Department of Education. Through the *Sun Power for Schools* program, it continues to install PV systems at Hawai'i public schools using voluntary customer contributions and in-kind utility contributions, including engineering, project management, administration, advertising, and marketing. To date, 30 public schools have received PV systems totaling over 38 kilowatts. Three of them, Wa'ianae High School, Wai'anae Intermediate, and Nānākuli High and Intermediate are in the Wai'anae District.

Antennas

Antennas have been around as long as we have had radio and television services. Antennas associated with communication purposes have grown tremendously especially since the U.S. introduction of mobile communication devices in the early 1980s. While the telecommunication industry has provided more convenient communication capabilities for individuals, it has also

increased the public agencies' ability to provide faster and more efficient response to those in need, particularly on an emergency basis.

While the benefits of the telecommunications industry cannot be disputed, communities have opposed the antennas due to aesthetic impacts, particularly on public views and on neighborhood character. Their visibility has increased, especially where antennas are mounted on free-standing towers.

The general public has also raised concerns about the environmental effects of electromagnetic field exposure associated with radio transmissions, as evidenced by the presence of antennas. However, the Federal Communications Commission (FCC) is responsible for evaluating the human environmental effects of radio frequency (RF) emissions from FCC-regulated transmitters. The federal guidelines specifically preclude local decisions affecting environmental effects of radio frequency emissions, assuming that the provider is in compliance with the Commission's RF rules.

The following are general principles governing utilization of antennas, to be applied to telecommunications providers and not to personal use antennas:

- Encourage co-location of antennas: towers should host the facilities of more than one service provider to minimize their proliferation and reduce visual impacts.
- Mount antennas onto existing buildings or structures so that public scenic views and open spaces will not be negatively affected. However, except for the occupant's personal use, antennas on single-family dwelling roofs in residential districts are not appropriate.
- Use stealth technology (e.g. towers disguised as trees) especially on free-standing antenna towers in order to blend in with the surrounding environment and minimize visual impacts.

4.4.2 Policies Pertaining to Electrical Power and Communications

4.4.2.1 Reduce the Visual Impact and Improve Safety of Utility Lines and Poles and Reliability of Service

As discussed in the section on Transportation and the policies relating to the beautification of Farrington Highway, there is a need for a phased program of under-grounding utility lines that now severely impact the scenic quality of the District's main coastal roadway. The utility lines also pose a safety threat to drivers on Farrington Highway, as they sometimes get knocked down by car accidents or severe weather. In

addition, any new transmission line corridors for electricity or communications should be located with care so that scenic qualities are not adversely impacted.

4.4.2.2 Encourage the Development of Alternative Energy Sources

The City and State should provide incentives for the use of alternative energy sources in the building of new developments.

4.4.3 Guidelines Pertaining to Electrical Power and Communications

4.4.3.1 Require New Developments to be Powered by Alternative Energy

Require all new developments proposed for the Wai'anae District to be powered at least 50% by alternative energy sources.

4.5 DRAINAGE SYSTEMS

4.5.1 Overview of Drainage Systems

There are no perennial streams in the coastal areas of the Wai'anae District, and the average annual rainfall in the coastal plain is less than 20 inches. However, because of flood damage that has occurred in the area from severe storms, such as Kona storms, studies were performed in the late 1950s by the West O'ahu Soil Conservation District and the City and County of Honolulu. These studies were performed to determine what drainage facilities would be needed to handle the one percent event or the 100-year storm.

As a result of these studies, four large concrete-lined drainage channels were constructed to discharge storm water runoff into the ocean. These channels are: 1) Kaupuni Stream Channel in Wai'anae that discharges into the northwestern side of Pōka'i Bay; 2) Mā'ili'ili'i Stream Channel that discharges into the ocean between Lualualei Beach Park and Mā'ili Beach Park at Pu'u Mā'ili'ili'i; 3) Mā'ili Channel that discharges into the ocean north of Mā'ili Point; and 4) Ulehawa Stream Channel that discharges into the ocean south of Pu'u o Hulu Kai.

These "improvements" notwithstanding, Wai'anae still has localized flooding and drainage problems. These problems are caused by the lack of adequate drainage facilities in existing subdivisions, residents building walls around their property to divert storm water, and people filling in natural drainage swales and ditches. In addition, certain sections of Farrington

Highway were constructed at a higher elevation than areas *mauka* of the road and the highway thus acts like a dam.

The City is currently designing a project for a new drain line on Lahaina Street and conducting a study for potential drainage improvements on Hakimo Road. Also contained in the City's 6-year Capital Improvement Program are drainage improvements for Auyong Homestead Road and Wai'anae Elementary School. The City has submitted a proposal to the Department of Land and Natural Resources (DLNR) through the "Flood Mitigation Assistance Program" to prepare a Drainage Master Plan for Wai'anae. However, competition for these funds is high and the prioritizing system for projects is uncertain. It appears that a comprehensive study of local drainage problems in Wai'anae would provide a long-range plan of action for the City. Alternative ways of funding such a study should be considered.

The larger flooding problems relate to flooding from major storms, including heavy rainfall from Kona storms and high surf from coastal storms. Storms with heavy rains create severe local flooding and, on occasion, can cause major damage to homes from *mauka* stream flooding. Coastal storms with high winds and waves can result in flooding and sand accumulation on shoreline properties, including sections of Farrington Highway that are adjacent to the beach. Farrington Highway is especially vulnerable to coastal flooding in the vicinity of Ulehawa Channel, Mā'ili Channel, Mā'ili'ili'i Channel, East Mākaha Stream, Mākaha Stream, and sections of the highway in Kea'au and Ohikilolo. In addition, the entire Wai'anae Coast is subject to severe damage from any major tsunami. The tsunami evacuation zone here extends up to, and in some cases as much as ¼-mile *mauka* of Farrington Highway. (Note: As of July 2010, the Department of Emergency Management was in the final phase of updating the current O'ahu tsunami evacuation zone maps.)

4.5.2 Policies Pertaining to Flooding and Drainage

4.5.2.1 Develop Wai'anae District Local Drainage Improvements Plan and Program

Prepare a comprehensive study of local flooding and drainage problems in the Wai'anae District, together with a phased plan for the correction of these problems. Corrective measures may include removal of barriers, cleaning of drainage channels and stream channels, re-grading areas to encourage positive drainage, and construction of new drainage channels, culverts, and other drainage structures. The Drainage Improvements Plan and Program should also include programs for the ongoing enforcement of rules and regulations relating to proper grading and drainage for both urban development projects and agricultural use of the land, and public education.

Drainage system design should emphasize control and minimization of non-point source pollution and retention and detention. Modifications if needed for flood protection should maintain rural character and aesthetic quality, avoid degradation of coastline and of stream and near shore water quality. To the extent possible, integrate planned drainageway improvements into the regional open space network by providing for access for pedestrians and bicycles.

4.5.2.2 Establish a Sediment Control Program

Establish a sediment control program to protect both stream quality and the quality of nearshore waters. Minimally, standards for the creation and use of sediment basins at critical locations on both agricultural and urban lands should be established. Thereafter, a program of phased implementation and conscientious enforcement of sediment control measures should be pursued.

4.6 SOLID WASTE HANDLING AND DISPOSAL

4.6.1 Overview of Solid Waste Issues

The majority of Wai'anae's domestic solid waste is collected and disposed of by the City's Department of Environmental Services, Refuse Division. The Refuse Division handles the bulk of O'ahu's residential solid waste services, including the recycling and green waste collection. Since 1990, most of O'ahu's residential and general commercial trash has been disposed of at H-POWER, the City's waste-to-energy plant, located in Campbell Industrial Park. Noncombustible solid waste, construction and demolition (C&D) debris, and industry wastes go directly to a privately owned landfill – the PVT Nānākuli Construction and Demolition Material Landfill, located in the Wai'anae District, on Lualualei Naval Station Road. Waimanalo Gulch, located in the southwestern corner of the 'Ewa District, near the border with the Wai'anae District is city owned, and operated by a private solid waste company. These landfills are near their permitted capacities, and the question of what to do with the island's waste in the long-run remains unanswered.

The future of O'ahu's solid waste became a major public and political issue in 2004, when the decision to expand Waimanalo Gulch landfill came before the City Council. At that time, the Council voted to expand the Waimanalo Gulch, instead of opening one of the four alternative sites proposed. The other sites given consideration were Mā'ili, Nānākuli, and Makaiwa Gulch, all on the Leeward Coast, and Kapa'a Quarry in Kailua. Wai'anae residents were vocally adamant that their District should not have to carry the burden of housing yet another landfill. In addition, most did not support the expansion of Waimanalo Gulch. Wai'anae residents have continued to watchdog landfill proposals for their District.

Another local solid waste issue that is of concern to the Wai'anae community is the problem of illegal dumping of all kinds of solid waste, including material from demolished buildings and from construction sites, old cars, old appliances, animal carcasses, animal wastes, and various other kinds of junk and debris. The many country roads and open spaces in the Wai'anae District are unfortunately very easy to use for illegal and indiscriminate dumping of unwanted solid (and liquid) wastes. The many illegal dump areas in the District are both unsightly and a threat to public health. Much stronger State and City controls are needed to combat this problem.

4.6.2 Policies Pertaining to Solid Waste Disposal

4.6.2.1 Enforce Anti-Dumping Laws

Public agencies should coordinate with the community to develop and implement a comprehensive program for the cleanup of illegal dumps and the ongoing enforcement of laws forbidding illegal dumping of wastes and debris. The enforcement program may include some form of partnership with the community whereby each subcommunity of the Wai'anae District organizes volunteers who will patrol the area's roads on a regular basis and report to a designated code enforcement officer any illegal dumps or illegal dumping activity. Public agencies, in turn, must provide the manpower to follow up on these reports of illegal dumping. The appropriate field visits and investigations must be made, and, where necessary, prosecution of offenders must be pursued.

4.6.2.2 Encourage Green Waste Composting

Green waste composting should be encouraged by private sources within the District.

4.7 CIVIC, PUBLIC SAFETY, AND EDUCATIONAL FACILITIES

4.7.1 Overview of Civic, Public Safety, and Educational Facilities

Wai'anae Satellite City Hall is located within the Wai'anae Neighborhood Community Center at 85-670 Farrington Highway, just south of Wai'anae Intermediate School. As of 2010, services include:

- Car Motor vehicle registration, renewal, and transfer of ownership
- Bicycle and moped registration
- Payment of water bill and real property tax
- Disabled parking permits
- Dog licenses

- Spay/neuter certificates
- Monthly bus passes
- Picnic and campsite permits
- Informational brochures and applications for voter registration and Handi-Van
- Bus time schedules
- Conference Room

The Honolulu Police Department provides police services to the Wai'anae District through the Wai'anae Police Station and the Barbers Point substation. Between 14 and 17 police officers are normally on duty to service the area. The Wai'anae Police Station handles a large number of 911 calls and a large number of arrests: typically about 6,000 to 7,000 calls to 911 and 500 to 600 arrests in an average month. There are not enough officers to handle this substantial need for police services.

The Honolulu Fire Department has two fire stations in the Wai'anae District – one in Nānākuli and the other in Wai'anae Valley. The Nānākuli Fire Station is equipped with a 5-person engine and a 1-person tanker truck. The Wai'anae Fire Station is equipped with a 5-person engine, a 5-person quint (combination pumper/ladder truck), and a 1- person tanker. Backup service is provided by fire stations located in Kapolei, Makakilo, 'Ewa, and Waipahu. The firefighters in the Wai'anae District are called upon to respond to a large number of brushfires each year, especially during the dry summer months. The Honolulu Fire Department has recently stated their need for a new fire station in the Mā'ili area, between the Nānākuli and Wai'anae Fire Stations, in order to meet their Standards of Response Coverage goals.

Emergency ambulance service is also provided out of the Wai'anae Fire Station with one unit. Patients are taken to Hawai'i Medical Center-West or the Wai'anae Comprehensive Health Care Facility. In severe cases, a helicopter is dispatched to Wai'anae to transport patients to Queen's Medical Center. Members of the community have voiced the need for a full service hospital on the Wai'anae Coast. There is also a need for a second ambulance that operates 24 hours a day.

In regards to **Emergency Shelters**, the Civil Defense system for the City and County of Honolulu is the responsibility of the Department of Emergency Management (DEM). The DEM is responsible for monitoring, warning, evacuating, and securing (if necessary) the vulnerable areas of the Wai'anae Coast susceptible to natural hazards such as tsunami, tropical storms, high surf, and hurricanes. The DEM recommends that any new public buildings, such as schools and recreation centers, be required to consider emergency shelter capabilities as a secondary use of the building. The following schools are the existing emergency shelters within the District:

- Kamaile Elementary
- Leihoku Elementary
- Mā'ili Elementary
- Mākaha Elementary
- Nānākuli Elementary
- Nānākuli High & Intermediate
- Wai'anae Elementary
- Wai'anae Middle

Regarding **schools**, the Wai'anae District currently contains ten public schools operated under the State Department of Education (DOE). There are six elementary schools, one intermediate, one combined intermediate and high school and one high school. The total enrollment of each of the schools as of the 2008-2009 school year are shown in Table 4-1.

In addition to these public schools, the District has two charter schools, Ka Waihona o ka Na'auao-PCS and Kamaile Academy. Ka Waihona is located at the former Nānāikapono DOE school site in Nānākuli. Kamaile Academy is located in Wai'anae Valley, in an area historically known as Kamaile. These charter schools strive to offer an educational experience that is based on community and cultural values, an experience that is a viable alternative to the existing conventional public school model. They also offer after school and summer programs.

The Wai'anae community generally supports such charter schools, as is shown by their growth. Both schools' enrollments have increased to over 500 students each. This is significant growth, considering that Ka Waihona enrolled only 68 students in its start-up year of 2002-2003.

Recent plans for developments in Mākaha Valley include the establishment of a special "Learning Community" facility that will provide special educational resources and opportunities for all of the people of the Wai'anae community, from small children to *kūpuna.*

Table 4-1: Public School Enrollment in the Wai'anae District

School	Grades	Official Enrollment Count, 2008-2009 School Year
PUBLIC		
Leihoku Elementary	K – 6	770
Mā'ili Elementary	K – 6	681
Mākaha Elementary	K - 6	484
Nānāikapono Elementary	K – 6	758
Nānākuli Elementary	K – 6	421
Nanakuli HS & Intermediate	7 - 12	820
Wai'anae Elementary	K – 6	487
Wai'anae Intermediate	7 – 8	780
Wai'anae HS	9 – 12	1,611
TOTAL		6,812
Charter		
Ka Waihona O Ka Na'auao-PCS	K – 8	510
Kamaile Academy	K – 6	589
TOTAL		1,099
OVERALL TOTAL		7,911

Source: DOE, 2008

The Board of Education has approved new design enrollment guidelines for new Department of Education schools (Board Policy 6701):

- Elementary (K-5)
  - 400-750 students
  - 8 to 15 usable acres
- Middle (6-8)
  - 500-1,000 students
  - 15 to 20 usable acres
- High (9-12)
  - 800 to 1,600 students
  - 45 to 55 usable acres

Leeward Community College has a satellite facility in Wai'anae that offers Associate Degrees and vocational programs, such as nursing. The current student population is approximately 720 people. The college is located in a single building next to Wai'anae Mall and contains five classrooms.

Wai'anae also offers a number of enrichment programs on Hawaiian culture for children and adults. One of the better known programs is the Cultural Learning Center at Ka'ala. This center

began operations in 1979 with a focus on working with youth and adults on "hands-on" projects, such as planting taro and other food and medicinal plants in Wai'anae Valley. The focus of the program is "Aloha 'Aina – loving and caring for the Land."

It is recognized that public schools are a State function, and that the City's Sustainable Communities Plans cannot provide definitive plans for these facilities. However, City policies can provide some guidance to the development of future schools for the community.

4.7.2 Policies Pertaining to Civic, Public Safety, and Educational Facilities

4.7.2.1 Improve Quality of Facilities and Adequacy of Staffing

There is a need for improvements in both the quality of public facilities and the level of staffing for some of these facilities. Specifically, the Wai'anae Satellite City Hall needs to be improved in terms of staffing, programs, equipment, and maintenance. The Wai'anae Police Station needs more manpower. Adequate police services are critical to the safety and welfare of Wai'anae's people.

4.7.2.2 Selection of Sites for New Schools Should Comply with the Wai'anae Sustainable Communities Plan Criteria

Even if future growth in the Wai'anae District is fairly slow, there will be an eventual need for one or more new elementary schools, and possibly another Intermediate School and High School by the Year 2035. The sites for these new schools should be selected through a careful planning process. Public agency planners should coordinate with the community to ensure that the site selection process for new schools fully considers the plans and policies that make up the Wai'anae Sustainable Communities Plan. Specifically, the site selection studies will need to focus on potential sites within the Rural Residential areas, and eliminate from consideration any sites on Agricultural lands or sites *makai* of Farrington Highway. The construction of a school on Agricultural land would encourage urban and suburban development that is not compatible with the intent of this land use designation, and would potentially compromise the learning environment for students, teachers and staff due to odors, dust and vectors that often accompany agricultural land uses. Schools should not be *makai* of Farrington Highway, due to the long-term issue of sea level rise, as well as more immediate threats, such as tsunami.

In addition, schools should be located next to parks, and should allow for shared facilities in order to maximize use of facilities. The City should support fair share contribution, as adopted by State law.

4.7.2.3 Consider Multi-Purpose Function of Schools

School planners should consider the multipurpose role of schools in the community. Thus, in addition to classroom education, schools in many communities throughout the State provide other functions and facilities that are important to the community, including after school programs, meeting places for adult education and special programs, meeting places for community groups and organizations, and meeting places for youth groups and health and fitness classes. Schools are also the primary emergency shelters during hurricanes, tsunami, or other large-scale emergency events. Recognizing these diverse functions of public schools, new schools should be sited in centralized locations that are easily accessible to a large number of residents.

4.7.2.4 Encourage Charter Schools

Encourage and support the opening of more charter and immersion schools. (Please note that "stand alone" charter schools do not use DOE facilities.)

4.7.2.5 Increase Ambulance Service

There is currently only one ambulance that serves the District 24 hours a day. It is recommended that a second one also be on duty at all times.

4.7.2.6 Provide Adequate Emergency Shelters

Emergency shelters provide places for people to live temporarily when there are natural disasters, such as hurricanes and tsunami. They can also provide shelter for people fleeing other situations, such as domestic violence or other types of abuse. An adequate number of emergency shelters should be provided for the Wai'anae District.

4.7.3 Guidelines for Civic, Public Safety, and Educational Facilities

4.7.3.1 Design Standards

Public buildings, whether designed and constructed by federal, state, or city agencies or by other quasi-public entities, should be designed to be both functionally efficient and aesthetically pleasing. Too many public buildings on O'ahu, including police stations, fire stations, and schools, have been designed with insufficient attention to sound design principles, which should include:

- The use of building forms and materials that reflect Hawai'i's diverse cultural and architectural heritage.
- The predominantly residential scale of the built environment of the Wai'anae District. Massive building forms would not be compatible with this residential scale.

- The hot, dry climate of the coastal plain zone of the Wai'anae District. Public buildings should therefore incorporate "natural" cooling devices including lanais, wide roof overhangs, natural air circulation, strategically placed shade trees, and cooler colors for exterior walls.
- Related open areas including front yard areas, parking lots, playgrounds, and garden spaces should be generously planted with colorful trees, shrubs, and ground covers. Drought-tolerant native plant species should be favored.
- Sea level rise should be taken into account when choosing the location of a public building, especially emergency facilities.
- Design new public buildings, such as schools and recreation centers, to serve a secondary function as an emergency shelter.

4.8 HEALTH CARE FACILITIES

4.8.1 Overview of Health Care Facilities

There is a wide variety and a large number of health care facilities and programs in the Wai'anae Sustainable Communities Plan area. These programs include mental health, family violence counseling, substance abuse counseling and health support groups (e.g., Alzheimer, cancer, diabetes, AIDS, etc.). Regular health care services are provided by Kaiser Permanente in Nānākuli and by the Wai'anae Coast Comprehensive Health Center.

The Kaiser Permanente Clinic offers the following services:

- Family Practice
- Internal Medicine
- Pediatrics
- Behavioral Health Services
- Diabetes education
- Diabetic eye exams (once a month)
- Diagnostic Imaging (General Radiology)
- Health Education
- Laboratory
- Medical Social Services
- Medication counseling
- Nutrition counseling
- Pharmacy (24-hour prescription refill)
- Nephrology (selected days)

Emergency service for Kaiser Permanente is provided from the Moanalua center with ambulance service provided by the Waipio Clinic in Waipahu. The nearest hospital is the Hawai'i Medical Center-West on Fort Weaver Road. For severe cases, a helicopter is dispatched to the Wai'anae coast and the patients are taken to Queen's Medical Center.

Wai'anae Coast Comprehensive Health Center is an outpatient primary care medical center that offers a wide variety of health care and supportive services. The Health Center has a main clinic located in Wai'anae, and satellite clinics located in the Wai'anae Mall and Nānākuli Shopping Center. The Health Center's primary health care services include:

- Primary Care: family practice, pediatrics, and internal medicine
- Specialty Care: orthopedics, podiatry, dermatology, obstetrics, gynecology, nephrology, general surgery, pain management, ophthalmology
- Dental: adult and pediatric
- Behavioral Health: mental health and substance abuse treatment
- Integrative Health: acupuncture
- Pharmacy

The Health Center also provides a 24-hour emergency room, laboratory, and radiology services. The emergency room is designated a Trauma Support Clinic as well as a Type II facility for Hospital Capability for Readiness in case of a natural disaster, pandemic, or bioterrorism event. Other Patient and Community Services include:

- Adult Day Care
- Anonymous HIV Counseling and Testing
- BabySafe Services
- Case Management
- Child Passenger Safety Seat Fitting Stations
- Chronic Disease Management
- Community Health Education
- Diabetes Support Group
- Family Planning
- Fitness Training and Classes
- Health Care for the Homeless
- Health Education (Smoking Cessation, Asthma)
- Kid-Fit Program
- Medical Nutrition Therapy
- Native Hawaiian Healing
- Patient Assistance Services
- Perinatal Services

- Transportation
- Waiʻanae Health Academy
- WIC (Women, Infants, and Children Program)
- Youth Health Corp: TeenBEAT (Teens Being Educated About Tobacco)

The Waiʻanae Coast Community Mental Health Center also offers a number of programs and services. They operate six Headstart offices at Koa Ike, Nānākuli, Puu Heleakala, Māʻili, Mākaha, and Waiʻanae. These offices provide comprehensive child development programs with education, health, and social services. The service is offered to low-income children and their families as well as to people with handicapped conditions or referrals from the Child Protective Services. Education and vocational support services, job search and placement are also provided for persons 55 years of age or older.

Although there are no housing facilities for the elderly in the Waiʻanae District, there are programs and services that provide assistance to the elderly. Adult day care is provided by Waiʻanae Adult Day Care operating out of the Waiʻanae Coast Comprehensive Health Center. Activities such as crafts and exercise in a social environment are provided, as well as breakfast, lunch and a snack.

Other programs for the elderly include the Honolulu Gerontology Program that offers exercise and social support twice a week; Hui O Kaʻala, Kupuna O Nānākuli, and Waiʻanae Golden Age that provide social activities and crafts; and senior citizens social clubs.

4.8.2 Policies Pertaining to Health Care Facilities

4.8.2.1 Support Quality, Community Health Care Facilities

Support and assist community health care facilities and programs to ensure high quality health care for Waiʻanae residents.

4.8.2.2 Assess the Need for New Health Care Facilities and Services

Assess the need for new health care facilities, including possibly a full-service hospital. Proceed with planning and funding of new health care facilities as appropriate.

4.9 RELATION TO PUBLIC FACILITIES MAP

The major existing and planned public facilities discussed in Chapter 4 for the Waiʻanae District are located schematically on the Public Facilities Map in Appendix A.

5. IMPLEMENTATION

Throughout the process of updating the Wai'anae Sustainable Communities Plan, the number one concern raised by community members was the lack of Plan implementation. While the community generally agrees that DPP (the City Department of Planning and Permitting) has satisfactorily utilized the Wai'anae Sustainable Communities Plan as a tool when assessing development proposals for the District, they are concerned that there has been little-to-no implementation of the projects and programs set forth within the Plan. However, the responsibility of achieving proactive implementation should be shared by the community and the City, including all of the City's planners, engineers, and other technical and policy-level personnel, as well as elected officials who determine the allocation of City resources.

Many other City, county, and town jurisdictions on the U.S. mainland have instituted comprehensive planning programs that emphasize a proactive community-based planning and implementation process. These local governments seek to establish a strong link between planning policies and guidelines, and specific organization, funding, and actions needed to implement a variety of public and private projects and programs. The following sections of this Chapter are intended to strengthen the linkage to implementation to realize the Vision of the future presented in this Plan. It should also be noted that implementation will depend on each department's priorities and availability of resources.

This Chapter includes the following sections:

5.1 Overview of Planning Implementation Tools
5.2 Implementation Matrix
5.3 Public Facility Investment Priorities
5.4 Development Priorities
5.5 Special Area Plans
5.6 Functional Planning
5.7 Review of Zoning and Other Development Applications
5.8 Five-Year Sustainable Communities Plan Review
5.9 Relationship to General Plan and Development Codes

5.1 OVERVIEW OF PLANNING IMPLEMENTATION TOOLS

Implementation of the Wai'anae Sustainable Communities Plan should be pursued through a variety of means, including:

- Organization and action by the appropriate City departments towards the realization of the policies contained in the Wai'anae Sustainable Communities Plan;
- On-going cooperation and communication with community leaders and community organizations in order to accomplish the objectives of the Wai'anae Sustainable Communities Plan;
- Broad dissemination and explanation of the Wai'anae Sustainable Communities Plan to public agencies, landowners, major local development companies, community services providers, and community organizations. The Wai'anae Sustainable Communities Plan can be an effective planning guide if it is widely known and supported;
- Guiding the City's investment in infrastructure in accordance with the policies and guidelines of the Wai'anae Sustainable Communities Plan;
- Initiating development code amendments to achieve consistency with the Wai'anae Sustainable Communities Plan, including changes to the Land Use Ordinance that will result in standards that are more appropriate to rural areas;
- Recommending approval, approval with modifications, or denial of developments seeking zoning and other development approvals based on their conformance with the Wai'anae Sustainable Communities Plan;
- Evaluating progress in fulfilling the Vision of the Wai'anae Sustainable Communities Plan every two years, and presenting the results of the evaluation in the Biennial Report; and
- Conducting a review of the Vision, Policies, Guidelines, and CIP priority investments of the Wai'anae Sustainable Communities Plan every five years and recommending revisions as necessary.

5.2 IMPLEMENTATION MATRIX

This section provides a summary of the specific physical improvements and actions identified in Chapters 3 and 4 of the Plan to help organize and facilitate plan implementation.

Table 5-1 presents the implementing actions, the related plans, regulatory code or action, and the public or private entities responsible for implementing the action. The table is organized by land use category, with the categories listed according to the order of Chapters 3 and 4.

- The first column of the table – Policy/Guideline – is comprised of the guideline statements for each land use category. Policy statements are used if the land use category does not include guidelines.

- The second column – Program – relates each statement to a specific regulatory code, functional plan, or other action. The term "project review" indicates the review of

discretionary land use approvals, such as State land use, zoning and special management are use permits. In some instances, To Be Determined (TBD) was used to indicate that the related code/plan/action was not clear. TBD actions are intended to be identified and developed by the agencies responsible for implementation.

- The third column – Agency(ies) – identifies the public and/or private entities responsible for implementing the policy or guideline. Although many of the implementing actions fall under DPP's jurisdiction, some actions are the responsibility of other Federal, State or City departments or public agencies, while a few have been assigned to private entities or individual landowners.

- The fourth column identifies the role of the agencies involved in implementation. The three categories identified include Implementer, Regulator (after the law or regulation is implemented), and Advocate.

The following acronyms and abbreviations are used in the Implementation Matrix:

BFS	Department of Budget and Fiscal Services
BWS	Board of Water Supply
CBO	Community-Based Organizations*
CIP	Capital Improvement Program
CSD	Customer Services Department
CWRM	State Commission on Water Resource Management
DDC	Department of Design and Construction
DES	Department of Emergency Services
DLNR	State Department of Land and Natural Resources
DOA	State Department of Agriculture
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
ENV	Department of Environmental Services
HECO	Hawaiian Electric Company
IBC	International Building Code
LUC	State Land Use Commission
MIL	Military (U.S. Navy and/or U.S. Army)
NPDES	National Pollution Discharge Elimination System
TAX	State Department of Taxation

TBD	To Be Determined
WWMP	Wai'anae Watershed Management Plan, PreFinal (BWS, 2010)
WWTP	Wastewater Treatment Plant

**Community-Based Organizations (CBO) consist of groups that are already formed, or that may form in the future, that will partner with government agencies to manage Wai'anae's natural and cultural resources. Thus, although "CBO" is listed numerous times in the matrix, these organizations may not yet be ready to implement the Policy they are listed next to, but their formation should be encouraged, and when appropriate, assisted.*

TABLE 5-1: IMPLEMENTATION MATRIX

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
CHAPTER 3 LAND USE POLICIES AND GUIDELINES				
3.2 Preservation of Open Space				
3.2.2.1	Do Not Allow Significant Negative Impacts on Large Open Spaces	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.2	Address Project Impacts on Open Space	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.3	Do Not Allow Significant Negative Impacts on Important Public Views	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.4	Address Project Impacts on Important Public Views	Project Review	DPP/DLNR/MIL	Implementer
3.2.2.5	Limit Urban Development	Project Review	DPP	Implementer
3.2.2.6	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Open Spaces	TBD	DLNR/CBO	Implementer/ Advocate
3.2.2.7	Minimize Outdoor Lighting	TBD	Private	Advocate
3.2.3.1	Minimize Adverse Effects of Artificial Lighting	TBD	Private	Advocate
3.2.3.2	Adopt Outdoor Night Lighting Standards	TBD	Private	Advocate
3.3 Preservation of Coastal Lands				
3.3.2.1	Do Not Allow New Coastal Development	Project Review	DPP/DOT/DPR	Implementer
3.3.2.2	Incrementally Acquire Coastal Properties	TBD	DLNR	Implementer
3.3.2.3	Discourage Shore Armoring	TBD	DPP/DLNR	Implementer
3.3.2.4	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Coastal Lands	TBD	DLNR/CBO	Implementer/ Advocate
3.3.2.5	Prohibit Projects that Negatively Impact Coastal Lands	Project Review	DPP/DLNR	Implementer
3.3.2.6	Prevent the Introduction of Alien Species	TBD	DOA/DOT/ DLNR/CBO	Implementer/ Advocate
3.3.2.7	Maintain Beaches/Sand	Project Review	DLNR/CBO	Implementer/ Advocate
3.4 Preservation of Mountain Forest Lands				
3.4.2.1	Protect Mountain Forest Lands	TBD	DLNR/MIL/CBO	Implementer/ Advocate
3.4.2.2	Develop Forest Restoration Plan	TBD	DLNR/MIL/CBO	Advocate

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
3.4.2.3	Do Not Grant Permits that Negatively Impact Mountain Forest Lands	Project Review	DLNR	Implementer
3.4.2.4	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Mountain Forest Lands	TBD	DLNR/CBO	Implementer/ Advocate
3.4.2.5	Protect Rare and Endangered Species	TBD	DLNR/MIL/CBO	Implementer/ Advocate
3.4.2.6	Prevent the Introduction of Alien Species	TBD	DOA/DOT/CBO/ DLNR	Implementer/ Advocate
3.4.2.7	Allow Public Access to Hiking Trails	TBD	DLNR	Advocate
3.4.2.8	Develop Wildfire Management Plan	TBD	DLNR/MIL/CBO	Implementer/ Advocate
3.5 Preservation of Streams and Floodplains				
3.5.2.1	Establish Stream Conservation Corridors	TBD	CWRM/DLNR/ BWS/CBO	Implementer/ Advocate
3.5.2.2	Restrict Uses within the Stream Conservation Corridors	TBD	DLNR/DPP/CBO	Implementer/ Advocate
3.5.2.3	Establish Minimum In-Stream Flow Standards	TBD	CWRM/DLNR/ BWS/CBO	Implementer/ Advocate
3.5.2.4	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Streams and Stream Corridors	TBD	DLNR/CBO	Implementer/ Advocate
3.6 Preservation of and Access to Historic and Cultural Resources				
3.6.2.1	Preserve Major Concentrations of Cultural Sites and Allow Access for Cultural Practices	TBD	DLNR/DPP/CBO	Implementer/ Advocate
3.6.2.2	Do Not Allow Development that Negatively Impacts Cultural Sites or Access to such Sites	Project Review	DPP/SHPD/ DLNR	Implementer
3.6.2.3	Government Agencies Should Partner with Community-based Organizations in order to Better Manage Wai'anae's Cultural Sites	TBD	DLNR/CBO	Implementer/ Advocate
3.6.2.4	Create Signage for Cultural Sites	TBD	DLNR/CBO/ SHPD	Implementer/ Advocate
3.6.2.5	Protect and Allow Access for Cultural Practices at Sites on City-Owned Lands	TBD	DLNR/CBO/ DDC/DPP	Implementer/ Advocate

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
3.6.2.6	Protect and Allow Access for Cultural Practices to Federal, State, or Private Lands	TBD	DLNR/CBO/MIL/ property owners	Implementer/ Advocate
3.6.2.7	Conduct a Thorough Cultural Survey of the District	TBD	DLNR/CBO/ SHPD	Implementer/ Advocate
3.7 Preservation of Agricultural Lands				
3.7.2.1	Maintain the Boundary for Agricultural Lands	Zoning	DPP	Implementer
3.7.2.2	Support Agriculture through Zoning Regulations and Tax Assessments	LUO	DPP/BFS	Implementer/ Advocate
3.7.2.3	Limit the use of "Agricultural" Land to Agriculture and other Compatible Land Uses	Zoning	DPP/LUC	Implementer
3.7.2.4	Prohibit Incompatible Land Uses of "Agricultural" Land	Zoning	DPP/LUC	Implementer
3.7.2.5	Coordinate Farmers Markets and Other Low-Cost Marketing Outlets	TBD	DOA/Local farmers	Advocate
3.8 Residential Land Use				
3.8.2.1	Do Not Increase Lands Designated "Residential"	WSCP	DPP	Implementer
3.8.2.2	Coordinate with DHHL	TBD	DPP	Advocate
3.8.2.3	Preserve Agricultural Lands	Zoning	DPP/SLUC	Implementer
3.8.2.4	Support Home-Based Businesses	Zoning	DPP	Implementer
3.8.2.5	201H Projects Should Meet Wai'anae SCP Guidelines	Project Review	City Council/DPP	Implementer
3.8.3.1	Follow Wai'anae SCP Affordable Housing Guidelines	Project Review	DPP/private developers	Implementer/ Advocate
3.8.3.2	Limit the Height of Residential Structures	LUO	DPP	Implementer
3.8.3.3	Encourage Clustered Housing in Wai'anae Country Town	TBD	DPP	Regulator/ Advocate
3.9 Commercial and Industrial Uses				
3.9.2.1	Encourage the Continuation of Existing Commercial Establishments	TBD	DPP	Regulator/ Advocate
3.9.2.2	Encourage Establishment of Commercial Businesses that Serve the Community	TBD	Wai'anae Chamber of Commerce	Regulator/ Advocate
3.9.2.3	Support the Continued Viability of the Mākaha Resort	TBD	Private	Implementer
3.9.2.4	Prohibit "Big Box" Stores	Project Review	DPP	Implementer
3.9.2.5	Encourage Light Industrial Businesses	Zoning	DPP/private developers	Implementer/ Advocate

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
3.9.2.6	Do Not Allow Heavy Industry	LUO	DPP	Implementer
3.9.3.1	Design Guidelines for Neighborhood Commercial Establishments	Project Review	DPP	Implementer
3.10 Country Towns, Rural Community Commercial Centers and Gathering Places				
3.10.2.1	Establish a Phased Development Program	TBD	Private developers/DPP	Advocate
3.10.3.1	Geographic Size of Centers	Zone Change	DPP	Regulator
3.10.3.2	Commercial Establishments in the Centers	Zoning	DPP	Regulator
3.10.3.3	Residential Structures in the Centers	Zoning	DPP	Regulator
3.10.3.4	Center Amenities	Zoning	DPP	Regulator
3.10.3.5	Guidelines for Community Gathering Places Connected by Walking/Jogging/Biking Path	TBD	CBO/DPP	Implementer/ Advocate
3.11 Existing Parks and Recreational Areas				
3.11.2.1	Develop Adequate Public Parks	CIP	DPR	Advocate
3.11.2.2	Prohibit More Golf Courses That Compete with Agriculture or Open Space Resources	Zoning	DPP	Implementer
3.11.2.3	Plan for a System of Hawaiian Cultural and Educational Parks	TBD	DPR/CBO/ DLNR	Advocate
3.11.3.1	Increase Neighborhood Parks Based on City's Park Standards	CIP	DPR/DDC	Advocate
3.11.3.2	Flexible Criteria for Recreational Facilities	City Park Standards	DPR/CBO/DDC	Implementer
3.12 Military Land Uses				
3.12.2.1	Preserve and Transition Military Lands to Civilian Use	TBD	CBO/MIL	Implementer/ Advocate
3.12.2.2	Organize and Implement Cooperative Programs	TBD	CBO/MIL	Advocate

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
CHAPTER 4 PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND GUIDELINES				
4.1 Transportation Systems				
4.1.2.1	Implement Farrington Highway Safety Improvements	CIP	DOT	Advocate
4.1.2.2	Beautify Farrington Highway	CIP	DOT	Advocate
4.1.2.3	Establish an Emergency Bypass Road	CIP	DOT/MIL	Advocate/ Implementer
4.1.2.4	Enhance Public Transportation	CIP	DTS	Advocate
4.1.2.5	Encourage Other Modes of Transportation	TBD	DTS/DOT/ individuals	Advocate
4.2 Potable and Nonpotable Water Systems				
4.2.4.1	Implement Watershed Protection Strategies to Improve Forest Health & Perennial Stream Flows	WWMP	CWRM/BWS/ DLNR/CBO	Advocate
4.2.4.2	Encourage Water Conservation	WWMP	BWS/CBO	Advocate
4.2.4.3	Diversify Water Supply, Matching Quality with Use	WWMP	BWS	Advocate
4.2.4.4	Support the Goals and Objectives of the Adopted Wai'anae Watershed Management Plan	WWMP	BWS/DPP	Advocate
4.3 Wastewater Collection and Treatment Systems				
4.3.2.1	Continue Replacement of Old Sewer Lines	CIP	ENV	Advocate
4.3.2.2	Improve the Wai'anae Wastewater Treatment Plant	CIP	ENV	Advocate
4.3.2.3	Coordinate with DHHL Regarding Sewer Connections	TBD	ENV/DHHL	Advocate
4.4 Electrical Power and Communications				
4.4.2.1	Reduce the Visual Impact and Improve Safety of Utility Lines and Poles and Reliability of Service	TBD	HECO/ Hawaiian Telcom	Advocate
4.4.2.2	Encourage the Development of Alternative Energy Sources	TBD	DBEDT, Developers, HECO, State Legislature	Advocate
4.4.3.1	Require New Development to be Powered 50% by Alternative Energy	IBC	DPP	Implementer
4.5 Drainage Systems				
4.5.2.1	Develop Wai'anae District Local Drainage Improvements Plan and Program	TBD	ENV/DDC	Advocate

NO.	POLICY/GUIDELINE	PROGRAM	AGENCY(IES)	ROLE
4.5.2.2	Establish a Sediment Control Program	NPDES	ENV/DLNR/CBO	Advocate
4.6 Solid Waste Handling and Disposal				
4.6.2.1	Enforce Anti-Dumping Laws	TBD	DLNR/CBO	Implementer/ Advocate
4.6.2.2	Encourage Green Waste Composting	TBD	ENV/DLNR/DPP/ CBO	Implementer/ Advocate
4.7 Civic, Public Safety, and Education Facilities				
4.7.2.1	Improve Quality of Facilities and Adequacy of Staffing	TBD	CSD	Advocate
4.7.2.2	Selection of Sites for New Schools Should Comply with Wai'anae Sustainable Communities Plan Criteria	TBD	DOE	Implementer
4.7.2.3	Consider Multi-Purpose Functions of Schools	TBD	DOE	Implementer
4.7.2.4	Encourage Charter Schools	TBD	Community	Advocate
4.7.2.5	Increase Ambulance Service	TBD	DES	Advocate
4.7.2.6	Provide Adequate Emergency Shelters	Civil Defense System	DEM	Implementer
4.7.3.1	Design Standards	Project Review	DPP/DDC	Implementer
4.8 Health Care Facilities				
4.8.2.1	Support Quality, Community Health Care Facilities	Project Review	Funders	Implementer/ Advocate
4.8.2.2	Assess the Need for New Health Care Facilities and Services	TBD	DOH	Advocate

5.3 PUBLIC FACILITY INVESTMENT PRIORITIES

The VISION for the Wai'anae District requires the cooperation of both public agencies and private organizations in planning, financing, and improving infrastructure. The City must take an active role in planning infrastructure improvements, such as land acquisition and site improvements for neighborhood parks, provision of adequate public access to the shoreline, provision of pedestrian, bicycle, and other transportation options, planning and implementation of drainage improvements, and improvements to the Wai'anae Satellite City Hall and to the Wai'anae Community Center building.

5.4 DEVELOPMENT PRIORITIES

Projects that should receive priority in the process of City land use approvals are those which:

- Involve land acquisition and improvements for public projects that are consistent with the Wai'anae Sustainable Communities Plan's Vision, Policies, and Guidelines;
- Involve applications for zoning and other regulatory approvals that are consistent with the Wai'anae Sustainable Communities Plan's Vision, Policies, and Guidelines;
- Are located on usable parcels of land that are consistent with the Wai'anae Sustainable Communities Plan's Land Use Map.

5.5 SPECIAL AREA PLANS

Special Area Plans provide more detailed policies and guidelines than Sustainable Communities Plans for areas requiring particular attention. The form and content of Special Area Plans depend on what characteristics and issues need to be addressed in greater detail in planning and guiding development or use of the Special Area.

Special Area Plans can be used to guide land use development and infrastructure investment in Special Districts, Redevelopment Districts, or Resource Areas. Plans for **Special Districts** provide guidance for development and infrastructure investment in areas with distinct historic or design character or significant visual and scenic resources. Plans for **Redevelopment Districts** provide strategies for the revitalization or the redevelopment of an area. Plans for **Resource Areas** provide resource management strategies for areas with special natural and cultural resource values.

In 2000, Mākaha Valley was identified for Special Area Plan status because of several important characteristics:

The City owns approximately 4,000 acres of land in the upper valley and the steeper valley walls;

- Most of the valley has been designated "urban" under the State Land Use system;
- There are approximately 350 acres of undeveloped land in Mākaha Valley that are already zoned for Residential and Resort uses;
- Mākaha Valley is an important resource area in terms of water resources, rare and endangered plants and animals, and cultural sites.

Since that time, the Mākaha Special Area Plan was developed through a community-based planning process. It was completed in 2009. See Section 3.8.1 "Overview of Existing and Planned Residential Uses" for a summary of the Mākaha Special Area Plan.

5.6 FUNCTIONAL PLANNING

Functional planning is the process by which various City agencies determine needs, assign priorities, phase projects, and propose project financing to further implement the vision articulated in the Sustainable Communities Plans. This process may take a variety of forms, depending upon the missions of the various agencies involved, as well as upon requirements imposed from outside the City structure, such as federal requirements for wastewater management planning.

Through the functional planning process, City agencies responsible for developing and maintaining infrastructure and public facilities or for provision of City services review existing functional planning documents and programs. As a result of these reviews, the agencies then update, if required, existing plans or prepare new long-range functional planning documents that address facilities and service system needs. Updates of functional planning documents are also conducted to assure that agency plans will serve to further implement the Sustainable Communities Plans as well as to provide adequate opportunity for coordination of plans and programs among the various agencies.

The functional planning process should have opportunities for early and continuing public involvement, timely public notice, public access to information used in the evaluation of priorities, and opportunities to suggest alternatives and to express preferences. The functional planning process provides the technical background for the Capital Improvement Program and public policy proposals that are subject to review and approval by the City Council.

5.7 REVIEW OF ZONING AND OTHER DEVELOPMENT APPLICATIONS

5.7.1 Wai'anae District Zoning Designations

A primary way in which the Wai'anae Sustainable Communities Plan will guide land use will be through the review of applications for zone changes and other development proposals. Approval for all development projects should be based on the extent to which the project supports the Policies and Guidelines of the Wai'anae Sustainable Communities Plan.

Projects that do not involve significant zone changes will be reviewed by City Planners for consistency with the Policies and Guidelines of the Wai'anae Sustainable Communities Plan

during the Zone Change or permit application process. Projects involving significant zone changes will require an environmental review in accordance with HRS Chapter 343.

5.7.2 Adequate Facilities Requirement

All projects requesting zone changes shall be reviewed to determine if adequate public facilities and infrastructure will be available to meet the needs created as a result of the development. Level of Service Guidelines to define adequate public facilities and infrastructure requirements will be established as part of the City's Capital Improvement Program.

In order to guide development and growth in an orderly manner as required by the City's General Plan, zoning and other development approvals for new developments should be approved only if the responsible City and State agencies indicate that adequate public facilities and utilities will be available at the time of occupancy or if conditions the functional agency indicates are necessary to assure adequacy are otherwise sufficiently addressed.

Staff planners, as part of their report to the Department of Planning and Permitting on the consistency of the project with the Wai'anae Sustainable Communities Plan, will review and summarize any individual agency's findings regarding public facilities and utilities adequacy which are raised as part of the EA/EIS process. The Department of Planning and Permitting will address these findings and any additional agency comments submitted as part of the agency review of the zone change application and recommend conditions that should be included in the Unilateral Agreement or Development Agreement to insure adequacy of facilities.

5.8 FIVE-YEAR SUSTAINABLE COMMUNITIES PLAN REVIEW

The Planning Division shall conduct a comprehensive review of the Wai'anae Sustainable Communities Plan and shall report its findings and recommended revisions to the Planning Commission and the City Council five years after adoption and every five years thereafter.

In the Five-Year review, the Wai'anae Sustainable Communities Plan will be evaluated to see if the regional vision, policies, guidelines, and implementing actions are still appropriate.

5.9 RELATIONSHIP TO GENERAL PLAN AND DEVELOPMENT CODES

This section discusses the transition from the former Wai'anae Sustainable Communities Plan (2000) to this revised Wai'anae Sustainable Communities Plan (2010), including its relationship to the General Plan guidelines, and the need for review and revision of development codes, standards, and regulations.

5.9.1 Existing Land Use Approvals

This Wai'anae Sustainable Communities Plan will go into effect upon adoption by ordinance. At that time, the Wai'anae Sustainable Communities Plan will become a self-contained document.

Land use approvals granted under existing zoning, Unilateral Agreements, and approved Urban Design Plans will remain in force and guide entitlement decisions until any zoning action to further implement the Vision and Policies of the Wai'anae Sustainable Communities Plan is initiated. If an Environmental Assessment or Environmental Impact Statement (EA/EIS) was accepted in the course of a Wai'anae Sustainable Communities Plan (2000) land use approval for a project, it should be acceptable to meet the requirement for an initial project EA/EIS when zone change applications are submitted for subsequent phases of the project unless the project scope and land uses are being significantly changed from those described in the initial EA/EIS.

5.9.2 Review and Revision of Development Codes

Upon completion of the Sustainable Communities Plan Revision Program, current regulatory codes and standards should be reviewed and revised, as necessary, to maintain their consistency and effectiveness as standards to guide attainment of the objectives and policies envisioned for all Sustainable Communities Plan areas. At the time that such reviews are conducted, the following regulatory codes and standards may warrant further review and revision to ensure achievement of the vision for the Wai'anae District and consistency with the Wai'anae Sustainable Communities Plan:

- **Land Use Ordinance.** (Chapter 21, Revised Ordinances of Honolulu) Zoning code standards and the zoning map for the Wai'anae District need to be revised to further implement the Policies and Guidelines of the Wai'anae Sustainable Communities Plan. Special zoning provisions may be needed for the Commercial Centers and Gathering Places.

- **Subdivision Rules and Regulations.** (Department of Planning and Permitting, pursuant to Chapter 22, Revised Ordinances of Honolulu) Public road right-of-way standards used for subdivisions and rules for the consolidation of land may need to be revised to reflect the rural emphasis of the Policies and Guidelines in the Wai'anae Sustainable Communities Plan.
- **Traffic Standards Manual.** (Department of Transportation Services, July 1976, as revised) Standards that are applied to local and most collector streets may need to be revised to reflect transportation Policies and Guidelines in the Wai'anae Sustainable Communities Plan.
- **State Highways Division Procedures Manual**, Volume 8, Chapter 5, Section 4. (State Department of Transportation) These State highway standards need to be reviewed to identify provisions that may conflict with the transportation Policies and Guidelines in the Wai'anae Sustainable Communities Plan.
- **Standard Details for Public Works Construction.** (Department of Planning and Permitting) Engineering standards for the dedication of public works construction need to be revised to reflect Wai'anae Sustainable Communities Plan Policies and Guidelines.
- **Storm Drain Standards.** (Department of Planning and Permitting) Standards for the dedication of drainage systems to incorporate retention basins, rip-rap boulder lining of stream banks, and streamside vegetation into the design need to be created to further implement the Wai'anae Sustainable Communities Plan Policies and Guidelines for open space.
- **Park Dedication Rules and Regulations.** (Department of Planning and Permitting, pursuant to Chapter 22, Article 7, Revised Ordinances of Honolulu) Regulations need to be reviewed to determine if passive drainage systems which are designed for recreational use should count toward park dedication requirements, especially in cases where the area would exceed the amount of land that would be required under current rules and regulations.
- **Wastewater Management Design Standards.** (Department of Environmental Services and the 1990 Revised Ordinances of Honolulu, Chapter 14, relating to sewer services) These standards and ordinances may require review to further implement Wai'anae Sustainable Communities Plan Policies and Guidelines.

APPENDIX: THE CONCEPTUAL MAPS: LAND USE, OPEN SPACE, AND PUBLIC FACILITIES

INTRODUCTION

The Wai'anae Sustainable Communities Plan includes three conceptual maps in color:

- The Land Use Map (EXHIBIT A-1)
- The Open Space Map (EXHIBIT A-2)
- The Public Facilities Map (EXHIBIT A-3)

These maps illustrate the long-range VISION for the Wai'anae District and the major land use, open space, and public facility policies that are articulated in the Plan. In examining them the reader should keep in mind that:

1. These maps are general and conceptual.
2. They are illustrative of the Plan's policy statements, presented in the text of this report.

These policy statements, which appear in the preceding chapters, are considered to be the most important elements of the Plan. The maps are considered illustrations of the policies. However, it is recognized that the maps may be more reader friendly than the written policies. This section of the Plan, therefore, presents a brief explanation of the contents of each of these maps.

Elements common to each of the three maps include one boundary and four land use designations: "Community Growth Boundary," "Rural Residential," "Agriculture," "Preservation," and "Golf Course." These designations and the Community Growth Boundary are not parcel-specific. Because they are not parcel-specific, the lines do not indicate precise or abrupt demarcations. Rather, the extent of permissible or appropriate uses within these boundaries should be evaluated and determined in concert with relevant sections of the Plan's text and specific site characteristics. These common elements are discussed below. Information particular to each map is presented under each map topic.

1. Community Growth Boundary

The Community Growth Boundary defines, protects, and contains the intended extent of the "built-up" or "settled" areas of rural communities. Its purposes are to provide adequate lands to support established communities, to protect such communities from more intense forms of development, and to protect lands outside the boundary for agriculture or other resource or open space values. Areas within this boundary typically consist of relatively small, dispersed residential communities and towns. The Community Growth Boundary is not intended to reflect a desire for more growth in Wai'anae than what is planned under the General Plan.

In the Wai'anae District, the Community Growth Boundary is defined by a line that has been drawn to delineate and contain the Farrington Highway development corridor. This line, although conceptual in nature, has been drawn and should be interpreted such that the mid-section of the line more or less coincides with the limits of lands that are zoned, as of 2009, R-5 and R-10, as well as existing scattered zoned commercial and industrial sites and the major residential developments of the Department of Hawaiian Home Lands in Nānākuli. The intent of this line is to identify existing urban/suburban areas, allow for infill residential and commercial development on undeveloped parcels within this boundary, and clearly define the limits of urban/suburban development. Thus, no new urban/suburban development shall be allowed *mauka* of this Community Growth Boundary line, except for already residentially zoned lands in Mākaha Valley and "Industrial" lands in Lualualei Valley. Lands *mauka* of this line are designated "Agriculture" and "Preservation." Continued small-scale agricultural uses of small farm lots within the Community Growth Boundary should be encouraged.

2. Rural Residential

Most of the lands *makai* of the Community Growth Boundary are designated and colored "Rural Residential." This general designation is intended to include single-family homes, town homes, small 2-story apartment buildings, and various relatively low density community support facilities that are permitted in residentially zoned areas, including schools and churches. Also included in this general land use area are a number of small commercial and light industrial uses that are too small to map at this scale and are therefore included as non-conforming existing uses. Alternate development options which result in greater amounts of open space and common facilities may also be used. The gross density of residential units should generally be in the range of 5 to 8 units per acre or up to 10 units per acre for alternative development options that preserve open space. Also included within this area, as "grandfathered" residential uses, are a number of existing "medium density" apartment buildings. New medium density apartment buildings or condominiums should not be permitted in "Rural Residential" areas.

3. Agriculture

Lands with agricultural value by virtue of current agricultural use or high value for future agricultural use, including those areas identified as Prime, Unique, or Other Important lands on the Agricultural Lands Important to the State of Hawai'i (ALISH) maps. "Agriculture" includes lands suitable for crop growing, grazing and livestock raising, flower cultivation, nurseries, orchards, aquaculture, or similar activities.

Included as Agriculture lands are existing "Country" zoned subdivisions with minimum lot sizes of one acre. The "Country" zoned subdivisions have been included in the Agricultural lands because many of the lots in these subdivisions are used for part-time agricultural pursuits.

Under the state constitution, the state is to identify important agricultural lands (IAL). Once identified, these lands cannot be rezoned except under a "super majority" vote. To date, IAL lands have not be identified. In 2005, Act 183 was adopted to address this mandate. It established a two-step process: first, incentives to assure the long term use and protection of IAL. Second, with adequate state funding, the counties would prepare maps identifying IAL lands to be adopted by the State Land Use Commission. Act 233, enacted in 2008, adopted the incentive programs. To date, no state funding has been appropriated to the counties for the mapping. Lands identified for agricultural purposes by this Plan can serve as the basis for the county mapping process.

4. Preservation

Preservation lands include those lands not valued primarily for agriculture, but that form an important part of a region's open space fabric. They possess natural, cultural, or scenic resource values, and include important wildlife habitat, cultural sites, significant landforms, views, or hazard areas. They include the following types of land:

- Lands necessary for protecting watersheds, water resources, and water supplies.
- Lands necessary for the conservation, preservation, and enhancement of sites with scenic, historical, archaeological, or ecological significance.
- Lands necessary for providing and preserving park lands, wilderness and beach reserves, and for conserving natural ecosystems of endemic plants, fish, and wildlife, for forestry, and other related activities to these uses.
- Lands having an elevation below the maximum inland line of the zone of wave action; and marine waters, fish ponds, and tide pools of O'ahu unless otherwise designated on the development plan land use map.

- All offshore and outlying islands of O'ahu unless otherwise classified.
- Lands with topography, soils, climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use.
- Lands with general slopes of 20 percent or more which provide for open space amenities and/or scenic values.
- Lands susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention by the State or Federal Government, and lands necessary for the protection of the health, safety, and welfare of the public by reason of soil instability or the lands' susceptibility to landslides and/or inundation by tsunami and flooding.
- Lands used for national, state, or city parks.
- Lands suitable for growing of commercial timber, grazing, hunting, and recreation uses, including facilities accessory to such uses when said facilities are compatible with the natural physical environment.

5. Golf Courses

Golf courses that are existing, or were approved as of November 2009, are included in this designation. These golf courses include: the Mākaha East golf course, the expansion area for an additional nine holes at the Mākaha East course, and the Mākaha West golf course. No other golf courses are designated on the Land Use Map, and no additional golf courses are provided for in the Wai'anae Sustainable Communities Plan land use policies.

A.1 LAND USE MAP

The **LAND USE MAP** illustrates both existing land uses within the Wai'anae District as well as the desired long-range future land use pattern that is in concert with the VISION and policies for the Wai'anae Coast. **The Land Use Map thus includes the following elements:**

A.1.1 Medium Density Residential

There are only two areas on the Land Use Map that have been designated as Medium Density Residential: the site of the existing Mākaha Towers project, and the site of the existing Mākaha Plantation project. Both of these parcels are currently zoned "A-2," which allows a maximum density of 1.9 Floor Area Ratio (FAR) for lots of 40,000 square feet or more. Medium density residential development on O'ahu generally has a gross density of 12 to 30 units per acre. The Plan's Land Use Map thus recognizes the existence of these two zoned projects. However, it is the intent of the Wai'anae Sustainable Communities Plan that no other lands within the Wai'anae District be designated for "medium density", which is a relatively urban residential density.

A.1.2 Resort

The Land Use Map recognizes the existence of two projects in Mākaha Valley that are at present zoned "Resort": the site of the Mākaha Resort, and the site of the proposed Mākaha Conference Center. No other lands within the Wai'anae District are designated for new Resort use on the Land Use Map.

A.1.3 Mākaha Special Area Plan

A grey dashed line on the Land Use Map defines Mākaha Valley as a "Special Area Plan." This designation indicates the need for the development of a more detailed plan for future land use and land preservation. Accordingly, the Mākaha Special Area Plan was developed and finalized in 2009.

A.1.4 Rural Community Commercial Center

Smaller colored circles denote "Rural Community Commercial Centers" for the sub-communities of Nānākuli, Mā'ili, and Mākaha. The location of these Centers is schematic in nature. This designation is intended to encourage the development of smaller-scale concentrations of commercial establishments and community services in a physical configuration that will help to provide a stronger physical identity for these subcommunities.

A.1.5 Country Town

A small-scale, low-rise, mixed-use center of commerce and community activity in rural character and setting in which principal establishments are oriented on the street. Land use mixtures may include retail, office, and dining establishments, compatible service businesses and light industry, and residential uses. Commercial activity is concentrated along street frontages in typically "Mainstreet" settings.

The Land Use Map shows the approximate location of the existing Wai'anae town center, which extends roughly from the Wai'anae Mall to the Wai'anae Community Center. The intent of this designation is to recognize the traditional and contemporary importance of Wai'anae town center as the primary commercial hub of the Wai'anae Coast. The related policies encourage the renovation and development of this town center into a multi-faceted "Country Town" center for the District.

A.1.6 Industrial

The Wai'anae District Land Use Map includes two "Industrial" areas. The intent of these Industrial areas is to provide areas for the development of non-polluting, light industrial uses that would provide employment opportunities for local people. The first such area is in the vicinity of the Wastewater Treatment Plant and Wai'anae Mall. Some commercial uses should also be allowed in this Industrial area, to provide for an economically viable mix of uses, and also to serve as a buffer between light industrial uses and nearby residential areas. It is the intent of this Industrial use that industrial-mixed use "IMX" be allowed as a compatible zoning designation.

The second Industrial area is in Lualualei Valley. This site is intended for light industrial uses that are not noxious or socially objectionable in nature. Light industrial lots at this location should be affordably priced for Wai'anae businesses, and include vocational training and other facilities that will benefit the Wai'anae community.

A.1.7 Military

The two large existing U.S. Navy installations and the U.S. Army's training lands in Mākua Valley have been shown on the Land Use Map with an overlay graphic texture. The intent of the Land Use Map is thus to recognize the existence of these military uses, but to show that the long-range vision for these lands are for agricultural, open space, and preservation uses that are compatible with the principal policies of the Wai'anae Sustainable Communities Plan.

A.1.8 Farrington Highway Beautification

A dashed green line is used to symbolize the various proposed improvements for Farrington Highway, including safety improvements for vehicles and pedestrians, traffic-calming devices, sidewalks, bikeways, beautification, and improved lighting.

A.2 OPEN SPACE MAP

The Open Space Map is intended to illustrate the region's major open space patterns and resources as outlined in Chapter 3. It highlights major open space elements and resources, including agricultural and preservation lands, major recreational facilities, important "panoramic" views, natural stream corridors and drainageways, and important boundaries.

A.2.1 *Ahupua'a* Boundary

Ahupua'a boundaries, based on the traditional *ahupua'a* method of land organization, have been adopted for use and displayed in the Plan as a method of organizing land uses and enhancing community definition within the region.

The approximate boundaries of the nine traditional *ahupua'a* of the Wai'anae Coast are shown on the map. These boundaries have great cultural, historical, and ecological significance, and should therefore provide a framework for the open space plan for the District.

A.2.2 Stream Corridors

The major perennial and intermittent stream corridors are shown on the Open Space Map. These corridors should be protected and preserved in accordance with the policies and guidelines articulated in this Sustainable Communities Plan.

A.2.3 Concentrations of Archaeological Sites

The known and probable concentrations of archaeological and cultural sites in the District are shown by means of an overlay graphic texture. These areas should be protected and preserved, and appropriate public access should be provided.

A.2.4 *Heiau*

The approximate locations of known *heiau* are shown on the map with brown triangles.

A.2.5 Parks

Public and private parks and recreational facilities, including beach parks, playgrounds, playfields, district parks, botanical gardens, zoos, and golf courses. Neighborhood and beach parks are shown with a green circle.

A.2.6 Small Boat Harbor

The existing Wai'anae small boat harbor is shown with a blue circle. The harbor is an important facility for both recreational and commercial fishermen.

A.2.7 Gathering Places

The concept of community gathering places is presented in the Wai'anae Sustainable Communities Plan text. The location of future gathering places is schematically shown on the Open Space Map. These locations are subject to further planning by the various community groups that will take the lead in developing Gathering Places for their people.

A.3 PUBLIC FACILITIES MAP

The Public Facilities Map illustrates major existing and future public facilities and privately owned facilities for public use. Its purpose is to display the public resources or assets available in the region. When the Plan is adopted, a separate "Public Infrastructure Map," which will focus on and display facilities eligible for City Capital Improvements Program funding, will also be developed. For the Wai'anae Region, the following types of facilities are displayed:

- Wastewater Treatment Plant
- Police Station
- Fire Stations
- High Schools
- Intermediate Schools
- Elementary Schools
- Small Boat Harbor
- Landfill

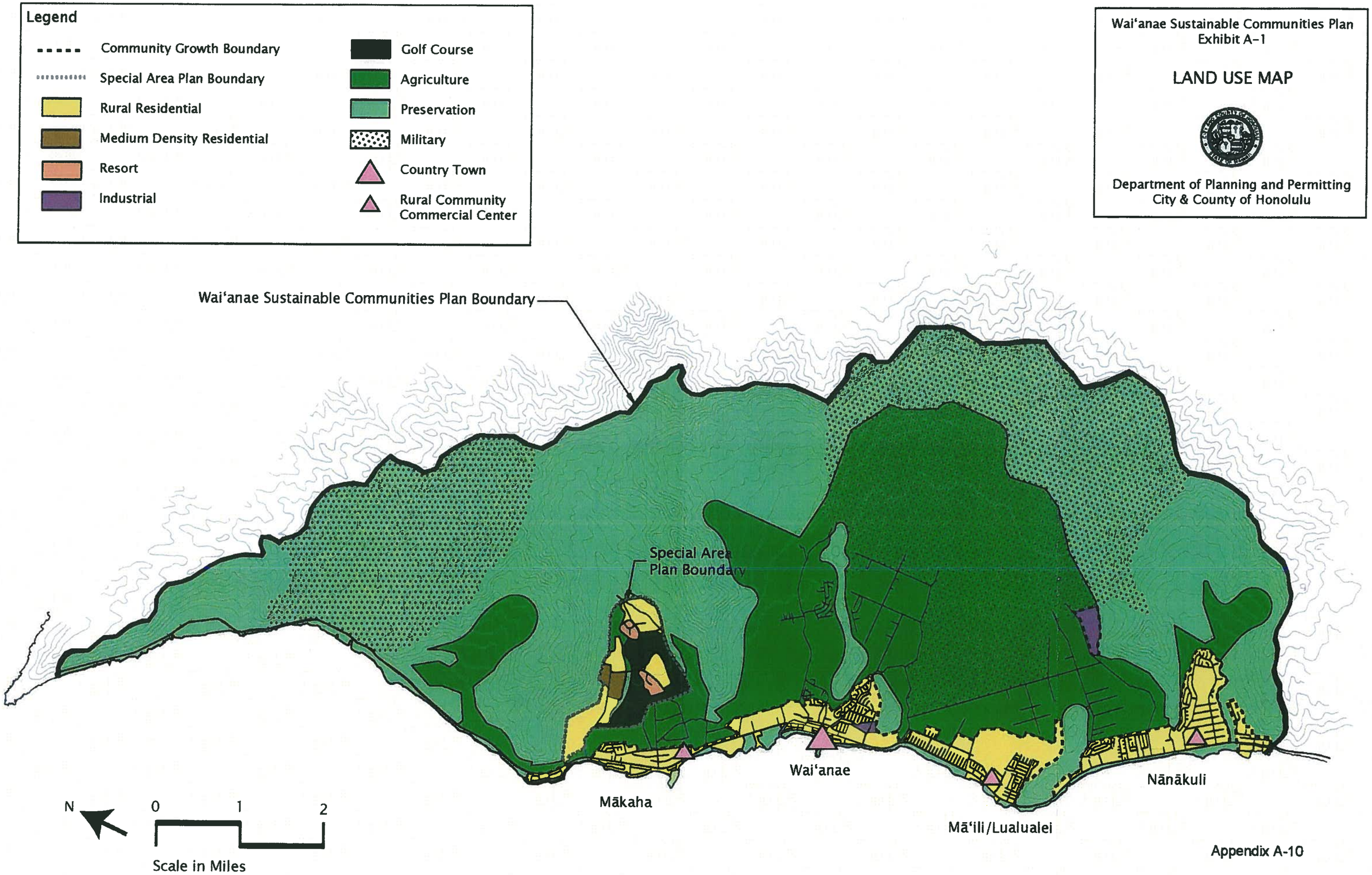
The Public Facilities Map for the Wai'anae District also includes a conceptual alignment for bicycle lanes and bicycle routes:

- Bikeways on Farrington Highway
- Major valley roads designated and improved to accommodate bicycle routes
- Multi-purpose beach path

Wai'anae Sustainable Communities Plan
Exhibit A-1

LAND USE MAP

Department of Planning and Permitting
City & County of Honolulu



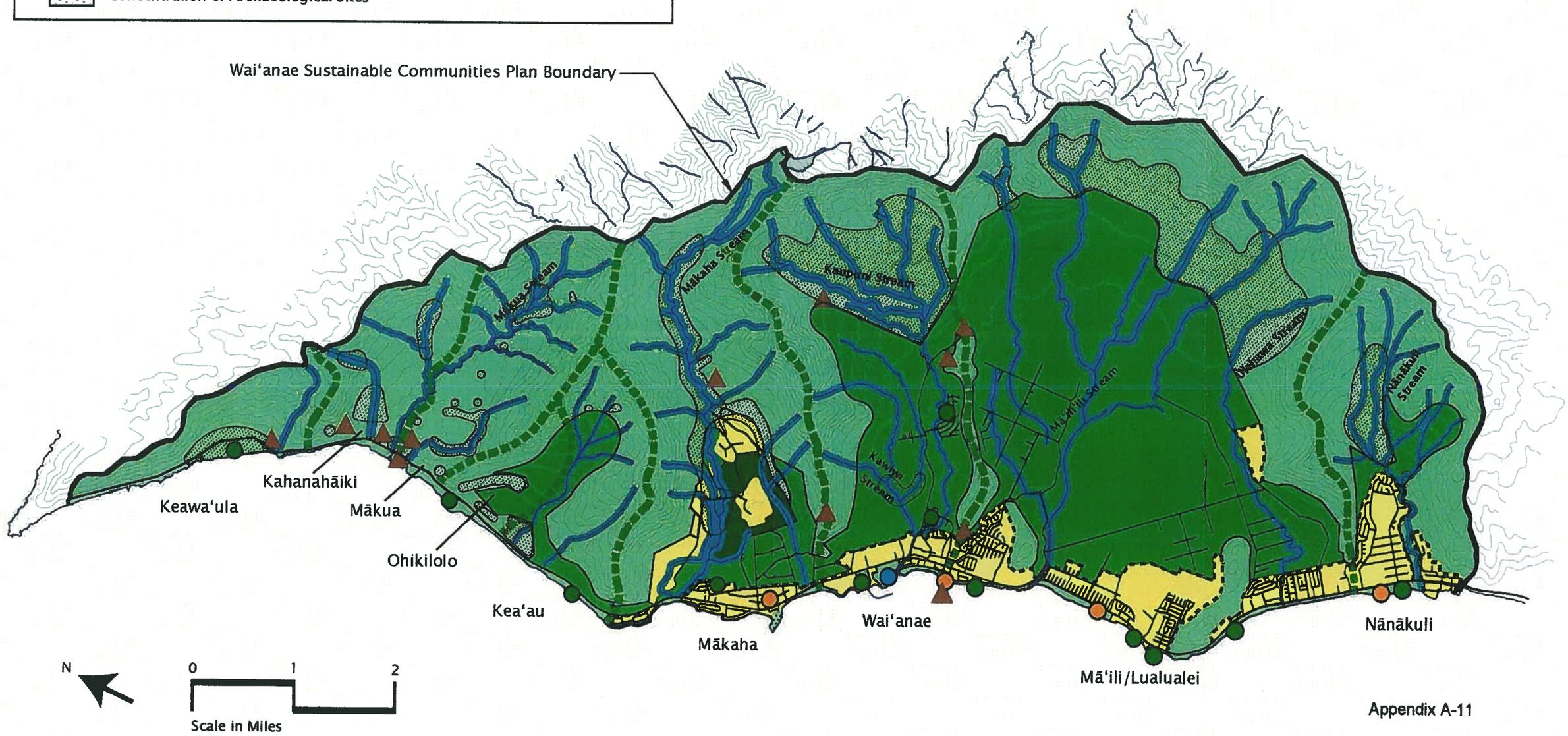
Wai'anae Sustainable Communities Plan
Exhibit A-2

OPEN SPACE MAP

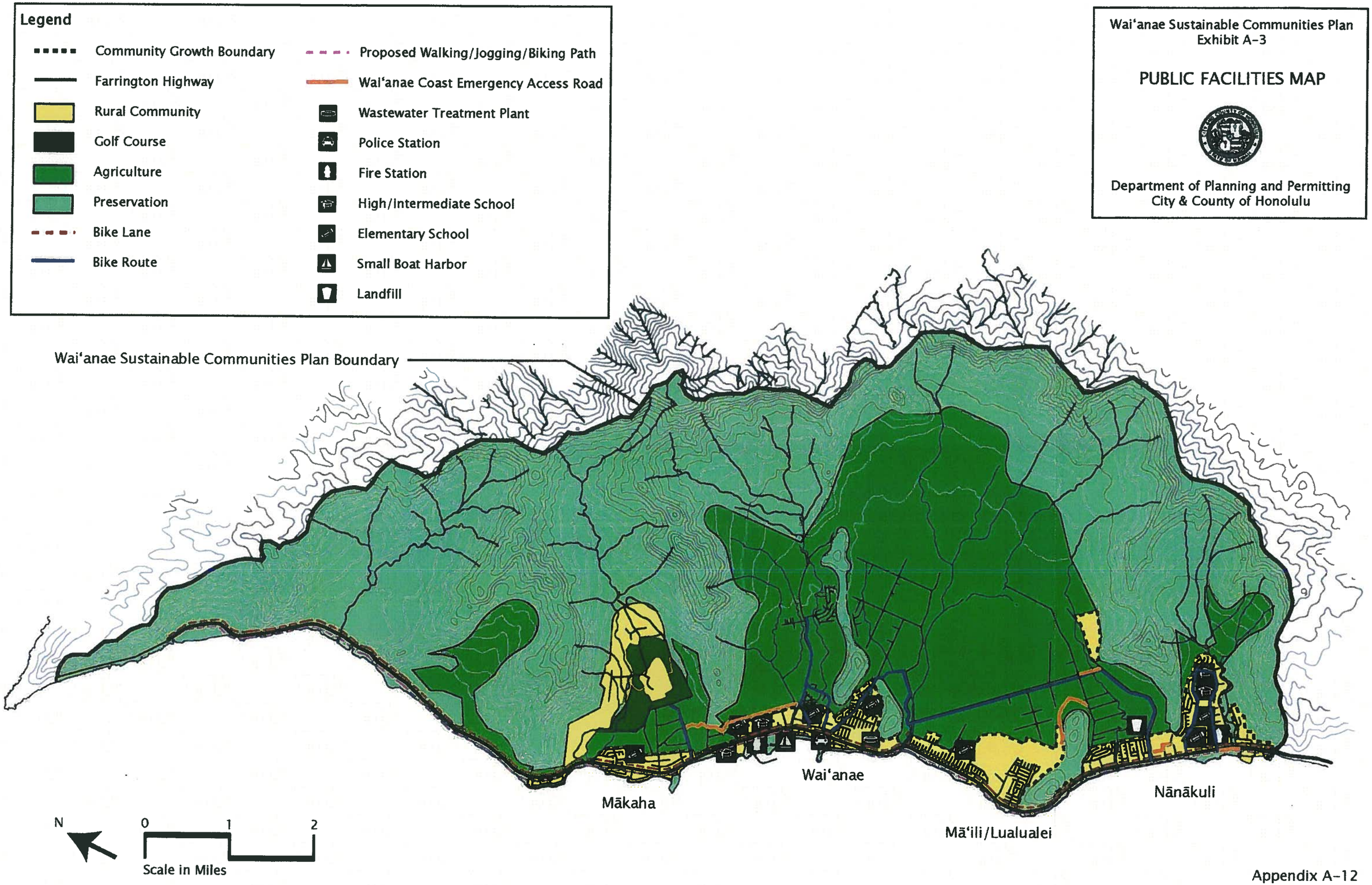
Department of Planning and Permitting
City & County of Honolulu

Legend

- Community Growth Boundary
- Ahupua'a Boundary
- Rural Community
- Golf Course
- Agriculture
- Preservation
- Concentration of Archaeological Sites
- Community Gathering Place
- Park
- Small Boat Harbor
- Heiau
- Stream Corridor



Wai'anae Sustainable Communities Plan
Exhibit A-3

PUBLIC FACILITIES MAP

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