



Environmental Impact Statement Preparation Notice
Koa Ridge Makai & Waiawa Development

Waipio and Waiawa, Oahu, Hawaii

Prepared for:
Castle & Cooke Homes Hawaii, Inc.

Prepared by:
Helber Hastert & Fee, Planners

May 2008

***ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE***

**KOA RIDGE MAKAI & WAIAWA
DEVELOPMENT**

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PREFACE

This Environmental Impact Statement (EIS) Preparation Notice was prepared in conformance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS), and Title 11, Chapter 200, Administrative Rules, Department of Health, State of Hawaii. Proposed is an applicant action by Castle & Cooke Homes Hawaii, Inc. for developing Koa Ridge Makai and Waiawa as master planned communities in Waipio and Waiawa, Oahu, Hawaii.

In February 2003, a Draft EIS based on a previous development concept was filed with the City and County of Honolulu Department of Planning and Permitting (DPP) in conjunction with a request to rezone land in Waiawa and Koa Ridge Makai. Notice of the Draft EIS was subsequently published in the March 23, 2003 issue of the State Office of Environmental Quality Control's *The Environmental Notice* and distributed for public review and comment. Following its publication, the State Land Use Commission's (LUC) Decision & Order of June 2002 (Docket No. A00-734), which had reclassified land in Waiawa and Koa Ridge Makai from the State Land Use Agricultural District to the State Urban District, was vacated by the State of Hawaii First Circuit Court's Order, filed on September 23, 2003. The Circuit Court's Order was based upon the finding that an Environmental Assessment (EA) or Environmental Impact Statement (EIS) pursuant to Chapter 343, HRS, was required as a precursor to deliberations on the State Land Use District Boundary Amendment since the development proposes the use of State lands associated with infrastructure improvements proposed within public roadways (e.g., H-2 Freeway, H-1 Freeway, and Kamehameha Highway). The State Office of Planning appealed the Circuit Court's Order, and the Hawaii Supreme Court affirmed the Circuit Court's Order on January 27, 2006. As a result of this decision, the Applicant opted to withdraw its rezoning request and the previous Draft EIS.

On May 1, 2007, the LUC dismissed without prejudice the previous petition for Land Use Boundary Amendment (Docket No. A00-734). This dismissal allows the filing of new petitions with the LUC for land use district boundary amendment covering substantially the same land as had been previously requested.

In July 2007, a petition and EIS Preparation Notice was submitted to the State Land Use Commission (LUC) for Castle & Cooke Waiawa, a 191-acre community east of the H-2 Freeway, for the reclassification of lands from the State Agricultural District to the State Urban District. In November 2007, a Draft EIS for the Waiawa project was prepared and distributed for public review.

On May 1, 2008, an agreement was reached with Wahiawa Hospital Association which enabled the entitlement process to proceed for Koa Ridge Makai. Since the Draft EIS for Castle & Cooke Waiawa was still pending Final EIS action, Petitioner Castle & Cooke Homes Hawaii has decided to withdraw the Waiawa EIS. An amended petition has been submitted to the LUC with this Preparation Notice for a combined EIS for the Koa Ridge Makai and Waiawa developments.

The environmental review of the Project is due to the proposed use of State and City and County of Honolulu lands associated with infrastructure improvements within public roadways, including the H-2 Freeway, Ka Uka Boulevard, and Kamehameha Highway. The State Land Use District Boundary Amendment Petition prepared for the Project notes that due to the scope of the Project, there may be significant effects on the environment to warrant the preparation of

an EIS. The Petition also notes that the filing of an EIS with the LUC represents the earliest practical time to determine whether an EIS is warranted.

This EIS will also be used in support of a zone change application for the Koa Ridge Makai and Waiawa areas to be filed with the City and County of Honolulu following the State Land Use District boundary amendment process.

The forthcoming Draft EIS will address the potential direct, indirect and secondary impacts of the proposed actions at Koa Ridge Makai and Waiawa, as well as the cumulative impacts associated with other reasonably foreseeable public and private projects in the region.

PROJECT SUMMARY

Petitioner: Castle & Cooke Homes Hawaii, Inc.
100 Kahelu Avenue, 2nd Floor
Mililani, Hawaii 96789
Phone: (808) 548-4811
Laura Kodama, Director of Planning & Development

EIS Preparer: Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813
Contact: Gail Renard
Phone: (808) 545-2055

Accepting Authority: State of Hawaii Land Use Commission

Location: Waiawa and Waipio, Oahu, Hawaii

Tax Map Keys: Waiawa: (1) 9-4-06: pors. 029 and 031; and (1) 9-6-04: 021
Koa Ridge Makai: (1) 9-4-06: 038, pors. 001, 002, 005, 039; and
(1) 9-5-03: pors. 001 and 004

Affected Area: Total of approximately 766 acres
Waiawa: approximately 191 acres
Koa Ridge Makai: approximately 575 acres

Land Ownership: Castle & Cooke Homes Hawaii, Inc.

Existing Use: Leased for grazing and cultivation of diversified crops; vacant

State Land Use Classification: Agricultural District

City and County of Honolulu Central Oahu Sustainable Communities Plan: Waiawa: Within the Urban Community Boundary; Residential and Low Density Apartment
Koa Ridge Makai: Within the Urban Community Boundary; Residential and Low Density Apartment, and Medical Park

City and County of Honolulu Zoning: AG-1 Restricted Agricultural District

Special Management Area (SMA):

Located outside of the SMA

Proposed Action:

The master plan for Koa Ridge Makai and Waiawa consists of two separate proposed development areas in Central Oahu. Koa Ridge Makai is a master planned community that will include residential, commercial, light industrial, and medical and health care components, with an integrated mixed-use village center. The residential component of the master plan is proposed to include the development of approximately 3,500 single- and multi-family homes, and sites for parks, recreation centers, schools, and neighborhood and community commercial development to serve the residents and surrounding region. The health care component will provide a range of medical and health care services potentially including a hospital, skilled nursing, physicians' offices, diagnostic and treatment facilities, and other specialized centers.

The Castle & Cooke Waiawa development on the east side of the H-2 Freeway is a planned community expected to accommodate approximately 1,500 single- and multi-family homes, neighborhood parks, retail, community center, and an elementary school site.

Anticipated Impacts:

The following studies will be conducted for the Draft EIS to determine the potential impacts that may result from the proposed project and to identify appropriate mitigation measures:

Air Quality Study
Noise Study
Traffic Impact Study
Botanical Survey Update
Faunal Survey Update
Archaeology and Cultural Impact Assessment
Agricultural Impact Study
Market Study
Fiscal Impact Study
Infrastructure Improvements Update (Water Resources, Water, Sewer, Drainage, and Electrical and Communications Systems)

Determination:

As the Accepting Authority, the State Land Use Commission has determined that the proposed action requires the preparation of an Environmental Impact Statement, based on the significance criteria set forth in Chapter 200, Title 11, State of Hawaii Department of Health.

**Required Permits
& Approvals:**

State Land Use District Boundary Amendment
City and County of Honolulu Zoning Amendment
Water Use Permits
Well Construction and Pump Installation Permit
National Pollutant Discharge Elimination System (NPDES) Permit
Plan Review Use
Certificate of Need
Subdivision Approvals
Grading Permits
Building Permits

**Agencies Consulted
In Pre-Assessment
Process:**

State of Hawaii

DBEDT – Land Use Commission
Office of Planning
Department of Transportation, Highways Division
Department of Education

City and County of Honolulu

Board of Water Supply
Department of Planning and Permitting

Community Organizations

Koa Ridge Community Visioning Group
Mililani/Waipio/Melemanu Neighborhood Board No. 25
Mililani Mauka/Launani Valley Neighborhood Board No. 35
Pearl City Neighborhood Board No. 21
Waipahu Neighborhood Board No. 22
Wahiawa-Whitmore Village Neighborhood Board No. 26

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1. INTRODUCTION AND PROJECT SETTING

1.1 Introduction

The master plan for the Koa Ridge community consists of separate development areas known as Koa Ridge Makai and Waiawa. The combined project is a master planned, mixed-use residential community in Central Oahu with commercial, light industrial and health care components. The residential component of the master plan is proposed to include the development of a total of approximately 5,000 single- and multi-family homes, and sites for parks, recreation centers, schools, and neighborhood and community commercial development to serve the residents and region. The medical and health care component will provide a range of health care services that could include a hospital, physicians' offices, diagnostic and treatment facilities, and other specialized centers, located within Koa Ridge Makai.

Castle & Cooke has been preparing plans for its Central Oahu land holdings for many years. In the mid-1960s, the subject lands were designated as a major commercial/industrial employment center as part of the original Mililani Town Master Plan. Then in the mid-1980s, the area was identified as an "urban reserve" to be retained in open space until such time it could be developed to support the surrounding communities of Mililani, Waipio/Waikele and Gentry's Waiawa development with higher density housing, employment and commercial opportunities. Specific plans to move forward with the current development were initiated in the late 1990s to meet anticipated future demand for a wide range of housing opportunities in a new master planned community in Central Oahu.

In June 2002, the State Land Use Commission (LUC) approved through a Decision and Order (Docket No. A00-734) the reclassification of the lands within the Waiawa and Koa Ridge Makai areas from the State Agricultural District to the State Urban District. Within the same Decision and Order, the request for reclassification of the Koa Ridge Mauka area from the State Agricultural District to the State Urban District was denied as it was determined that the reclassification was not consistent with the State and City planning policies for urban development, is not contiguous to any urban developments or urban-designated lands, and does not constitute a reserve area for foreseeable urban growth as its development schedule was primarily designated within the 2020 to 2030 timeframe.

In February 2003, a Draft EIS based on a previous development concept was filed with the City and County of Honolulu Department of Planning and Permitting (DPP) in conjunction with a request to rezone land in Waiawa and Koa Ridge Makai. Notice of the Draft EIS was subsequently published in the March 23, 2003 issue of the State Office of Environmental Quality Control's *The Environmental Notice* and distributed for public review and comment.

On September 23, 2003, the State of Hawaii First Circuit Court filed an Order vacating LUC's Decision and Order of June 2002. The Court's Order stipulated that an Environmental Assessment (EA) or Environmental Impact Statement (EIS) pursuant to Chapter 343, HRS, was required as a precursor to deliberations on the State Land Use District Boundary Amendment because the development proposed the use of State lands associated with infrastructure improvements proposed within public roadways (e.g., H-2 Freeway, H-1 Freeway, and Kamehameha Highway). The State Office of Planning appealed the Circuit Court's Order, and the Hawaii Supreme Court affirmed the Circuit Court's Order on January 27, 2006. As a result

of this decision, the Applicant opted to withdraw its rezoning request and the February 2003 Draft EIS.

In May 2007, the previous Petition For Land Use Boundary Amendment (Docket No. A00-734) was dismissed without prejudice by LUC Order. This dismissal allows the Applicant to file new petitions with the LUC for land use district boundary amendment covering the same land as had been previously requested.

In July 2007, a petition and EIS Preparation Notice was submitted to the State Land Use Commission (LUC) for Castle & Cooke Waiawa, a 191-acre community east of the H-2 Freeway. A Draft EIS was prepared and distributed for public review in November 2007.

On May 1, 2008, an agreement was reached with Wahiawa Hospital Association which enabled the entitlement process to proceed for Koa Ridge Makai. Since the Draft EIS for Castle & Cooke Waiawa was still pending Final EIS action, Petitioner Castle & Cooke Homes Hawaii has decided to withdraw the Waiawa EIS. A new petition has been submitted to the LUC with this Preparation Notice for a combined EIS for the Koa Ridge Makai and Waiawa developments.

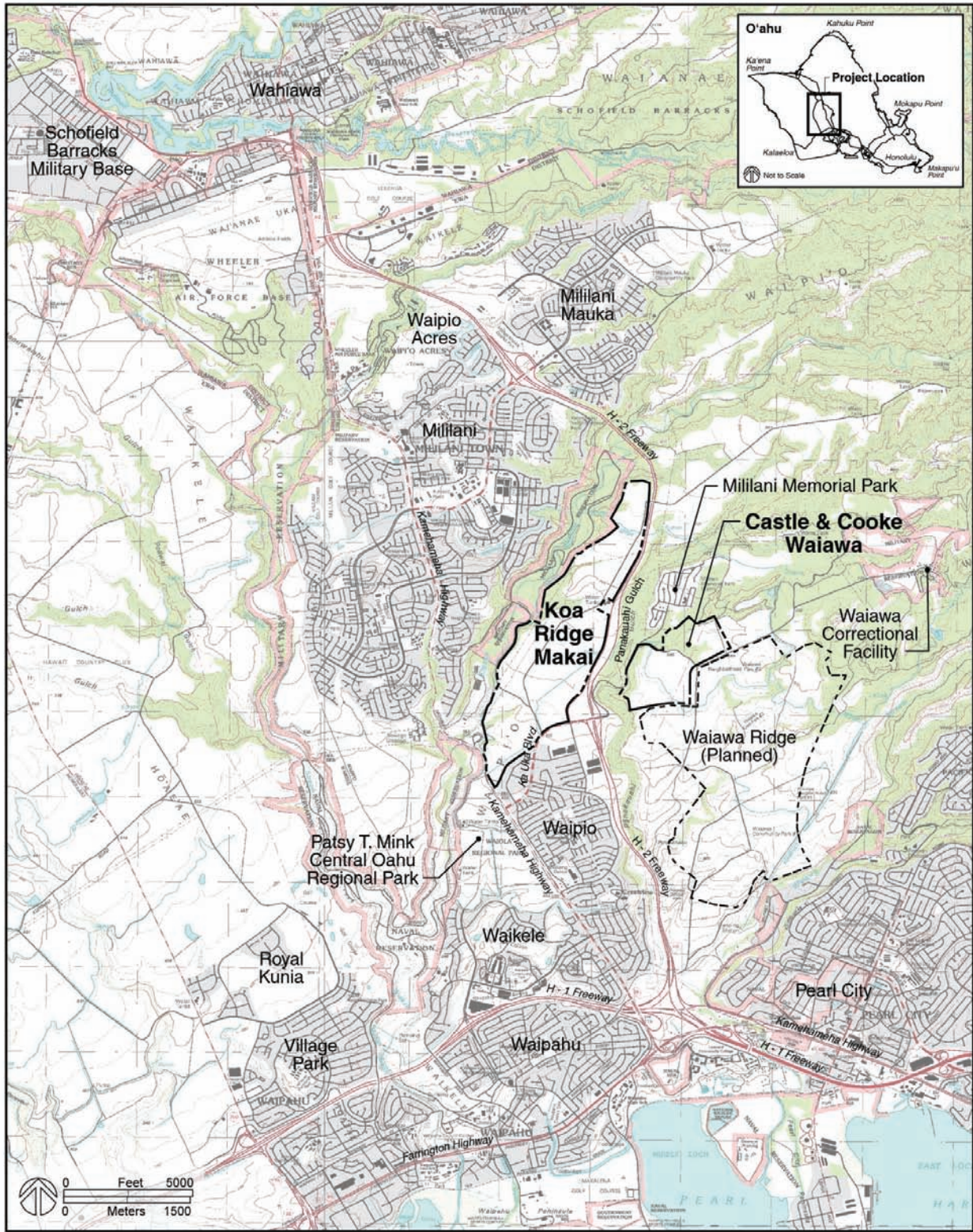
The proposed development area addressed in the LUC petition and the forthcoming EIS does not include Koa Ridge Mauka which was denied by the State LUC in its Decision and Order of June 2002 (Docket No. A00-734).

The forthcoming EIS is also being prepared in support of a zone change application for the Koa Ridge Makai and Waiawa areas to be filed with the City Department of Planning and Permitting following the State Land Use District Boundary Amendment process.

1.2 Project Location

The proposed site of the master-planned community is located in Waipio and Waiawa, Oahu, and consists of approximately 766 acres of land in two separate areas referred to as the Waiawa area and Koa Ridge Makai area as shown on Figure 1-1. The Waiawa area is located east of the H-2 Freeway, east of the Waipio Interchange, and adjacent to and northwest of the proposed Waiawa Ridge development. The Koa Ridge Makai area is located north of the Waipio Business Park and west of the H-2 Freeway.

The total area to be master-planned encompasses the following tax map keys as shown in Figures 1-2, 1-3 and 1-4.



Location Map

Figure 1-1

KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
CASTLE & COOKE HOMES HAWAII, INC.

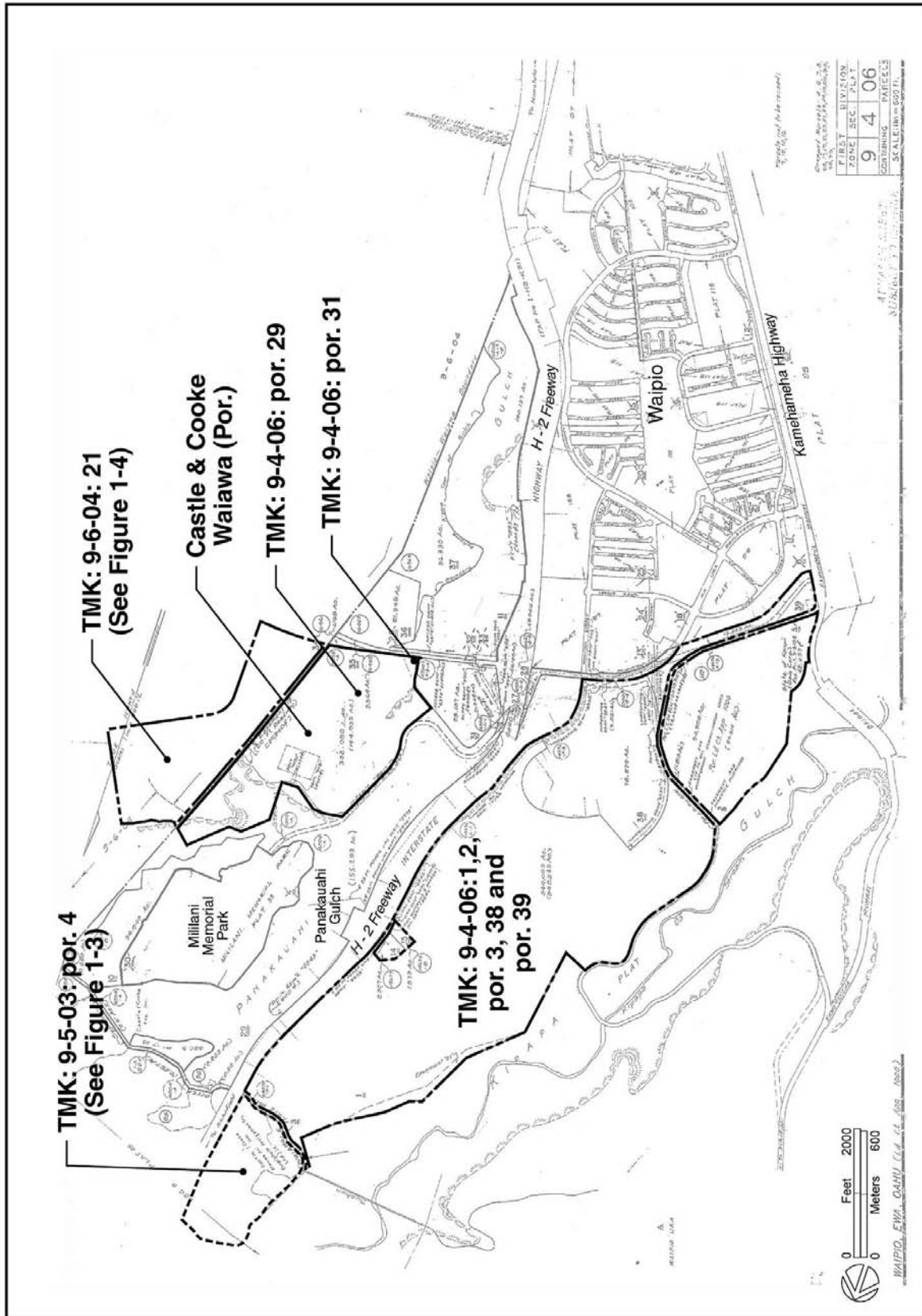


Figure 1-2

Tax Map: 9-04-06
KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
CASTLE & COOKE HOMES HAWAII, INC.

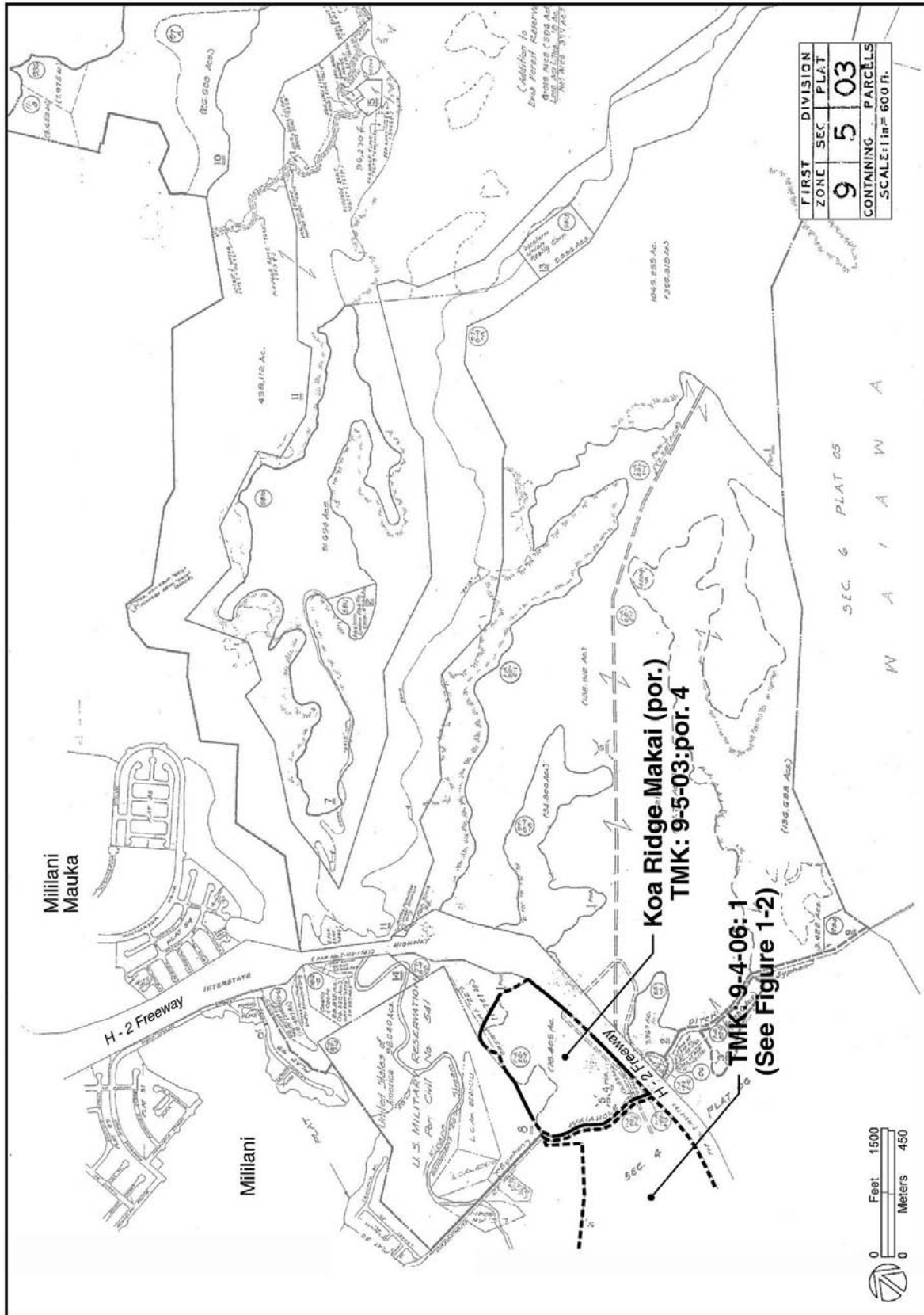


Figure 1-3

Tax Map: 9-5-03

KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
 CASTLE & COOKE HOMES HAWAII, INC.

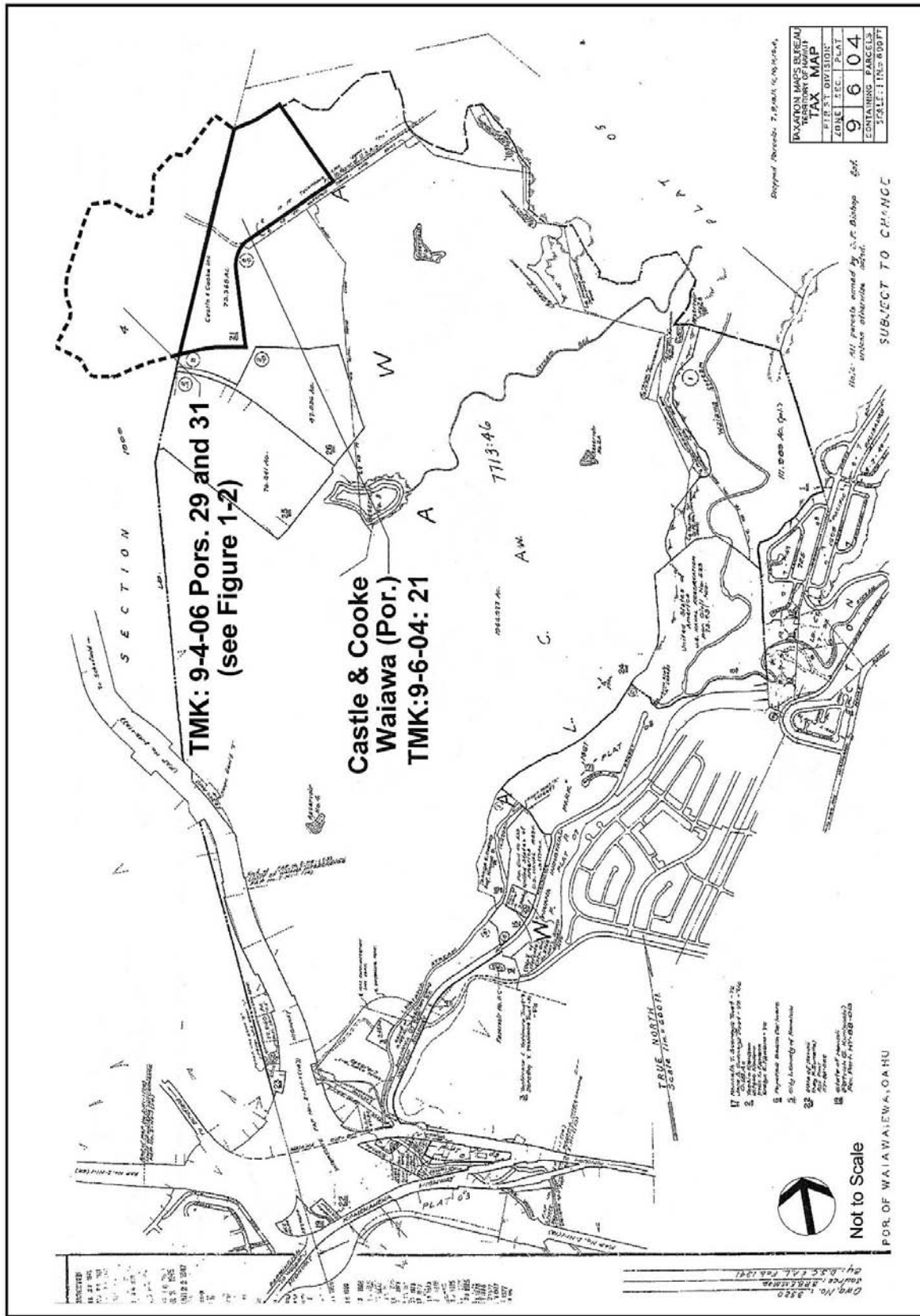


Figure 1-4

Tax Map: 9-06-04
KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
 CASTLE & COOKE HOMES HAWAII, INC.

1.3 Existing and Surrounding Uses

1.3.1 Existing Uses

Koa Ridge Makai: The majority of the land comprising Koa Ridge Makai, previously in pineapple cultivation, consists primarily of fallow areas. Almost all of the land is currently being leased by Dole Food Company Hawaii and subleased to a tenant who cultivates a mix of diversified agricultural crops. Areas not under cultivation are vacant and predominantly vegetated with a mix of weedy species, open mixed scrub, and a variety of grasses. Approximately 3.5 acres at the southern end are adjacent to the Waipio Business Park are leased to the Ironworkers Union for training. A portion of the Waiahole Ditch system traverses in an east-west orientation within the northern portion of the Koa Ridge Makai site.

Waiawa: The Waiawa site, formerly in pineapple cultivation, consists primarily of vacant, fallow land with an overgrowth of vegetation consisting of a mix of weedy species, open mixed scrub and trees, and a variety of grasses. Most of the site is leased for cattle grazing. About four acres are leased for a radio antenna site by the Broadcast Corporation of America. Mililani Memorial Park leases 0.690 acres for a filter bed and service yard. All leases are short-term or subject to termination on one year advance written notice.

1.3.2 Surrounding Uses

1.3.2.1 Surrounding Uses Bordering the Project Site

Koa Ridge Makai: Land uses bordering the Koa Ridge Makai site include the H-2 Freeway to the east, Ka Uka Boulevard and the Gentry Waipio Business Park to the south, and the Central Oahu Regional Park, Kamehameha Highway and Kipapa Gulch to the west and north. Approximately four acres of land bordering the west side of the H-2 Freeway, in the middle of the site, are occupied by two City and County of Honolulu-owned water storage tanks.

Waiawa: Land uses bordering the Waiawa site include Panakauahi Gulch to the west and northwest, and vacant, undeveloped former sugar cane cultivated lands to the east and south which are planned for the Waiawa Ridge development.

1.3.2.2 Regional Surrounding Uses

Mililani: Created in the mid-1960's as a master-planned residential community in Central Oahu, the community of Mililani is located to the west and north of the proposed Waiawa and Koa Ridge Makai development, across of Kipapa Gulch. The community is comprised of Mililani Town (first occupied in 1968) located west of the H-2 Freeway, and Mililani Mauka (first occupied in 1990, with residential development nearing completion) located to the east of the H-2 Freeway. Mililani includes numerous supporting commercial, recreational and community facilities.

Wahiawa/Schofield Barracks/Wheeler Army Airfield: The town of Wahiawa is located approximately 3.4 miles north of the proposed Waiawa and Koa Ridge Makai development and north of the community of Mililani. Wahiawa is a civilian community that supports the nearby Schofield Barracks and Wheeler Army Airfield.

Located to the west and south of Wahiawa, Schofield Barracks/Wheeler Army Airfield supports the U.S. Army's 25th Infantry Division. Schofield Barracks is the largest military base in Hawaii in terms of land area, with most of its rugged, open terrain dedicated to military training grounds. The eastern portion of the base adjacent to Wahiawa includes residential, commercial, recreational, and semi-industrial uses.

Mililani Technology Park: Located east of Wheeler Army Airfield, across of the H-2 Freeway, Mililani Technology Park is an area where high technology firms combine with office, commercial and light industrial uses in a low-density, campus-like setting.

Mililani Memorial Park/Waiawa Correctional Facility: The Mililani Memorial Park cemetery is located immediately north of the planned Waiawa development, east of the H-2 Freeway. The State's minimum security Waiawa Correctional Facility is located to the east of the Mililani Memorial Park.

Waipio Acres: Located along the northern border of Mililani, Waipio Acres consists of an older residential community. Newer development in the form of townhomes and apartments has occurred in the northern portion of the area.

Waipahu/Village Park/Royal Kunia: Waipahu is an established community located within south-central Oahu, makai of the proposed development. Initially developed as a plantation town around Oahu Sugar Company's former sugar mill operations, the Waipahu area is primarily an older residential community which is experiencing recent development of light industrial and community facilities within the former sugar mill site. The newer residential communities of Village Park and Royal Kunia are located north of Waipahu, mauka of the H-1 Freeway.

Waipio/Waikele: Located on former sugar cane and pineapple fields south of the Waiawa and Koa Ridge Makai site and north of Waipahu, Waipio includes the residential communities of Seaview, Crestview and Gentry Waipio. The Gentry Waipio Business Park, located adjacent to the southern boundary of the Koa Ridge Makai area, consists of approximately 100 acres of light industrial uses, including the big box retailer Costco. The newer Waikele development located to the west of Waipio includes residential and retail development. The City's Central Oahu Regional Park is located mauka of Waikele and west of Waipio.

Planned Waiawa Ridge Development: The planned Waiawa Ridge Development encompasses approximately 3,600 acres (approximately 1,700 in Phase I) located to the southeast of the Waiawa and Koa Ridge Makai development. Castle & Cooke's Waiawa project area abuts the northwestern boundary of the planned development by Waiawa Ridge Development LLC. The Waiawa Ridge Development is proposed to consist of residential, commercial, light industrial, public facilities, recreational, and open space uses. The Waiawa Ridge Development includes sites for up to three elementary schools, one middle school, and one high school.

2. PROJECT DESCRIPTION

2.1 Project Need

The project's two development areas, Koa Ridge Makai and Waiawa, have been identified for urban development in State and City planning policies within a 25-year planning horizon. The objectives of the proposed project are to:

- Create a high quality, master planned community that provides a variety of housing types, employment, services, schools, amenities and outdoor recreational opportunities promoting walking and bicycling while accommodating motor vehicles.
- Develop quality health care facilities in Central Oahu that provide a range of health care services along with medical and health care employment opportunities.

The proposed project will provide for residential, commercial, light industrial, school, parks and public facilities within a planned mixed use community in Central Oahu. State and City projections and the market study being undertaken for the project forecasts a continuing need and demand for additional residential and commercial facilities. The project area is directly accessible from major regional transportation facilities, highly desirable for residential use, and adjacent to urbanized areas.

2.2 Project Description

The proposed project involves the development of a master planned community in Central Oahu. The 766-acre project will include a mix of approximately 5,000 single-family homes and multi-family units, school sites, neighborhood and community commercial sites, light industrial uses, church/day care centers, recreational centers, community parks, park and ride facilities, and a health care component. The development will feature generous landscaping and open space. The new community will be one that is safe, modern, and walkable, where residents can live, work and recreate in a vibrant and healthy master-planned, sustainable community encompassing principles consistent with "smart growth". Figure 2-1 illustrates the Master Land Use Plan for Koa Ridge Makai and Waiawa. Table 2-1 provides a summary of the approximate acreage to be allocated for each planned land use within the development.

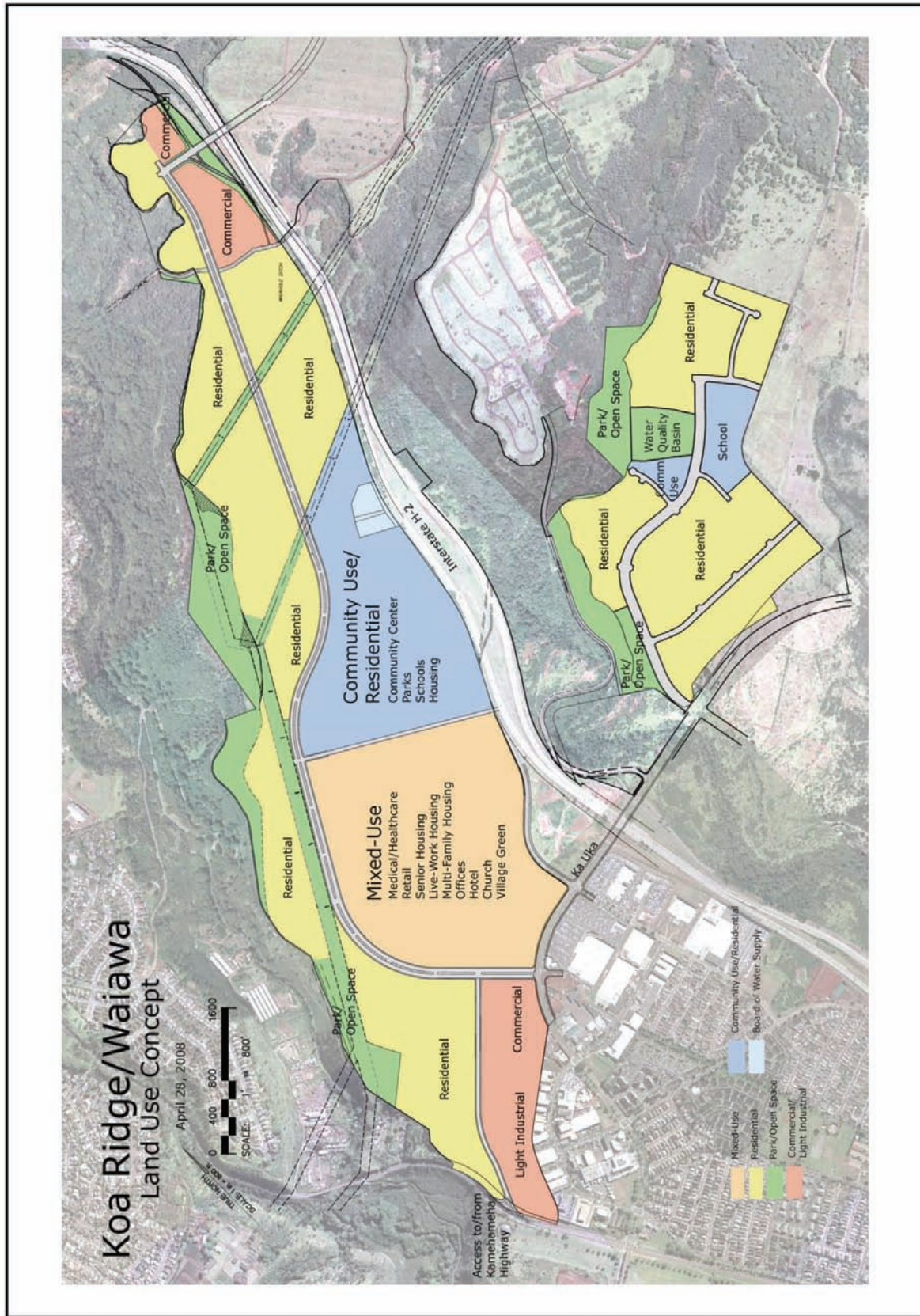


Figure 2-1

Master Land Use Plan
KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
CASTLE & COOKE HOMES HAWAII, INC.

Land Use	Koa Ridge Makai	Waiawa	Master Plan Totals
	acres	acres	acres
Medical Use	28	0	28
Commercial / Light Ind. / Mixed Use	110	10	120
Schools/Parks/Open Space	115	45	160
Residential <i>(includes roadways, churches, community, and public facilities.)</i>	322	136	458
Totals	575	191	766

Koa Ridge Makai

Koa Ridge Makai provides a master-planned mixed use community that features a health care component providing comprehensive health care and wellness services and facilities. The development encompasses approximately 575 acres and will include approximately 3,500 homes balanced by the employment-generating health care, commercial, light industrial, and educational facilities. A mix of multi-family and single-family homes is planned. Multi-family housing is planned near the village center, employment centers, schools and services and in close proximity to the entry points at the makai and mauka ends of the site. The Conceptual Master Land Use Plan for Koa Ridge Makai is shown in Figure 2-1.

A key element of the community is the mixed-use “Village Center” area that is planned as the social and community focus. The commercial and health care components will be integrated with the village center, which in turn will be linked by pedestrian pathways to the residential areas. This will provide for easy, pleasant walking to retail establishments and public spaces. A mix of uses and higher densities around the village center encourage walking and bicycling rather than the use of the private automobile. Senior housing is an integral part of the village center to facilitate convenient access to retail services and health care. Neighborhoods designed around planned schools, community centers and churches also increase the opportunity to walk rather than drive for short trips.

Koa Ridge Makai features substantial open space and recreation. Open space and pedestrian access will be provided along the edge of Kipapa Gulch and within utility easements and link to neighborhood parks. A well-landscaped spine road with pedestrian and bike trails alongside will link the makai end of Koa Ridge Makai to the mauka end of the property. Portions of the spine

road will travel through adjacent open space and parks. Long distance vistas of Kipapa Gulch will be visible at points along the spine road where it passes adjacent to branches of the gulch.

The health care component will encompass approximately 28 acres for medical and health care facilities, which may include a hospital, skilled nursing, physicians' office building, diagnostic and testing center, and other medical and wellness facilities.

Waiawa

Waiawa encompasses approximately 191 acres adjacent to the proposed Waiawa Ridge development. The Conceptual Master Land Use Plan for Waiawa is shown in Figure 2-1. Primary access to the community is provided along a spine road that has dramatic views at the entry towards the Waianae Mountains. The central portion of the site will feature a community center with neighborhood retail, a neighborhood park, and an elementary school site to provide a concentration of pedestrian-oriented activities. Some 1,200 multi-family homes are located within convenient walking distance of these activities. Lower density homes consisting of approximately 300 single-family residences are located along the spine road extending to the mauka end of the site. The development of Waiawa is dependent on the progress of infrastructure development at the adjacent Waiawa Ridge community that will serve both projects.

2.3 Project Schedule

Development of the project is anticipated to commence with the construction of off-site infrastructure improvements by 2010. Completion of the first residential products in Koa Ridge Makai is scheduled for 2012. Construction and delivery of the first homes in the Waiawa area are dependent on the progress of the proposed development by Waiawa Ridge Development LLC. Full build-out of the Koa Ridge Makai and Waiawa communities is projected by 2021.

2.4 Use of Public Lands or Funds

The project will require an easement to cross or improve public roadways (e.g., H-2 Freeway, Ka Uka Boulevard, Kamehameha Highway, H-1 Freeway) for infrastructure improvements such as roadways, water, and wastewater transmission lines.

3. DESCRIPTION OF THE EXISTING ENVIRONMENT, PROJECT IMPACTS AND MITIGATION MEASURES

The following is a description of the existing environment, assessment of potential impacts and proposed measures to mitigate potential adverse impacts resulting from development of the proposed project.

3.1 Climate

Temperatures in the Oahu area leeward of the Koolau range, where the project is located, are generally very moderate with average daily temperatures ranging from about 65 degrees Fahrenheit (°F) to about 85° F. Rainfall in the vicinity of the project site is relatively moderate with an average of about 50 inches per year.

Wind frequency data for Barbers Point Naval Air Station, located approximately 13 miles southeast of the project site, show that the annual prevailing wind direction for this area of Oahu is east-northeast. Winds from the south are infrequent, occurring only a few days during the year and mostly in winter in association with Kona storms. Wind speeds average about 12 miles per hour and mostly vary between about 6 and 17 miles per hour. Surface winds at the project site are likely somewhat similar to those recorded at Barbers Point, but speeds are probably lower on the average, and directions more likely southeasterly due to terrain effects.

3.2 Geology and Topography

Geology: The Island of Oahu is a volcanic doublet, formed of the Waianae Range on the west and the younger Koolau Range on the east. Both are the eroded remnants of great shield volcanoes. Lava flows from the Koolau volcano banked against the already-eroded slope of the Waianae volcano to form the gently sloping surface of the Schofield Plateau.

The proposed project is located on the southern slope of the Schofield Plateau. This plateau was built up by many successive lava flows originating from the Koolau shield volcano. This rock unit is comprised of firm to very hard volcanic rocks which form bedrock in the project area and vicinity. The soils in this area are typically residual, derived from the weathering of basic igneous rock.

Topography: Overall elevations within the Waiawa area range from approximately 440 to 620 feet above mean sea level (msl) from southeast to northwest. Elevations within the Koa Ridge Makai area range from approximately 440 feet msl in the southwest, to 720 feet in the northeast. Slopes within the project site are generally in the 0 to 5 percent slope range, with some steeper sections near the edges of the adjacent gulches.

Impacts and Mitigation Measures

No significant impacts on the geology or overall topography of the project site are anticipated during the construction and operation of the proposed project. Construction of the proposed development will involve grading, excavation and trenching of presently undeveloped areas within the project site. Since the proposed development areas contain minimal slope (generally less than 5 percent), the project will not require extensive

alteration of the existing landforms. Minor fill may be required at the heads a few gulches to create more efficient land development areas.

Mass grading of the development areas will be in compliance with the City's grading ordinance requirements and will require a National Pollutant Discharge Elimination System (NPDES) permit from the State Department of Health (DOH) for storm water construction activities, including Best Management Practices (BMPs) to minimize off-site impacts.

3.3 Soils

The U.S. Department of Agriculture Natural Resources Conservation Service classifies the soils within the project site as follows:

Helemano silty clay, 30 to 90% slopes (HLMG): The Helemano series consists of well-drained soils on alluvial fans and colluvial slopes on the sides of gulches. This soil is found on the sides of V-shaped gulches. The surface layer is dark reddish-brown silty clay, approximately 10 inches thick. Permeability is moderately rapid, runoff is medium to very rapid, and erosion hazard is severe to very severe. This soils is found on a portion of the Koa Ridge Makai area in Kipapa Gulch.

Lahaina silty clay, 3 to 7% slopes (LaB), and Lahaina silty clay, 7 to 15% slopes, severely eroded (LaC3): The Lahaina series consists of well-drained soils on uplands. These soils developed in material weathered from basic igneous rock. Runoff on LaB soils is slow, the erosion hazard is slight, and permeability is moderate. The LaC3 soil type is similar to that of LaB soils except that most of the surface layer and, in places, part of the subsoil, has been removed by erosion. Runoff is medium and the erosion hazard is severe. The Lahaina soil series is found in the southwest corner of the Koa Ridge Makai site.

Manana silty clay, 3 to 8% slopes (MpB), 8 to 15% slopes (MpC) and 15 to 25% slopes (MpD): The Manana series consists of well-drained soils on the uplands of Oahu, on elevations ranging from 500 to 1,200 feet. These soils developed in material weathered from basic igneous rock. Runoff is slow on the 3 to 8% soil type, with erosion hazard slight. The depth of soil to the panlike sheet is 30 to 50 inches. On the steeper soils, 15 to 25% slopes, runoff is medium and the erosion hazard is moderate. The MpB soil is found on the Kipapa Ridge and Koa Ridge Makai areas, and the MpD soil on the Waiawa area.

Wahiawa silty clay, 0 to 3% slopes (WaA), 3 to 8% slopes (WaB) and 8 to 15% slopes (WaC): The Wahiawa series consists of well-drained soils on uplands on Oahu. These soils developed in residuum and old alluvium derived from basic igneous rock. This subseries occurs on smooth, broad interfluvies. Permeability is moderate, runoff is slow, and the erosion hazard is slight on the slopes of up to 8%. On the 8 to 15% slopes, runoff is medium and the erosion hazard is moderate. The WaA and WaB soils are found on all three of the development areas. The WaC soils are found on the Koa Ridge Makai area.

The *Detailed Land Classification - Island of Oahu* published by the University of Hawaii Land Study Bureau (LSB), evaluates the quality or productive capacity of certain lands on the Island for selected crops and overall suitability in agricultural use. A five-class productivity rating system was established with "A" representing the class of highest productivity and "E" the lowest. Within the project site, most of the soils are classified as "B", which indicates a high suitability for productive agriculture. Class "A" soils are predominant on the Waiawa site. Class "D" and "E" productivity ratings, which are less productive soil types, are found along the peripheries of the Koa Ridge Makai area.

The *Agricultural Lands of Importance in the State of Hawaii* (ALISH) land classification system was developed by the State Department of Agriculture in 1977. Most of the Waiawa and Koa Ridge Makai areas are designated as "Prime Agricultural Land". Portions of the Waiawa area are designated "Other Important Agricultural Land."

Impacts and Mitigation Measures

No significant impacts on soils within the project site are anticipated as a result of the construction and operation of the proposed project. Appropriate erosion and sediment controls will be instituted during project grading operations and construction site work activities in compliance with the City's grading ordinance and the State DOH NPDES permit program. Mitigation measures will be instituted following site-specific assessments, incorporating structural and non-structural BMPs such as minimizing time of exposure between construction and replanting, and implementing erosion control measures such as silt fences and sediment basins. Following construction, erosion is anticipated to decrease since the soils will have been graded, built over, paved over, or landscaped.

Agricultural Impact Studies were prepared in January 2003 and August 2007 for Koa Ridge Makai and Waiawa, respectively, by Decision Analysts Hawaii, Inc. These studies will be updated for the Draft EIS to assess the impacts of the proposed project on existing agricultural operations and on the growth of diversified agriculture on Oahu.

3.4 Natural Hazards

Based on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the project site is designated Zone "D", Areas in which flood hazards are undetermined, but possible." The project site is located outside of the tsunami inundation zone.

Impacts and Mitigation Measures

Construction and operation of the proposed project is not anticipated to result in flooding of the project site or lower elevation properties. Due to its location and elevation, the project site is not subjected to a disproportionately greater likelihood of natural hazards such as flooding or a tsunami.

3.5 Groundwater and Surface Water Resources

3.5.1 Groundwater Resources

The project is located within the Waipahu-Waiawa Aquifer System, one of four (4) aquifer systems that comprise the Pearl Harbor Water Management Area (PHWMA). Water development and groundwater use within the PHWMA is regulated by the State Commission on Water Resource Management (CWRM) through the issuance of three (3) types of permits: water use, well construction, and pump installation. These permits from CWRM will be required before groundwater can be developed as a source of supply for the project.

The sustainable yield for the Waipahu-Waiawa Aquifer System is presently 104 million gallons per day (mgd) as established by the CWRM.

Impacts and Mitigation Measures

A water resources assessment will be provided in the Draft EIS to evaluate the anticipated impacts of the proposed project on the groundwater resources of the area.

According to the City and County of Honolulu Board of Water Supply (BWS), the project site is located within the State Department of Health's (DOH) proposed well head protection area. The proposed project is not considered a potential source of contamination to the underlying groundwater. Protection of groundwater from the proposed development is primarily provided by the natural processes that occur in the vertical travel distance of the infiltrated water (10- to 20-foot thick soil mantle, 10- to 50-foot thick underlying sapprolite and hundreds of feet of unweathered lava flows).

3.5.2 Surface Water Resources

The project site is located in the tributary watersheds of Waikele Stream and Waiawa Stream. Storm runoff from the project area sheet flows over land and discharges into the streams and gulches that are the tributaries of Waikele Stream and Waiawa Stream. Waikele Stream, located to the west of the Koa Ridge Makai area, travels through developed areas in Waipahu prior to discharging into West Loch. Waiawa Stream, located to the east of the Waiawa area, traverses sections of Pearl City to its outlet into Middle Loch.

The nearest coastal waters of Pearl Harbor's Middle Loch and West Loch, located about 3 miles to the south. The waters of Pearl Harbor are classified by the State DOH as an inland estuary, Class 2. The objective of Class 2 water is to protect their use for recreational purposes, propagation of fish and other aquatic life, and agricultural and industrial water supplies, shipping, navigation, and propagation of shellfish. Discharges into Class 2 waters must receive the best degree of treatment or control compatible with the criteria established for this class (State DOH 2004). The Pearl Harbor estuary has been identified by DOH as a "Water Quality Limited Segment," one of 11 Oahu water bodies where water quality chronically does not meet the State's water quality standards.

Impacts and Mitigation Measures

The project's construction has the potential to impact receiving waters, primarily through the transport of sediments carried off-site by storm water runoff. Potential water quality impacts during construction of the project will be mitigated by adherence to State and City

and County of Honolulu water quality regulations governing grading, excavation and stockpiling. The City's grading ordinance includes provisions related to reducing and minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling. A NPDES General Permit for Storm Water Associated with Construction Activity administered by the State DOH will be required to control storm water discharges. Best Management Practices (BMPs) will be utilized, and future development will be done in compliance with City ordinances pertaining to grading, grubbing, stockpiling, soil erosion, and sedimentation.

After construction, the project will result in increased stormwater runoff due to the increase in impervious surfaces. However, drainage systems will be designed to retain the increased runoff on-site, thereby limiting off-site discharge to pre-development levels. Alternative methods to manage the added runoff will be considered as much as possible, including the use of pervious pavement in driveways and parking areas, and the use of planted depressions that absorb runoff from roofs, driveways, walkways and compacted lawn areas. Where storm water detention is necessary, the detention basins will be integrated into park spaces in an aesthetic manner so that runoff becomes part of a temporary water feature. Further details will be discussed in the Draft EIS. All drainage improvements will comply with the City and County of Honolulu's Drainage Standards.

3.6 Flora

A survey of botanical resources in the project area was conducted by Botanical Consultants in January 1996. The project area was resurveyed in November 1999, verified in 2002, and resurveyed most recently in September 2007. The former cultivated areas currently support mostly introduced grasses, notably Guinea grass (*Panicum mazimum Jacq.*), with some introduced weeds and weed trees such as African tulip (*Spathodea campanulata P. Beauv.*), Siris tree (*albizia lebeck (L.) Benth*), and octopus tree (*Schefflera actinophylla (Endl.) Harms*). The gulches support a mixed flora of native and introduced trees, shrubs and ferns. No plant species classified as an endangered or threatened species by the U.S. Fish and Wildlife Service nor any plant species proposed as a candidate for listing as an endangered or threatened species were found within the project area during the survey.

Impacts and Mitigation Measures

The proposed project is not expected to have a significant adverse impact on the botanical resources of the project area. The botanical survey conducted in September 2007 will be included in the Draft EIS.

3.7 Fauna

A survey of faunal resources in the project area was conducted by Botanical Consultants in January 1996. The project area was resurveyed in November 1999 and the findings were verified in 2002. An updated survey of faunal resources in the project area will be included in the Draft EIS. Mice, rats and mongoose are all likely inhabitants of the project area. Within the Waiawa area, wild pigs are also likely inhabitants. All bird species observed within the project area were exotic species common to Hawaii, with the exception of the golden plover which is a native migratory bird. No evidence of any bird or animal species classified as an endangered or threatened species by the U.S. Fish and Wildlife Service nor any species proposed as a candidate for listing as an endangered or threatened species were detected within the project

area during the survey. Since the project area has been extensively modified from its original state, it has very little value as a native bird habitat.

Impacts and Mitigation Measures

The proposed project is not expected to have a significant adverse impact on the faunal resources of the project area. The updated faunal survey will be included in the Draft EIS.

3.8 Air Quality

The air quality of the project area is relatively good and has probably improved with the discontinuation of sugar cane cultivation in the Ewa Plain area. Air quality data from the nearest monitoring stations operated by the State DOH suggest that all national air quality standards are being met, although occasional exceedances of the more stringent State standards for ozone and carbon monoxide may occur.

Impacts and Mitigation Measures

Potential air quality impacts during construction of the Project will be mitigated by complying with the State DOH Administrative Rules, Title 11, Chapter 60, Air Pollution. The construction contractor(s) is responsible for complying with the State DOH regulations that prohibit visible dust emissions at property boundaries. Compliance with State regulations will require adequate measures to control airborne dust by methods such as water spraying and sprinkling of loose or exposed soil or ground surface areas and dust-generating equipment, and the use of wind screens in sensitive areas during construction. As may be deemed appropriate, paving of areas early in the construction schedule will also help to control dust. Increased vehicular emissions due to disruption of traffic by construction equipment and/or commuting construction workers can be alleviated by moving the equipment and personnel to the site during off-peak hours.

After project completion, air quality in the vicinity of the project site will primarily be affected by vehicular emissions associated with additional traffic. An air quality study will be conducted in conjunction with the Draft EIS to assess project-related vehicular emissions and off-site impacts from electrical demand and solid waste disposal generated by the project, and to identify improvements to mitigate such impacts as may be required.

3.9 Noise

The project site experiences relatively low ambient noise levels, with traffic and wind the primary noise sources, along with occasional distant aircraft fly-bys.

Impacts and Mitigation Measures

Construction noise will be unavoidable during the duration of the construction of the proposed project. Operation of construction equipment and vehicles will raise ambient noise levels in the project vicinity. Mitigation measures such as the use of properly muffled construction equipment and incorporation of State DOH construction noise limits pursuant to the provisions of the State DOH Administrative Rules, Title 11, Chapter 46, Community Noise Control are applicable to the project.

During the operational period, ambient noise levels in the vicinity of the project site will primarily be affected by increased traffic noise levels. A noise study will be conducted in

conjunction with the Draft EIS to assess project-related traffic noise impacts and to identify measures to mitigate such impacts as may be required.

3.10 Historic and Archaeological Resources

An archaeological inventory survey of the project area was conducted by Cultural Surveys Hawaii in 1996, which also confirmed its findings in 1999. No archaeological sites were encountered within the project site and none are known to exist within the project site. One isolated artifact (the tang section of a finished basalt adz) was observed in the Koa Ridge Makai area. Careful examination of the area for other artifacts or archaeological materials revealed no additional materials, and the find was determined to be isolated. Historical research, including the locations of the Land Commission Awards within the ahupuaa of Waipio and Waiawa, show early settlement to have been concentrated on the coast. Within Waipio, some settlement extended into the uplands, confined to Kipapa Gulch. The project area would have been used for traditional gathering of forest resources, including gathering of medicinal plants, cutting of koa trees for canoes, and other uses. The settlements along Kipapa Gulch would have had access to this area for such uses. However, permanent settlement would not have been located here. This settlement pattern, combined with long-term commercial pineapple and sugar cultivation on the project area, accounts for the complete lack of prehistoric archaeological sites within the project area. The only historic site identified within the project area is the Waiahole Ditch (State Site 50-80-09-2268) that traverses across the northern portion of the Koa Ridge Makai area. The ditch is open, except where crossed by road bridges.

Kipapa Ditch (State Site 50-80-09-5929), an archaeological site associated with historic sugar cultivation, is located outside of the project area, along the western side of Koa Ridge Makai for a distance of approximately 8,000 feet. The ditch was constructed in the 1930s as part of the Oahu Sugar Co. water delivery system. At present, the ditch only carries excess runoff during rain events, although it is still in workable condition along much of its length.

Impacts and Mitigation Measures

The State Department of Land and Natural Resources (DLNR) Historic Preservation Division (SHPD) reviewed the archaeological inventory survey report prepared for the project area and concluded, as documented by a letter dated March 18, 2002, that the survey was acceptable. By letter dated November 22, 2002, the SHPD determined that the previously proposed Koa Ridge development, in areas other than the historic Waiahole Ditch and Kipapa Ditch, would have “no effect” on significant historic sites due to the past intensive cultivation that has altered the project area. The proposed project is not anticipated to impact the Waiahole Ditch. Although Kipapa Ditch is located outside of the project site, it could be impacted by off-site improvements, such as drainage structures.

In the event that any archaeological site is found during future construction activities, all work will immediately cease pending consultation with the DLNR SHPD. The treatment of any remains or artifacts will be in accordance with procedures obtained by the Oahu Burial Council and the SHPD. If the portion of the Waiahole Ditch that crosses Koa Ridge Makai is impacted by future development of these areas, the SHPD will be notified prior to any work so appropriate mitigative measures, if any, can be established. Additional archaeological surveys for areas affected by off-site infrastructure such as sewer, drainage and roadways will be prepared for the Draft EIS.

3.11 Cultural Resources

A cultural impact assessment for the project was conducted by Cultural Surveys Hawaii in 1996, as supplemented in 2001, to address the effects that the proposed development may have on native Hawaiian practices, culture and traditions.

According to the assessment and its supplement, there is no evidence that the project area is used for traditional practices such as gathering or any cultural or religious purposes. The tributary gulches adjacent to the project area, however, have been used traditionally for gathering plants for medicinal purposes. No burials are believed to exist within the project area. There were no commoner land claims within the project area. Although some native Hawaiian activity may have occurred on the project area, the patterns of land use are relatively clear as the native Hawaiians did not utilize this land nearly as intensively as the coastal areas, well-watered areas, and forest zones.

Impacts and Mitigation Measures

Based on the findings of the cultural impact assessment, the development of the proposed project on Hawaiian culture would be minimal due to its geographical location and lack of surface water, unique topographic features, burial sites, and commoner land claims within the project area. If Hawaiian activity occurred on the project area, it would not have been nearly as intensively utilized as coastal areas, well-watered areas, and forest zones.

3.12 Agricultural Resources

Most of the project area is suitable for growing low-elevation crops based on the favorable soil conditions and soil ratings over much of the site, the gently sloping terrain, the mild sunny climate, and good access. However, the water allocation of 1.1 million gallons per day (mgd) for Waiahole Ditch is sufficient to irrigate only about 314 acres of land in diversified crops, based on a requirement for 3,500 gallons per day per acre.

Dole Food Company Hawaii (Dole) presently leases most of the Koa Ridge Makai area to a tenant who cultivates a mix of diversified agricultural crops. For many decades, Dole cultivated pineapple on the land, but has shifted all of its pineapple operations to Oahu's North Shore.

Impacts and Mitigation Measures

The proposed project will have no impact on pineapple operations since Dole no longer cultivates the land. A portion of the Koa Ridge Makai area is being leased for the cultivation of diversified seasonal crops for the near term. However, since the affected tenant may relocate where there is ample land in Kunia and the North Shore, the proposed project should not significantly affect the volume of diversified crops produced on Oahu in the long term.

The Agricultural Impact studies prepared previously by Decision Analysts Hawaii, Inc. for the Koa Ridge Makai (January 2003) and Waiawa (August 2007) will be updated for the Draft EIS to assess the impacts of the proposed project on existing agricultural operations and on the growth of diversified agriculture.

3.13 Visual Resources

Existing views of the project site from public vantage points include westerly views of the Koa Ridge Makai area and easterly views of Waiawa from the H-2 Freeway, northerly views of the Koa Ridge Makai area from Ka Uka Boulevard, and northeasterly views of the Koa Ridge Makai area from Kamehameha Highway. Views of the project site from these public vantage points include predominantly undeveloped land vegetated with a mixture of weedy species and grasses, open mixed scrub, and trees.

Currently, there are two (2) major 138 kilovolt (kV) power line corridors traversing the Koa Ridge Makai site. One segment, which consists of power lines on parallel pairs of single steel poles, traverses the northern portion of the site from the H-2 Freeway west to the edge of Kipapa Gulch. This segment is visible from where it crosses the H-2 Freeway to the Kipapa Gulch. The other segment, which consists of power lines on multiple wooden pole structures in parallel easements, extends from the edge of Kipapa Gulch and traverses makai to the southern end of the Koa Ridge Makai site where it eventually crosses Kamehameha Highway. This segment is distant from public vantage points and, therefore, has minimal visual impact.

Impacts and Mitigation Measures

Development of the proposed project will alter the existing views from the H-2 Freeway from underdeveloped or agricultural lands to urban forms. Most distant views of the Koolau and Waianae Range ridgelines as well as views of Pearl Harbor from the H-2 Freeway will not be impeded.

The proposed project is not expected to have a significant adverse impact on the significant vistas identified in the City and County of Honolulu's Central Oahu Sustainable Communities Plan (COSCP). The proposed project will not impede views of Pearl Harbor and the Ewa Plain from the H-2 Freeway, in the southbound direction. Views of the upland areas from the H-2 Freeway are limited by local topography and vegetation to the southern end near the Waiawa Interchange and the section of the freeway crossing Kipapa Gulch. Some views of the lower sections of the Waianae and Koolau Mountains may be obscured by the proposed development from the H-2 Freeway, although views of the ridgeline are not expected to be adversely impacted.

A segment of the power lines through Koa Ridge Makai, paralleling Kipapa Gulch, is planned to be relocated on-site. This relocation will be discussed in greater detail in the Draft EIS. Otherwise, the existing power lines, poles or easements in the Koa Ridge Makai area will remain unchanged and, therefore, will be visible from the H-2 Freeway as well as within the project area.

3.14 Traffic

Major arterials serving the Central Oahu region include the H-2 Freeway, the H-1 Freeway, and Kamehameha Highway. Major roadways providing access to the commercial and residential areas in the nearby vicinity of the proposed project include Ka Uka Boulevard, Paiwa Street, and Lumiaina Street.

The H-2 Freeway traverses in a north-south direction through Central Oahu and connects to the H-1 Freeway to the south at the Waiawa Interchange. The northern terminus of the H-2

Freeway is just south of Wahiawa at the junction with Kamehameha Highway and Wilikina Drive. The H-2 Freeway provides four lanes in each direction from the Waiawa Interchange to Mililani, where it transitions to two lanes in each direction. Through the project area, one lane in each direction is designated as a high-occupancy vehicle (HOV) lane during the peak commute traffic periods.

The H-1 Freeway is the major east-west highway that connects the Central Oahu Area to Honolulu to the east and to the Ewa and Waianae districts to the west. East of the Waiawa Interchange, the H-1 Freeway provides five travel lanes in each direction with one lane in each direction designated as a HOV lane during the peak commute periods. West of the Waiawa Interchange, the H-1 Freeway has four travel lanes in each direction. In the morning peak period, the shoulder lane of the H-1 Freeway provides a sixth eastbound lane from west of the Waiawa Interchange. Also during the morning peak period, an additional eastbound HOV lane is provided from west of the Paiwa Interchange to the Pearl Harbor Interchange by provision of a contra-flow (zipper) lane.

Kamehameha Highway is a major roadway serving north-south traffic between the north and south shores of Oahu, and is generally parallel to and one-half to one mile west of the H-2 Freeway. Kamehameha Highway is a four-lane divided highway, with separate left- and right-turn lanes at intersections from the H-1 Freeway to north of Ka Uka Boulevard.

Ka Uka Boulevard is an east-west roadway connecting the H-2 Freeway with Kamehameha Highway, and provides access to the Waipio Gentry Business Park and residential areas. It is a four-lane roadway with a median divider and left-turn lanes at cross streets.

Paiwa Street connects the Waipahu community to Waikele and provides both communities with access to the H-1 Freeway. It is a four-lane divided roadway from the H-1 Freeway Interchange to the northern boundary of the Waikele community where it presently dead-ends.

Lumiaina Street is an east-west street servicing the Waikele community and the Waikele Center retail complex. Lumiaina Street is a four-lane divided roadway between Paiwa Street and Kamehameha Highway.

The Waipio (Ka Uka Boulevard) and Paiwa Interchanges are conventional diamond-type interchanges, except the southbound off-ramp of the Waipio Interchange has been aligned to permit future construction of a loop on-ramp for the movement from westbound Ka Uka Boulevard to southbound H-2 Freeway.

The Waiawa Interchange provides ramp connections for all movements between the H-1 and H-2 Freeways, as well as most movements to/from Kamehameha Highway and Farrington Highway. No ramp connection is provided from makai-bound Kamehameha Highway onto the Ewa-bound H-1 Freeway.

In the morning peak hour, there is a large directional imbalance in traffic volumes on the roadways within the study area, with Honolulu-bound volumes on most roadways generally double or more the volumes in the opposing direction. The highest traffic volumes on major streets are on Kamehameha Highway along the sections across Kipapa Gulch and makai of Waipio Uka Street. Congested conditions and extensive vehicle queues occur in the vicinity of

the Waiawa Interchange due to the large volumes of vehicles merging Honolulu-bound in the morning.

The traffic volumes in the afternoon peak hour are higher than those in the morning peak hour at most locations, with the peak travel direction reversed from the morning period.

Public Transportation: The City and County of Honolulu provides TheBus public transit services to the communities adjacent to the project area with fixed-route trunk and express service. These routes include both suburban trunk route and express routes. In the long-term, the project may be served by the Honolulu High-Capacity Transit Corridor project. In the city's Transit Alternatives Analysis report, the City recommends a park-and-ride facility at the Ka Uka & H-2 intersection and a new ramp from the H-2 Freeway to the Pearl Highlands station park-and-ride. The City also plans to improve bus system service within area neighborhoods. Meeting up at transit centers, circulator bus routes would serve individual communities and allow for more convenient transfers. The bus service improvement plan for Central Oahu is anticipated to serve Mililani, Waipio and Mililani Mauka.

Impacts and Mitigation Measures

During construction of the proposed project, short-term traffic impacts will occur from construction vehicles such as earthmovers and heavy trucks transporting equipment and building materials. To avoid potential congestion, the movement or transport of large, slow-moving, heavy construction vehicles or equipment will be restricted during the AM and PM peak traffic hours. Flaggers or off-duty police officers will be employed to direct traffic during significant phases of construction to minimize traffic congestion.

A traffic impact study will be conducted for the Draft EIS which will update the October 2007 traffic study for Waiawa prepared by Wilson Okamoto Corporation, as supplemented in March 2008 in response to a Mililani Neighborhood Board resolution. The traffic impact study will analyze potential traffic impacts on the roadway system within the project vicinity including regional impacts resulting from the proposed development and will identify appropriate mitigation measures that may be required. Additional comments provided by the Mililani Neighborhood Board regarding the March 2008 Supplement will also be addressed in the updated Traffic Impact Assessment Report.

3.15 Socio-Economic Characteristics

The project area is situated adjacent to the suburban neighborhoods of Mililani and Waipio, and extends into undeveloped open land north of the highway. Surrounding land uses are primarily residential and agricultural, with some commercial uses associated with community shopping centers. In order to evaluate the socio-economic characteristics of the area, seven Census Designated Place (CDP) areas were examined which correspond to the communities of Mililani Town, Schofield Barracks, Waipio Acres, Wahiawa, Waipahu, Village Park, and Waipio. (see Table 3-1). Data for the Honolulu CDP and Honolulu County were also included in the table for comparison purposes.

Based on comparison of 1990 and 2000 Census data, the population of these communities has remained stable. Mililani Town and Waipio showed a slight population decrease of 2.6 and 1.2 percent, respectively. However, the population data does not account for the subsequent development of Mililani Mauka, which has added approximately 5,000 new homes to the area

above Mililani Town. Population of Waipio Acres showed no change. Wahiawa showed the largest decrease, down by 7.6 percent from 17,386 to 16,151. Although Schofield Barracks population decrease was 35.8 percent, military housing trends have reversed dramatically since 2000 and the census data is not reliable.

The largest population gains occurred in Village Park, 29.9 percent, and in Waipahu, 5.3 percent. During the same 10-year period the population of the Honolulu CDP increased by 1.7 percent. Population for the entire county increased by 4.6 percent.

Demographic characteristics in the 2000 Census indicate that the communities of Mililani Town and Waipio have a younger populace, higher median family incomes, and higher per capita incomes when compared to the older communities of Waipahu, Wahiawa, and urban Honolulu. Residents in these neighborhoods have greater post-secondary education, higher per capita employment, smaller family size, and more of them are homeowner-occupants. These characteristics also apply to Village Park, a newer community located adjacent to Waipahu, north of the H-2, except that Village Park residents are slightly younger (median age 31.4 in 2000), and have significantly higher household and family size.

In comparison, the communities of Wahiawa, Waipahu and urban Honolulu are older and more well-established, and have a higher percentage of residents over the age of 65. The more elderly population in Waipahu and Wahiawa appears to contribute to a reduced labor force and lower family and per capita incomes. However, per capita incomes in urban Honolulu are among the highest, and are equivalent to those in Mililani Town and Waipio. In contrast to the newer communities in Central Oahu where a higher percentage of residents own their homes, an equal percentage of residents in these older neighborhoods either own or rent their housing. The community of Waipahu stands out as having the largest average household and family size (4.37 members).

All of the seven CDP tracts are ethnically diverse, but a few characteristics are noteworthy. By racial mix, Waipahu has proportionally more Asian and Native Hawaiian and other Pacific Islanders, and less Whites or African Americans. A greater percentage of Whites live in Mililani Town, Waipio Acres, and the Honolulu CDP. Wahiawa and Waipio Acres were distinctly higher in residents whose background included two or more races.

The community of Schofield Barracks is distinctly different from its neighbors in almost all categories. Schofield Barracks has a very young, transient military population, less ethnically diverse, with a slightly higher average family size. It has the highest percentage of children under 5, and almost no residents over age 65. Median age of Schofield residents was 22.1 years of age in 2000. Average per capita incomes are much lower, but 98.9 percent of the housing units are rentals subsidized and/or paid for by the U.S. government.

**Table 3-1
Demographic Characteristics: 2000**

Subject	Milliani Town CDP		Schofield Barracks CDP		Waipio Acres CDP		Wahiawa CDP		Waipahu CDP		Village Park CDP		Waipio CDP		Honolulu CDP		Honolulu County	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total Population: 2000	28,608	100	14,428	100	5,298	100	16,151	100	33,108	100	9,625	100	11,672	100	371,657	100	876,156	100
AGE																		
Under 5 years	1,664	5.8	2,022	14.0	437	8.3	1,109	6.9	2,271	6.9	699	7.3	756	6.5	18,896	5.1	56,849	6.5
18 and over	20,830	72.8	9,797	67.9	3,859	72.8	11,933	73.9	24,354	73.6	6,699	69.6	8,614	73.8	300,185	80.8	667,398	76.2
65 and over	2,044	7.1	15	0.1	475	9.0	3,302	18.8	5,243	15.8	509	5.3	762	6.5	66,257	17.8	117,737	13.4
Median age	36.2	--	22.1	--	32.4	--	37.5	--	35.5	--	31.4	--	33.9	--	39.7	--	35.7	--
RACE																		
White	5,829	20.4	8,137	56.4	999	18.9	1,826	11.3	1,566	4.7	901	9.4	1,683	14.4	73,093	19.7	186,484	21.3
Black or African American	879	3.1	3,154	21.9	276	5.2	326	2.0	308	0.9	216	2.2	329	2.8	6,038	1.6	20,619	2.4
American Indian & Alaska Native	54	0.2	158	1.1	19	0.4	52	0.3	46	0.1	24	0.2	21	0.2	689	0.3	2,178	0.2
Asian	13,426	46.9	559	3.9	1,948	36.8	7,392	45.8	21,774	65.8	5,573	57.9	6,380	54.7	207,588	55.9	403,371	46.0
Native Hawaiian & Pacific Islander	1,303	4.6	238	1.6	434	8.2	1,554	9.6	4,077	12.3	729	7.6	636	5.4	25,457	6.8	77,680	8.9
Two or more races	6,736	23.5	936	6.5	1,510	28.5	4,706	29.1	5,052	15.3	2,065	21.5	2,523	21.6	55,474	14.9	174,624	19.9
Other	381	1.3	1,246	8.6	112	2.1	295	1.8	285	0.9	117	1.2	100	0.9	3,318	0.9	11,200	1.3
HOUSEHOLD																		
Average household size	3.17	--	3.55	--	2.89	--	2.97	--	4.23	--	3.66	--	2.92	--	2.57	--	2.95	--
Average family size	3.41	--	3.58	--	3.41	--	3.45	--	4.37	--	3.87	--	3.41	--	3.23	--	3.46	--
HOUSING OCCUPANCY AND TENURE																		
Total Housing Units	9,280		3,733		1,951		5,900		8,033		2,776		4,110		158,663		315,988	
Occupied units	9,010	97.1	2,965	79.4	1,823	93.4	5,376	91.1	7,566	94.2	2,628	94.7	3,974	96.7	140,337	88.4	286,450	90.7
By Owner	6,840	75.9	33	1.1	1,045	57.3	2,505	46.6	4,043	53.4	1,894	72.1	2,555	64.3	65,861	46.9	156,290	54.6
By Renter	2,170	24.1	2,932	98.9	778	42.7	2,871	53.4	3,523	46.6	734	27.9	1,419	35.7	74,476	53.1	130,160	45.4
Vacant Units	270	2.9	768	20.6	128	6.6	524	8.9	467	5.8	148	5.3	136	3.3	18,326	11.6	29,538	9.3
SOCIAL CHARACTERISTICS																		
Population 25 years and over	18,247	--	5,559	--	3,361	--	10,541	--	21,085	--	5,836	--	7,369	--	267,587	--	579,998	--
High School Graduate or Higher	17,702	94.3	5,343	96.1	2,943	87.6	8,218	78.0	14,458	68.6	5,239	89.8	6,615	89.9	223,118	83.4	492,110	84.8
Bachelor's degree or higher	5,805	31.8	932	16.8	746	22.2	1,768	16.8	2,349	11.1	1,262	21.6	2,070	28.1	83,207	31.1	161,646	27.9
ECONOMIC CHARACTERISTICS																		
In labor force (pop. 16 & over)	16,341	75.1	8,259	81.8	2,784	69.7	7,161	57.6	14,603	57.6	5,354	75.6	7,030	78.2	187,467	60.7	447,320	64.7
Median household income (1999)	\$73,067	--	\$33,788	--	\$49,594	--	\$41,257	--	\$49,444	--	\$70,302	--	\$61,276	--	\$45,112	--	\$51,914	--
Median family income (1999)	\$76,338	--	\$32,970	--	\$56,737	--	\$46,524	--	\$51,855	--	\$72,422	--	\$69,282	--	\$56,311	--	\$60,118	--
Per capita income (1999)	\$24,427	--	\$12,316	--	\$19,251	--	\$16,366	--	\$14,484	--	\$19,579	--	\$24,451	--	\$24,191	--	\$21,998	--
Total Population: 1990	29,359	100	19,597	100	5,304	100	17,386	100	31,435	100	7,407	100	11,812	100	365,272	100	836,231	100
Percent Change from 2000	-751	-2.6	-5,169	-35.8	-6	-0.1	-1,235	-7.6	+1,673	+5.3	+2,218	+29.9	-140	-1.2	+6,385	+1.7	+39,925	+4.7

Source: U.S. Census Bureau, Census 2000 Summary

Impacts and Mitigation Measures

Population and Housing: The proposed project is conceived in response to anticipated urban growth and housing demand from Hawaii families. The project would contribute to the growth of a regional community in Central Oahu, providing needed housing and health care services. The population increase in Central Oahu as a result of the project will have impacts upon schools, transportation, and other governmental supported facilities and services. The Draft EIS will include a discussion of the potential impacts of the project upon the governmental supported facilities and services and the appropriate mitigation measures, as may be required.

Economy: In the short term, the Project will bring about positive benefits to the local economy. This would include increased expenditures for construction, off-site infrastructure improvements, and construction-related jobs and tax revenue.

In the long-term, the proposed development will accommodate new residential homes, commercial centers, and medical-related facilities creating job opportunities in various sectors. There would be increases in State income and general excise tax revenue and in County property tax revenues. A fiscal impact study will be conducted for the Draft EIS.

3.16 Police Protection

The project area is located within the jurisdiction of the City and County of Honolulu Police Department's District 2 (Pearl City) and District 3 (Wahiawa). The Pearl City Police Station is located to the southeast of the project site along Waimano Home Road near the intersection of Kamehameha Highway in Pearl City. The Wahiawa Police Station is located to the north of the project site along North Cane Street in Wahiawa.

Impacts and Mitigation Measures

The proposed project will require increases in police staffing and modification and possibly expansion of existing police station facilities.

3.17 Fire Protection

Fire protection service for the project area is provided by the City and County of Honolulu Fire Department's Mililani Fire Station located to the west of the project site in Mililani; the Mililani Mauka Fire Station located to the north of the project site in Mililani Mauka; and the Waikele Fire Station located to the southwest of the project site at Waikele.

Impacts and Mitigation Measures

The proposed project will provide a water system whereby all appurtenances, hydrant spacing and fire flow requirements will meet the standards of the City and County of Honolulu BWS. Access roads within the proposed project capable of supporting the City's Fire Department's fire apparatus will be designed and built in accordance with the requirements of the Fire Department.

3.18 Medical Services and Facilities

The closest major medical facility to the project site is the 162-bed Wahiawa General Hospital located on Lehua Avenue in Wahiawa to the north. This acute care facility includes a 103-bed long-term care facility.

Other major medical facilities in the region include the Hawaii Medical Center – West located on Fort Weaver Road in Ewa to the south, and Kapiolani Medical Center at Pali Momi in Aiea to the southeast. The Hawaii Medical Center facility features an acute-care medical center with 134 beds, a medical office plaza, a 24-bed hospice, and a helipad to facilitate in the transport of patients. The Kapiolani Medical Center at Pali Momi features a 116-bed facility and adjoining medical office building. In the Gentry Business Park, Kaiser Permanente has a medical clinic.

Emergency medical service is provided by the City and County of Honolulu’s Department of Emergency Medical Services. The new Central Oahu ambulance unit operating out of Kaiser Permanente Hawaii’s Waipio Clinic has recently expanded the emergency medical services available to the rapidly growing region.

Impacts and Mitigation Measures

The proposed project will increase the demand on the existing emergency medical services in the Central Oahu area, although such services may be provided by the project’s medical and health care component.

3.19 Schools

Public schools located in the communities surrounding the proposed project include the following:

Elementary Schools: Mililani Uka Elementary School, Mililani Waena Elementary School, Mililani Mauka Elementary School, Mililani Ike Elementary School, Waikele Elementary School, Kipapa Elementary School, Wheeler Elementary School, Kanoelani Elementary School, and Waipahu Elementary School.

Intermediate and Middle Schools: Mililani Middle School, Wheeler Middle School, Highlands Intermediate School, and Waipahu Intermediate School.

High Schools: Mililani High School, Pearl City High School and Waipahu High School.

Impacts and Mitigation Measures

The proposed project will generate increased demands on student enrollment at the area schools. Castle & Cooke Homes Hawaii, Inc. has been in discussions with the State Department of Education (DOE) regarding satisfying its fair-share contribution requirements for schools to serve the proposed project. The Draft EIS will present existing capacities of the nearby schools and projected demand.

3.20 Recreational Facilities

A number of district, community and neighborhood parks located in the surrounding communities of Mililani, Waipio and Waipahu serve the population of those communities. The

288-acre Waipio Soccer Complex, located in Waipahu to the south of the project site, includes 19 regulation soccer fields and a 5,000-seat stadium.

Castle & Cooke Homes Hawaii, Inc. previously transferred 269 acres to the City and County of Honolulu for the development of the existing Patsy T. Mink Central Oahu Regional Park, located to the southwest of Koa Ridge Makai, on the Ewa side of Kamehameha Highway. This park will serve the Koa Ridge development and also serves other communities in Leeward and Central Oahu. Recreational facilities at the park include ball fields, multi-purpose fields, a world-class tennis complex, a swimming pool complex, and an archery range.

Golf courses in the region include the Mililani Golf Club, Waikele Golf Club, Hawaii Country Club, Royal Kunia Country Club, Leilehua Golf Course (military), and Ted Makalena Golf Course.

Impacts and Mitigation Measures

The proposed project will increase demand for recreational facilities in the region. The City and County of Honolulu's Park Dedication Ordinance will be applied to the project's land use plan in order to establish the required land areas that will be dedicated in perpetuity for park and playground purposes. Based on the forecast resident population, it is anticipated that the project will provide a mix of mini-parks, neighborhood parks, and at least one community park of at least 10 acres. A discussion and analysis of park land area requirements will be included in the Draft EIS.

3.21 Infrastructure and Utilities

3.21.1 Water System

There is no existing municipal potable water system serving the project area. Municipal potable water systems service the adjacent areas of Waipio, Waipahu, Pearl City, Mililani, and Mililani Mauka. As indicated in Section 3.5.1, the sustainable yield for the Waipahu-Waiawa Aquifer System, of which the project is located within, is presently 104 mgd as established by the CWRM.

Impacts and Mitigation Measures

The proposed project's water demand will require additional water source, storage and transmission facilities. An Infrastructure Improvements report will be prepared for the Draft EIS to assess the water demand and associated facility requirements for the proposed project. The proposed project will construct the required water system facilities which will be dedicated to the City and County of Honolulu Board of Water Supply.

3.21.2 Wastewater System

There is no municipal wastewater collection system in the project area. Wastewater generated within neighboring Central Oahu developments is conveyed to the Honouliuli Wastewater Treatment Plant (WWTP) in Ewa via the Waipahu Wastewater Pump Station (WWPS), with effluent discharged into the ocean through a marine outfall. The Honouliuli WWTP, located to the south of the Koa Ridge development, has a capacity of 38 million gallons per day (mgd) with a planned expansion to 51 mgd in the near future. New connections to the Honouliuli WWTP are allocated on a "first come, first served" basis.

Impacts and Mitigation Measures

An Infrastructure Improvements report will be prepared for the Draft EIS to assess the projected wastewater flow and associated facility requirements for the proposed project. It is anticipated that the Waiawa development will connect to the existing Pearl City WWPS. The Koa Ridge Makai will require new trunk sewers to convey its wastewater to the Waipahu WWPS. An on-site wastewater system is also being explored as an option, and any associated impacts will be addressed should an onsite system be pursued.

3.21.3 Drainage System

The proposed development areas are generally located on plateaus separated by streams and gulches. Grading of the former pineapple fields has established the current on-site drainage patterns. Although there are no existing formal drainage facilities, irrigation ditches/furrows and berms direct storm run-off in various routes to ultimately discharge into adjacent gulches and streams. The plateaus generally slope downward in a southwest to southerly direction toward Pearl Harbor and the ocean.

Storm runoff from the project area flows overland and discharges into Kipapa Stream and Panakauahi Gulch which are the tributaries of Waikele Stream and Waiawa Stream. Waikele Stream travels through developed areas in Waipahu before discharging into West Loch, and Waiawa Stream traverses sections of Pearl City to its outlet into Middle Loch. The development area is located in the two tributary watersheds of the two streams, with the majority of the development area situated in the tributary watershed that feeds Waikele Stream.

Based on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the project site is designated Zone "D", Areas in which flood hazards are undetermined, but possible." Since the project site is located on plateaus bordered by large gulches, it is unlikely that on-site flooding would be a concern for the proposed development areas. However, the FIRM identifies areas downstream of the project site in Waipahu and Pearl City which are subject to flooding during peak storm events.

Specific drainage conditions for each development site are as follows:

Waiawa: This site is located entirely within the Panakauahi Gulch watershed tributary to Waiawa Stream. The existing terrain directs storm run-off in a southwesterly direction toward the gulch. Although not designated a stream, Panakauahi Gulch contributes significant storm run-off to Waiawa Stream.

Koa Ridge Makai: Storm runoff from this site flows primarily southwesterly into Kipapa Stream. About 10 percent of the area slopes southward paralleling the H-2 Freeway and discharges run-off into Panakauahi Gulch. There are various residential and agricultural structures and improvements in Kipapa Gulch downstream of Koa Ridge Makai that are currently prone to flooding.

Impacts and Mitigation Measures

An Infrastructure Improvements report will be prepared for the Draft EIS to assess the drainage improvement requirements for the proposed project. In order to comply with the

City's policy of no net increase in storm water runoff volume, detention/retention systems within each development area will need to be established.

3.21.4 Electrical System

Electrical service is provided by Hawaiian Electric Company, Inc. (HECO).

Waiawa: A joint pole line consisting of an existing 11.5 kV overhead line traverses the northern end of the Waiawa development area. A private street lighting system owned by Mililani Memorial Park is located along the access road to the Memorial Park. Off-site facilities include 46 kV and 11.5 kV overhead lines and structures along Panakauahi Gulch, adjacent to the H-2 Freeway and the forest reserve.

Koa Ridge Makai: A joint pole line consisting of HECO 46 kilovolt (kV) and 11.5 kV overhead lines traverses along the Ka Uka Boulevard frontage of the site, from the vicinity of the old Government Road to the Waipio Interchange. In addition, three pole lines carrying HECO 138 kV feeders; a pole line carrying HECO 138 and 46 kV circuits, a pole line for a parallel spur of 46 kV and 11.5 kV circuits; and a second HECO 46 kV pole line all traverse the site. Also, a joint pole line that supports a HECO 11.5 kV circuit spans the H-2 Freeway from the mauka side of the freeway to provide service to the BWS Waipio Heights Well No. 3. HECO has two 46 kV circuits (one overhead and one underground) along Ka Uka Boulevard to feed its Waipio Substation.

Impacts and Mitigation Measures

Electrical power supply for the proposed project will be provided by the existing power grid that traverses through the project site. A segment of the power lines through Koa Ridge Makai is planned to be relocated on-site. A preliminary electric and communications system report will be prepared for the Draft EIS and will describe all planned relocations and undergroundings. The report will include the electrical demands for the proposed project and associated improvements that will be required.

3.21.5 Communications System

Telephone service is provided by Hawaiian Telcom (formerly Verizon Hawaii). Oceanic Time Warner Cable of Hawaii is the local cable television (CATV) provider.

Waiawa: A Hawaiian Telcom cable traverses the northern end of the Waiawa development area, and overhead telephone cables run along Panakauahi Gulch adjacent to the H-2 Freeway and the forest reserve.

Koa Ridge Makai: A joint pole line consisting of Hawaiian Telcom cables traverses along the Ka Uka Boulevard frontage of this site, from the vicinity of the old Government Road to the Waipio Interchange. A joint pole line that supports Hawaiian Telcom cables spans the H-2 Freeway from the mauka side of the freeway. An underground duct system with existing HECO, Hawaiian Telcom and street lighting cables also traverses along Ka Uka Boulevard between Moaniani Street and Ukee Street. However, while Oceanic Time Warner Cable of Hawaii trunking facilities exist along Kamehameha Highway, they presently do not extend along Ka Uka Boulevard. Hawaiian Telcom also maintains switching equipment along Ka Uka Boulevard.

Impacts and Mitigation Measures

A preliminary electric and communications system report will be prepared for the Draft EIS. The report will include the communications system demands for the proposed project and associated improvements that will be required.

3.21.6 Solid Waste Disposal

Curbside refuse collection service from the existing single-family residential areas in Central Oahu is generally provided by the City and County of Honolulu Department of Environmental Services' Refuse Division. Refuse collection for multi-family and non-residential uses are primarily provided by private refuse collection companies. Residential waste is transported to the City and County of Honolulu's H-POWER (Honolulu Program of Waste Energy Recovery) waste-to-energy combustor located at the James Campbell Industrial Park in Ewa. Ash residue and non-processible waste are then disposed of at the Waimanalo Gulch Sanitary Landfill in West Oahu. The Waimanalo Gulch Sanitary Landfill is nearing its design capacity. A permit modification was recently requested by the operator of the Waimanalo Gulch Sanitary Landfill to raise the height of the ash landfill portion of the landfill to provide needed additional capacity.

In October 2007, the City initiated a pilot curbside recycling program in the communities of Mililani and Hawai'i Kai. Green waste and mixed recyclables (newspaper, corrugated cardboard, glass bottles and jars, aluminum cans, and plastic bottles and jugs) are each collected once every two weeks. The program is planned to be expanded islandwide over the coming year.

Impacts and Mitigation Measures

The City and County of Honolulu will provide curbside refuse pickup service to single-family residences. Multi-family residences and non-residential properties will typically hire a private waste company to collect and dispose of refuse. Disposal of all non-hazardous solid waste from residential and non-residential properties will primarily occur at the City and County of Honolulu's H-POWER facility. With the Waimanalo Gulch Sanitary Landfill nearing its design capacity, the City will be investigating various other methods of processing refuse to accommodate the future solid waste disposal needs of the Island.

Collection, transfer and disposal of non-hazardous waste generated by the health care facilities will be collected by a private collection refuse company. Collection, transfer and disposal of infectious and hazardous wastes will be contracted to a private collection company. Medical hazardous wastes are usually treated by steam sterilization, shredding, and/or incineration prior to disposal. It is anticipated that health care facilities will employ similar methods to dispose of its medical waste.

To reduce solid waste generation, the proposed project will incorporate waste diversion and reduction facilities into its design and recycling will be encouraged.

During construction, the proposed project will develop and implement a trash management and recycling program to minimize impacts to the local landfill.

3.21.7 Air Force Fuel Line

The U.S. Air Force owns an inactive aviation-type fuel pipeline within easements aligned through the Koa Ridge Makai area. The 10-inch steel dual pipeline was operational for 50 years between 1943 and 1993 and was cleaned of any residual fuel in 2002. Although records do not show any pipeline leaks in the Koa Ridge Makai area, there is a potential for historical releases of fuel to the soils in the vicinity of the pipeline corridor.

Impacts and Mitigation Measures

Castle & Cooke Homes Hawaii, Inc. is seeking to have the deactivated Air Force aviation-type fuel pipeline removed and the easement abandoned prior to construction in the affected area. While there are no known leaks associated with the fuel line in the project area, there is a potential that petroleum residue could be found in the soil if the line is removed.

4. RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

The Project's consistency with the relevant State and City and County of Honolulu land use plans, policies and controls is discussed below.

4.1 Hawaii State Plan

The Hawaii State Plan, embodied in Chapter 226, Hawaii Revised Statutes (HRS), serves as a guide for goals, objectives, policies, and priority guidelines for the State. The State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. The proposed project is consistent with the following applicable goals, objectives, policies, and priority guidelines of the Hawaii State Plan. A discussion of the proposed project's relevancy with the applicable State Plan goals, objectives, policies, and priority guidelines will be included in the Draft EIS.

SEC. 226-5 Objectives and policies for population.

(b)(1) Manage the population growth statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.

(b)(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

SEC. 226-6 Objectives and policies for the economy – in general.

(a)(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.

(a)(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.

SEC. 226-7 Objectives and policies for the economy – agriculture.

(a)(1) Viability of Hawaii's sugar and pineapple industries.

(a)(2) Growth and development of diversified agriculture throughout the State.

(b)(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.

SEC. 226-11 Objectives and policies for the physical environment – land-based, shoreline, and marine resources.

(b)(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

(b)(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

SEC. 226-12 Objectives and policies for the physical environment – scenic, natural beauty, and historic resources.

(b)(1) Promote the preservation and restoration of significant natural and historic resources.

(b)(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

(b)(4) *Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.*

SEC. 226-13 Objectives and policies for the physical environment – land, air and water quality.

(b)(7) *Encourage urban developments in close proximity to existing services and facilities.*

SEC. 226-15 Objectives and policies for facility systems – solid and liquid wastes.

(b)(1) *Encourage the adequate development of sewerage facilities that complement planned growth.*

SEC. 226-16 Objective and policies for facility systems – water.

(b)(1) *Coordinate development of land use activities with existing and potential water supply.*

SEC. 226-19 Objectives and policies for socio-cultural advancement – housing.

(a)(1) *Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.*

(a)(2) *The orderly development of residential areas sensitive to community needs and other land uses.*

(b)(3) *Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.*

(b)(5) *Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.*

SEC. 226-20 Objectives and policies of socio-cultural advancement – health.

(b)(1) *Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.*

SEC. 226-21 Objective and policies for socio-cultural advancement – education.

(b)(2) *Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.*

SEC. 226-103 Economic priority guidelines.

(d)(1) *Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.*

(d)(10) *Support the continuation of land currently in use for diversified agriculture.*

SEC. 226-104 Population growth and land resources priority guidelines.

(a)(1) *Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.*

(b)(1) *Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from*

areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.

(b)(2) Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.

(b)(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.

(b)(7) Pursue rehabilitation of appropriate urban areas.

(b)(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.

(b)(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.

(b)(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.

4.2 State Functional Plans

The Statewide planning system requires the development of State Functional Plans which are approved by the Governor of Hawaii. The State Functional Plans guide the implementation of State and County actions in the areas of agriculture, conservation lands, education, energy, health, higher education, historic preservation, housing, recreation, tourism, water resources development, transportation, employment, and human services. The proposed project is consistent with the following objectives, policies and implementing actions of the respective State Functional Plans. A discussion of the proposed project's relevancy with the applicable State Functional Plans objectives, policies and implementing actions will be included in the Draft EIS.

State Housing Functional Plan

Issue Area: Homeownership

Policy A(2): Encourage increased private sector participation in the development of affordable for-sale housing units.

Policy (A)(3): Ensure that (1) housing project and (2) projects which impact housing provide a fair share/adequate amount of affordable homeownership opportunities.

Issue Area: Rental Housing

Policy B(2): Encourage increased private sector participation in the development of affordable rental housing.

Issue Area: Rental Housing for the Elderly and Other Special Need Groups

Policy C(7): Integrate special needs housing in new and existing neighborhoods.

State Health Functional Plan

1 Objective: Health Promotion and Disease Prevention

Reduction in the incidence, morbidity and mortality associated with preventable and controllable conditions.

State Education Functional Plan

A(4): Services and Facilities

Policy: *Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.*

Implementing Action A(4)(c): *Pursue actions with other agencies which will insure adequate and appropriate services and facilities on a timely basis.*

State Transportation Functional Plan

Issue Area I: Congestion

Policy I.B.1.: *Close the gap between where people live and work through decentralization, mixed zoning and related initiatives.*

Policy I.C.3.: *Develop park-and-ride facilities.*

State Agriculture Functional Plan

Issue Area: Land and Water

Implementing Action H(2)(c): *Administer land use district boundary amendments, permitted land uses, infrastructure standards, and other planning and regulatory functions on important agricultural lands and lands in agricultural use, so as to ensure the availability of agriculturally suitable lands and promote diversified agriculture.*

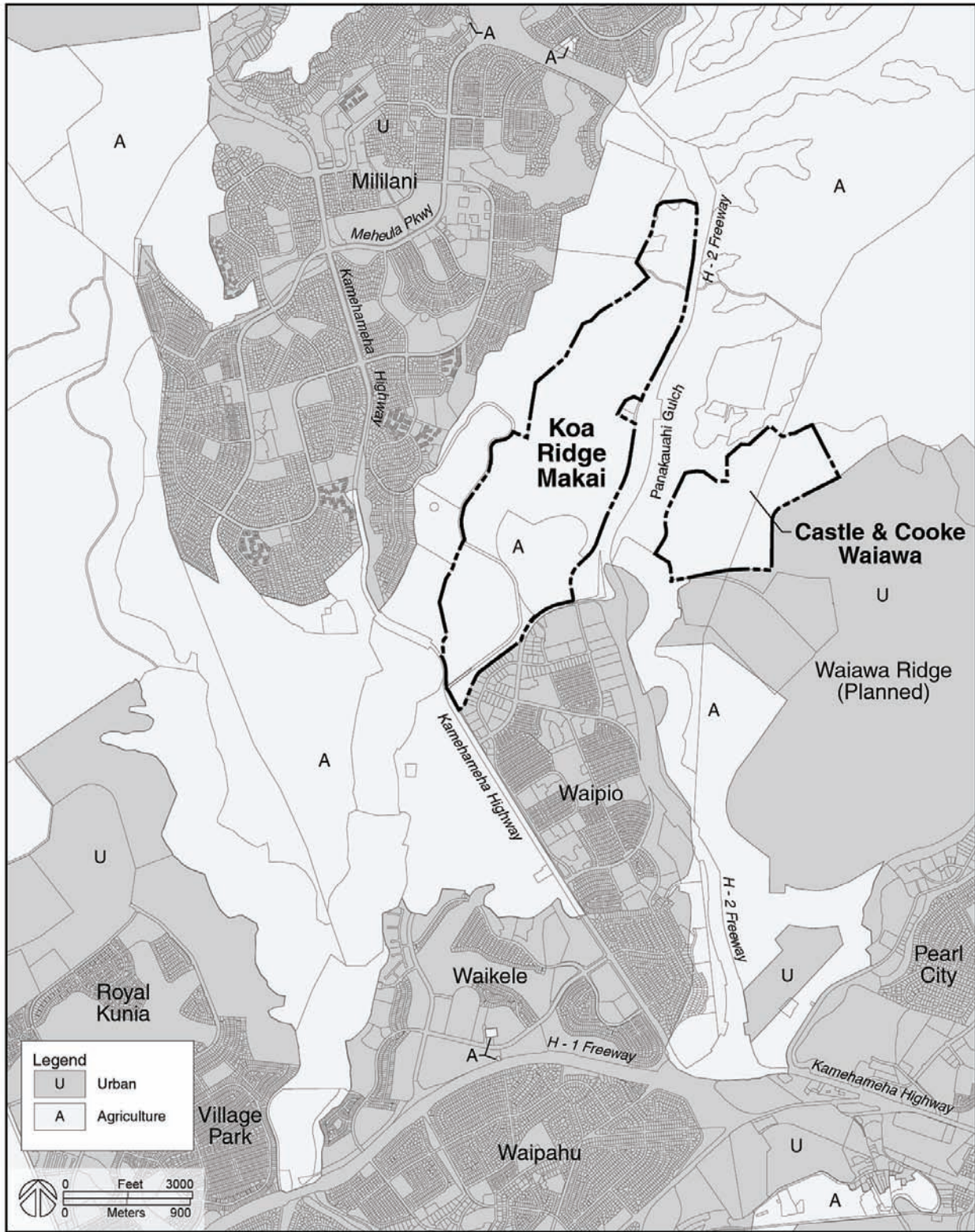
State Recreation Functional Plan

Issue Area III. Public Access to the Shoreline and Upland Recreation Areas

Objective III-A: *Prevent the loss of access to shoreline and upland recreational areas due to new developments.*

4.3 State Land Use District

The State Land Use Law, Chapter 205, Hawaii Revised Statutes (HRS), is intended to preserve, protect and encourage the development of lands in the State for uses that are best suited to the public health and welfare of Hawaii's people. The State Land Use Commission classifies all lands in the State into four land use districts: Urban, Agricultural, Conservation, and Rural. The proposed area is within the State Agricultural District as shown in Figure 4-1.



Existing State Land Use Districts

Figure 4-1

KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
CASTLE & COOKE HOMES HAWAII, INC.

The proposed project will require a State Land Use District Boundary Amendment to reclassify the lands in Waiawa and Koa Ridge Makai from the State Agricultural District to the State Urban District. A petition requesting the subject reclassification will be filed with the State LUC.

The State Land Use Commission, in accordance with Chapter 15-15, Hawaii Administrative Rules (HAR), must specifically consider the extent to which the proposed reclassification conforms to the applicable District standards. The standards for determining the boundaries for the Urban District include eight (8) areas which are listed below. A discussion of the conformance of the proposed reclassification to the Urban District standards will be included in the Draft EIS.

- (1) *It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses;*
- (2) *It shall take into consideration the following specific factors:*
 - (A) *Proximity to centers of trading and employment except where the development would generate new centers of trading and employment;*
 - (B) *Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection; and*
 - (C) *Sufficient reserve areas for foreseeable urban growth;*
- (3) *It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil conditions, and other adverse environmental effects;*
- (4) *Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans;*
- (5) *It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans;*
- (6) *It may include lands which do not conform to the standards in paragraphs (1) to (5):*
 - (A) *When surrounded by or adjacent to existing urban development; and*
 - (B) *Only when those lands represent a minor portion of this district;*
- (7) *It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services; and*
- (8) *It may include lands with a general slope of twenty per cent or more if the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction of controls, as adopted by any federal,*

state, or county agency, are adequate to protect the public health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.

4.4 Hawaii Coastal Zone Management (CZM) Program

The National Coastal Zone Management Program was created through passage of the Coastal Zone Management Act of 1972. Hawaii's Coastal Zone Management (CZM) Program, adopted as Chapter 205A, HRS, provides a basis for protecting, restoring and responsibly developing coastal communities and resources. The objectives and policies of the Hawaii CZM Program encompass broad concerns such as impact on recreational resources, historic and archaeological resources, coastal scenic resources and open space, coastal ecosystems, coastal hazards, and the management of development. A discussion of the Project's consistency with the following objectives and policies of the CZM Program will be included in the Draft EIS.

(1) *Recreational Resources*

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies

- (A) *Improve coordination and funding of coastal recreational planning and management; and*
- (B) *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
 - (i) *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
 - (ii) *Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;*
 - (iii) *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
 - (iv) *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
 - (v) *Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
 - (vi) *Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters.*
 - (vii) *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
 - (viii) *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county*

planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

(2) Historic Resources

Objective:

Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

- (A) *Identify and analyze significant archaeological resources;*
- (B) *Maximize information retention through preservation of remains and artifacts or salvage operations; and*
- (C) *Support state goals for protection, restoration, interpretation, and display of historic resources.*

(3) Scenic and Open Space Resources

Objective:

Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

- (A) *Identify valued scenic resources in the coastal zone management area;*
- (B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) *Encourage those developments which are not coastal dependent to locate in inland areas.*

(4) Coastal Ecosystems

Objective:

Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

- (A) *Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
- (B) *Improve the technical basis for natural resource management;*
- (C) *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
- (D) *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*

- (E) *Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

(5) Economic Uses

Objective:

Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

- (A) *Concentrate coastal dependent development in appropriate areas;*
- (B) *Ensure that coastal dependent developments such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and*
- (C) *Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
 - (i) *Use of presently designated locations is not feasible;*
 - (ii) *Adverse environmental effects are minimized; and*
 - (iii) *The development is important to the State's economy.**

(6) Coastal Hazards

Objective:

Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.

Policies

- (A) *Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;*
- (B) *Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;*
- (C) *Ensure that developments comply with requirements of the Federal Flood Insurance Program;*
- (D) *Prevent coastal flooding from inland projects; and*

(7) Managing Development

Objective:

Improve the development review process, communication and public participation in the management of coastal resource and hazards.

Policies:

- (A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;
- (B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

(8) Public Participation

Objective:

Stimulate public awareness, education, and participation in coastal management.

Policies:

- (A) Promote public involvement in coastal zone management processes;
- (B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and
- (C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

(9) Beach Protection

Objective:

Protect beaches for public use and recreation.

Policies:

- (A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;
- (B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and
- (C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

(10) Marine Resources

Objective:

Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

- (A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

- (B) *Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;*
- (C) *Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;*
- (D) *Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and*
- (E) *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

4.5 City and County of Honolulu General Plan

The General Plan for the City and County of Honolulu (adopted 1977), which was last amended in October 2002, is a statement of the long-range social, economic, environmental, and design objectives for the general welfare and prosperity of the people of Oahu. The Plan is also a statement of the broad policies that facilitate the attainment of the objectives of the Plan. Eleven (11) subject areas provide the framework for the City's expression of public policy concerning the needs of the people and functions of government. These areas include population; economic activity; the natural environment; housing; transportation and utilities; energy; physical development and urban design; public safety, health and education; culture and recreation; and government operations and fiscal management. The objectives and policies of the General Plan that are relevant to the proposed project are as follows. A discussion of the Project's consistency with the following objectives and policies of the General Plan will be included in the Draft EIS.

I. Population

Objective C: To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.

Policy 2: Encourage development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe areas to relieve developmental 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.*

Policy 4 (Amended, Resolution 02-205, CD1): Direct growth to Policies 1, 2, and 3 above by providing land development capacity and needed infrastructure to seek a 2025 distribution of Oahu's residential population as follows:

Distribution of Residential Population

<u>LOCATION</u>	<u>% SHARE OF 2025 ISLANDWIDE POPULATION</u>
Primary Urban Center	46.0%
Ewa	13.0%
Central Oahu	17.0%
East Honolulu	5.3%
Koolaupoko	11.6%
Koolauloa	1.4%
North Shore	1.7%
Waianae	4.0%
	100%

II. Economic Activity

Objective A: To promote employment opportunities that will enable all the people of Oahu to attain a decent standard of living.

Policy 1: Encourage the growth and diversification of Oahu's economic base.

Policy 2: Encourage the development of small businesses and larger industries which will contribute to the economic and social well-being of Oahu residents.

Policy 3: Encourage the development in appropriate locations on Oahu of trade, communications, and other industries of a nonpolluting nature.

Objective C: To maintain the viability of agriculture on Oahu.

Policy 2: Support agricultural diversification in all agricultural areas on Oahu.

Policy 4: Provide sufficient agricultural land in Ewa, Central Oahu, and the North Shore to encourage the continuation of sugar and pineapple as viable industries.

Objective G: To bring about orderly economic growth on Oahu.

Policy 2: Permit the moderate growth of business centers in the urban-fringe areas.

III. Natural Environment

Objective A: To protect and preserve the natural environment.

Policy 1: Protect Oahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.

Policy 7: Protect the natural environment from damaging levels of air, water, and noise pollution.

Policy 8: Protect plants, birds, and other animals that are unique to the State of Hawaii and the Island of Oahu.

Objective B: To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 2: Protect Oahu's scenic views, especially those seen from highly developed and heavily traveled areas.

IV. Housing

Objective A: To provide decent housing for all the people of Oahu at prices they can afford.

Objective C: To provide the people of Oahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities.

Policy 1: Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.

Policy 3: Encourage residential development near employment centers.

V. Transportation & Utilities

Objective A: To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.

Policy 11: Make public, and encourage private, improvements to major walkway systems.

Objective C: To maintain a high level of service for all utilities.

Policy 3: Plan for the timely and orderly expansion of utility systems.

Objective D: To maintain transportation and utility systems which will help Oahu continue to be a desirable place to live and visit.

VII. Physical Development and Urban Design

Objective A: to coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.

Policy 2: Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.

Policy 7: Locate new industries and new commercial areas so that they will be well related to their markets and suppliers, and to residential areas and transportation facilities.

Policy 8: Locate community facilities on sites that will be convenient to the people they are intended to serve.

Objective D: To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.

Policy 1: Develop and maintain urban-fringe areas as predominantly residential areas characterized by generally low rise, low density development which may include significant levels of retail and service commercial uses as well as satellite institutional and public uses geared to serving the needs of households.

IX. Health and Education

Objective A: To protect the health of the people of Oahu.

Policy 1: Encourage the provision of health-care facilities that are accessible to both employment and residential centers.

X. Culture and Recreation

Objective D: To provide a wide range of recreational facilities and services that are readily available to all residents on Oahu.

Policy 9: Require all new developments to provide their residents with adequate recreation space.

4.6 City and County of Honolulu Central Oahu Sustainable Communities Plan

The City and County of Honolulu's Development Plan (DP) program provides a conceptual scheme framework for implementing the objectives and policies of the General Plan on an areawide basis. Eight (8) geographical DP areas have been established on Oahu of which community-oriented plans have been established for each area, including the Central Oahu DP area where the project is located. The eight (8) community-oriented plans respond to specific conditions and community values of each region, and are intended to help guide public policy, investment, and decision-making over the next 25 years.

The Central Oahu Sustainable Communities Plan (COSCP) was adopted in 2002 and is codified as Ordinance No. 02-62, Revised Ordinances of Honolulu. Central Oahu encompasses the plateau located between the Waianae and Koolau mountain ranges, which includes the towns of Waipahu and Wahiawa, and the residential communities between them. The COSCP's vision statement and implementing policies support sustaining Central Oahu's unique character, lifestyle, and economic opportunities by focusing future residential development on master planned suburban communities within an Urban Community Boundary.

This section provides an overview of the vision and guidelines of the COSCP as it relates to the proposed project. A discussion of how the project supports the vision, land use policies, principles, and guidelines of the COSCP will be included in the Draft EIS.

In support of the General Plan policies, the COSCP:

- *Promotes diversified agriculture and pineapple on 10,500 acres of prime and unique agricultural lands along Kunia Road, north of Wahiawa, surrounding Mililani, and on the Waipio Peninsula in accordance with the General Plan policies to support agricultural diversification in all agricultural areas and to encourage continuation of a viable pineapple industry;*
- *Provides for the eventual development of up to 25,000 new homes in master planned residential developments at Mililani Mauka, Koa Ridge Makai, Waiawa, and Royal Kunia;*
- *Provides for a variety of housing types from affordable units and starter homes to mid-size multi-family and single family units;*
- *Provides new employment in existing commercial and industrial areas (including Mililani Technology Park), in new commercial areas designed to serve their surrounding residential communities, and at a new medical park at Koa Ridge;*
- *Identifies the infrastructure needed to meet the likely residential, commercial, and industrial development through 2025; and*
- *Helps relieve urban development pressures on rural and urban fringe Sustainable Communities Plan Areas (Waianae, North Shore, Koolauloa, Koolaupoko, and East Honolulu) so as to preserve the “country” lifestyle of the rural areas and sustain the stable, low density residential character of the urban fringe areas.*

Among the elements of which the vision for Central Oahu's future will be implemented through is the Urban Community Boundary which is depicted in Figure 4-2. The Urban Community Boundary was established to provide long-range protection from urbanization for 10,500 acres of prime and unique agricultural lands and for preservation of open space, while providing adequate land for residential, commercial and industrial uses needed in Central Oahu for the foreseeable future. It is intended that urban zoning not be approved beyond this Boundary. The Koa Ridge Makai and Waiawa areas are included within the Urban Community Boundary.

The COSCP's Urban Land Use Map illustrates the desired long-range land use pattern for Central Oahu. The Urban Land Use Map indicates a master planned residential and low-density apartment development in the Koa Ridge Makai and Waiawa areas, and a medical park at Koa Ridge Makai, as shown in Figure 4-2.

The COSCP's Public Facilities Map illustrates the major infrastructure needed to implement the vision for Central Oahu. The Public Facilities Map includes symbols for a new hospital, a major arterial and bike path, and a high school in the vicinity of the project area.

The COSCP's Phasing Map depicts existing urban areas and areas proposed for future urbanization. The proposed urban expansion areas include Koa Ridge Makai and Waiawa.

Section 5.5 of the COSCP calls for the DPP to conduct a comprehensive review of the Plan every five years and to report any recommendations and recommended revisions to the Planning Commission and City Council. This Five Year Review process began with a Community Orientation Workshop that took place on October 27, 2007. The workshop covered the Five Year Review process and presented research about Central Oahu land use and infrastructure, thus providing an opportunity for stakeholder's to become further informed, and to share their comments and recommendations for the Review. A final COSCP update is expected to be considered by the Planning Commission by the end of 2008. There will be numerous opportunities for public input on the Review, proposed revisions to the Plan, and improvements to Plan implementation.

4.7 City and County of Honolulu Land Use Ordinance

The City and County of Honolulu Land Use Ordinance (LUO) regulates land use in accordance with adopted land use policies, including the General Plan and Development Plans. The provisions are also referred to as the zoning ordinance. Zoning designations are shown on the zoning maps for the City.

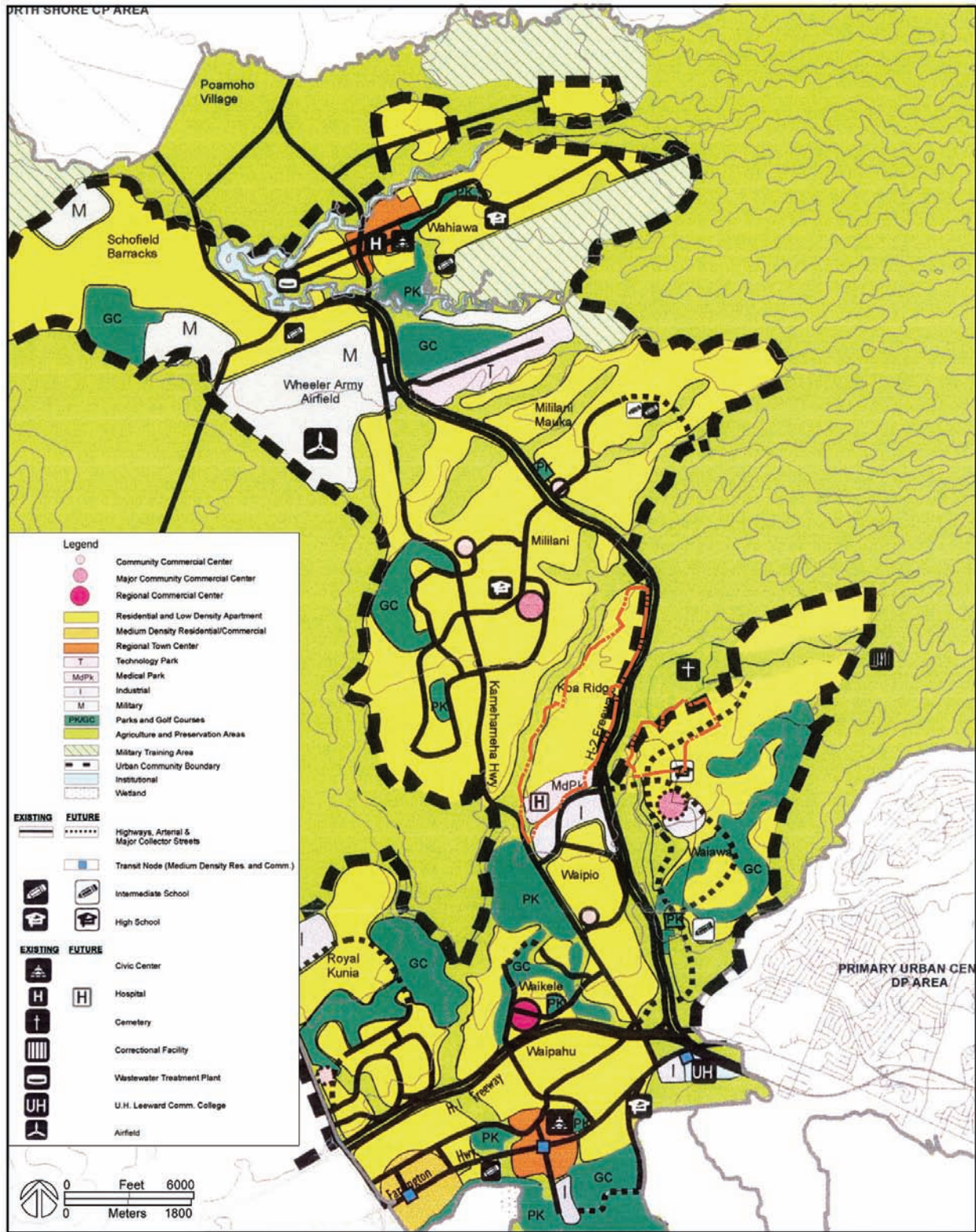
The project site is zoned AG-1 Restricted Agricultural as shown on Figure 4-3. Project implementation will require rezoning of the development area to be consistent with the proposed land uses. Proposed zoning districts for the Koa Ridge Makai and Waiawa areas may include R-3.5 and R-5 Residential, A-1 Low Density Apartment, A-2 Medium Density Apartment, AMX-1 Low Density Apartment Mixed Use, AMX-2 Medium Density Apartment Mixed Use, B-1 Neighborhood Business, B-2 Community Business, BMX-3 Community Business Mixed Use, and P-2 General Preservation. The actual proposed zoning designations for the Koa Ridge Makai and Waiawa areas will be established at the time that the zone change application is filed with the City and County of Honolulu Department of Planning and Permitting.

Under the COSCP, projects involving significant zone changes will require an Environmental Assessment along with a project master plan when 25 or more acres are involved. The final EIS will be submitted to the City and County of Honolulu DPP for review as part of the zone change application following the State Land Use District boundary amendment process.

4.8 City and County of Honolulu Special Management Area

The Hawaii Coastal Zone Management Program embodied in Chapter 205A, HRS contains the general objectives and policies upon which all Counties within the State have structured specific legislation which created Special Management Areas (SMA). Any development within the SMA requires a SMA Use Permit which is administered by the City and County of Honolulu Department of Planning and Permitting pursuant to Ordinance No. 84-4.

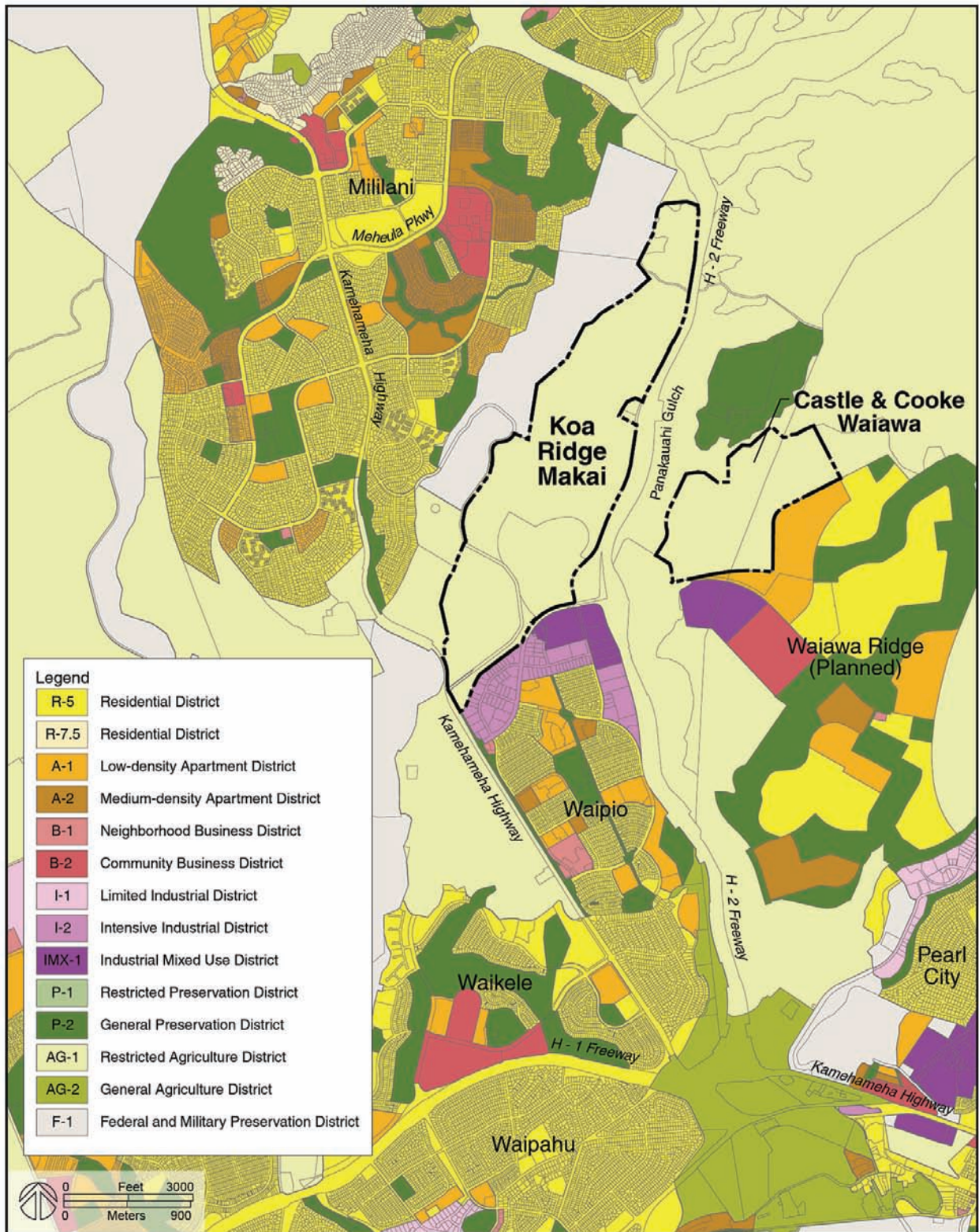
The project site is located outside the boundaries of the City and County's SMA. Therefore, the proposed project will not require a SMA Use Permit.



Central Oahu Sustainable Communities Plan Urban Land Use

Figure 4-2

KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
CASTLE & COOKE HOMES HAWAII, INC.



Existing Zoning

Figure 4-3

KOA RIDGE MAKAI and WAIAWA DEVELOPMENT
 CASTLE & COOKE HOMES HAWAII, INC.

5. ALTERNATIVES TO THE PROPOSED ACTION

The Draft EIS will include an evaluation of alternatives to the proposed action, including: 1) No Action (or no-build) and 2) a plan for a residential community that does not include an employment center (e.g., medical services) component. The DEIS may also include evaluation of other alternatives raised during the EISPN consultation process.

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6. REQUIRED PERMITS AND APPROVALS

The following permits and approvals are required for the proposed project:

Table 6-1 Required Permits and Approvals	
Permit/Approval	Authority
State Land Use District Boundary Amendment	State Land Use Commission
Water Use Permits	State Department of Land and Natural Resources, Commission on Water Resource Management
Well Construction and Pump Installation Permit	State Department of Land and Natural Resources, Commission on Water Resource Management
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health
Zone Change	City and County of Honolulu, City Council
Plan Review Use <i>(for hospital use)</i>	City and County of Honolulu City Council
Certificate of Need <i>(for medical facilities)</i>	State Health Planning and Development Agency
Subdivision Approvals	City and County of Honolulu, Department of Planning and Permitting
Grading Permits	City and County of Honolulu, Department of Planning and Permitting
Building Permits	City and County of Honolulu, Department of Design and Construction

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7. ANTICIPATED DETERMINATION

The State Land Use Commission, the accepting authority, has determined that the proposed action requires the preparation of an Environmental Impact Statement, based on the significance criteria set forth in Section 11-200-12 of Title 11, Chapter 200, Administrative Rules, State Department of Health. The reasons supporting this determination are described below according to these significance criteria.

1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

Development of the proposed project will require an irrevocable commitment of land resources upon urbanization, some of which are currently used for diversified agriculture. While the project will impact open space and agricultural lands, it is not anticipated to result in the loss or destruction of any significant natural or cultural resources.

2) Curtails the range of beneficial uses of the environment;

Most of the project area has been beneficially used in the past for growing low-elevation crops, specifically pineapple, by Dole Food Company. The proposed project will have no impact on pineapple operations since Dole no longer cultivates the land. A portion of the Koa Ridge Makai area is currently used for the cultivation of a mix of diversified agricultural crops. However, the proposed project should not significantly affect the volume of diversified crops produced on Oahu since suitable replacement lands are available and will be provided to the tenant on Dole Foods agricultural lands in Central Oahu and the North Shore. An update to the Agricultural Impact Study will be conducted for the Draft EIS in order to determine the impacts of the proposed project on existing agricultural operations and on the growth of diversified agriculture in Hawaii.

3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344 HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;

Since the proposed project will involve construction on undeveloped and agricultural lands, there will be changes and impacts to the environment which cannot be avoided. While urban type development may appear to conflict with some of the State's long-term environmental policies, goals and/or guidelines, some of the adverse impacts can be mitigated to minimize its effects upon the environment or be offset by positive benefits for the community. Further evaluation of the project in relation to the policies and guidelines expressed in Chapter 344 HRS will be discussed in the Draft EIS.

4) Substantially affects the economic or social welfare of the community or State;

The proposed project will create a number of short-term and long-term employment opportunities. Short-term employment will consist primarily of construction-related jobs generated by the proposed development. Long-term employment opportunities will result from professional, skilled and other workers required for the retail/commercial uses and the health care facilities.

In the short-term, the proposed project will confer positive economic benefits in the local area. Direct economic benefits will result from construction expenditures both through the purchase of material from local suppliers and through the employment of local labor, thereby stimulating that sector of the economy. Indirect economic benefits may also include benefits to local retail businesses resulting from construction activities.

5) Substantially affects public health;

The proposed project is not anticipated to substantially affect public health relative to air, noise, and water quality. Potential air quality impacts will be mitigated by complying with the State Department of Health (DOH) Administrative Rules, Title 11, Chapter 60, Air Pollution. With regard to noise, mitigation measures such as the use of properly muffled construction equipment and incorporation of State DOH construction noise limits pursuant to the provisions of the State DOH Administrative Rules, Title 11, Chapter 46, Community Noise Control are applicable to the project.

Air quality in the vicinity of the project site will primarily be affected by vehicular emissions associated with additional traffic. An air quality study will be conducted in conjunction with the Draft EIS to assess project-related vehicular emissions and off-site impacts from electrical demand and solid waste disposal generated by the project, and to identify improvements to mitigate such impacts.

The project will result in increased stormwater runoff due to the increase in impervious surfaces. However, drainage systems will be designed to retain the increased runoff flow rates on-site, thereby limiting off-site discharge rates to pre-development levels. Details will be discussed in the Draft EIS. All drainage improvements will comply with the City and County of Honolulu's Drainage Standards.

Ambient noise levels in the vicinity of the project site will primarily be affected by increased traffic noise levels. A noise study will be conducted in conjunction with the Draft EIS to assess project-related traffic noise impacts and to identify improvements to mitigate such impacts.

The proposed project will fully comply with the State and City and County of Honolulu regulations and ordinances relative to grading, erosion control and water quality protection.

6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

Since the proposed project is conceived in response to anticipated population growth for Oahu, the project is not expected to attract new residents from outside of Hawaii. The project would contribute to the growth of a regional community in Central Oahu, providing housing and health care services. The population increase in Central Oahu as a result of the project will have impacts upon schools, transportation, and other governmental supported facilities and services. The forthcoming Draft EIS will address the potential direct impacts of the proposed action, as well as the potential indirect and cumulative impacts associated with the project.

7) Involves a substantial degradation of environmental quality;

The proposed project is not anticipated to have a significant adverse impact upon environmental quality during construction. Construction activities associated with the proposed project are anticipated to result in short-term impacts to noise, air quality, water quality, and traffic in the immediate vicinity. With the incorporation of mitigation measures during the construction period, the project will not result in long-term degradation to this environmental quality.

Air quality in the vicinity of the project site will primarily be affected by vehicular emissions associated with additional traffic. An air quality study will be conducted in conjunction with the Draft EIS to assess project-related vehicular emissions and off-site impacts from electrical demand and solid waste disposal generated by the project, and to identify improvements to mitigate such impacts as may be required.

The project will result in increased stormwater runoff due to the increase in impervious surfaces. However, drainage systems will be designed to retain the increased runoff flow rates on-site, thereby limiting off-site discharge rates to pre-development levels. Details will be discussed in the Draft EIS. All drainage improvements will comply with the City and County of Honolulu's Drainage Standards.

Ambient noise levels in the vicinity of the project site will primarily be affected by increased traffic noise levels. A noise study will be conducted in conjunction with the Draft EIS to assess project-related traffic noise impacts and to identify improvements to mitigate such impacts as may be required.

The proposed project will fully comply with the State and City and County of Honolulu regulations and ordinances relative to grading, erosion control and water quality protection.

8) Is individually limited but cumulatively has a considerable effect upon the environment or involves a commitment for larger actions;

The forthcoming Draft EIS will address the potential direct impacts of the proposed action, as well as the potential indirect and cumulative impacts associated with the project.

9) Substantially affects a rare, threatened or endangered species, or its habitat;

Botanical and faunal surveys of the project site were previously conducted and will be updated for the Draft EIS. The proposed project is not expected to have a significant adverse impact on the botanical and faunal resources of the project area. No plant species classified as an endangered or threatened species by the U.S. Fish and Wildlife Service nor any plant species proposed as a candidate for listing as an endangered or threatened species were found within the project area during the survey. No evidence of any bird or animal species classified as an endangered or threatened species by the U.S. Fish and Wildlife Service nor any species proposed as a candidate for listing as an endangered or threatened species were detected within the project area during the survey. Since the project area has been extensively modified from its original state, it has very little value as a native bird habitat.

10) Detrimentially affects air or water quality or ambient noise levels;

During construction, dust and noise from construction activities will be unavoidable. Potential air quality impacts will be mitigated by complying with the State Department of Health (DOH) Administrative Rules, Title 11, Chapter 60, Air Pollution. With regard to noise, mitigation measures such as the use of properly muffled construction equipment and incorporation of State DOH construction noise limits pursuant to the provisions of the State DOH Administrative Rules, Title 11, Chapter 46, Community Noise Control are applicable to the project.

Air quality in the vicinity of the project site will primarily be affected by vehicular emissions associated with additional traffic. An air quality study will be conducted in conjunction with the Draft EIS to assess project-related vehicular emissions and off-site impacts from electrical demand and solid waste disposal generated by the project, and to identify improvements to mitigate such impacts.

Drainage systems will be designed to hold the increased runoff on-site, thereby limiting off-site discharge to pre-development levels. The drainage infrastructure will be designed to minimize the collection, conveyance, and concentration of stormwater. Further details will be discussed in the Draft EIS. All drainage improvements will comply with the City and County of Honolulu's Drainage Standards.

Ambient noise levels in the vicinity of the project site will primarily be affected by increased traffic noise levels. A noise study will be conducted in conjunction with the Draft EIS to assess project-related traffic noise impacts and to identify improvements to mitigate such impacts as may be required.

Potential water quality impacts to nearshore coastal waters during construction of the Proposed Project will be mitigated by adherence to State and City water quality regulations governing grading, excavation and stockpiling. The project's proposed drainage system will be designed to minimize impacts to near shore coastal waters. Drainage improvements will comply with the City and County of Honolulu's Drainage Standards.

11) Affects or is likely to suffer damage by being located in an environmentally sensitive area;

According to the Flood Insurance Rate Map (FIRM) prepared by the FEMA, the project site is designated Zone "D", "Areas in which flood hazards are undetermined, but possible." Construction and operation of the proposed project is not anticipated to result in flooding of the project site or lower elevation properties. The project site is located outside of the tsunami inundation zone.

12) Substantially affects scenic vistas and viewplanes identified in county or state plans or studies;

The proposed project is not expected to have a significant adverse impact on the significant vistas identified in the City and County of Honolulu's COSCP. The proposed project will not impede views of Pearl Harbor and the Ewa Plain from the H-2 Freeway, in the southbound direction. Views of the upland areas from the H-2 Freeway are limited by local topography and vegetation to the southern end near the Waiawa Interchange and the section of the freeway crossing Kipapa Gulch. Some views of the lower sections of the Waianae and Koolau

Mountains may be obscured by the proposed development from the H-2 Freeway, although views of the ridgeline are not expected to be adversely impacted.

13) Requires substantial energy consumption;

The proposed project will consume significant amounts of energy in the course of construction and operation. A preliminary electric and communications system report will be prepared for the Draft EIS. The report will include the electrical demands for the proposed project and associated improvements that will be required.

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8. CONSULTATION

8.1 Pre-Assessment Consultation

The following agencies were consulted during the pre-assessment phase of the EIS Preparation Notice.

State of Hawaii

DBEDT - Land Use Commission

Office of Planning

Department of Transportation, Highways Division

Department of Education

City and County of Honolulu

Board of Water Supply

Department of Planning and Permitting

Community Organizations

Koa Ridge Community Visioning Group

Mililani/Waipio/Melemanu Neighborhood Board No. 25

Mililani Mauka/Launani Valley Neighborhood Board No. 35

Pearl City Neighborhood Board No. 21

Waipahu Neighborhood Board No. 22

Wahiawa-Whitmore Village Neighborhood Board No. 26

8.2 Draft EIS Consultation

The following agencies, organizations and elected officials will be consulted in the preparation of the Draft EIS.

Federal

U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers

U.S. Geological Survey

U.S. Department of Agriculture Natural Resources Conservation Service

U.S. Army Engineer Division

15th Air Base Wing/DE

Department of the Army

Department of Housing & Urban Development

State of Hawaii

Department of Agriculture

Department of Accounting and General Services

Department of Business, Economic Development, and Tourism

Department of Business, Economic Development, and Tourism Land Use Commission

Department of Business, Economic Development, and Tourism, Office of Planning

Department of Defense

Department of Education

Department of Health
Department of Health, Environmental Management Division
Department of Health, Office of Environmental Quality Control
Department of Health, Safe Drinking Water Branch
Department of Human Services
Department of Land and Natural Resources
Department of Land and Natural Resources, Historic Preservation Division
Department of Transportation
Office of Hawaiian Affairs
University of Hawaii, Environmental Center
University of Hawaii, Water Resources Research Center
Oahu Metropolitan Planning Organization

City and County of Honolulu

Board of Water Supply
Department of Design and Construction
Fire Department
Department of Parks and Recreation
Police Department
Department of Facility Maintenance
Department of Transportation Services
Department of Environmental Services
Economic Development Office
Department of Emergency Management
Department of Human Resources
Department of Planning and Permitting
Department of Community Services

Public Utility Agencies

Hawaiian Electric Company, Inc.
Hawaiian Telcom
Oceanic Time Warner Cable of Hawaii

Islandwide Organizations

Sierra Club
Common Cause/Hawaii
Hawaii's Thousand Friends
Land Use Research Foundation
League of Women Voters
Outdoor Circle
APA Hawaii Chapter
Hawaii Building & Construction Trade Council
Hawaii Farm Bureau Foundation
Life of the Land

Community Organizations

Koa Ridge Visioning Group
Mililani/Waipio/Melemanu Neighborhood Board No. 25

Mililani Mauka/Launani Valley Neighborhood Board No. 35
Pearl City Neighborhood Board No. 21
Waipahu Neighborhood Board No. 22
Wahiawa-Whitmore Village Neighborhood Board No. 26
Leeward Oahu Transportation Management Association
Mililani Town Association
Wahiawa Community and Businessmen's Association
Waipahu Community Association

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