



UNIVERSITY OF HAWAII

OFFICE OF CAPITAL IMPROVEMENTS

Ms. Genevieve Salmonson, Director  
Office of Environmental Quality Control  
235 South Beretania Street, Room 702  
Honolulu, Hawai'i 96813

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OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

March 27, 2006

Dear Ms. Salmonson:

**Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI)  
Komohana Agricultural Complex Renovation and New Construction,  
Tax Map Key 3rd 2-4-01: por 41, Waiākea, South Hilo, Hawai'i**

The University of Hawai'i Office of Capital Improvements has reviewed the comments received during the 30-day public comment period which began on February 8, 2005 and ended March 10, 2005. The agency has determined that the above-referenced project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI). Please publish this notice in the next available OEQC Environmental Notice. We have enclosed the following items:

1. Completed OEQC Publication Form
2. Project Summary (print copy and electronic copy on disk)
3. Four copies of the Final EA (two print copies and two electronic copies on disk)

Please contact Mr. Maynard Young, Office of Capital Improvements, at (808) 956-4071 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jan Yokota'.

Jan Yokota  
Director of Capital Improvements

Enclosures

# KOMOHANA AGRICULTURAL COMPLEX

## RENOVATION AND NEW CONSTRUCTION



## ***Final Environmental Assessment***

Waiākea, South Hilo, Hawai'i  
Tax Map Key 3<sup>rd</sup> 2-4-01: por 41

**March 2006**

Prepared for

**University of Hawai'i  
Office of Capital Improvements**

by

**Helber Hastert & Fee Planners, Inc.**

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**ACRONYMS AND ABBREVIATIONS**

ADSC	Agricultural Diagnostic Service Center
BMPs	Best Management Practices
CATV	cable television
CSH	Cultural Surveys Hawaii, Inc.
CDC	Centers for Disease Control and Prevention
CES	Cooperative Extension Service (CTAHR)
CTAHR	College of Tropical Agriculture and Human Resources (UH Manoa)
DBEDT	Department of Business, Economic Development, and Tourism (State)
DLNR	Department of Land and Natural Resources (State of Hawai'i)
DOH	Department of Health (State of Hawai'i)
EA	Environmental Assessment
EHSO	Environmental Health and Safety Office (UH)
EIFS	Exterior Insulation and Finish System
EIS	Environmental Impact Statement
FE	floor elevation
FEMA	Federal Emergency Management Agency
FEIS	Final Environmental Impact Statement
FIRM	Flood Insurance Rate Map (FEMA)
FONSI	Finding of No Significant Impact
gpm	gallons per month
HAR	Hawai'i Administrative Rules
HCC	Hawai'i Community College
HELCO	Hawaiian Electric Light Company
HRS	Hawai'i Revised Statutes
KAC	Komohana Agricultural Complex
kV	kilovolt
LRDP	Long Range Development Plan (UH Hilo)
LUPAG	Land Use Pattern Allocation Guide (Hawai'i County General Plan)
mg / mgd	million gallon(s) / million gallons per day
MOA	Memorandum of Agreement
MSL	mean sea level (or above mean sea level)
MVA	mega-volt-amperes
MW	megawatt
NFW	no further (archaeological) work recommended
NRCS	USDA Natural Resources Conservation Service
OEQC	Office of Environmental Quality Control (Hawai'i Department of Health)
PBARC	USDA Pacific Basin Agricultural Research Center
PeC	Panaewa Very Rocky Silty Clay Loam (USDA SCS soil type)
rKFD	Keaukaha Extremely Rocky Muck (USDA SCS soil type)
rLW	Lava Flows – Pahoehoe (USDA SCS soil type)
sf	square foot, square feet
SHPD	DLNR State Historic Preservation Division
TMK	Tax Map Key
UFC	Uniform Fire Code
UH	University of Hawai'i
UHM	University of Hawai'i at Mānoa
UHH	University of Hawai'i at Hilo
USDA	United States Department of Agriculture
USGS	United States Geological Survey

## EXECUTIVE SUMMARY

The University of Hawai'i at Mānoa's College of Tropical Agriculture and Human Resources (CTAHR) proposes to renovate functionally obsolete facilities at the Komohana Agricultural Complex (KAC) in Hilo, and construct two additions: a new, two-story laboratory wing (Building D, approx. 8,000 square feet (sf)), and an adjacent teleconference/lunch room addition to the Building B wing (approx. 800 sf) (Proposed Action). Alternatives considered included complete demolition and construction of a new facility and No Action. Both the Proposed Action and the Demolition/Construction Alternative would provide CTAHR with flexible, modern laboratory, office, and administrative facilities and the ability to effectively carry out its multifaceted mission. The No Action Alternative would retain the obsolete facility and significantly impede CTAHR from performing its mission. There is no foreseeable change to on site *de facto* population under any of the alternatives.

Potential construction period impacts include noise, fugitive dust emissions associated with foundation preparation activities, stormwater runoff, and traffic impacts for movement of construction workers and materials on and off site. These impacts would be mitigated through implementation of best management practices. There are no anticipated adverse impacts to the following resources: Geology, Climate, Topography, Soil, Flora, Fauna, Water Resources, and Wetland Ecosystems. Archaeological and cultural impact assessments conducted for the area indicate the Proposed Action and alternatives would not have an adverse impact on archaeological or cultural resources. No increase in traffic is anticipated other than construction period impacts. The Proposed Action and alternatives are consistent with public plans, policies, and controls.

Cumulative impacts were assessed by examining the project in relationship to other planned projects in the region. The cumulative impact of the Proposed Action and Demolition/Construction Alternative are positive as CTAHR would be able to deliver its programs to the community more effectively, resulting in increased agricultural productivity and improved human resources outreach programs.

Based on the environmental analysis and a review of the significance criteria specified in Section 11-200-12, Hawai'i Administrative Rules, the action would not have a significant impact on the environment and the University of Hawai'i has issued a Finding of No Significant Impact (FONSI).

## 1.0 INTRODUCTION AND BACKGROUND

The University of Hawai'i at Mānoa (UHM) College of Tropical Agriculture and Human Resources (CTAHR) proposes to renovate functionally obsolete facilities at its Komohana Agricultural Complex (KAC) on the UH Hilo Campus, and construct two additions: a new, two-story (approx. 8,000 square foot (sf)) laboratory wing, and an adjacent (approx. 800 sf) teleconference/lunch room extension. These improvements would provide CTAHR with flexible, modern laboratory, office, and administrative facilities and the ability to effectively carry out its multifaceted mission.

### 1.1 GENERAL INFORMATION

Project Name:	<b>Komohana Agricultural Complex (KAC)</b>
Project Location:	University Research Park, University of Hawai'i at Hilo 875 Komohana Street, Hilo, Hawai'i, TMK 3 <sup>rd</sup> 2-4-1: por 41
Judicial District:	South Hilo
Proposed Action:	Construct new laboratory wing and teleconference room extension, renovate prior classroom spaces for more efficient office use, and perform building code, energy efficiency, and ADA-consistency improvements, as required.
Property Owner:	State of Hawai'i (leased to University of Hawai'i)
Property Tenant / (Existing Use):	College of Tropical Agriculture and Human Resources (CTAHR) Komohana Agricultural Complex (KAC)
Applicant:	University of Hawai'i Office of Capital Improvements
Accepting Authority:	University of Hawai'i Office of Capital Improvements
Consultant:	Helber Hastert & Fee, Planners Pacific Guardian Center, Makai Tower 733 Bishop Street, Suite 2590 Honolulu, Hawai'i 96813 (808) 545-2055 Fax: 545-2050
Total Acreage:	7.9-acre lot (portion of 20-acre TMK 2-4-1:41 parcel), approx. 1-acre to be disturbed for project on previously graded area
State Land Use District:	Urban District
Gen. Plan Land Use Pattern Allocation Guide Map:	University Use (including ancillary public uses)
County Zoning:	A-1a (Agricultural, 1-acre minimum lot size)

### **Potential Permits, Approvals and Consultations**

The use of state funds triggers the preparation of an Environmental Assessment (EA) in compliance with Chapter 343, Hawai'i Revised Statutes (HRS), and Chapter 200, Department of Health (DOH) Title 11, Hawai'i Administrative Rules (HAR). In addition to the EA, the proposed project may require permits, approvals, and consultation as indicated in Table 1:

**Table 1: Potential Permits, Approvals, and Consultations**

Agency	Permit, Approval, or Consultation
<b>State of Hawai'i</b>	
University of Hawai'i at Mānoa	Environmental Assessment (HRS Ch. 343)
Department of Land and Natural Resources	Board Approval for new construction
Department of Health	Plan Review
<b>County of Hawai'i</b>	
Department of Public Works	Grading Permit and Building Permit
Planning Department	Plan Approval
Department of Environmental Health	Plan Approval (Sewer Service connection)
Department of Water Supply	Plan Approval (Water Service connection)

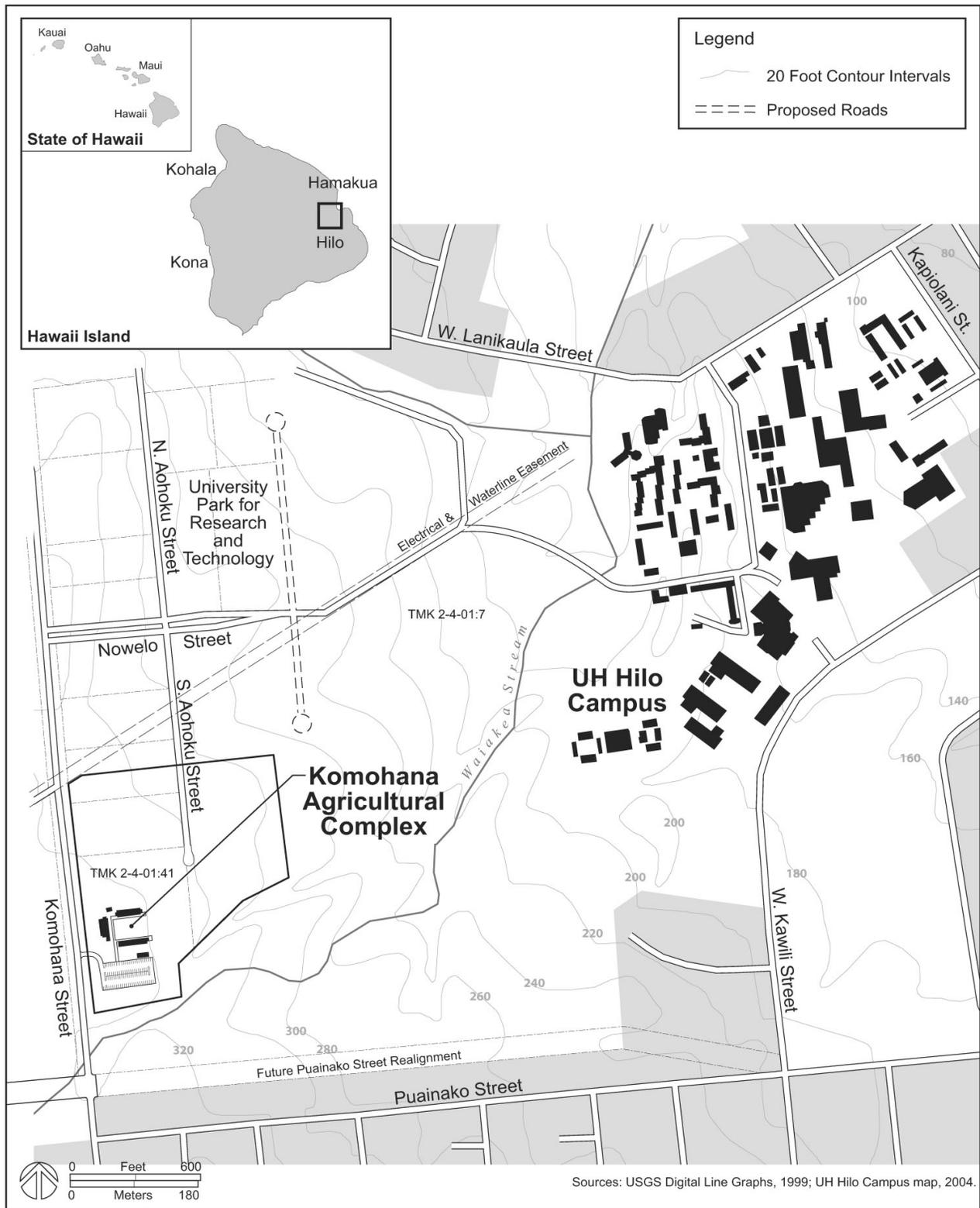
## **1.2 PURPOSE OF AND NEED FOR ACTION**

The purpose of this action is to provide adequate up to date workspace for KAC staff, which will improve the efficiency of CTAHR programs and services, promote research synergy, support local farmers and agricultural interests benefiting from the outreach programs, and benefit members of the community requiring assistance. Additional laboratory spaces are needed to meet CTAHR's agricultural research requirements and improvements are needed to upgrade the existing facilities that are now 30 years old. This is an important, prestigious, high profile program, which generates significant benefits to the community.

## **1.3 BACKGROUND**

**Location and Area:** The proposed project is located on a 7.9-acre lot which occupies the southern portion of the 20-acre TMK 3<sup>rd</sup> 2-4-01:41 parcel in the Waiākea *ahupua'a*, South Hilo District, on the eastern (windward) side of the island of Hawai'i, about 2 miles southwest of Hilo Bay (Figures 1 and 2). The parcel is situated in the southern portion of the University Park for Research and Technology (University Park) at 875 Komohana Street, between Pū'ainakō Street on the south side and Nowelo Street to the north, about 3,700 feet (0.7 mile) west (mauka) of the center of the University of Hawai'i at Hilo (UHH) main campus. The generally rectangular lot dimensions are approximately 750 feet north-south and 500 feet east-west. KAC has occupied this site since construction in 1976, preceding the establishment of the University Park, where it now occupies the southernmost occupied lot.

The site is bounded on the western (mauka) side by Komohana Street, with the UH Hilo "Mauka Lands" planned expansion area on the west / mauka side of Komohana Street. To the immediate north (the remainder of TMK 2-4-01:41) is an undeveloped forested area. Additional undeveloped land lies to the northeast and east, and other parcels within the University Park. The larger TMK 2-4-01:07 parcel, from which parcel 41 was subdivided, wraps around the KAC parcel on the north, south, and east. Waiākea Stream passes the KAC parcel on the south, and is overgrown. Thus, most of the land to the north, south, and east is forested and overgrown.



Location Map

Figure 1

**Komohana Agricultural Complex Renovation and New Construction EA**  
University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
Hilo, Hawai'i

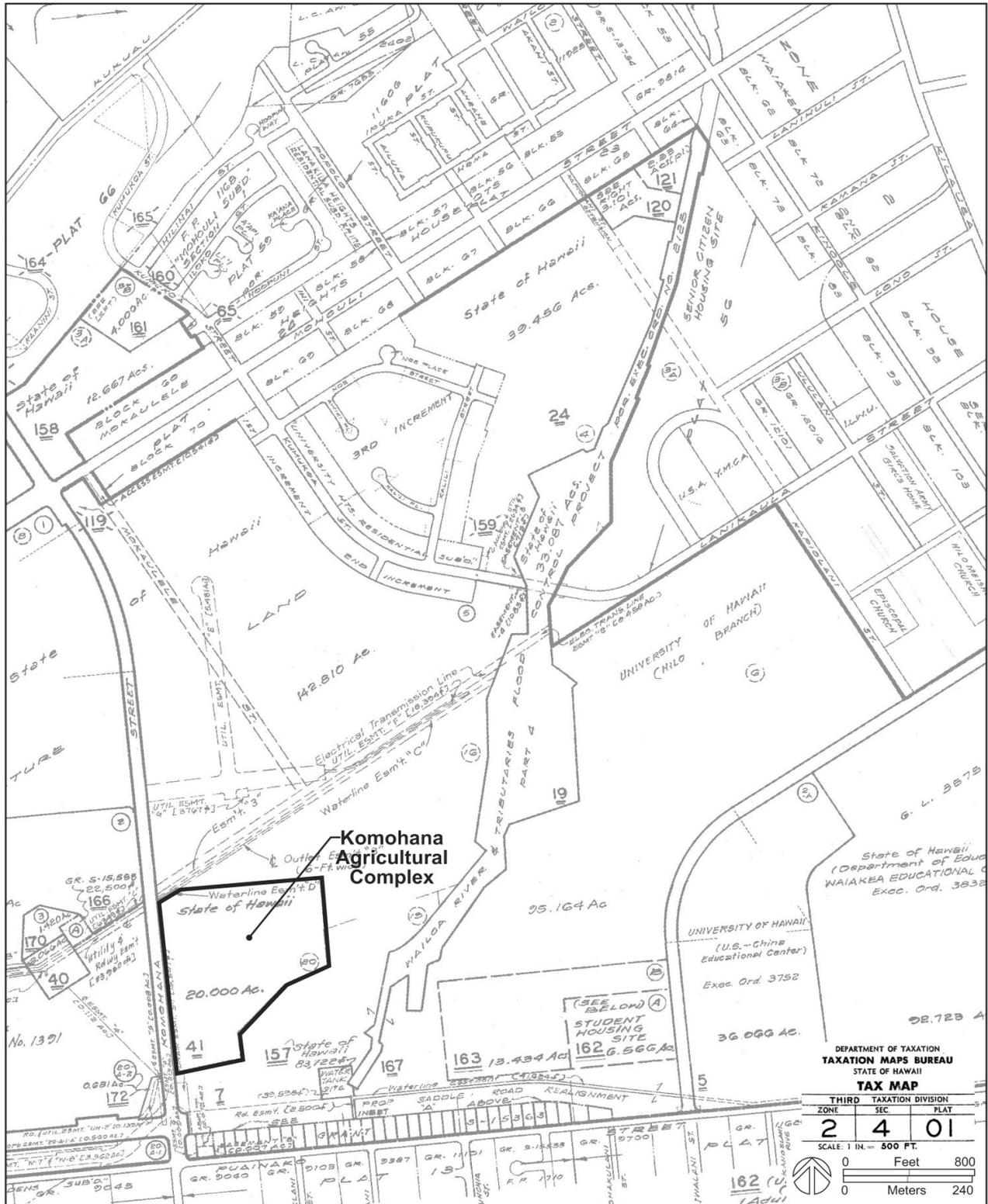


Figure 2

**Komohana Agricultural Complex Renovation and New Construction EA**  
University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
Hilo, Hawai'i

**Ownership:** KAC is sited on ceded Crown Lands held in trust by the State of Hawai'i. This land is leased to the University of Hawai'i by the Department of Land and Natural Resources (DLNR) for a term of 65 years beginning September 24, 1976 (General Lease No. S-4563). The lease expires September 23, 2041, at which time the land may revert to DLNR, although the structures remain the property of UH. The Proposed Action proponent is the UH Office of Capital Improvements on behalf of UH, as lessee, and CTAHR.

**Prior Use:** This site is located on the southern edge of the 1881 Mauna Loa lava flow in an area that was previously part of the Waiākea Pasture Lands, with the southern portion of the tax parcel previously used for sugar cane production. KAC was constructed in 1976 to provide agricultural laboratories, outreach, Hawai'i Community College classroom instruction, and administrative space for CTAHR programs. Classroom instruction was relocated to the main campus in 2004, and CTAHR Beaumont Research Center and staff were relocated from the main campus to KAC in 2005. The lab space is now inadequate to meet the needs of the KAC research community.

#### **1.4 SURROUNDING USES**

**North:** Other lots in University Park occupy the area directly to the north and east of the KAC lot, including the remainder of the 20.0-acre TMK 3<sup>rd</sup> 2-4-01:41 parcel and the adjacent 142.810-acre TMK 3<sup>rd</sup> 2-4-01:7 parcel, including:

- UH Institute for Astronomy,
- National Astronomical Observatory of Japan (Subaru Telescope) facility,
- Joint Astronomy Centre,
- Association of Universities for Research in Astronomy Gemini North 8-meter telescope facility, and
- California Institute of Technology (Cal-Tech) Submillimeter Observatory Base Facility.
- The Mauna Kea Astronomy Education Center, with museum-type exhibits and a planetarium, opened its doors in March 2006.

Other properties / uses in the area include:

- Five additional lots lie east (makai) of these lots, some under construction.
- Electrical and water line easement crosses this area.

Also to the north is Nowelo Street which provides access to University Park. The makai leg of Nowelo Street intersects with Komohana Street at a stop controlled intersection. A mauka extension of Nowelo Street to serve the UH Hilo Mauka Lands development area (see below) is under construction. South Aohoku Street intersects with Nowelo Street and ends in a cul-de-sac at the northeastern corner of the KAC lot.

**West:** KAC fronts on Komohana Street, a major 2-lane north-south rural arterial with an 80-foot right-of-way. Across Komohana Street is the UH Hilo Mauka Lands development (TMK 2-4-01:122 ), a 267-acre expansion area for three separate proposed development areas documented in the February 2005 *UH Hilo Mauka Lands Master Plan Final Environmental Impact Statement* (EIS), and several properties surrounded by this area, including:

- Hawai'i Community College (HCC) Komohana Campus (122-acre development on the southeast corner, directly across Komohana Street from KAC)

- University Park Expansion (118-acre expansion of the existing Park, north of the proposed Nowelo Street extension), and
- UH Hilo expansion area (28-acre site at the western (mauka) end of the parcel, adjacent to the existing Pū'ainakō Street extension).

Situated between these parcels and within one-quarter (0.25) mile of KAC:

- US Department of Agriculture (USDA) Institute of Pacific Islands Forestry Pacific SW Research Station (now completed),
- USDA Pacific Basin Agricultural Research Center (PBARC) which broke ground in August 2005, and is under construction on the same 31-acre parcel,
- Hawaiian Electric Light Company (HELCO) Komohana Electrical Substation on a 0.5-acre parcel,
- Waiākea Reservoir, a 0.5 million gallon reservoir on a 2-acre site.

**South:** Waiākea Stream runs along the southern boundary of the KAC parcel in a northeasterly direction. The mauka leg of the State-owned Pū'ainakō Street extension lies approximately 600 feet to the south. The existing makai leg of Pū'ainakō Street is about 900 feet south, with residential house lots on both sides of the street. A proposed realignment of the makai leg of Pū'ainakō Street is planned for a right-of-way just north of the existing residential area, which would provide a straight-through connection to the realigned mauka leg of Pū'ainakō Street (Figure 1). The area between this right-of-way and Waiākea Stream is indicated to remain as a natural area or botanical garden on the UHH LRDP (1996). A County water tank site is situated southeast of the KAC parcel (TMK 2-4-01:157).

**East:** Directly east of the subject lot is an undeveloped forested area which is part of the University Park (Parcel 7). Further east is the Wailoa flood control channel (referred to as the Wailoa River and Tributaries Flood Control Project on the TMK map (Parcel 19)). Other UHH lands lie further to the east, with the UHH Athletics Complex, baseball and softball fields, and other athletic fields and a student housing development about one-quarter mile east along West Kawili Street. The Waiākea School complex lies about one-half mile east between Pū'ainakō Street and the UHH campus. The area to the northeast, currently undeveloped, is indicated on the UHH LRDP as the site for a future Multi-Purpose Center and a large parking lot.

### **1.5 CTAHR Mission**

**History:** The University of Hawai'i system began in 1907 as the College of Hawai'i, the territory's Land Grant College, focusing on instruction in agriculture and mechanical arts.

The UHM's CTAHR represents the Land Grant College "core" of the University of Hawai'i system. CTAHR's stated goals are to: (1) provide for the educational needs of the community, (2) conduct scientific research, and (3) provide Hawai'i's people and agricultural industries with the latest technological information. CTAHR's efforts have been instrumental in enabling Hawai'i growers to produce high quality products allowing Hawai'i industries to compete in foreign and domestic markets. CTAHR's work is focused in two areas:

**Tropical Agriculture:** CTAHR is one of the premier agricultural colleges in the US and heavily involved in applied research with direct application to improving the productivity and profitability of Hawai'i-based agriculture. CTAHR's research and extension missions on the Big Island are manifested through programs in agricultural production, marketing, and related business issues, and development of new

technologies to enhance the quality and productivity of tropical agricultural production. Specific research areas include evaluation of tropical fruit and nut crops, ornamentals, flowers, foliage, quarantine treatments, invasive species, plant and soil nutrition, plant growth, plant propagation, forestry, aquaculture, control of plant diseases, and the control of insect and vertebrate (e.g., coqui frog) pests. Research also looks at land and water management and conservation strategies, agricultural business issues (such as transportation, storage, handling, and processing for shipment).

**Human Resources:** Human resources programs focus on food and nutrition, adult education, family programs (parenting, wellness, drug use prevention, strengthening the abilities of families to deal with financial issues and socio-economic change, and other developmental and family issues), assisting consumers in decision making, 4H programs, and community leadership and development (training leaders and volunteers to disseminate CTAHR's information throughout Hawai'i).

**KAC Programs:** Specific CTAHR research and extension programs based at KAC include the following areas:

- (1) Entomology
- (2) Plant Pathology
- (3) Production management systems for vegetables, fruits, macadamia nuts, ornamentals, and other crops of importance on the island
- (4) Soil and plant relationships
- (5) Forestry
- (6) Horticulture
- (7) Aquaculture
- (8) Water quality
- (9) Livestock production management systems
- (10) 4-H and youth outreach programs
- (11) Human nutrition outreach programs
- (12) Family and community outreach education programs
- (13) Satellite Agricultural Diagnostic Service Center program for the identification of plant pathogens and insect pests

**CTAHR Services:** Following its Land Grant origins, CTAHR is focused on serving community needs by several means:

- The **Cooperative Extension Service (CES)** is the outreach arm of CTAHR that serves to link farmers and communities to a wealth of research-based information, services, and other programs. On the Big Island, CTAHR has Cooperative Extension offices in Hilo, Kona, and Waimea and research stations at Waiākea (Hilo), Malama-ki (Puna), Volcano, Hamakua (Paauilo mauka), Mealani (Waimea), Lalamilo (Waimea), and Kona (Kainaliu and Captain Cook). Workshops and conferences (commonly on-site) address specialized topics and community needs, particularly that of the agricultural community.
- **Experimental Research Stations** are strategically located in various climates and farming areas throughout Hawai'i, so researchers can conduct research and address local/regional problems with highly specific data and appropriate recommendations.
- **Walk-in services:** People also walk in to KAC on a daily basis to request help from technical specialists, or to pick up information CTAHR makes available to the community. Many will walk in to drop off water, soil, and/or tissue samples, plants

with problem conditions, insects, and similar items for examination, analysis, and advice. This group is mostly area farmers, gardeners, and homeowners rather than the student population found in CTAHR classes on campus.

- **Community meetings:** KAC also currently deals with over 100 various community organizations, and KAC meeting space facilities are made available for community uses. Affiliated groups (e.g., farmers' organizations, the Orchid Society, and many others) are regular users and get priority access, but other community groups and non-profits are allowed to use the facility when space is available. These meetings take place 7 days-a-week and many evenings.

## **1.6 EXISTING FACILITIES**

KAC was originally constructed in 1976 and consists of three wings<sup>1</sup> connected by covered, partially enclosed walkways arranged around a central courtyard. The Building A wing, closest to Komohana Street, serves as the Administrative Building and Community Conference facility (Figure 3). The Building B wing, on the north side of the courtyard, was originally constructed to serve as classroom space and has been partially remodeled for office purposes. The Building C wing, on the south side of the courtyard, houses agricultural laboratories and support spaces. The complex has been well maintained but is approaching 30 years of age. The original instructional component has ceased and the shortage of modern laboratory spaces has become critical to the agricultural scientists working at KAC. All three wings are constructed of reinforced concrete with a redwood exterior siding that is rotting and termite damaged.

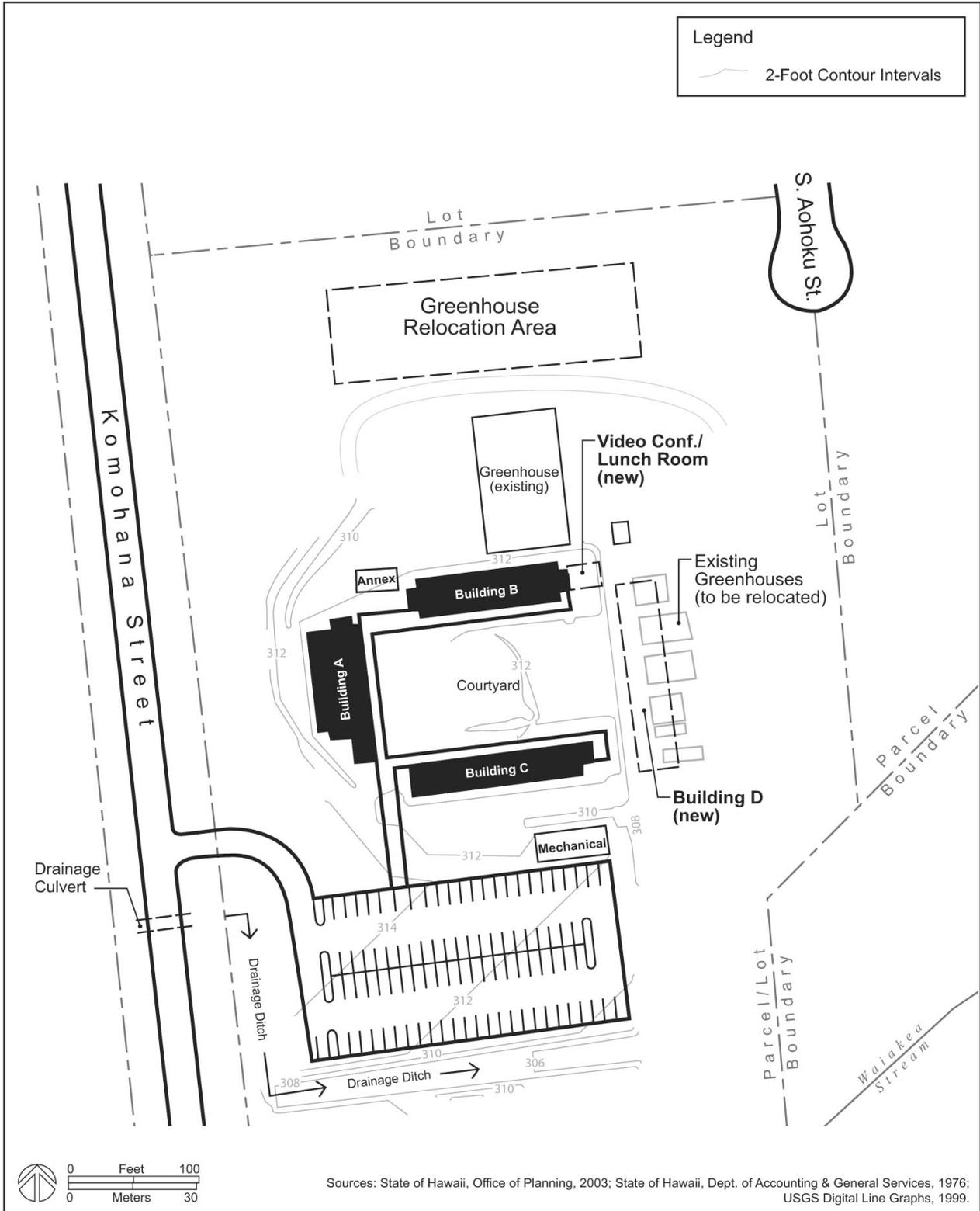
Existing gross floor area of the complex is about 29,000 sf, with net interior space estimated at 19,600 sf as summarized in Table 2 below.

**Table 2: Existing Net Interior Floor Area**

<b><u>Building Wing</u></b>	<b><u>Net Interior Floor Area</u></b>	<b><u>Current Uses</u></b>
A	5,800 sf	Admin. offices, outreach, conference room
B	6,500 sf	Offices & restrooms
C	<u>7,300 sf</u>	Laboratories & support spaces
<b>Existing Total:</b>	<b>19,600 sf</b>	

These floor area estimates do not include several ancillary facilities, including the single-story, wood-framed Cooperative Extension Annex, mechanical building, or several non-permanent greenhouse structures. There are also other minor structures on the site, including a former chemical storage room, a covered composting structure, and several other covered temporary structures, in addition to the 94-stall, paved parking lot.

<sup>1</sup> KAC is a single complex comprised of 3 connected wings to which a fourth connected wing will be added, completing the quadrangle envisioned in some of the original plans. They are generically referred to as Building A, B, C, or D for ease of reference, and "building" and "wing" are used interchangeably in this document. After construction, Buildings C and D will be redesignated in alphabetical order clockwise beginning with Building A, such that the new laboratory building will become Building C and the old laboratory building will become Building D. This document uses the current designations to avoid confusion; future plans will use the revised designations.



Site Plan

Figure 3

**Komohana Agricultural Complex Renovation and New Construction EA**  
University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
Hilo, Hawai'i

## 2.0 PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and alternatives considered in the impact evaluation. The alternatives described below represent a range of reasonable alternatives. The evaluation of the alternatives is provided in subsequent chapters.

The following alternatives were analyzed:

1. Renovation and New Construction (Proposed Action)
2. Demolition and New Construction
3. No Action

Each alternative is described below.

### 2.1 Renovation and New Construction (Proposed Action)

The Proposed Action is to renovate the three existing building wings at KAC to remodel the original classroom spaces (currently expediently divided for office use) into flexible office space, and to add a new, two-story (approx. 8,000 square foot (sf)) “Building D” wing with up-to-date research laboratories and a small (approx. 800 sf), two story extension to the Building B wing for a teleconference facility and a lunch room. Existing conference room, laboratory, and administrative office spaces would also be renovated. This would effectively support CTAHR research and provide efficient work space for CTAHR faculty and administrative functions at this single site. This alternative provides the greatest benefit for the least expense.

CTAHR has carefully considered alternative renovation and construction scenarios, with laboratory and office spaces constructed or renovated in different building wings, to determine which options produced the “best fit” in the available space and budget. Design and engineering is still underway, and current plans will undergo further refinement as the design process progresses. The overall project has been scaled back based on initial cost estimates and available funding with an initial phase focusing on constructing the Building D wing and teleconference / lunch room additions, upgrades to Building A front office, conference room and elevator, renovation of the Building B wing, and re-siding the entire facility. A later phase, pending availability of funds, would complete the renovation of existing Building C laboratory spaces, additional renovations to Buildings A and B, and complete any associated energy efficiency and code upgrades not completed in the initial phase. Work would also be phased to avoid major relocation of KAC staff during construction activities. Some work, including Building B renovations, may await a second funding phase, depending on the final project cost.

Under the Proposed Action, the net interior space would increase by about 8,800 sf from 19,600 sf to 28,400 sf (Table 3), and the existing gross floor area would increase from 29,000 sf to about 39,000± sf (approx. 34 percent increase).

**Table 3: New and Total Proposed Interior Floor Area**

<b>Structure and Use:</b>	<b>Area</b>
Building D wet labs, lab support	8,000 sf
Building B extension (Video Conf./Lunch Room)	800 sf
<b>Total New Interior Floor Area</b>	<b>8,800 sf</b>
Existing Interior Floor Area	19,600 sf
<b>Total Proposed Interior Floor Area</b>	<b>28,400 sf</b>

Specific actions, in the likely order of implementation, would include:

**Greenhouse Relocation.** The greenhouses located along the east (makai) end of the courtyard would be relocated to the north end of the KAC lot (Figure 3) to make way for the Building D wing. The greenhouses are constructed of light weight materials and are used to support various KAC programs and research efforts. Water and electrical service would need to be provided to the relocation site.

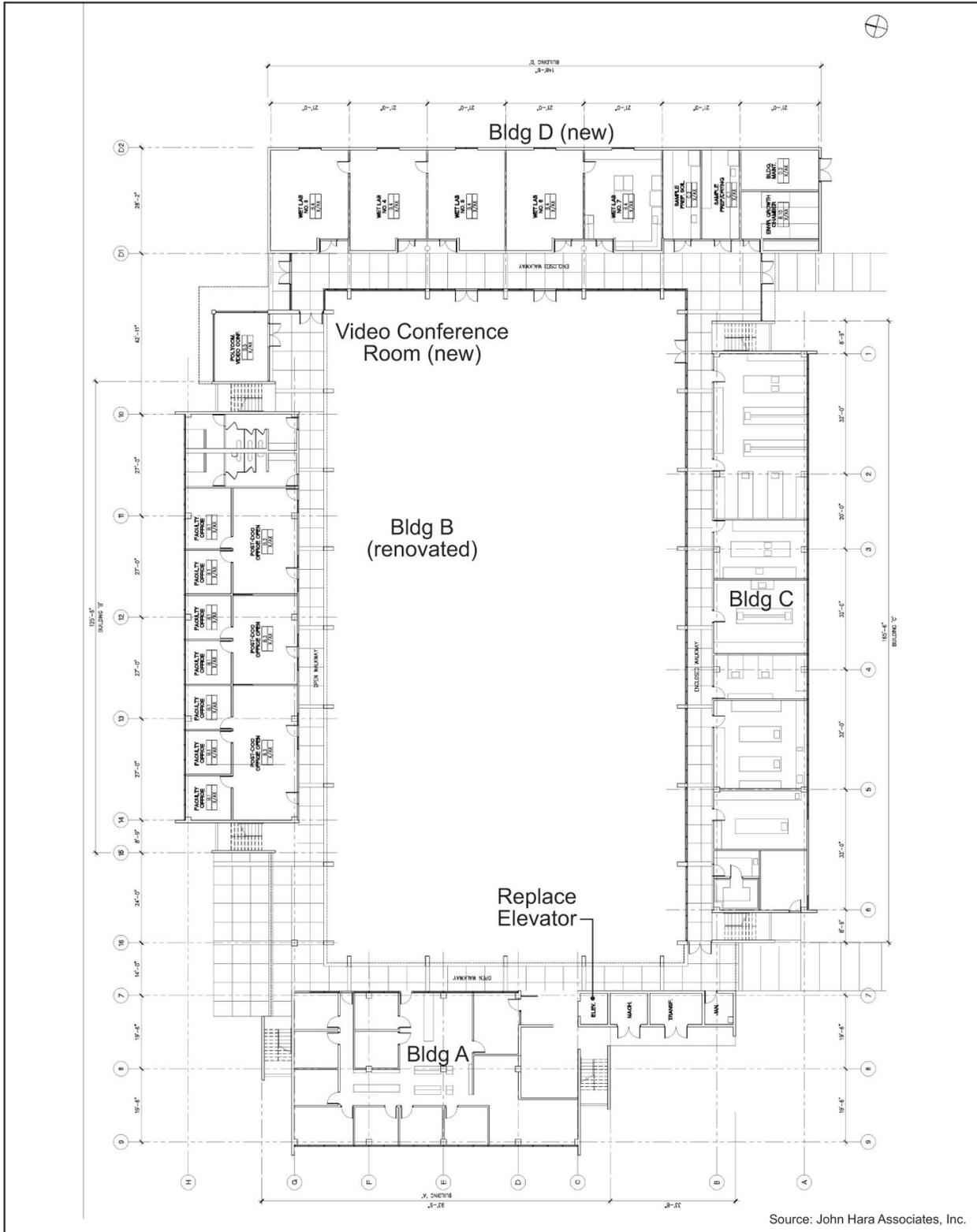
**Building D** would be constructed on the east (makai) end of the courtyard. The two-story, approx. 8,000 sf expansion would include ten standardized labs and lab support spaces designed to support basic agricultural science and biotechnology research (Figures 4A & 4B). Each lab would be approximately 500 sf in size and connected by an enclosed exterior walkway. Doors between labs would allow faculty with large programs to expand into more than one lab. Movable sections and workstations would allow reconfiguration depending on the needs of faculty, research needs, and grant funding. Wherever possible, central service facilities would be shared and not duplicated. Lab support spaces (e.g., sample preparation room, tissue culture growth room, incubator, autoclave, and lab equipment storage) would be located to serve common needs. Offices would be located outside of labs for flexibility of reassignment. High traffic spaces would be located on the first floor. Mechanical systems would be mounted on the roof. Exterior Insulation and Finish System (EIFS) siding would be the primary finish on the new wing, and would also be used to replace the existing siding on all three of the existing wings. The EIFS would provide thermal insulation value and the durable exterior finish would resemble smooth plaster but contain integral color. Additional sustainable design features include the installation of sun shielding on the east face of Building D and all interior walkways around the complex. First and second floor Building D walkways would be enclosed for climate control proposes.

With the construction of the Building D wing, vehicle access to the central courtyard would be maintained by repositioning the existing single story Cooperative Extension Annex to provide courtyard access between the Building A and B wings.

**Building B**, initially designed for classroom use and already expediently divided for office use, would be renovated into flexible office space for faculty and staff (Figures 4A & 4B). The existing restrooms at the east end of the Building B wing would also be renovated. The new offices would house faculty and support staff, including post doctorate researchers. This two story, approximately 6,500 sf wing would receive a new roof-mounted mechanical system, and would include energy efficiency and code upgrades. A new, two story (approx. 800 sf) extension would be added to the east end of the wing, housing a video conference room on the ground floor and a staff lunch room on the second floor.

The aging exterior redwood siding on all buildings would be removed. The final finish material of the existing three wings will be a combination of painted concrete and EIFS siding to create a uniform, contemporary look for the entire KAC facility.

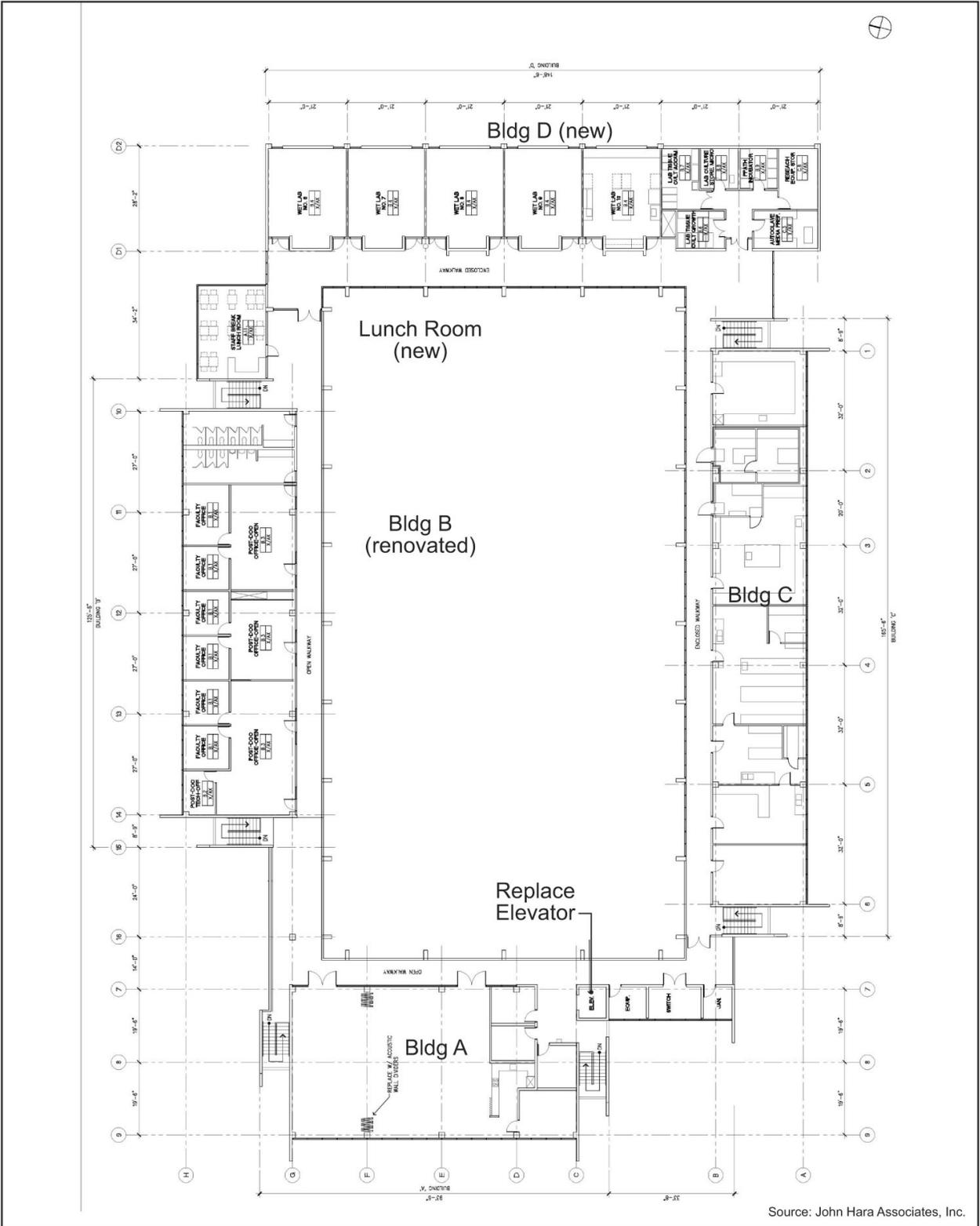
**Building A** public spaces, program office, and conference room would be refurbished and the elevator would be upgraded for ADA compliance. Further office renovations, building code, and energy efficiency upgrades would be performed as required and as funds permit.



Proposed Ground Floor Plan

Figure 4A

**Komohana Agricultural Complex Renovation and New Construction EA**  
University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
Hilo, Hawai'i



Source: John Hara Associates, Inc.

Proposed Second Floor Plan

Figure 4B

Komohana Agricultural Complex Renovation and New Construction EA  
University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
Hilo, Hawai'i

**Building C** laboratories would be upgraded into modern, flexible lab spaces<sup>2</sup> and the building renovated with building code and energy efficiency upgrades in a later phase.

Complex-wide upgrades include landscaping of the interior courtyard with additional trees, new non-structural full-height interior columns, and the EIFS siding and sun shading previously discussed.

All renovation work and new construction would meet current code standards and contractors would be required to comply with all applicable laws and regulations.

## 2.2 Demolition and New Construction Alternative

The Demolition and New Construction Alternative would demolish the existing complex and build a modern state-of-the-art agricultural sciences facility to best meet the needs of CTAHR's mission. This alternative would meet the purpose and need of providing modern laboratory facilities, consolidating faculty offices and administrative functions, and supporting outreach activities. New construction would result in a modern, purpose-built facility. Ideally, this would place the laboratories at the center of the building accessed by a double loaded corridor, with related research and support offices located adjacent to the lab spaces on the outside of the corridor, similar to the floor plan used for UH Mānoa's Agricultural Sciences Building. New construction would allow improved energy efficiency, reduced operations costs, and more efficient space utilization than renovating the existing single loaded buildings at KAC. This alternative would accomplish the purpose and need more effectively than the Proposed Action, but at significantly greater initial cost, significantly greater construction period disruption of to existing staff and programs, significantly greater generation of solid wastes, construction traffic impacts, noise, and dust, and roughly equivalent long-term environmental effects.

## 2.3 "No Action" Alternative

The "No Action" Alternative means the KAC facility would remain in its existing state. CTAHR would continue its inefficient office use of the existing expediently-converted former classroom spaces. Only the original, functionally obsolete laboratory space would be available to researchers, significantly reducing CTAHR's ability to carry out research, and significantly constricting the ability of staff researchers to obtain new research grants. Aging mechanical systems would remain in place. Building siding would continue to deteriorate. No teleconference capability would be added to the facility, restricting the ability of CTAHR to conduct distance learning for off-site recipients and teleconferencing with other research staff.

The No Action Alternative would not meet the purpose and need for the proposed project, would not adequately support CTAHR's research and outreach mission, and would be inconsistent with the needs of the program to improve efficiency and levels of service to the public. While this alternative does not meet the purpose and need, it was carried through in the analysis to provide a baseline to compare the environmental effects of the other alternatives considered.

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<sup>2</sup> Existing laboratories in the Building C wing are rated Biosafety Level 1 (BSL 1, for work with minimal risk to the human environment) except for the two plant pathology labs, which are rated as BSL 2 (for work with plant diseases which require containment). The proposed Building D laboratories would also be rated BSL 1, except BSL 2 standards will apply to five rooms: two new plant pathology labs, the Agricultural Diagnostic Service Center (ADSC), the culture room, and the acclimatization room. This information is preliminary, based on KAC's intentions, and assumes ADSC and the pathology labs are moved to the new wing. KAC does not engage in work of a hazardous nature. See Section 6.1.6.2 Biological Safety Protocols and Controls, for a discussion of biosafety issues and controls.

### 3.0 ASSESSMENT OF AFFECTED ENVIRONMENT, PROBABLE IMPACTS AND MITIGATION: PHYSICAL ENVIRONMENT

This chapter describes the existing physical environment and examines the anticipated impacts of the Proposed Action and alternatives, and, where appropriate, describes relevant measures to mitigate potential impacts.

#### 3.1 PHYSICAL SETTING

**Climate:** The Hilo area experiences a moderate, damp climate with a mean annual temperature of 73° F (22.8° C), measured at the airport, with a mean daily range of 15° F (8.3° C). Mean minimum and maximum monthly temperatures range from a high of 83° in August to a mean low of 63° in January, with an average temperature of 66.3° in the coldest month to 81.2° in the warmest month. The project is about two miles inland at just over 300 feet above mean sea level (MSL), so site temperatures should be slightly lower. Humidity averages 79 percent. Mean monthly rainfall ranges from less than 7 inches in June to more than 15 inches in December, with an average annual rainfall of 129.46 inches. However, the topography of the island creates a multitude of microclimates, with rainfall dependant upon elevation, prevailing winds, and mountain contours.

Prevailing winds are Tradewinds, averaging 7.4 mph, and blow in from the sea in a northeasterly direction, commonly shifting to downslope / offshore (southwesterly) winds after dark. Tradewinds are more persistent in the afternoon than night, and during summer months. On average, winds blow from the north-northeast and east about 86% of the time. “Kona winds” (southerly and southwesterly) winds blow about 10% of the time, and winds are calm about 4% of the time.

**Geology:** The island of Hawai'i developed during the Tertiary period as the product of five volcanoes erupting from the ocean's floor, and is the largest (at 4,028 square miles) and youngest island in the Hawaiian Archipelago. The island rises 13,796 feet above MSL at its highest point at the summit of Mauna Kea. Hilo lies on the northeastern flank of Mauna Kea about 2 miles west and up-slope (mauka) from Hilo Bay.

**Topography:** Site topography is varied. The site has been leveled and is fully developed. The central portion of the developed area of the site (under the row of existing greenhouses where the Building D wing will be sited) appears to have been created by filling and consists of a gently sloping plateau connected to and sloping away from Komohana Street. Land to the north, south, and east of the central plateau approximate natural grades. Slopes on the east side of the central plateau are steep (approx. 2:1 (horizontal/vertical)) and drop from about 310 feet MSL at the east edge of the plateau to approximately 300 feet MSL at the toe of the slope. This edge is currently terraced, with a rock-covered scarp, as shown in the photos in Figure 5. This scarp wraps around to the north side of the plateau, with the rock fill transitioning into a rock wall of decreasing height as the wall blends to the natural site elevation toward the west side of the property. The south (makai) side of the plateau has a gentle slope to the south and east, transitioning to the natural slope along the eastern side of the property.

Drainage swales have been constructed to the north and south of the central plateau area. The KAC site is on the mauka side of the UHH central campus area, and the complex sits at a finish floor elevation of about 313 feet MSL – considerably higher than the 140' MSL elevation of the central UHH campus about 3,700 feet (0.7 mi.) to the northwest.



Proposed Building D site viewed from Building A second floor across courtyard. Building B wing to left, Building C wing to right.



View towards South Aohoku Street cul-de-sac from future site of Building D.



View towards Building D site from South Aohoku Street cul-de-sac. (Note existing greenhouses to be relocated for new Building D).



View north. Building B on left. Building D site and greenhouses (to be relocated) on right.

**Site Photographs (December 2005)**

**Komohana Agricultural Complex Renovation and New Construction EA**  
 University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
 Hilo, Hawai'i

**Figure 5**

**Potential Impacts:** This site was previously graded during original construction, and the property is generally level around the complex. No significant alternation of site topography is anticipated for either the Proposed Action or Demolition and New Construction Alternative. Only a small amount of finish grading would be required to provide a suitable foundation for the proposed Building D wing. Only minor ground disturbance would be required to relocate a row of existing greenhouses to the open area north of the complex to provide room for the Building D wing (Figures 3 and 5), and to install utilities trenches to support the relocated greenhouses. No significant alteration of site topography or impact to any known natural hazard risks would result from the Proposed Action or alternatives. The No Action Alternative would not impact site topography.

**Mitigation Measures:** None Required.

**Soils:** Three soil types exist on the parcel (USDA 1973), two of which are under a portion of the project area:

**Lava Flows – Pahoehoe (rLW)**, exists under most of Building A and all of Building B wings, the existing north greenhouse, and extends about 2,500 feet north in a swath flowing from the southwest to the northeast. This soil would be under the area used to site the relocated greenhouses and the northern portion of the Building D wing site. Commonly, these areas are bare, lacking significant soil cover and vegetation, drain well through the cracks but poorly through solid flow, and contribute to the groundwater supply in higher rainfall areas.

**Keukaha Extremely Rocky Muck (rKFD)**, exists under most of the built area under Building C wing and the parking lot, and extends further south to Waiākea Stream. This soil exists in a transition area under the southern edges of Building A and B wings. The Building D wing would be sited on this soil type after the existing greenhouses are relocated. This soil series consists of a thin (~8 inch) layer of very dark brown, strongly acidic organic muck, overlaying pahoehoe lava bedrock. The topsoil is rapidly permeable, the underlying pahoehoe permeable through cracks, runoff is medium, and erosion hazard is slight.

**Panaewa Very Rocky Silty Clay Loam (PeC)**, exists at the eastern edge of the cleared area on the lot, and covers most of the forested area northeast and east to the UHH Athletic Complex and baseball field and south past Pū'ainakō Street. This soil series formed in volcanic ash, and consists of a layer of very dark brown, moderately acidic, silty clay loam about 12 inch thick, with thin (~4 inch) strongly acidic subsoil of dark brown very cobbly silty clay loam. Permeability is rapid, runoff is slow, and the erosion hazard is slight.

**Potential Impacts:** Soil disturbance creates potential fugitive dust and runoff potential for the Proposed Action. The Demolition and New Construction Alternative would expose more ground and would have greater potential impacts. These potential impacts would be short-term and limited to the construction period. The No Action Alternative would have no impact. After construction, the long-term fugitive dust and runoff potential from this project would be minimal for all alternatives, and the excellent percolation rates for volcanic soils suggest any significant rainfall runoff from the site would be readily absorbed, so there would be no foreseeable long-term impacts under any of the alternatives.

**Mitigation Measures:** Although runoff has not been a significant problem in the past due to excellent percolation rates, the contractor would be required to comply with all required

Best Management Practices (“BMPs”) in accordance with the construction contract to mitigate the potential effects of exposing soil to storm and wind erosion. BMPs would typically include: wetting exposed soil, providing temporary cover, grassing over and landscaping areas to prevent soil loss and erosion and limiting the area of ground disturbance, among others. The selection of appropriate BMPs would be made during the final design stages. The contractor would submit erosion control measures for the County’s approval per the County grading ordinance. Once ground cover is reestablished, no further measures are required.

**Drainage:** Immediately south and east (makai) of this parcel is Waiākea Stream, which is the primary stormflow conveyance in the vicinity. The stream flows through a culvert under Komohana Street between KAC and the new intersection with the Pū’ainakō Street alignment to the south. Waiākea Stream joins into the Wailoa River and Tributaries Flood Control Project, which flows downstream into Waiākea Pond, which then flows to the sea at Hilo Bay by way of the Wailoa River. Run-off from KAC buildings flows off the roofs into gutters and downspouts to splash blocks, and then sheet flows to drainage swales located north and south of the site. Most of this water is absorbed into the pervious soils present at the site. Runoff from the parking lot is directed to the southern drainage swale, which conveys stormwater to Waiākea Stream.

**Potential Impacts:** Under the Proposed Action, Building D wing and the teleconference/lunch room extension to Building B wing would result in an increase in impermeable area of approximately 10,000 sf. Impacts from the Demolition and New Construction Alternative would be comparable. No modification of the drainage channels, or significant change to the runoff pattern of the site is expected under any alternative.

**Mitigation Measures:** New building areas would incorporate drywells (or other appropriate BMP) to manage stormwater and minimize offsite impacts. Construction period BMPs would be employed to control stormwater runoff.

### **3.2 NATURAL HAZARDS**

The island of Hawai’i is still geologically active, and the southernmost volcano, Kilauea, has added 43 square miles and 3.6 billion cubic yards of material to the island since 1983. Fortunately, lava flows originate at Kilauea crater and move toward the south, not in the direction of the project site. The United States Geological Survey (USGS) volcanic hazard zone map for Hawai’i Island ranks areas from 1 to 9 based on the probability of coverage by lava flows, with lower numbers indicating historically higher risk. The Hilo District, including the KAC site, is ranked as Zone 3.

Since 1990, there have been at least 12 earthquakes with magnitudes between 5.0 and 5.6, and the entire island is designated as seismic zone factor 4 area of high seismic hazard. Hilo has also experienced at least five tidal waves in the last century, with run-ups of 2 meters (6.6 feet) or more. Hilo is on the windward side of the island, and is also subject to high winds from hurricanes and tropical storms.

KAC is located in an area of gentle-to-moderate slopes and rolling terrain on volcanic soils, and is in an area subject to considerable rainfall, often heavy. The rolling terrain has two substantial gulches in the vicinity of the project, which provide natural conveyance for rainwater runoff. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM Map # 1551660880C, revised September 16, 1988), the project area is designated as Zone X, outside the 500 year floodplain (Figure 6). Flood



control drainage for this area of Hilo is provided by Waiākea Stream to the south of the project and the Wailoa River and Tributaries Flood Control Project to the east (makai).

**Potential Impacts:** Volcanic activity poses little risk to KAC inhabitants due to early warning capabilities. Seismic activity poses a potential threat, but the current complex is structurally sound, has held up well over the past 30 years, and shows no indications of seismic distress. Tidal waves do not pose a risk due to the 312-foot MSL elevation and 2-mile separation distance from the coastline. Hurricanes or tropical storms could pose a threat to outside greenhouses, but are unlikely to threaten reinforced concrete structures like KAC. The project area is outside the 500 year floodplain and no flood hazards are anticipated.

**Mitigation Measures:** Earthquake potential is factored into the structural design of the new and renovated facilities. New construction would comply with current seismic code requirements. No further mitigation against other natural hazards is warranted.

### **3.3 HYDROLOGY AND WATER RESOURCES**

**Hydrology:** Hilo is on the windward side of the island and experiences considerable rainfall, as noted under Section 3.1 Climate. Moist ocean air blow up the flanks of Mauna Loa and cools as it rises, dropping rain on the windward slopes. Over time, rainwater runoff has cut deep gulches, and other water flows through porous volcanic soils and recharges the groundwater aquifer. The Hilo hydrologic unit is one of the most abundant on the island, with a sustained yield of 347 million gallons per day (MGD) (Commission on Water Resource Management 1995). In the project area, most rainwater is absorbed into the pervious soils on the project site. Under heavy rain conditions, some water may sheetflow offsite to two gulches, which direct the water to Waiākea Stream, as discussed under Section 3.1 Drainage. Storm water flows from the mountains to the sea via Waiākea Stream, an intermittent stream just south of the southern property boundary which roughly follows the boundary to the northwest before joining the Wailoa River and Tributaries Flood Control Project.

**Potential Impacts:** The Proposed Action and alternatives represents a negligible portion of the groundwater recharge area, would add very little runoff water to the flood control area, and would not present a potential source of pollution to either groundwater or surface water resources. None of the alternatives would produce a noticeable impact on hydrology or groundwater resources, and none would produce impacts appreciably greater than the No Action Alternative.

**Mitigation Measures:** None indicated.

### **3.4 AIR QUALITY**

The air quality in Hilo is generally good, with annual means of particulate matter and sulfur dioxide that fall below State and Federal clean air standards. However, air quality is occasionally significantly compromised by emissions from Kilauea Volcano, depending on local wind conditions. Kilauea's Pu'u 'Ō'ō vent is about 23 miles southwest of the project, and continuously emits volcanic gases containing over 1,000 tons of sulfur dioxide gas per day – an output which has persisted since 1986 – and 2,000 tons per day during periods of sustained eruption (USGS 2000, *et al.*). The combination of strong sunlight and moist

air promote oxidation and hydration of sulfur dioxide to a sulfuric acid aerosol. This is partially neutralized to ammonium sulfate. However, the combination of these volcanic vapors (locally referred to as “Vog”, or volcanic fog) can produce health impacts and corrosive acid rain.

**Potential Impacts:** There are three contributors to air quality impacts: (1) fugitive dust emissions associated with construction period earthmoving equipment has the potential to impact air quality; (2) the short term use of construction equipment contributes hydrocarbon and particulate emissions associated with the burning of fossil fuels; and (3) the long term (daily) use of electrical power contributes carbon dioxide to the atmosphere from the burning of fossil fuels to create that power. The Demolition and New Construction Alternative would have greater impacts than the Proposed Action due to greater ground disturbance and greater fuel consumption. The No Action Alternative would have no change, but impacts due to daily power use would continue.

**Mitigation:** Construction period best management practices would be implemented to minimize fugitive dust emissions, and the contractor would be required to adhere to the requirements of the Department of Health’s Air Pollution Control, Fugitive Dust regulations (Chapter 11-60, 1-33, HAR). Short term use of fossil fuels to power construction equipment is unavoidable, and occurs with all construction activity. Long term use of fossil fuels would be mitigated somewhat by introducing energy efficiency upgrades in the design of the Proposed Action and to a greater extent, the Demolition/New Construction alternative.

### **3.5 NOISE**

The KAC complex is a relatively quiet area, consistent with an office/laboratory facility. The largest source of noise is generated by vehicles moving along Komohana Street. The nearest noise sensitive land uses are the residential homes along Pū’ainakō Street, approximately 750 feet south of KAC. There are no schools, hospitals or other noise sensitive uses in the vicinity of KAC.

**Potential Impacts:** The dominant noise sources during project construction would be earth-moving equipment, such as bulldozers and diesel-powered trucks. The noise level of typical construction equipment ranges from approximately 70 dBA to 95 dBA at a distance of 50 feet. Nearby homes may be impacted by the construction noise due to their proximity to the project. The actual noise levels produced, which would be a function of the methods employed during each stage of the construction process, would be short-term and temporary in nature.

The Demolition and New Construction Alternative would have a greater construction period noise impact due to demolition and additional equipment operations required for greater removal of demolition debris. The No Action Alternative would have no impact. No long-term noise impacts are expected for any alternative.

**Mitigation:** The construction contractor would be required to comply with the State Department of Health’s Community Noise Standards (Chapter 11-46, HAR) to minimize off site construction period noise impacts. Construction equipment, on-site vehicles, and other diesel and gasoline engine machines would be equipped with mufflers and be maintained and properly tuned to minimize noise impacts. Construction activities that emit noise in excess of the maximum permissible sound levels established by the DOH would be scheduled appropriately.

## **3.6 BIOLOGICAL RESOURCES**

### **3.6.1 Flora**

The project site has been in continuous use for the past 30 years. Primary vegetation within the developed area of the site consists of lawns, several specimen trees and hedges, none of which would be affected by the Proposed Action or alternatives.

A botanical survey and background literature search for the University Park area, including the KAC site, was conducted by Char and Associates in December 1992. Field work using a walk-through survey method was conducted by three botanists. The study found the old 1881 pahoehoe lava flows (rLW) and the Keaukaha extremely rocky muck (rKFD) soil areas "...support a native-dominated forest of 'ohi'a trees and dense, matted uluhe ferns. Along the south and eastern portion of the site, the substrate is mapped as "PeC", Panaewa very rocky silty clay loam ... the depth to pahoehoe bedrock ranges from 15 to 20 inches. The vegetation on this soil series is composed largely of introduced species, mostly secondary forest trees and the area appears to have been cultivated." In the areas described as the "'ohi'a - uluhe forest," the 'ohi'a trees (*Metrosideros polymorpha*) are 15 to 25 feet tall and widely spaced within an almost impenetrable continuous mat of uluhe ferns (*Dicranopteris linearis*) generally between 6 and 9 feet high, but occasionally climbing up to 12 feet up nearby trees. "Because the Uluhe cover is so dense, there are few other smaller species. Occasionally, a few plants of melastoma (*Melastoma candidum*), bamboo orchid (*Arundina graminifolia*), and strawberry guava (*Psidium cattleianum*) may be observed." The botanical survey referred to the KAC site as already graded with little remaining vegetation.

The botanical survey found that "None of the plants inventoried on the State-owned parcel are officially listed threatened and endangered species; nor are any proposed or candidate for such status ... the proposed project [development of University Park] is not expected to have a significant negative impact on the botanical resources."

KAC also manages an ethno-botanical garden at the south end of the complex, planted with non-natives such as lauuae fern, Awa, and banana mixed with native Hawaiian plants. Planted species include Kukui, hibiscus maohauhele, two species of Pritchardia, Taro, Hala, Ohia, Aalii, Koa, Milo, Mamaki, and others. KAC currently distributes small quantities of propagative material such as noni seeds and taro hulis (traditionally used varieties as well as new introductions) to the public and associations when they are available. KAC's Master Gardener program has proposed to use the ethno-botanical garden landscape as a source of propagation material for public distribution on Arbor Day. Currently, KAC provides the public with information about sources of native propagation material, propagation techniques, commonly associated pests, and other information, as requested.

**Potential Impacts:** The Proposed Action and Demolition/New Construction Alternative would take place within previously cleared areas which have been under continuous use. There would be no disturbance in the areas described by Char as 'ohi'a - uluhe forest. No significant impacts are anticipated to the flora of the area as a result of the Proposed Action or alternatives.

**Mitigation Measures:** None required.

### 3.6.2 Fauna

The project site has been in continuous urban use for the past 30 years. Most of the 7.9-acre lot has been graded and land disturbing activities associated with the Proposed Action would be confined to a small portion of the developed site. A wildlife survey was conducted for the *UH Hilo Mauka Lands Master Plan EIS* (Ohashi 2003) on the largely undeveloped (267-acre) forested site across the street from the KAC site. This survey is incorporated by reference into this EA as its findings are indicative of what species are present in the vicinity and could transit the KAC site. No listed threatened and endangered species, or any proposed or candidate faunal species was found to be present within this largely undisturbed, adjacent study area.

Mammals encountered on the Mauka Lands site included feral pigs (*Sus scrofa*) and a Hawaiian Hoary Bat (*Lasiurus cinereus semotus*). Mammals expected to be found on Mauka Lands, and by inference, on the KAC site, included the Small Indian Mongoose (*Herpestes auropunctatus*), cats (*Felis catus*), feral dogs (*Canis familiaris*), rats (*Rattus spp.*), and house mice (*Mus musculus*). No native forest bird species were encountered. Pacific Golden Plovers (*Pluvialis dominica*) were seen in flight over the parcel. Birds seen or heard on the parcel include the Melodius Laughing Thrush (*Garrulax canorus*), Japanese White-eye (*Zosterops japonica*), Spotted Dove (*Streptopelia chinensis*), Zebra Dove (*Geopelia striata*), Northern Cardinal (*Cardinalis cardinalis*), House Finch (*Carpodacus mexicanus*), and Common Myna (*Acridotheres tristis*). The Pueo (*Asio flammeus*) and Hawaiian Hawk (*Buteo solitarius*), or 'io; were not observed during the survey.

The threatened Newell's Shearwater (*Puffinus aricularis newelli*) or 'a'o was formerly common on the Island of Hawai'i, and nest high in the mountains under thick vegetation, such as the 'uluhe fern. There are prior reports of sightings in the Hilo area, and it is possible they could fly over the project site between May and October. Young Shearwaters, especially fledglings headed toward the sea in the summer and fall, engage in nocturnal flight and have an attraction to bright lights. These birds can become disoriented and fly into man-made structures like utility poles, wires, trees, or buildings, which can result in death or increased vulnerability to predation.

**Potential Impacts:** The Proposed Action and Demolition/New Construction Alternative would take place on previously disturbed and graded areas, and would not involve disturbance of any known critical habitat or foraging area. No listed threatened and endangered species, or any proposed or candidate faunal species was found to be present within the expansive adjacent study area. Therefore, no significant impacts are anticipated to fauna of the area as a result of the Proposed Action or alternatives.

**Mitigation Measures:** None required. However special consideration will be given to outdoor lighting associated with the Proposed Action or Demolition/New Construction alternative due to potential concerns if young Newell's Shearwaters were to transit the site after dark. Shielding, aiming exterior lights downward, using indirect lighting, or employing motion sensors to turn off unneeded lights sharply reduces the risk to these young birds, while also complying with County policy to reduce ambient light pollution capable of affecting astronomical observatories on Mauna Kea.

### **3.7 ARCHAEOLOGICAL RESOURCES**

An archaeological inventory survey, testing and a historical and archaeological literature review of lands proposed for the University Park area, including the KAC site, was conducted by Cultural Surveys Hawaii, Inc. (CSH 1993). No historic sites were found within the vicinity of the project site, and no prior investigations recorded the presence of any historic sites on the subject property.

**Surrounding areas:** Four archaeological sites, described as rock walls and agricultural clearing mounds associated with field clearing for sugar cane cultivation, were identified 800 to 1,600 feet west (makai) of the KAC lot and adjacent to the Wailoa Flood Control Channel (Table 4 and Figure 7). The survey stated that the sites identified "... are borderline to even be considered historical properties in that they were last in use at least as recently as the mid-1940s." It went on to conclude: "... we believe all of the archaeological sites and features within the study area to be without other significance than Criterion D...". No midden, artifacts, or cultural material was found. CSH stated: "No further archaeological work (NFW) is recommended for the study area" and concluded that "Archaeological monitoring is not recommended for site grading and preparation work or other construction activities..." in the area that includes KAC.

**Table 4: Archaeological Sites**

State Site #	CSH		Site type	Features	Signif- icance	Age	Recommend- ations
	Site #	Function					
50-10-35-18667	10	agriculture	field complex	3	D	Historic	NFW
50-10-35- 18668	11	20th C. camp	enclosure	1	D	1900s	NFW
50-10-35- 18669	40	lunch station	enclosure / wall	2	D	1900s	NFW
50-10-35- 18670	12 / 13	agriculture	field	1	D	1900s	NFW

Source: Cultural Surveys Hawaii, Inc. (1993)

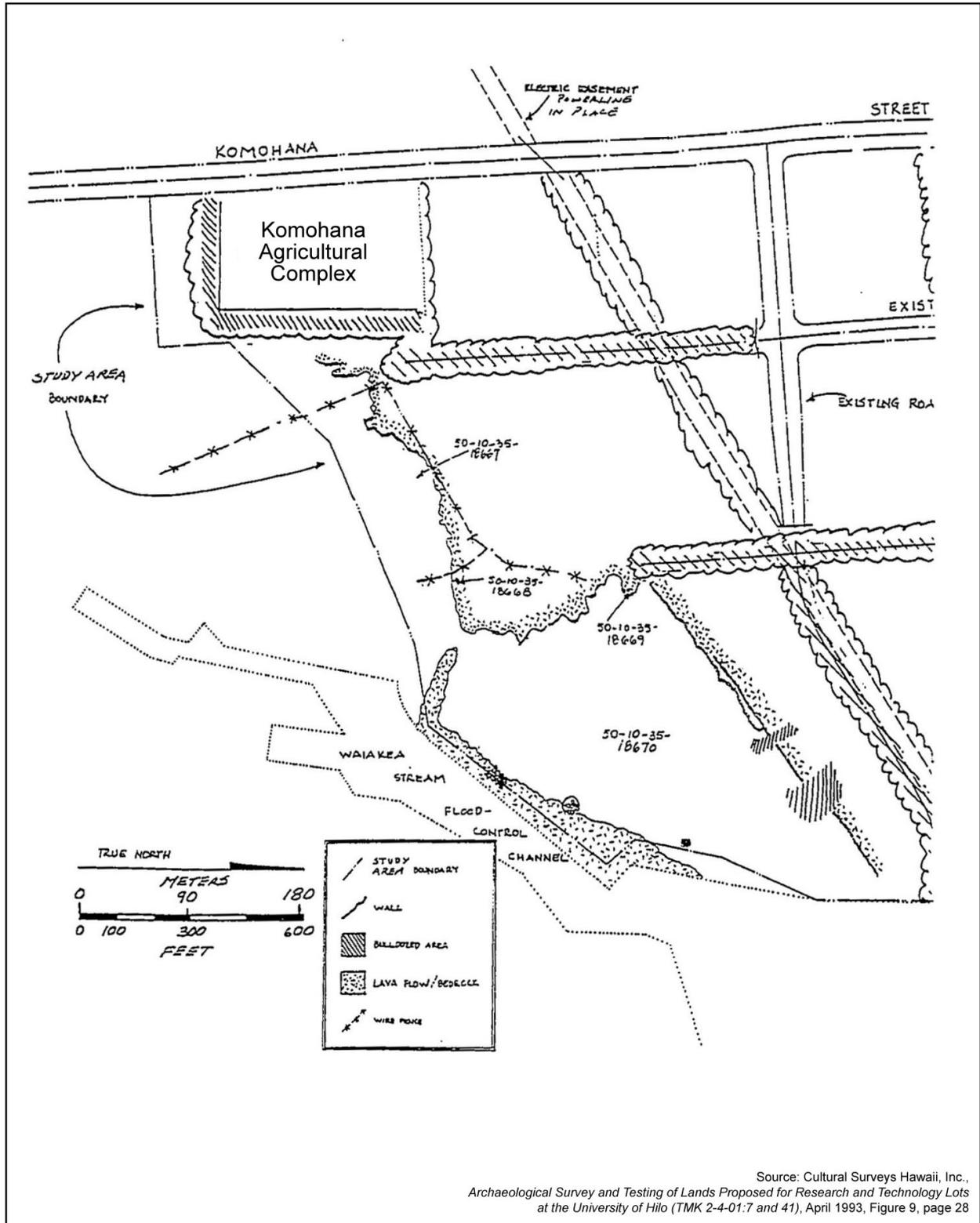
Under criterion D, the significance of a property is determined by the information it is likely to yield.

**Potential Impacts:** No archaeological, cultural, or historical resources exist within the area to be disturbed by the Proposed Action or alternatives. By letter dated February 13, 2006, the DLNR State Historic Preservation Division concurred that "... no historic properties will be affected by this undertaking ... and mitigation has been completed" (SHPD, attached in Chapter 11).

**Mitigation Measures:** No mitigation is required. However, the contract documents will require that, in the event that historic resources, including human skeletal remains, are identified during construction activities, all work shall cease in the immediate vicinity of the find, the find shall be protected from additional disturbance, and the State Historic Preservation Division, Hawai'i Section, shall be contacted immediately at (808) 327-3690 to determine the appropriate course of action.

### **3.8 TRADITIONAL AND CULTURAL PRACTICES**

KAC sits on a site developed for agricultural research over 30 years ago, and most of which is either developed or graded and bare. A Cultural Impact Assessment was prepared for the adjacent site (Mauka Lands EIS, PBR Hawaii 2005) in accordance with the Office of Environmental Quality Control's (OEQC) Guidelines for Assessing Cultural Impacts (1997). The KAC site and vicinity has been well studied, and no new uses or



Source: Cultural Surveys Hawaii, Inc.,  
 Archaeological Survey and Testing of Lands Proposed for Research and Technology Lots  
 at the University of Hilo (TMK 2-4-01:7 and 41), April 1993, Figure 9, page 28

**Archaeological Sites**

**Figure 7**

**Komohana Agricultural Complex Renovation and New Construction EA**  
 University of Hawai'i at Manoa, College of Tropical Agriculture and Human Resources  
 Hilo, Hawai'i

development of undeveloped areas contemplated. Based on the available information, a literature review and synthesis of available material was conducted to support this EA. The information presented below was derived predominantly from the cultural history of the area provided in the 1992 CSH archaeological inventory survey of the University Park area, including the KAC site, and the historical and archaeological literature review performed as part of that study.

Additional information was drawn from the *Traditional and Cultural Practices Assessment* (CSH 2002) for the USDA PBARC EA, the *Mauka Lands Master Plan Final Environmental Impact Statement* (FEIS) by PBR Hawai'i (2005), other EAs and EISs for projects in the vicinity, and works such as Handy and Handy's *Native Planters in Old Hawai'i* (1972).

As stated in these and other sources, the Hilo region is prominent in Hawaiian history and has been a prized area due to the rich resource base of the area. Waiākea (literally, "broad waters") was a center of early habitation due to sustainable sustenance from plentiful fresh water, abundant agricultural output, and access to ocean resources and fish ponds. The region figured prominently in Hawaiian myths, folklore, and legends, and was a prized property of prominent Hawaiian ali'i (royalty) and the seat of chiefly residences as early as ca. 1550 (Kelly, Nakamura, Barrere, 1981, cited in CSH 1993). Waiākea was among the lands personally held by Kamehameha, who gave his favorite wife Ka'ahumanu the *'ili kupo* of Pi'opi'o (in Waiākea between Hilo Bay and Wailoa River). Kamehameha personally retained Waiākea until his death, when it passed to his son Liholiho (*Op.cit.*:11), and later to Kamehameha III. Following the division of lands into *ahupua'a*, only Pi'ihonua and Waiākea (in the Hilo region) were known as providing access to the full range of resources reaching from the shoreline to the 6,000-foot level along the slopes of Mauna Kea (*Op.cit.*:5), and the region was held by royalty well into the historic era.

Pre-contact (pre-1778) habitation in the Hilo area was concentrated in the lowlands generally within one-half mile of Hilo Bay and under 50 feet MSL. There was only sparse habitation in the upland agricultural areas due to a lack of good soil (McEldowney, 1979), and most of this was likely temporary and subsistence-based. While upland cultivation was rare, some early agricultural practices in Waiākea did plant some of these areas, as described in *Native Planters in Old Hawai'i*:

*In lava-strewn South Hilo there were no streams whose valleys or banks were capable of being developed in terraces, but cuttings [of taro] were stuck into the ground on the shores and islets for many miles along the course of the Wailuku River far up into the forest zone. In the marshes surrounding Waiākea a Bay, east of Hilo, taro was planted in a unique way known as kanu kipi. Long mounds were built on the marshy bottom with their surface two or three feet above water level. Upon the top and along the sides taro was planted. Flood waters ... are said to have done no harm... This swampy land is now abandoned to rank grass...*

*On the lava-strewn plain of Waiākea and the slopes between Waiākea and the Wailuku River, dry taro was formerly planted wherever there was enough soil. There were forest plantation in Pana'ewa and in the lower fern-forest zone above Hilo Town and along the course of the Wailuku River. (Handy and Handy, 1972:538)*

This higher elevation planting, likely as insurance against famine, was later abandoned, but it is conceivable the nearby Waiākea Stream bed to the south and east of the project area may have been used for this type of planting.

In the early post-contact period, this subsistence-based land use began a slow transition to a market-based economy. Whaling and the sandalwood trade led the transition.

Increased production of both indigenous and newly introduced food crops was also sold at market. Settlement remained in the coastal areas. Higher elevation lands came into increased use with the timber trade and the development of plantations. Cattle, goats, and sheep were hunted in these higher elevation regions after a 10-year moratorium following their introduction in the 1790s. “By the 1830s substantial amounts of hides, jerked meat, and tallow were exported from Hilo” (*Op.cit.*:36), and plantations produced bananas, taro, potatoes, and melon. In the late 1840s to mid-1850s, “the Great Mahele” changed the land tenure system to one of privatization, and virtually the entire Waiākea *ahupua‘a* became Crown Lands, remaining in the hands of the Kamehameha dynasty. An indication of settlement patterns is that all but two of 26 Land Commission Awards (LCAs or *kuleanas*) granted in Waiākea were in the coastal zone (below 50 feet MSL) except two in the lower portion of the upland agricultural zone (in the vicinity of 100 feet MSL) -- none of these were in the project area. In one of these LCAs, the *‘ili* of Pi‘opi‘o was granted to Victoria Kamamalu, heir to Ka‘ahumanu and granddaughter of Kamehameha I. These LCAs predominantly indicate settlements included cultivated agricultural production within the same zone as habitation, unlike other parts of the island where these were physically separated.

During this period, interior (higher elevation mauka) land was increasingly put to use for cattle ranching and to harvest timber for construction and firewood. In the mid-1800s through the mid-1900s, plantations were developed on leased Crown lands in Waiākea and surrounding lands as commercial sugar production took over as the dominant industry. Waiākea Mill Co. was the largest plantation in the district, and it significantly altered Hilo land use and settlement patterns by setting up camps to house their immigrant workers in inland areas. This was the first major impetus to move settlement away from the lowland and shoreline areas. The piles of cleared rock found during the archaeological inventory are indicative of the prior ranching and sugar cane production uses in and around the project area.

Waiākea Mill's 30-year lease expired in 1918, and because Hawai‘i was now a Territory, homesteading laws now applied, so 700 acres were leased for homestead and cane lots for small scale sugar cane farming – an experiment that ultimately did not prove productive for the small farmers. By 1920, Waiākea Mill had 7,000 acres in cane production, while other large tracts of remaining Waiākea forest land was designated as forest reserve to maintain the watershed's irrigation capacity. Waiākea Mill was liquidated in 1948. However the adjoining canec plant utilizing the bagasse by-product remained in operation until 1966, after which it became a hotel site for the tourism industry, which replaced agriculture as the next economic mainstay. By the time of statehood (1959), tourism and military uses had again altered Hilo land use patterns. By the late 1900s, the Waiākea area, which formerly supported sugar cane and pasture land, was transformed again, becoming the site of a growing university and world-class research complex.

The project area is reputed to be near the campsite where Princess Ruth Ke‘elikōlani – often referred to as “the Last of the Kamehamehas” – came to try to stop the lava flow closing in on Hilo town. The Princess was an ali‘i who held to traditional Hawaiian beliefs and practices, refusing to speak English, although capable, and refusing to be instructed and influenced by the protestant missionaries. In 1881, lava flowed toward Hilo, blanketing the area that is now the northern part of the project site. A number of Hawaiians, following months of prayer, approached this descendent of Kamehameha to request her help and intervention. Kristin Zambuka, author of *The High Chiefess Ke‘elikōlani* writes:

*She sent for her bookkeeper to fetch her required offerings for Pele: red silk handkerchiefs and brandy... Ruth tied one of the red handkerchiefs around her throat, bandana style, then announced that she was ready to go the edge of lava... They were awed as the mighty Chiefess moved boldly and fearlessly towards the fiery edge as if she were going to greet an old friend...Chanting loudly to Pele at time, then softening her voice to a conversational tone, Ruth spoke to the goddess, defying the intense heat and moving so near that some of her retainers swore later that the Chiefess actually stepped on to the hot molten lava as she began her eerie ritual... By the first light of morning, their unbelieving eyes saw the lava had stopped, some said within a yard of Princess Ruth's sleeping body.*

**Potential Impacts:** While the Waiākea area has a rich history, neither the literature review for this project area nor any of the referenced cultural impact analyses identified any traditional or cultural practices taking place in this area. There was no discovery of any significant archaeological or cultural sites or properties, nor were there any record or opinions of knowledgeable individuals indicating any significant historical activities or practices anywhere on or near the project vicinity. It is possible that the 1881 lava flow could have covered culturally significant sites, but no records or opinions were encountered suggesting sites were present prior to that event. There have been concerns for the preservation of natural landscape, but the site was previously graded, and the construction area has been in use for 30 years, and no actions are anticipated that would significantly alter any portion of the natural landscape. The Proposed Action and alternatives would not adversely affect rights customarily and traditionally exercised for subsistence, cultural and religious purposes due to the lack of former, contemporary, or continuing cultural practices within the project area. The Proposed Action and alternatives would have no adverse impact on Hawaiian culture, practices, or traditions.

**Mitigation Measures:** No mitigation is required. HRS 103D-408 mandates that new or renovated landscapes for any building, housing, or other facility developed with State funds incorporate native Hawaiian plants wherever and whenever feasible, and this project would comply wherever landscaping is altered. Existing landscape would be preserved and incorporated throughout the project to the greatest feasible extent.

### **3.9 AESTHETIC AND VISUAL ENVIRONMENT**

The preservation of scenic vistas and areas of natural beauty are important to long term planning. As will be discussed below under Section 6.1.2, the Hawai'i State Planning Act, under HRS Section 226-12(b)(3), establishes a State policy to "*Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.*"

The *County of Hawai'i General Plan* (1989) also establishes goals to protect areas of natural beauty, specifically:

- *Protect, preserve, and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.*
- *Protect scenic vistas and view planes from becoming obstructed.*
- *Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.*

The Plan also establishes standards to “...provide guidelines for designating sites and vistas of extraordinary natural beauty which shall be protected”, including:

- *Natural or native vegetation which makes a particular area attractive.*
- *Areas which are harmoniously developed and enhanced by man so as to appear natural.*

This project would be consistent with these established State and County policies.

**Site Conditions:** On clear days, the sloping site conditions on some cleared portions of the University Park provide panoramic eastward (makai) views of Hilo and the Pacific Ocean and westward (mauka) views of Mauna Kea. However no panoramic ocean vistas are available from this property as the makai viewplane in this area is blocked by trees and other vegetation around the KAC site. KAC itself is a low rise (two story) complex, and is clearly visible north-bound on Komohana Street, but is obscured by landscaping when traveling southbound until nearly even with Building A. It is an attractive, unobtrusive, landscaped facility which blends well with the natural setting.

**Potential Impacts:** The external appearance of KAC would be altered by the addition of the Building D wing and the teleconference / lunch room, but only the southeast corner of Building D would be visible from the street (across the existing parking lot), so there would be no blockage of existing views and no impact on scenic vistas. The addition of mechanical systems to the roofs of building B and D wings would also be visible from Komohana Street, but would not block scenic vistas. The addition of the Building D wing and teleconference / lunch room would be compatible with the existing complex in design and exterior finish to minimize visual impacts and blend in with the existing facility. Weathered siding would be replaced with EIFS siding when buildings are renovated (as discussed on p. 2-3), improving the exterior appearance of KAC. Therefore, visual impacts would be minor. The visual impacts of the Demolition and New Construction Alternative and the No Action Alternative would be roughly comparable to the proposed action.

**Mitigation Measures:** No mitigation required. However, as noted under Section 3.6.2, nighttime outdoor lighting would be minimized to mitigate potential light impacts to young Newell's Shearwaters and Mauna Kea observatories.

## 4.0 ASSESSMENT OF AFFECTED ENVIRONMENT, PROBABLE IMPACTS AND MITIGATION: SOCIO-ECONOMIC CHARACTERISTICS

In the year 2000 census, the South Hilo region was home to 47,386 of Hawai'i County's 148,677 residents, about 32% of the island's population. As of July 2004, County population is now reported as nearly 163,000, and expected to reach nearly 177,000 (196,500 including tourists and military) by 2010.

Hilo has gone through a series of major economic transformations in its history. Agriculture has always been the foundation of the local economy. Beginning with subsistence agriculture in pre-contact times, it transitioned to a market economy in the late 1700s with the provisioning of ships, and was later virtually dominated for two centuries by the monocrop production of sugar. The sugar industry went into a steady decline around 1983, and finally halted all production in 1997. This created large job loss and economic dislocation, which was particularly acute in the East Hawai'i region. Island-wide unemployment increased from 3.9 to 10.2 percent between 1989 in 1997, partially offset by the expanding, resort-fueled West Hawai'i region. At the same time, the closure of the plantations freed up about 68,000 acres of former sugarcane lands. The availability of land at affordable prices has provided new opportunities for other forms of development, including diversified agriculture, housing, tourism, and business development. By 1996, diversified agriculture was providing direct employment for over 2,550 workers and adding \$300 million in annual revenue to the Big Island's economy. It now supplies over half of the island's fresh fruits and vegetables for local consumption.

With the closure of the Big Island's sugar plantations, the State and County governments have implemented policies to stabilize the region's economic base, provide employment opportunities for local workers, and promote strategies to effectively utilize the available former sugarcane lands. Diversified agriculture is strongly supported in both State and County planning documents as a sustainable market which can replace many imported agricultural products, and develop strong overseas markets for coffee, exotic fruits, macadamia nuts, tropical flowers, vegetables, and forestry products. CTAHR programs are at the leading edge of the State's effort to develop new and productive markets for diversified agriculture. CTAHR programs are directed at applied research and education supporting the revitalization of the local agriculture sector, and provide direct assistance to Hawai'i's farmers and growers. As explained in Section 1.5, much of its efforts target region-specific information to enhance the quality and productivity of tropical agriculture products, and assist in the development of technologies needed to penetrate new and expanding markets.

KAC is the primary support facility for CTAHR's faculty and research endeavors on the Big Island, and the primary site from which CTAHR's outreach activities are conducted. KAC also has a large "community footprint", providing education in nutrition, wellness, community leadership, and employment-related training, and maintains affiliations with over 100 groups. The benefits of these extensive community support functions are difficult to translate into dollar values, but the contributions are very significant to the economic vitality of the community – especially a community struggling with the need to rebound from the economic dislocations of the sugar industry shutdown.

**Potential Impacts.** The impacts of the Proposed Action and the Demolition/Replacement Alternative can be broken down into short and long term impacts:

**Short term** benefits to the local economy consist of construction period spending and employment. The Department of Business, Economic Development, and Tourism (DBEDT) establishes multipliers to estimate the direct, indirect, and induced effects of spending on the economy. Overall construction multipliers are estimated at 2.09 while maintenance and repair multipliers are estimated at 1.94 (DBEDT 2002). Applying the DBEDT multipliers, the \$10 million construction budget would produce an estimated \$7.1 million in earnings, 213 direct and indirect jobs, \$1.19 million in State tax receipts, and a total economic benefit of about \$20 million. There will also be minor traffic impacts during construction. The Demolition and New Construction Alternative would have a greater fiscal impact due to a much larger construction budget, and greater traffic impacts for the movement of additional materials, including removal of demolition wastes. The No Action Alternative would have no impact.

**Long term** economic impacts of the Proposed Action and Demolition/New Construction Alternative would be positive. Expanded laboratory spaces would provide significant improvement in research capability. Improvements to aging infrastructure would provide upgraded areas for the staff to work, to coordinate outreach, conduct seminars, and would provide improved spaces for community meetings. Improved community access to CTAHR's outreach resources would benefit the local agricultural community and recipients of human resource education programs. Impacts on the university research and teaching community would be positive, improving communication, coordination, research synergy, and improving program effectiveness. Increased availability of modern wet-lab space would likely allow CTAHR to garner additional research grant funding over the long term; the research provides long-term direct benefits and the funding provides a significant economic multiplier effect benefiting the community and State. Improved telecommunications resources would allow improved information exchange over distance. The Demolition and New Construction Alternative, if built, would have comparable impacts. The No Action Alternative would have no impact.

The replacement of the existing KAC facilities with improved, flexible office and research area would not induce population changes, or affect the occupancy of KAC. There are no significant anticipated impacts on residential neighborhoods, traffic flow, or the natural and cultural resources of the area, other than short-term construction impacts.

There are also positive long term benefits to the prestige of CTAHR in maintaining its status as one of the premier agricultural colleges in the US, a status that helps UHM and CTAHR attract faculty, students, and research grants. Upgrading the facility also invests in the ongoing transformation of the University Park into a hub for agricultural and high technology research and development, and ultimately the socio-economic improvement of the Hilo community.

**Mitigation Measures:** No mitigation required.

## 5.0 ASSESSMENT OF AFFECTED ENVIRONMENT, PROBABLE IMPACTS AND MITIGATION: PUBLIC FACILITIES AND SERVICES

### 5.1 UTILITIES

**WATER:** KAC is connected to a 12-inch County water line which fronts the parcel at Komohana Street. Water is currently supplied to the complex by a service lateral and an existing 2-inch meter. Water in this vicinity comes from the 0.5 MG Waiākea Reservoir (floor elevation (FE) 337' MSL) about 1,000 feet west-northwest (mauka) across Komohana Street. Water is also stored at the 1.0 MG Pū'ainakō Reservoir (FE 290' MSL) and a 1.0 MG reservoir about a mile west on Pū'ainakō Street (FE 459' MSL). Water use is highly variable, ranging from less than 33,000 gallons per month (gpm) to more than 100,000 gpm in 2003–2004. The large variability in consumption is due to landscape irrigation during dry periods.

**Potential Impacts:** Since no increase in water use is anticipated, no impacts on community water supply are expected as a result of this action.

**Mitigation Measures:** No mitigation required. However, KAC will conserve water by irrigating at night to prevent water loss from evaporation. Also, the Department of Water Supply will require installation of a backflow prevention device downstream of the meter, and must review and approve calculations for connection of the new Building D wing.

**WASTEWATER / SEWER:** KAC is connected to an 8-inch County sewer line at the South Aohoku Street cul-de-sac in the northwest (makai) corner of the lot, which conveys effluent toward the central campus via Nowelo Street. (Conversion from the former cesspools to the County system took place in February, 2003.) KAC staffing is about 40 people, but may go as high as 100 – 150 people for seminars and events. The existing line can handle a building population of 150. The County Wastewater Division has indicated its concern that elements of the downstream transmission systems lack capacity to handle planned upstream development, and current connections to the County sewer system in the University Park area now exceed the rated capacity of the transmission system.

**Potential Impacts:** No significant changes to the existing service are anticipated other than connection of the Building D wing, with no bathrooms and no increase in occupancy or anticipated increase in wastewater handling requirements. Service requirements would be lower than historical requirements when KAC was used for classroom instruction. Therefore, no impact on municipal sewer service is expected as a result of this action.

**Mitigation Measures:** No mitigation required. However, the existing sewer line requires monitoring to ensure adequate capacity.

**ELECTRICAL POWER:** HELCO supplies electric power to the Island of Hawai'i, with a 255 megawatt (MW) total generation capability covering a peak demand of 187 MW, with an island-wide reserve capacity of 27 percent (Engineering Concepts 2005). Power for KAC comes from HELCO's Komohana Substation, about 1,000 feet west-northwest (mauka) across Komohana Street. This substation is served by both 69 kilovolt (kV) and 12.47 kV overhead lines through the utility easement north of KAC. Substation capacity is 17.5 mega-volt-amperes (MVA) (upgraded from 7.5 MVA in 1976).

**Potential Impacts:** The addition of the Building D wing and the teleconference / lunch room expansion of Building B would require air conditioning of an additional 8,800 sf of work space. Although the present service is close to rated capacity, the Proposed Action represents only a minor demand increase which has been planned, and would not present a problem with existing electrical service.

**Mitigation Measures:** Efficiency upgrades to existing buildings would partially offset increases, but energy use would still likely show a net increase. UHH has an electrical efficiency contract with Johnson Controls (1996 – 2006) which is due for renewal and additional efficiency upgrades are usually implemented as part of this process. Eventually, the HELCO substation will be need to be upgraded to accommodate the anticipated demand from the HCC campus relocation and new development in the UH Mauka Lands area.

**TELECOMMUNICATIONS:** Telephone service is supplied by Hawaiian Telcom from the Kawaihoni Central Office, located at the intersection of Kawaihoni and Iwalani Streets. Hawaiian Telcom has confirmed that these facilities are adequate to furnish the additional telephone hookups required and the requirements of the new teleconferencing facility to be constructed on-site. Data communication is currently provided by a wireless (Hawai'i Interactive Television System (HITS) point-to-point analog microwave system) connection to the nearby CalTech Base Facility. Cable television (CATV) service is currently available up to the intersection of Komohana and Pū'ainakō streets, but does not currently extend to KAC. CATV service may be installed if it becomes available in the future. These impacts are minor, and no mitigation is required.

**PROPANE GAS:** KAC has an on-site 172 gallon propane tank. The Proposed Action would not affect propane use, which varies according to research project requirements. No impacts on community supplies are expected or likely, and no mitigation is required.

#### **POTENTIAL PUBLIC UTILITIES IMPACTS OF THE ALTERNATIVES**

The Proposed Action and alternatives do not include an increase in occupancy and would not impose any significant additional utility demands which cannot be met by existing services. Additional utility connections to the new building spaces and relocated greenhouses would be required for all alternatives other than No Action. Operational water, sewer, and propane requirements would be roughly comparable for all alternatives, including No Action. Electrical power consumption would increase for all alternatives other than No Action, but that increase would be minor and has been planned. The Demolition / Reconstruction Alternative would have greater short term energy and water consumption impacts during construction. However, increased long term electrical consumption impacts could be lower (at the expense of short term energy and construction costs) if KAC were reconstructed in a more efficient single-building arrangement to reduce cooling expenses. No impact on infrastructure services to neighboring lots, properties, or communities is anticipated under any of the alternatives considered in this analysis.

**Mitigation Measures:** None required. However, the Proposed Action and Demolition / Reconstruction Alternative both include electrical and water efficiency upgrades intended to conserve resources and minimize utility costs, which would slightly offset increased electrical energy consumption.

**SOLID WASTE:** KAC is not a significant generator of solid waste, and no increase is anticipated in the foreseeable future due to a fairly stable de facto population. Solid waste is picked up by a private collection service, and disposal takes place at an approved landfill.

**Potential Impacts:** The Proposed Action would generate short term construction waste due to interior renovations, including removal and replacement of (1) old exterior siding, (2) interior partitions, doors and windows, cabinetry, counters, carpets, furnishings, and utility hardware, (3) elevator replacement, and (4) replacement of old laboratory and safety equipment, as required. Short term solid waste impacts would be considerably greater under the Demolition and New Construction Alternative, as the entire existing complex would be demolished and replaced. The No Action Alternative would have no impacts.

Due to the age of the facility, hazardous and regulated materials are likely to be encountered. A limited hazardous materials assessment was performed by Clayton Group Services (2004), and determined the following materials were or may be present:

- Asbestos-containing materials above the regulatory level of one percent (1%) exist in flooring, mastic, caulking, and undercoating.
- Polychlorinated biphenyls (PCBs) are highly unlikely, but fluorescent light ballasts should be checked due to the lack of the “No PCBs” stickers currently in use.
- Lead-based paint and arsenic were not found.

Under the Proposed Action, any hazardous materials encountered could be removed, or encapsulated and left in place during renovations, as appropriate. Under the Demolition and New Construction Alternative, they would be removed with demolition debris.

**Mitigation Measures:** All work involving hazardous and regulated materials would be conducted by qualified personnel and the appropriate mitigation measures taken to control the material, minimize releases to the environment, and protect demolition personnel. All construction, demolition, handling, removal, and/or disposal would be implemented in accordance with applicable State and Federal regulations. All materials determined to be hazardous would be packaged, labeled, marked, stored, transported, treated and disposed of in accordance with all applicable Federal, State and local laws and regulations. Construction waste and hazardous materials are prohibited at Hilo Landfill, so the demolition contractor would dispose of construction and demolition waste at an approved construction and demolition landfill.

Neither the Proposed Action nor the Demolition and New Construction Alternative would introduce hazardous and regulated materials into bodies of water, into the air, onto land or into groundwater, other than by approved landfill disposal methods in accordance with applicable State and Federal regulations. Neither alternative would create additional sources of environmental contamination in the area.

The No Action Alternative would have no impacts on the health and safety issues.

## **5.2 TRAFFIC**

Principal access to KAC is from Komohana Street, a County-owned, two lane, rural roadway with a speed limit of 45 miles per hour and an annual daily traffic volume of 29,735 vehicles (2002 counts summarized in Julian Ng, Inc. 2004). Komohana Street lies within an 80-foot right of way and provides direct cross-town access between north and south Hilo. Parking on the roadway shoulders is not permitted. Future widening of Komohana Street is planned, but has not yet been programmed and is not expected for at least ten years. Bike Plan Hawai'i (Department of Transportation (DOT) 2003) indicates planned bike lanes along Komohana Street fronting the KAC (12a - Komohana Street Bike Lane). Nearby intersections include the mauka leg of the State-owned Pū'ainakō Street extension (signalized), approximately 600 feet to the south, and the makai leg of the Nowelo Street intersection, approximately 1,500 feet to the north (stop controlled). The mauka leg of Nowelo Street is currently under construction to provide access to the UH "Mauka Lands" area and existing and planned USDA facilities. When completed, the Nowelo/Komohana intersection will be signalized. The existing makai leg of Pū'ainakō Street is offset approximately 150 feet further south; an unprogrammed future realignment of the makai leg would align it with the mauka leg.

Access from Komohana Street to KAC is via a stop-controlled, two lane driveway which connects to the existing 90-stall parking lot.

Secondary access to KAC is via South Aohoku Street, a two-lane facility built to County standards by UH Hilo, servicing the (unoccupied) lots on the south side of the University Park. Presently this access is secured by a locked gate and used periodically for large events, or for movement of farm and construction equipment.

Peak traffic hours occur from 6:45 AM to 7:45 AM and from 4:00 PM to 5:00 PM. Existing peak hour traffic along Komohana Street fronting KAC is shown in Table 5 below.

**Table 5: Existing Peak Hour Conditions on Komohana Street**

Direction	Peak Hour (vehicles)	
	AM	PM
Northbound	1,040	605
Southbound	415	925
Total	1,455	1,530

Source: Ng 2004

Permanent staffing at KAC is 40 persons, and is not expected to increase in the foreseeable future. This represents a decrease from recent historic levels when Hawai'i Community College maintained an instructional use within KAC. KAC office hours are between 7:45 AM and 4:30 PM, Monday through Friday. Approximately 75% of the KAC staff enter and exit during the corresponding peak hours, resulting in 30 entering during the AM peak hour and 30 exiting during the PM peak hour. Based on interviews, approximately 67% of the staff live to the south of KAC and thus arrive in the morning via the northbound leg of Komohana Street (approximately 20 vehicles in the peak hour). The balance of 33% arrive via the southbound leg of Komohana Street (approximately 10 vehicles in the peak hour). The morning peak hour left turn into KAC by the approximately 10 vehicles causes only minor delays on the southbound leg of Komohana Street, but staff indicates motorists will always pause to allow them to pass.

The stop controlled access to Komohana Street from the KAC driveway meters exiting PM peak hour traffic onto Komohana Street.

During the day, KAC receives drop-in visitors, but these visits do not normally occur during the peak hours. KAC also hosts a number of evening community meetings starting between 6:30 PM and 7:00 PM, generally related to agricultural issues. Estimated drop-in and meeting visitor count would average about 30 persons per day. There are no foreseeable changes to the numbers of visitors and meeting attendees during normal operational periods, but this count will drop significantly when the conference room is closed for construction and renovations.

**Operational Impacts:** There is no foreseeable change in staffing levels and visitation patterns at KAC as a result of the Proposed Action, Demolition and Reconstruction Alternative, or the No Action Alternative. Therefore, there would be no effect on Komohana Street level of service. DOT has also confirmed, by letter dated March 22, 2006 (attached in Chapter 11), that the proposed project will not have an impact on State highway facilities. Regional traffic growth, unrelated to KAC, will occur and will precipitate planned roadway widening and continued accommodation of KAC's current access to Komohana Street.

**Construction Period Impacts:** Additional traffic impacts will be experienced during the construction period. These impacts will involve the movement of workers onto and off the property at the beginning and end of the work shift, staging of construction equipment onto and off the site, transportation of construction material to the site, and removal of demolition debris. This may increase traffic congestion, parking requirements, and potential conflicts regarding employee and public access to KAC. However, this may be partially offset by the closure of the conference room during the construction and renovation process.

**Mitigation Measures:** There are no operational period impacts, therefore no mitigation is required. However, during construction periods, contractor access to the site would normally be directed to the South Aohoku cul-de-sac at the northeast corner of the property, avoiding the Komohana Street entrance and potential conflicts with employee and public access and parking. Traffic congestion along Komohana Street is well known, and it is expected contractors will schedule movement on and off the site at off-peak hours whenever practicable, and employ an appropriate traffic management plan.

Construction equipment and material staging and storage will be provided in the open yard area at the northeast corner of the property behind the locked gate. This will provide a secure location, keep the equipment and material separated from parking, access, and traffic areas. It will also be out of sight, and will avoid creating an attractive nuisance for the general public. Additional space is also available along the north, east, and southeast portions of the property, but unlikely to be needed. Worker parking can be accommodated inside the South Aohoku gate (for greater security), or outside the fence if needed. South Aohoku presently serves no other properties, so there is no potential to disturb any neighborhood in this area.

### **5.3 POLICE AND FIRE PROTECTION**

UHH campus security is generally handled by UH Hilo campus security staff, but is supplemented by police patrols originating from the main station at Ululani and Hualalau Streets (about 2 miles northwest of KAC), when issues arise that cannot be handled by campus security.

Nearby County fire stations which would respond to a fire or emergency include the Kawaiiani Fire Station (411 Kawaiiani St., about 1.6 miles driving distance from KAC, also the site of the County's Hazardous Response Unit), the Central Fire Station (466 Kinoole St. at Ponahawai, about 2 miles away), and Station 4 (on Kaumana Dr. near Mohouli St., about 2.5 miles away). Two stations near the airport are also within short-term response range.

Fire protection systems, which are old and in need of service, would be upgraded as buildings are renovated. The Proposed Action would expand KAC floor area by about one-third, but new building spaces would be built with fireproof materials wherever possible, and would incorporate a modern alarm system. All work would comply with Uniform Fire Code (UFC) standards and all applicable governmental regulations. Fire equipment access would comply with UFC Section 10.207, and fire flow water supply would comply with UFC Section 10.301(c).

**Potential Impacts:** The Proposed Action and the Demolition/New Construction alternative would not result in a foreseeable change of site de facto population or use and therefore police and fire protection services are unlikely to be significantly affected. New construction creates additional building space to monitor, but this would be offset by upgraded fire protection systems, which should reduce the likelihood of requiring outside services. The Demolition and New Construction Alternative would have similar impacts, which could be reduced even further if better access control and alarm systems were added. The No Action Alternative would have no impacts.

**Mitigation Measures:** No mitigation required.

## 6.0 RELATIONSHIP OF THE PROPOSED PROJECT TO EXISTING PUBLIC PLANS, POLICIES, AND CONTROLS

### 6.1 STATE OF HAWAI'I

#### 6.1.1 State Land Use District

Under the provisions of *Hawai'i Revised Statutes* (HRS) Chapter 205, the State Land Use Commission classifies all lands in the State of Hawai'i under one of four land use districts: (1) Conservation; (2) Agriculture; (3) Urban; and (4) Rural. The project site lies within the Urban District, so no land use permit is required by the State.

#### 6.1.2 Hawai'i State Plan

The Hawai'i State Planning Act (Chapter 226, HRS) establishes a framework for the planning and coordination of major state and county activities and investments. Part I details the State's long-range goals, objectives, policies and priorities, Part II establishes a statewide planning system to coordinate and implement the plan, and Part III establishes priority guidelines to address areas of statewide concern. The Proposed Action is consistent with and supports the long-range goals, objectives, policies and priorities of this act, and is especially relevant to the sections listed below. The Demolition and New Construction Alternative is equally consistent and supportive. The No Action Alternative is consistent, but less capable of fully supporting all the listed objectives below, particularly the research and development objectives.

#### **Section HRS 226-7 Objectives and policies for the economy – agriculture.**

- (a) *Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:*
  - (2) *Growth and development of diversified agriculture throughout the State.*
  - (3) *An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.*
- (b) *To achieve the agriculture objectives, it shall be the policy of this State to:*
  - (8) *Support research and development activities that provide greater efficiency and economic productivity in agriculture.*
  - (11) *Increase the attractiveness and opportunities for an agricultural education and livelihood.*
  - (12) *Expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.*
  - (13) *Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency.*
  - (15) *Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.*

**Discussion:** The Proposed Action and alternatives support CTAHR/KAC programs promoting diversified agriculture and all of the policies cited above, including broad-based agricultural research and education, meeting export requirements, marketing, retraining of workers, and strategies for the overall success of Hawai'i-based farmers and agricultural businesses.

**Section 226-10 Objective and policies for the economy – potential growth activities.**

- (a) *Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai'i's economic base.*
- (b) *To achieve the potential growth activity objective, it shall be the policy of this State to:*
- (1) *Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, film and television production, and energy and marine-related industries.*
  - (8) *Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i.*

**Discussion:** The Proposed Action and alternatives support CTAHR's programs promoting agricultural research, education, investment, diversification, and the economic development, expansion, and success of small farmers and larger agricultural industries.

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

- (b) *To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:*
- (3) *Take into account the physical attributes of areas when planning and designing activities and facilities.*
  - (4) *Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.*
  - (8) *Pursue compatible relationships among activities, facilities, and natural resources.*
  - (9) *Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.*

**Discussion:** The Proposed Action and alternatives support CTAHR's ongoing low-impact use of an appropriate site with the appropriate environmental attributes for agricultural research and in close proximity to compatible uses, promoting synergy between researchers, specialists and agents, providing accessible community services, including adult and youth educational programs, access to agricultural specialists, and meeting space for conferences and community meetings.

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

- (b) *To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:*
- (3) *Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.*

**Discussion:** The Proposed Action would not impact important views and vistas, nor adversely impact the public's visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

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

**Discussion:** No pre-existing cultural resources are known or expected to exist in the project area and there are no Native Hawaiian or other cultural practices currently occurring on the site. Therefore, the Proposed Action would not impact any special areas, structures, elements, or gathering rights that are an integral part of Hawai'i's ethnic and cultural heritage. However, CTAHR is heavily involved in preserving and propagating plants which are an integral and functional part of Hawai'i's ethnic and cultural heritage. This includes KAC's on-site ethno-botanical garden, distribution of small quantities of propagative material, and a number of offsite projects. The Waiākea and Kona Experiment stations currently have projects involving taro cultivation and variety screening. In variety screening, various taro species are screened for disease resistance, and quality. These varieties include poi, luau leaf (lau lau), table taro, and a few hybrids developed by the University. CTAHR also does research on Koa at the Hamakua station, and has a large Koa seed orchard from various species collected from the Hawaiian Islands and experimental trials investigating ways of helping young plants get established.

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

*(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:*

- (1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.*
- (2) Promote the proper management of Hawai'i's land and water resources.*
- (8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.*

**Discussion:** The Proposed Action supports a program oriented to fostering education on the best use of Hawai'i's land and water resources supported by current research specific to the conditions of the specific sites being farmed.

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

**Discussion:** The Proposed Action is in an existing urban-zoned area served by existing municipal water, sewer, solid waste, and electrical power systems.

**Section 226-21 Objective and policies for socio-cultural advancement – education**

- (a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.*
- (b) To achieve the education objective, it shall be the policy of this State to:*
  - (1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.*
  - (2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.*
  - (3) Provide appropriate educational opportunities for groups with special needs.*
  - (4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage.*
  - (5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.*

- (6) *Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.*
- (7) *Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.*
- (8) *Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.*
- (9) *Support research programs and activities that enhance the education programs of the State.*

**Discussion:** The Proposed Action and alternatives support CTAHR's broad-based programs in tropical agriculture and human resources which directly support these objectives, as discussed in Section 3.1.1. Specific points of convergence include (1) personal development, (2 & 7) improving access and addressing community needs with family and community outreach education programs to geographically remote locations, (3) educational opportunities for the farming community's special needs, (5 & 6) adaptation to changing employment demands and transitions, and (8 & 9) a strong research focus to assure timely delivery of the most current information to meet changing needs.

**Section 226-107 Quality education.** Priority guidelines to promote quality education:

*Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;*

- (5) *Increase and improve the use of information technology in education by the availability of telecommunications equipment for:*
  - (A) *The electronic exchange of information;*
- (6) *Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific;*
- (8) *Explore alternatives for funding and delivery of educational services to improve the overall quality of education;*

**Discussion:** The Proposed Action and alternatives support CTAHR's research and training programs, its outreach and extension services, and particularly its Experimental Research Stations strategically located in various climates and farming areas throughout Hawai'i. The new teleconference facilities would improve the use of information technology in education by making telecommunications equipment more available for the electronic exchange of information both within the islands and globally.

### 6.1.3 State Agricultural Functional Plan

The Hawai'i State Planning Act (Chapter 226, HRS) called for the development of a range of State functional plans to establish State policy priorities and objectives in a range of key policy areas, and to formulate strategies to implement these priorities. The State Agricultural Functional Plan (1991) identified issues critical to the economic growth and development of the agricultural sector of Hawai'i's economy. The functional plan calls for improved effectiveness in marketing for Hawai'i-grown agricultural commodities and the development of new value added products for local, visitor industry, and export markets. The plan seeks to improve public awareness of the contribution and benefits of agriculture as a key sector of Hawai'i's economy.

**Discussion:** The Proposed Action and alternatives support CTAHR's work implementing improved effectiveness in developing, marketing, and exporting Hawai'i-grown crops, ornamentals, and new value added products, as well as improved agricultural education, production management, agricultural information dissemination, public awareness, and adult and youth outreach programs.

#### 6.1.4 State Environmental Policy

Chapter 344 HRS, the State Environmental Policy, establishes guidelines to balance the implementation of environmental policy within the State of Hawai'i, specifically stating:

**Section 344-1 Purpose.** *The purpose of this chapter is to establish a state policy which will encourage productive and enjoyable harmony between people and their environment, promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, and enrich the understanding of the ecological systems and natural resources important to the people of Hawai'i.*

**Section 344-4 Guidelines.** *In pursuance of the state policy to conserve the natural resources and enhance the quality of life, all agencies, in the development of programs, shall, insofar as practicable, consider the following guidelines:*

(5) *Economic development.*

(A) *Encourage industries in Hawai'i which would be in harmony with our environment;*

(B) *Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands;*

(D) *Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment;*

**Discussion:** The Proposed Action is consistent with the environmental protection guidelines of HRS 344-4. CTAHR programs on the Big Island are coordinated and conducted at KAC, and directly support the economic development guidelines of 344-4(5) listed above. KAC conducts applied research, outreach programs, community assistance, and both youth and adult education directly working toward the implementation of these important policies. The Proposed Action and Demolition / New Construction Alternative both directly support effective and efficient provision of the CTAHR mission. The No Action Alternative would not provide the needed improvements to fully support the research, education, and services mission of CTAHR.

#### 6.1.5 Coastal Zone Management

The objectives of the Hawai'i Coastal Zone Management (CZM) program are set forth in Chapter 205A, HRS. The objectives of the program are intended to promote the protection and maintenance of valuable coastal resources. All lands in Hawai'i are classified as valuable coastal resources. The CZM objectives and policies (Section 205A-2) applicable to the project are cited and discussed below.

- *Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources;*
- *Provide public or private facilities and improvements important to the State's economy in suitable locations;*
- *Improve the development review process, communication, and public participation in the management of coastal resources and hazards;*

- *Ensure that new developments are compatible with their environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.*

**Discussion:** The Proposed Action and alternatives would not have reasonably foreseeable direct or indirect short term or long term effects on any coastal use or resource of the State's coastal zone. The project is not located near the coastline, and will not involve alterations to stream channels or other water bodies or water sources. Best Management Practices will be employed during construction to prevent soil erosion or pollutant discharge in stormwater runoff that eventually reaches the ocean.

KAC supports CTAHR programs important to the State's economy, and KAC is located in a suitable location close to UH and other public agricultural research operations. While the intended improvements and minor expansion do not involve the management of coastal resources and hazards, public input and participation is encouraged through the EA process. These improvements involve no change to the existing use of the site, are compatible with the environment, and do not involve the alteration of natural landforms and existing public views to and along the shoreline.

## **6.1.6 University of Hawai'i Plans, Policies, and Controls**

### **6.1.6.1 University of Hawai'i at Hilo, Long Range Development Plan**

The Proposed Action and Demolition / New Construction Alternative are consistent with UH master planning and the *University of Hawai'i at Hilo Long Range Development Plan* (LRDP), completed in March, 1996. The Proposed Action supports the programs, goals, and overall mission of the University and CTAHR. Although not specifically addressed in the LRDP, landscaping, building architecture, and external appearance of new and renovated areas would be consistent with the existing complex and with the design guidelines of the UH Hilo LRDP. The No Action alternative would make no changes.

### **6.1.6.2 Biological Safety Protocols and Controls**

Biological research and lab work of a hazardous nature are not performed at KAC. The Proposed Action and alternatives – and all work conducted at KAC – is consistent with the environmental health and safety protocols and procedures<sup>3</sup> required by the UH Environmental Health and Safety Office (EHSO) and the Biological Safety Program (BSP). EHSO and BSP controls are strictly applied to the handling of biological material, the use of chemicals, and potentially hazardous laboratory procedures. The *UH Biological Safety Manual* applies strict safety protocols<sup>4</sup> to the handling of spores, vermin, pathogens, and unknown samples. Open air studies on genetically engineered plants are not conducted at KAC. Such work could only gain approval with appropriate isolation mechanisms in place, in accordance with USDA, Environmental Protection Agency, and Food and Drug Administration regulations. Samples and materials which are contaminated or suspected of being contaminated must be destroyed or inactivated by an

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<sup>3</sup> Research conducted at KAC must comply with State Department of Agriculture and State DOH Import and Use Regulations (HRS 150A and HAR Chapter 4-71). Procedures are based on the Centers for Disease Control and Prevention (CDC) and the National Institute of Health's (NIH), "Biosafety in Microbiological and Biomedical Laboratories (BMBL)," 4th Edition, May 1999. UH complies with the CDC-NIH Guidelines in BMBL and other applicable international, federal, state, and county regulations. The use of chemicals must be in compliance with the UH Chemical Hygiene Plan.

<sup>4</sup> EHSO safety programs and protocols are documented at: <http://www.hawaii.edu/ehso/>. This site provides access to the *UH Biological Safety Manual* (which specifies required laboratory practices and procedures), the *UH Hazardous Materials Management Program Manual*, and provides information on Biological Commodities, Biohazardous Waste Disposal Guidelines, Required Forms, Procurement Guidelines, Contingency Plans, Biosafety Training, and related issues.

approved method prior to disposing or cleaning (commonly incineration). Test equipment is autoclaved to avoid contamination.

The Demolition / New Construction Alternative would supply better improvements, but are not essential to meet current standards. The No Action Alternative would not provide the desired upgrades, and would result in research limitations due to insufficient space and equipment, but would not compromise safety.

## **6.2 COUNTY OF HAWAI'I**

### **6.2.1 General Plan**

The *County General Plan*, under Standards, delineates designated land uses through the use of the Land Use Pattern Allocation Guide (LUPAG) maps, as the graphic expression of the General Plan policies relating to land use. The subject site area is designated for University Use on the LUPAG map, which is characterized as “*for public university, including ancillary public uses, residential, and support commercial uses*”. The current use (and proposed use, which is unchanged) is compatible with that designation and no land use amendment would be required.

The General Plan also explicitly states the County plans to “*Encourage the implementation of existing State and University of Hawai'i plans for the continued development of the “Research and Technology Park” on the campus of the University of Hawai'i at Hilo.*” The Proposed Action and alternatives are consistent with these planning guidelines.

### **6.2.2 Hawai'i County Zoning**

The 20-acre parcel encompassing KAC (TMK 2-4-01:41) is split zoned A-1a (Agricultural, 1-acre minimum lot size) and RS-10 (Single Family Residential, 10 lots per acre), with the latter zone restricted to a strip along the southeastern edge of the parcel. The KAC facility and all proposed improvements lie within the A-1a zone. As an agricultural research facility, KAC is a permitted use according to the *Hawai'i County Code*, Chapter 25, Zoning, Section 25-5-72:

#### **Section 25-5-72. Permitted uses.**

- (a) The following uses shall be permitted in the A district:
  - (5) Botanical gardens, nurseries and greenhouses, seed farms, plant experimental stations, arboretums, floriculture, and similar uses dealing with the growing of plants.

### **6.2.3 Special Management Area**

The KAC site is outside the County's Special Management Area (SMA) and not subject to SMA regulations.

## 7.0 CUMULATIVE IMPACTS

"Cumulative impact" is defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 Code of Federal Regulations (CFR) §1508.7; §11-200-2, HAR). Section 11-200-17, HAR requires the EA, at a minimum, to address the interrelationships and cumulative environmental impacts of the Proposed Action and other related projects.

Guidance for considering cumulative effects is set forth by the US Council on Environmental Quality (1997). The time frame for the analysis is limited to the foreseeable future, which generally corresponds to a twenty-year planning horizon (consistent with the County's planning horizon).

The KAC is located in an area of Hilo that is expected to undergo significant development in the next ten to twenty years, largely related to research and post-secondary education associated with UH Hilo and HCC. A summary of reasonably foreseeable development considered in the cumulative analysis is provided below:

### University Park

- Mauna Kea Astronomy Education Center (recently completed)
- Development of the remaining lots within the University Park

### Mauka Lands Area

- HCC permanent campus to be developed on the 122-acre site at the south end of the Mauka Lands area, directly across the road from KAC
- Expansion of University Park into a 118-acre area at the north end of the Mauka Lands area
- Expansion of UH Hilo into a 28-acre parcel at the far west of the Mauka Lands area
- USDA Institute of Pacific Islands Forestry Pacific SW Research Station (recently completed) of the central Mauka Lands area
- USDA PBARC facility construction (broke ground in August 2005 and currently under construction on the same 31-acre USDA parcel)

### Roadway Improvements:

- Komohana Street Widening. Unprogrammed, but within ten years.
- Pū'ainakō Street realignment. Unprogrammed, but within ten years.

This foreseeable growth will occur whether or not the Proposed Action or alternatives, including no action, are implemented. Some synergy exists between the existing and proposed USDA facilities and KAC, and their location in reasonable proximity to each other would benefit the public and scientists working at the respective sites. The cumulative effect of foreseeable development will increase regional traffic, precipitating regional improvements to the roadway network, including the widening of Komohana Street and the completion of the Pū'ainakō Street realignment project. Increased traffic

growth associated with regional development will adversely affect KAC staff and clientele due to increased traffic congestion along Komohana Street.

The Proposed Action and the Demolition/Construction Alternative is expected to have a significant positive cumulative effect to Big Island farmers, agricultural business interests, agricultural research, education at all levels, homeowners, gardeners, 4H youth programs, and others benefiting from KAC's food and nutrition and community outreach programs. While the larger community would enjoy benefits of improved CTAHR capabilities and the indirect trickle-down effects of increased spending in the community, for agricultural businesses, these impacts may be direct and significantly greater.

The cumulative impact of the growth and development of this research and technology sector contribute to the prestige and overall improvement of UHM's CTAHR and the Hilo community, including improved community resources, greater community opportunities for employment and improved access to the advantages of expanded educational opportunities. No significant adverse impacts to the Hilo community are expected or likely as a result of the Proposed Action and the Demolition/Construction Alternative.

The Proposed Action and the Demolition/Construction alternatives would not have an adverse cumulative effect on utility services due to the stable projection of on-site de facto occupancy. The increased in floor area contemplated in the Proposed Action would increase electrical demand, but this would be partially offset by energy efficiency improvements.

## 8.0 DETERMINATION AND RATIONALE

In determining whether an action may have a significant impact on the environment, the applicant or agency must consider all phases of the project, its expected primary and secondary consequences, its cumulative impact with other projects, and its short and long-term effects. The Finding of No Significant Impact (FONSI) was based on review and analysis of the significance criteria specified in HAR 11-200-12. An action shall be determined to have a significant effect on the environment if it:

**1. *Involves an irrevocable commitment or loss of or destruction of natural or cultural resources***

The Proposed Action and Demolition / New Construction alternative would take place on the site occupied by the same complex and used for CTAHR programs for 30 years. The project site is previously disturbed land. As discussed (in Sections 3.6.1 and 3.6.2), there is no known presence of Federal or State-protected endangered, threatened or candidate species that could be jeopardized by the Proposed Action. No significant archaeological (Section 3.7) or cultural (Section 3.8) resources would be disturbed or placed at risk, and there are no known or reported Native Hawaiian or other cultural practices occurring on the project area or which are likely to be impacted by the Proposed Action. The construction of the additional building elements would not adversely impact important scenic views identified in State or County public planning documents.

**2. *Curtails the range of beneficial uses of the environment***

The Proposed Action and Demolition / New Construction alternative represents a continuation of an existing use on a previously developed site with no additional clearing of land. It would improve the utilization of the KAC property, resulting in positive long-term benefits to the community (as noted in #4 below).

**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***

The Proposed Action and Demolition / New Construction alternative is consistent with the State's long-term environmental policies, and the policies and guidelines specified in Chapter 344, HRS, and strongly supports the implementation of the Economic Development guidelines of HRS 344-4(5) A, B, and D, as discussed in Section 6.1.4.

**4. *Substantially affects the economic welfare, social welfare, and cultural practices of the community or State***

The Proposed Action and Demolition / New Construction alternative would have direct and indirect social and economic benefits to the State and County, as discussed in Chapter 4. Short term benefits include construction period spending and employment and the induced effects of spending on the economy. Long term benefits include enhanced support of applied research with direct application to improving the productivity and profitability of Hawaii's local agricultural community, improved community access to CTAHR's outreach resources, and positive impacts to the university research and teaching community by improving communication, coordination, research synergy, and program effectiveness. Improving the productivity and profitability

of Hawai'i-based agriculture also improves local agricultural self-sufficiency, improves the economic vitality of the local community, and increases tax revenues.

The Proposed Action and Demolition / New Construction Alternative would also enhance programs promoting wellness and human resource development, and the understanding of traditional and modern farming, nutritional, and cultural practices. The Proposed Action and alternatives would not adversely affect cultural resources or practices, or create environmental health and safety risks.

**5. *Substantially affects public health***

The Proposed Action and Demolition / New Construction Alternative would provide long-term beneficial impacts to public health through programs focusing on food and nutrition, adult education, and family programs (parenting, wellness, drug use prevention, strengthening the abilities of families to deal with financial issues and socio-economic change, and other developmental and family issues). There would be short-term construction-related impacts (noise, air quality, and traffic) in the area, but these would be minor and limited to the construction period. Standard construction best management practices would be used to minimize the temporary impacts.

**6. *Involves substantial secondary impacts, such as population changes or effects on public facilities***

The Proposed Action and alternatives would have no impact on population or public facilities. The project area is currently in use, and no increase in occupancy or change in use is planned. The project is served by existing public utilities and infrastructure; no significant impacts to public facilities are expected. No increase in traffic is expected (other than minor short term impacts during the construction period). The only increased service demands will be for a minor increase in electrical consumption and additional telecommunications hookups.

**7. *Involves a substantial degradation of environmental quality;***

The Proposed Action and alternatives would not degrade environmental quality. Long-term impacts to air and water quality, noise levels, and natural resources would be minimal or non-existent. The use of standard construction and erosion control best management practices would minimize anticipated construction-related short-term impacts (i.e., noise, air quality, and traffic).

**8. *Is individually limited and cumulatively has considerable effect upon the environment or involves a commitment for larger actions;***

The long term impacts of the Proposed Action and Demolition / New Construction Alternative are roughly comparable to the No Action Alternative, with the exception of a minor increase in electric power consumption. Significant foreseeable growth has been planned for this area of Hilo, and will occur whether or not the Proposed Action or alternatives are implemented. The cumulative effect of this foreseeable development will increase regional traffic, requiring regional improvements to the roadway network, including the widening of Komohana Street and the completion of the Pū'ainakō Street realignment project. Because the Proposed Action and alternatives would not result in a significant change in on site defacto population levels or use, and is not connected to other development, it would not result in a cumulative adverse impact or a commitment to other actions.

The Proposed Action and the Demolition/Construction Alternative is expected to have a significant positive cumulative effect to Big Island agricultural interests and education at all levels, supporting County diversified agriculture goals, and promoting economic stability and community interests. The larger community would benefit from subsidiary benefits and the indirect trickle-down effects of increased spending.

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

No threatened, endangered or candidate listed animal or plant species protected by Federal or State regulations would be impacted by the Proposed Action and its alternatives. There are no significant biological resources in the project vicinity which would be put at risk by the Proposed Action and alternatives.

**10. *Detrimentially affects air or water quality or ambient noise levels;***

The Proposed Action would not significantly affect air or water quality or ambient noise levels. The use of best management practices would minimize construction-related impacts, and the project would comply with applicable Federal, State and local regulations and standards. The replacement of an estimated 10,000 sf of permeable surface with impervious surfaces would marginally increase the amount and rate of stormwater runoff; however this is unlikely to be a problem due to good soil percolation rates and incorporating BMPs to manage stormwater flows. Surface water quality and air quality would not be impacted. Increases in ambient noise that may result from short term construction activities is not expected to adversely impact noise sensitive receptors, and would be controlled in compliance with DOH's Community Noise Standards (Chapter 11-46, HAR) to minimize off site construction period noise impacts.

**11. *Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters***

The Proposed Action is outside the 500-year flood plain and is not located within an environmentally sensitive area.

**12. *Substantially affects scenic vistas and viewplanes identified in County or State plans or studies***

The Proposed Action would not obstruct or affect scenic vistas and viewplanes identified in County or State plans or studies.

**13. *Requires substantial energy consumption***

The Proposed Action and its long term maintenance and use would require minor additional energy consumption for the new building spaces. This would be partially offset by replacement with more energy-efficient fixtures as part of the overall renovation project.

Based on the foregoing evaluation of significance criteria, the overall and cumulative effects of the Proposed Action would not have a significant adverse effect on the environment, and an Environmental Impact Statement would not be required. The University of Hawai'i has therefore issued A Finding of No Significant Impact (FONSI).

## 9.0 PREPARERS OF THE EA

This Environmental Assessment (EA) was prepared for the University of Hawai'i, Office of Capital Improvements. The following list identifies individuals and organizations involved in the preparation of this EA and their respective roles.

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Kelvin Sewake, Interim Hawai'i County Administrator

Trent Hata, Administrative Assistant

### **John Hara Associates Inc.**

John M. Hara, FAIA, Principal / Architect

Lori Takeyama-Goshi, Architect, Project Manager

## 10.0 PARTIES CONSULTED DURING EARLY CONSULTATION

A preconsultation letter with a project description and location map was mailed to 31 agencies and organizations (listed below) on November 10, 2005 to solicit comments on the Proposed Action. Substantive comments received were addressed in the Draft EA. A total of 10 agencies and organizations provided written comments. The eleven parties who responded in writing are identified by an asterisk (\*) and their letters and the corresponding responses are included in this section along with the preconsultation letter mailed to each recipient.

### FEDERAL

Army Corps of Engineers, Honolulu District  
 US Department of the Interior, Fish & Wildlife Service  
 US Department of Agriculture, Natural Resources Conservation Service

### STATE OF HAWAII

- Department of Health
- \* Environmental Planning Office  
 Environmental Management Division  
 Office of Environmental Quality Control
- \* Department of Accounting & General Services  
 Department of Land and Natural Resources  
 Chairperson, Board of Land and Natural Resources  
 Office of Conservation and Coastal Lands  
 Historic Preservation Division
- \* Division of Forestry and Wildlife  
 Office of Conservation and Resources Enforcement  
 Office of Planning, Department of Business, Economic Development & Tourism
- \* Department of Transportation  
 Department of Agriculture
- \* Office of Hawaiian Affairs (two responses, one from Hawai'i Section)  
 UH Mānoa Environmental Center  
 Chancellor, University of Hawai'i at Hilo  
 Chancellor, Hawai'i Community College

### COUNTY OF HAWAII

- \* Planning Department  
 Board of Water Supply  
 Department of Environmental Management  
 Solid Waste Division
- \* Wastewater Division  
 Technical Services Section
- \* Department of Research and Development
- \* Fire Department
- \* Police Department (requested removal from the list of reviewing agencies)  
 Department of Public Works

### PRIVATE / OTHER

Hawai'i Electric Light Co.  
 Hawaiian Telecom  
 Sierra Club, Hawai'i Chapter

**Helber Hastert & Fee**  
*Planners, Inc.*

**Helber Hastert & Fee**  
*Planners, Inc.*

November 10, 2005

**To: See Distribution List**



**Komohana Agricultural Complex Renovation and New Construction  
Draft Environmental Assessment Pre-Consultation  
Hilo, Hawai'i**

Dear Sir or Madam,

The University of Hawai'i (UH) College of Tropical Agriculture and Human Resources (CTAHR) proposes to renovate three existing buildings at the Komohana Agricultural Complex (KAC), originally constructed in 1976, and construct one additional building. The addition of a new, two-story (approx. 8,000 square foot) building, and renovation of the existing buildings, would provide CTAHR with flexible, modern laboratory, office and administrative facilities. Our firm has been contracted to prepare an Environmental Assessment (EA), in compliance with Chapter 343, Hawai'i Revised Statutes, to evaluate the potential effects of the Proposed Action and possible alternatives, including Demolition/New Construction, and No Action.

The KAC is located on a 7.9-acre site within the University Research Park at 875 Komohana Street, South Hilo, on the mauka side of the UH Hilo campus on the island of Hawai'i, State of Hawai'i.

This pre-assessment consultation is intended to ensure that interested parties are notified of the forthcoming Draft EA, and that all relevant environmental, economic and technical issues and concerns are identified and addressed. A project summary and location map are enclosed for your consideration. Should you have any comments (or you would like to be removed from the list of parties to review the EA), please let us know by November 25, 2005 by responding to the following address:

Helber, Hastert & Fee, Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813  
Attn: Charles Willson

Thank you for your interest in this project. If you have any questions or concerns, please contact Charles Willson, project planner, at 545-2055 or via e-mail at [cwillson@hhf.com](mailto:cwillson@hhf.com).

Sincerely,

Thomas A. Fee, AICP  
Principal

Enclosures

**PRECONSULTATION DISTRIBUTION LIST**

**FEDERAL**

Army Corps of Engineers, Honolulu District  
US Department of the Interior, Fish & Wildlife Service  
US Department of Agriculture, Natural Resources Conservation Service

**STATE OF HAWAII**

Department of Health  
Environmental Planning Office  
Environmental Management Division  
Office of Environmental Quality Control  
Department of Accounting & General Services  
Department of Land and Natural Resources  
Chairperson, Board of Land and Natural Resources  
Office of Conservation and Coastal Lands  
Historic Preservation Division  
Division of Forestry, and Wildlife  
Office of Conservation and Resources Enforcement  
Office of Planning, Department of Business, Economic Development & Tourism  
Department of Transportation  
Department of Agriculture  
Office of Hawaiian Affairs  
UH Manoa Environmental Center  
Chancellor, University of Hawai'i at Hilo  
Chancellor, Hawai'i Community College

**COUNTY OF HAWAII**

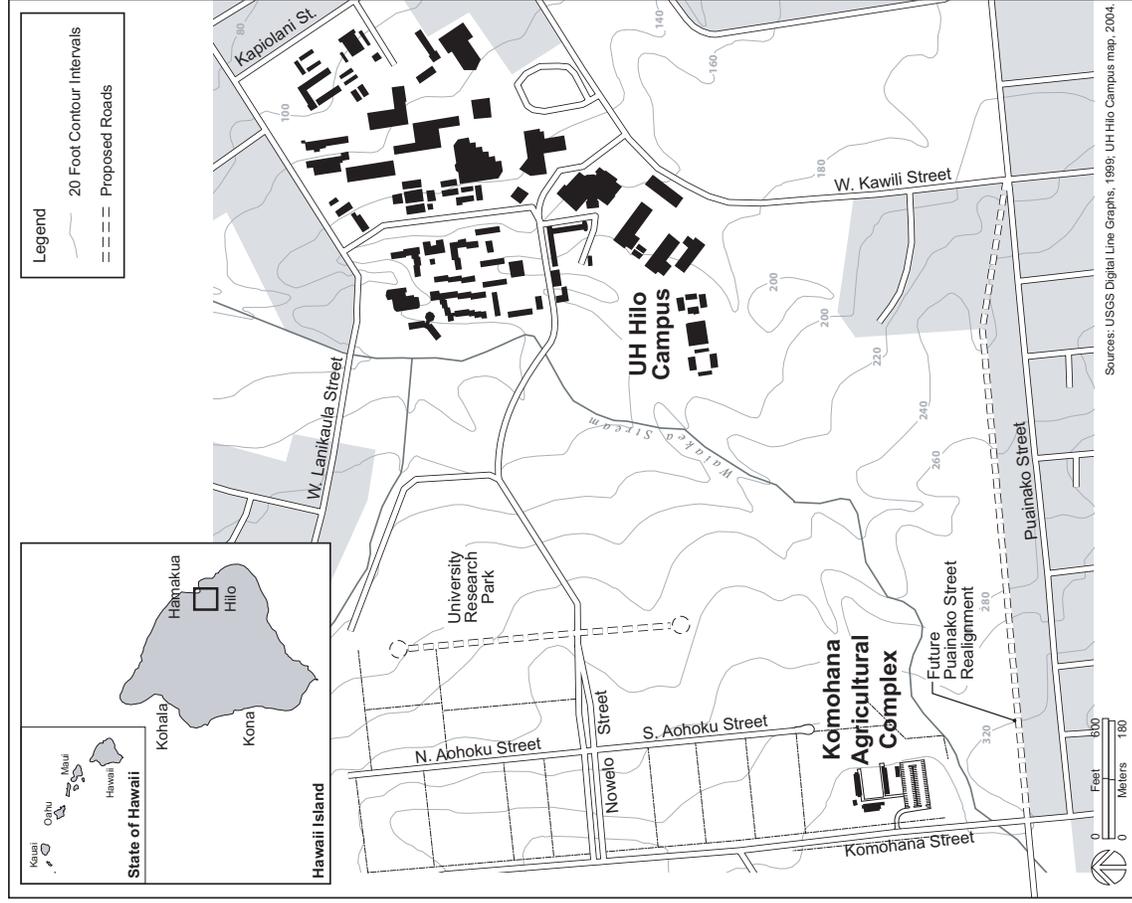
Planning Department  
Board of Water Supply  
Department of Environmental Management  
Solid Waste Division  
Wastewater Division  
Technical Services Section  
Department of Research and Development  
Fire Department  
Police Department  
Department of Public Works

**PRIVATE / OTHER**

Hawai'i Electric Light Co.  
Hawaiian Telecom  
Sierra Club, Hawai'i Chapter

**PROJECT SUMMARY**

**Project Name:** Komohana Agricultural Complex Renovation and New Construction  
**Applicant:** University of Hawaii, Office of Capital Improvements  
 (for the College of Tropical Agriculture and Human Resources)  
**EA Preparer:** Helber Hastert & Fee, Planners  
 Pacific Guardian Center, Makai Tower  
 733 Bishop Street, Suite 2590  
 Honolulu, Hawaii 96813  
 (808) 545-2055 Fax: 545-2050  
 Tom Fee / Charles Willson  
**Accepting Authority:** University of Hawaii, Office of Capital Improvements  
**Proposed Action:** Renovate aging facility into modern agricultural research complex by converting old classroom space into new office space, constructing a new, 2-story (approx. 8,000 square foot) laboratory wing, and implementing various building code and efficiency improvements, as required.  
**Chapter 343, Hawaii Revised Statutes "Trigger":** Use of State funds  
**Project Location:** University of Hawaii, Hilo Campus, University Research Park  
 875 Komohana Street, Hilo, Hawaii  
**Tax Map Key (TMK):** 3rd Division 2-4-1; por 41  
**Project Site:** 7.9 acre lot (portion of 20-acre TMK 2-4-1:41 parcel)  
**Property Owner:** University of Hawaii  
**Existing/Proposed Land Uses:** Komohana Agricultural Complex use for office, agricultural extension services, and research.  
**State Land Use District:** Urban District  
**General Plan Land Use Pattern Allocation Guide Map:** University Use  
**County Zoning:** A-1a (Agricultural, 1-acre minimum lot size)



**Location Map**

**Komohana Agricultural Complex Renovation and New Construction**  
 University of Hawaii - Hilo Campus  
 College of Tropical Agriculture and Human Resources

**From:** Jiakai Liu [mailto:JLiu@eha.health.state.hi.us]

**Sent:** Monday, November 21, 2005 11:08 AM

**To:** Info

**Subject:** Attn: Charles Willson / Re: Pre-consultation for Komohana Agricultural Complex Renovation and New Construction

Dear Willson:

Thank you for allowing us to review the subject project. We offer Standard Comments at: <http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html> or clicking (Standard Comments) for pre-assessment consultation. We are looking forward to seeing the DEA and please send the document to our office at:

Environmental Planning Office  
919 Ala Moana Blvd., Room 312  
Honolulu, Hawaii 96814

Thank you.

Jiakai Liu  
Land Use Review Coordinator  
Environmental Planning Office /DOH  
(808) 586-4346

**Helber Hastert & Fee**  
*Planners, Inc.*

January 20, 2006

Environmental Planning Office  
Department of Health  
State of Hawaii  
919 Ala Moana Blvd., Room 312  
Honolulu, HI 96814  
Attn: Jiakai Liu, Land Use Review Coordinator



**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Liu,

Thank you for your response to our preconsultation request on the Komohana Agricultural Complex Draft Environmental Assessment.

We have reviewed your standard comments and, where applicable, have addressed them in the Draft EA.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Draft EA and we have included your office in the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner

LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P.O. BOX 119, HONOLULU, HAWAII 96810

RUSS K. SAITO  
COMPTROLLER  
KATHERINE H. THOMASON  
DEPUTY COMPTROLLER

(P)1279.5

NOV 29 2005



Mr. Charles Wilson  
Helber, Hastert & Fee, Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

Dear Mr. Wilson:

Subject: Komohana Agricultural Complex Renovation and New Construction  
Draft Environmental Assessment Pre- Consultation  
Hilo, Hawaii  
TMK: 2-4-1-41

Thank you for the opportunity to review the information on the University of Hawaii's proposed project. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities and we have no comments to offer.

We also ask that you coordinate with the Department of Education for their input.

If you have any questions, please call me at 586-0400 or have your staff call Mr. David DePonte of the Public Works Division at 586-0492.

Sincerely,

RUSS K. SAITO  
State Comptroller

c: Ms. Genevieve Salmonson, OEQC  
Department of Education

Helber Hastert & Fee  
Planners, Inc.

January 20, 2006

Russ K. Saito, State Comptroller  
Department of Accounting and General Services  
PO Box 119  
Honolulu, HI 96810

RE: **Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Saito,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment, and for your determination that the project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

Per your request, we spoke to the Stafford Beppu at the Department of Education Planning Section. They have no concerns with the project at this point but have requested a copy of the Draft EA when it is released, and we have placed them on the distribution list.

If we have any follow-up questions, we will contact you at 586-0040 or Mr. David DePonte of the Public Works Division at 586-0492.

Thank you again for your consideration of this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner



LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF FORESTRY AND WILDLIFE  
1151 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813

November 15, 2005

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
ROBERT K. MASUDA  
DEPUTY DIRECTOR FOR LAND  
DEAN NAKANO, Acting  
The Commission on  
WATER RESOURCE MANAGEMENT  
AQUATIC RESOURCES COMMISSION  
COMMISSION ON WATER RESOURCE  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND DEVELOPMENT  
COUNTY REVENUE IMPROVEMENT  
HISTORIC PRESERVATION  
KAOIOLANI ISLAND RESERVE  
LAND MANAGEMENT  
STATE PARKS

Mr. Thomas A. Fee, AICP  
Helber, Hastert and Fee, Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

Dear Mr. Fee:

Subject: Komohana Agricultural Complex Renovation and New Construction,  
Draft EA and Pre-Consultation, Hilo, Hawaii.

We appreciate the opportunity to comment on your subject request. This is an existing complex that is being renovated. DOFAW has no objections to the renovations of the Komohana Agricultural Complex. Thank you for allowing us to comment on this project.

Sincerely yours,

Paul J. Conry  
Administrator

Helber Hastert & Fee  
Planners, Inc.

January 20, 2006

Paul J. Conry, Administrator  
State of Hawaii  
Dept. of Land & Natural Resources  
Division of Forestry & Wildlife  
P.O. Box 621  
Honolulu, HI 96809



RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA

Dear Mr. Conry,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment, and for confirming that DOFAW has no objections to the Proposed Action at the existing complex.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner

Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
Tel. 808.545.2055 • Fax 808.545.2050 • www.hhf.com • e-mail: info@hhf.com

LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

November 29, 2005

Mr. Charles Wilson  
Helber, Hastert & Fee Planners, Inc.  
Pacific Guardian Center  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Dear Mr. Wilson:

Subject: Komohana Agricultural Complex Renovation & New Construction  
University of Hawaii – Hilo  
Environmental Assessment Pre-Consultation

Thank you for your notice on the proposed subject project.

Our concern is the impacts that growth and development on the University of Hawaii Hilo campus will have on our highways facilities, particularly Puainako Street. Earlier, we commented on the traffic study done for the University's Mauka Lands Campus Master Plan.

Your environmental assessment should include a traffic impact analysis report (TIAR) covering the subject project's traffic impact, including its contribution to and anticipated cumulative traffic from any other development projects and plans for the Hilo Campus.

We look forward to receiving at least four (4) copies of your environmental assessment and TIAR for our review.

Very truly yours,

  
RODNEY K. HARAGA  
Director of Transportation

RODNEY K. HARAGA  
DIRECTOR

Deputy Directors  
BRUCE Y. MATSUI  
BARRY FUKUNAGA  
BRENNON T. MOROOKA  
BRIAN H. SERIGUCHI

IN REPLY REFER TO:

STP 8.1971



Helber Hastert & Fee  
Planners, Inc.

January 20, 2006

Rodney K. Haraga, Director  
Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813

RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA

Dear Mr. Haraga,

Thank you for your comments on the above referenced project. The Proposed Action would not result in foreseeable employment or vehicle trip growth at the Komohana Agricultural Complex. Trips associated with the complex have been factored into the Mauka Lands TIAR prepared for the Mauka Lands Final Environmental Impact Statement (Julian Ng, Inc. 2004).

We have enclosed a copy of the traffic impact section of the EA for your review. The assessment reached the following conclusion:

*There is no foreseeable change in staffing levels and visitation patterns at KAC as a result of the Proposed Action, Demolition and Reconstruction Alternative, or the No Action Alternative. Therefore, there would be no effect on Komohana Street level of service. Regional traffic growth, unrelated to KAC, will occur and will precipitate planned roadway widening and continued accommodation of KAC's current access to Komohana Street.*

If you have any questions, please contact me or Tom Fee at 545-2055.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner



Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
Tel. 808.545.2055 • Fax 808.545.2050 • www.hhf.com • e-mail: info@hhf.com

## 5.2. TRAFFIC

Principal access to KAC is from Komohana Street, a County-owned, two lane, rural roadway with a speed limit of 45 miles per hour and an annual daily traffic volume of 29,735 vehicles (2002 counts summarized in Julian Ng, Inc. 2004). Komohana Street lies within an 80-foot right of way and provides direct cross-town access between north and south Hilo. Parking on the roadway shoulders is not permitted. Future widening of Komohana Street is planned, but has not yet been programmed and is not expected for at least ten years. Bike Plan Hawaii (Department of Transportation (DOT) 2003) indicates planned bike lanes along Komohana Street fronting the KAC (12a - Komohana Street Bike Lane). Nearby intersections include the mauka leg of the State-owned Puainako Street extension (signalized), approximately 600 feet to the south, and the makai leg of the Nowelo Street intersection, approximately 1,500 feet to the north (stop controlled). The mauka leg of Nowelo Street is currently under construction to provide access to the UH "Mauka Lands" area and existing and planned USDA facilities. When completed, the Nowelo/Komohana intersection will be signalized. The existing makai leg of Puainako Street is offset approximately 150 feet further south; an unprogrammed future realignment of the makai leg would align it with the mauka leg.

Access from Komohana Street to KAC is via a stop-controlled, two lane driveway which connects to the existing 90-stall parking lot.

Secondary access to KAC is via South Aohoku Street, a two-lane facility built to County standards by UH Hilo, servicing the (unoccupied) lots on the south side of the University Park. Presently this access is used for large events, or for movement of farm and construction equipment.

Existing peak hour traffic along Komohana Street fronting KAC is shown in Table 5 below. Peak hours occur between 6:45 AM and 7:45 AM and between 4:00:PM and 5:00:PM.

**Table 5: Existing Peak Hour Conditions on Komohana Street**

Direction	Peak Hour (vehicles)	
	AM	PM
Northbound	1,040	605
Southbound	415	925
Total	1,455	1,530

Source: Ng 2004

Permanent staffing at KAC is 40 persons, and is not expected to increase in the foreseeable future. This represents a decrease from recent historic levels when Hawai'i Community College maintained an instructional use within KAC. KAC office hours are between 7:45 AM and 4:30 PM, Monday through Friday. Approximately 75% of the KAC staff enter and exit during the corresponding peak hours, resulting in 30 entering during the AM peak hour and 30 exiting during the PM peak hour. Based on interviews, approximately 67% of the staff live to the south of KAC and thus arrive in the morning via the northbound leg of Komohana Street (approximately 20 vehicles in the peak hour). The balance of 33% arrive via the southbound leg of Komohana Street (approximately 10 vehicles in the peak hour). The morning peak hour left turn into KAC by the approximately 10 vehicles causes some delays on the southbound leg of Komohana Street, but the road is wide enough for southbound motorists to move around the

turning vehicles. The stop controlled access to Komohana Street from the KAC driveway meters exiting PM peak hour traffic onto Komohana Street.

During the day, KAC receives drop-in visitors but these visits do not normally occur during the peak hours. KAC also hosts a number of evening community meetings starting between 6:30 PM and 7:00 PM, generally related to agricultural issues. Estimated drop-in an meeting visitor count would average about 30 persons per day. There are no foreseeable changes to the numbers of visitors and meeting attendees.

**Potential Impact:** There is no foreseeable change in staffing levels and visitation patterns at KAC as a result of the Proposed Action, Demolition and Reconstruction Alternative, or the No Action Alternative. Therefore, there would be no effect on Komohana Street level of service. Regional traffic growth, unrelated to KAC, will occur and will precipitate planned roadway widening and continued accommodation of KAC's current access to Komohana Street.

**Mitigation Measures:** No mitigation is warranted.

PHONE (808) 594-1888

FAX (808) 594-1865



**STATE OF HAWAII**  
**OFFICE OF HAWAIIAN AFFAIRS**  
711 KAP'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813



HRD05/2127

November 30, 2005

Thomas A. Fee, AICP  
Principal  
Helber, Hastert & Fee Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813

ATTN: Charles Willson

**RE: Pre-Environmental Assessment Consultation for Komohana Agricultural Complex Renovation and New Renovation, Hilo, Hawaii Island; TMK: 2-4-001:041**

Dear Thomas Fee,

The Office of Hawaiian Affairs (OHA) is in receipt of your November 10, 2005, request for comments on the above project, which would allow the University of Hawai'i College of Tropical Agriculture and Human Resources to renovate three existing buildings at the Komohana Agricultural Complex and to build one new building. OHA offers the following comments and looks forward to the opportunity to review, and comment upon, the forthcoming Draft Environmental Assessment.

We request that you also contact, if you have not already, our Hilo Community Resource Coordinator (address below), who can best advise you with whom else you should consult about ground disturbances in this area.

Please note that the subject TMK is for ceded lands, and should be afforded the respect that deserves. Ceded lands are public lands, held in trust, and OHA has a fiduciary duty to our beneficiaries – all Hawaiians, to assure that these lands are used and treated properly.

Thomas Fee  
November 30, 2005  
Page 2

Thank you for the opportunity to comment at this time. If you have any further questions or concerns please contact Heidi Guth at (808) 594-1962 or e-mail her at [heidig@oha.org](mailto:heidig@oha.org).

Sincerely,

Clyde W. Nāmu'o  
Administrator

CC: Gladys Brigham  
Interim Community Resource Coordinator  
OHA – Hilo Office  
162 A Baker Ave.  
Hilo, HI 96720-4869

**Helber Hastert & Fee**  
Planners, Inc.

January 20, 2006

Clyde W. Nāmu'o, Administrator  
Office Of Hawaiian Affairs  
711 Kapl'olani Blvd., Ste. 500  
Honolulu, HI 96813



**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Nāmu'o,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment. We have reviewed your comments, and have added text to state that the project "is sited on ceded Crown Lands held in trust by the State of Hawaii."

We also added language to indicate that "the Proposed Action would not impact any special areas, structures, elements, or gathering rights that are an integral part of Hawaii's ethnic and cultural heritage."

We have been in contact with Gladys Brigham and Lukela Ruddle of your Hilo office, and with Marianne Maigret at the Historic Preservation Division office in Kona as suggested by Ms. Ruddle. We will send copies of the Draft EA to both Honolulu and Hilo offices.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner

OFFICE OF HAWAIIAN AFFAIRS  
162A BAKER AVENUE HILO, HAWAII 96720

December 19, 2005

Helber, Hastert & Fee Planners  
733 Bishop Street, Suite 2590  
Honolulu Hawaii, 96813

Dear Mr. Wilson,

Thank you for your inquiry regarding the Pre- Environmental Assessment Consultation for Komohana Agricultural Complex Renovation and New Renovation in Hilo. I received your phone message on December 14<sup>th</sup>. I apologize for the delay. I spoke to Marianne Maigret at the Historic Preservation Division in Kona. Marianne believes that she has already done some work on this project but if you need anything else above and beyond what she has already done please give her a call at: 1.808.397.3620.

Please feel free to call me at, 808-920.6419, if you have any questions

Sincerely,

LUKELA RUDDLE  
COMMUNITY RESOURCE COORDINATOR

**Helber Hastert & Fee**  
Planners, Inc.

January 20, 2006

Lukela Ruddle  
Community Resource Coordinator  
Office Of Hawaiian Affairs  
162 A Baker Ave.  
Hilo, HI 96720-4869

**RE: Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Ms. Ruddle,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment.

Per your comments, we have been in contact with Marianne Maigret at the Historic Preservation Division office in Kona.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients. We will send copies of the Draft EA to both Honolulu and Hilo offices.

Sincerely,



Charles Willson  
Planner



Harry Kim  
Mayor

Christopher J. Yuen  
Director

Roy R. Takemoto  
Deputy Director

**County of Hawaii**

**PLANNING DEPARTMENT**  
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043  
(808) 961-8288 • Fax (808) 961-8742



November 22, 2005

Mr. Charles Wilson  
Helber, Hastert & Fee, Planners  
Pacific Guardian Center  
733 Bishop Street, Suite 2590  
Honolulu HI 96813

Dear Mr. Wilson:

**Pre-Consultation on Draft Environmental Assessment  
Komohana Agricultural Complex Renovation and New Construction  
TMK: 2-4-1:Portion of 41, South Hilo, Hawaii**

In response to the November 10, 2005 letter, we have the following to offer:

1. According to the General Plan Land Use Pattern Allocation Guide Map, the subject parcel is designated University Use, which is characterized as "for public university, including ancillary public uses, residential, and support commercial uses".
2. The State Land Use designation is Urban.
3. County zoning is Agricultural (A-1a).
4. These parcels are not located within the County's Special Management Area.

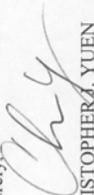
In addition, please keep us on your list of parties to review the Environmental Assessment.

*Hawaii's County is an equal opportunity provider and employer.*

Mr. Charles Wilson  
Helber, Hastert & Fee, Planners  
Page 2  
November 23, 2005

Should you have questions, please feel free to contact Esther Imamura or Larry Brown of our Department at 961-8288, extension 257 or 258, respectively.

Sincerely,

  
CHRISTOPHER J. YUEN  
Planning Director

ETI:cd

F:\WP\WIN60\ETI\EA\Draft\Pre-consult\Fee\KomohanaAgComplex\24001041.doc

**Helber Hastert & Fee**  
*Planners, Inc.*

January 20, 2006

Christopher J. Yuen, Director  
County of Hawaii  
Planning Department  
101 Pauahi Street, Suite 3  
Hilo, HI 96720-3043



**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Yuen,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment, and for your confirmations that:

1. the subject parcel is designated University Use on the LUPA Guide Map, which is characterized as "for public university, including ancillary public uses, residential, and support commercial uses".
2. the State Land Use designation is Urban;
3. County zoning is Agricultural (A-1a); and
4. this parcel is not located within the County's Special Management Area.

We have adjusted the text in the Draft EA to include the italicized quote you included under #1.

Should we have additional questions, we will be in contact with Esther Imamura or Larry Brown of your department at 961-8288 (ext. 257 or 258, respectively).

Thank you again for your assistance with this project. A copy of your letter and this response will be appended to the Draft EA and we will provide the Planning Department a copy of the Draft EA as soon as it is released.

Sincerely,



Charles Willson  
Planner



**WASTEWATER DIVISION**

Department of Environmental Management  
108 Railroad Avenue - Hilo, Hawaii 96720  
(808) 961-8338 - Fax (808) 961-8644

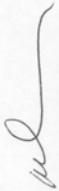
November 22, 2005

Helber, Hastert & Fee, Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI. 96813  
Attn: Charles Willson

**SUBJECT:** Draft Environmental Assessment Pre-Consultation  
Komohana Agricultural Complex Renovation and New Construction  
TMK: (3) 2-4-001:041

This is in response to your letter dated 11/10/05 regarding the subject draft EA. Please ensure that the Wastewater Division is consulted regarding the proposed project, since sewer capacity is a significant concern.

Should you have any questions, please contact the undersigned at 961-8513.

  
Peter J. Boucher, P.E.  
Division Chief



**Helber Hastert & Fee**  
*Planners, Inc.*

January 20, 2006

Peter Boucher, Division Head  
County of Hawaii  
Department of Environmental Management  
Wastewater Division  
108 Railroad Ave.  
Hilo, HI 96720

**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Boucher,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment, and the additional information you supplied in our January 9<sup>th</sup> phone conversation. You expressed concern about the lack of capacity in the downstream wastewater transmission system to handle planned upstream development. We have passed this concern on to UH Hilo facilities planners for action.

You acknowledged that the impacts of the Proposed Action on the existing system would be insignificant (e.g., adding a new laboratory building requiring plumbing hookup for laboratory sink drains to the current connection, but which would not increase the occupancy of the complex). Nevertheless, your department may recommend against building permit approval as a reminder that transmission capacity issues are of concern to your agency.

Thank you again for your help in understanding this complex issue. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner

Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
Tel. 808.545.2055 • Fax 808.545.2050 • www.hhf.com • e-mail: info@hhf.com

Harry Kim  
Mayor



County of Hawaii  
DEPARTMENT OF RESEARCH AND DEVELOPMENT  
25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252  
(808) 961-8366 • Fax (808) 935-1205  
E-mail: chresdev@co.hawaii.hi.us

Jane H. Testa  
Director

Diane L. Ley  
Deputy Director



November 23, 2005

Charles Willson  
Helber, Hastert & Fee, Planners Inc.  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

RE: Komohana Agricultural Complex Renovation and New Construction  
Draft Environmental Assessment Pre-Consultation  
Hilo, Hawaii

Dear Mr. Willson,

The County of Hawaii's Department of Research and Development is in receipt of the draft environmental assessment pre-consultation announcement for the Komohana Agricultural Complex Renovation and New Construction in Hilo. The Department has no specific comments at this time.

Thank you for keeping us informed.

Sincerely,

*Diane Ley*  
Diane Ley  
Deputy Director

Hawaii County is an Equal Opportunity Provider and Employer

Helber Hastert & Fee  
Planners, Inc.

January 20, 2006

Diane Ley, Deputy Director  
County of Hawaii  
Department of Research and Development  
25 Aupuni Street, Room 109  
Hilo, HI 96720



RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA

Dear Ms. Ley,

Thank you for your response to our preconsultation request on the Komohana Agricultural Complex Draft Environmental Assessment. We understand you have no specific comments at this time, but thank you for taking the time to respond. Please also let us know if you would like to be removed from the list of recipients for the Draft EA, as we will assume you would like to remain on the list if you do not indicate otherwise.

Thank you again for your consideration of this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,

Charles Willson  
Planner

Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
Tel. 808.545.2055 • Fax 808.545.2050 • www.hhf.com • e-mail: info@hhf.com

Harry Kim  
Mayor



## County of Hawai'i

FIRE DEPARTMENT  
25 Aupuni Street • Suite 103 • Hilo, Hawaii 96720  
(808) 961-8297 • Fax (808) 961-8296

November 23, 2005

Attention: Charles Willson  
Helber, Hastert & Fee, Planners  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813

Darryl J. Oliveira  
Fire Chief  
Desmond K. Wery  
Deputy Fire Chief



**SUBJECT:** DRAFT ENVIRONMENTAL ASSESSMENT PRE-CONSULTATION  
KOMOHAHA AGRICULTURAL COMPLEX RENOVATION AND NEW  
CONSTRUCTION, HILO, HAWAII

In regards to the above-mentioned Environmental Assessment Pre-Consultation, the following shall be in accordance:

Fire apparatus access roads shall be in accordance with UFC Section 10.207.

#### "Fire Apparatus Access Roads

"Sec. 10.207. (a) **General.** Fire apparatus access roads shall be provided and maintained in accordance with the provisions of this section.

"(b) **Where Required.** Fire apparatus access roads shall be required for every building hereafter constructed when any portion of an exterior wall of the first story is located more than 150 feet from fire department vehicle access as measured by an unobstructed route around the exterior of the building.

"**EXCEPTIONS:** 1. When buildings are completely protected with an approved automatic fire sprinkler system, the provisions of this section may be modified.

"2. When access roadways cannot be installed due to topography, waterways, nonnegotiable grades or other similar conditions, the chief may require additional fire protection as specified in Section 10.301 (b).



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Christopher J. Yuen  
November 23, 2005  
Page 2

"3. When there are not more than two Group R, Division 3 or Group M Occupancies, the requirements of this section may be modified, provided, in the opinion of the chief, fire-fighting or rescue operations would not be impaired.

"More than one fire apparatus road may be required when it is determined by the chief that access by a single road may be impaired by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

"For high-piled combustible storage, see Section 81.109.

"(c) **Width.** The unobstructed width of a fire apparatus access road shall meet the requirements of the appropriate county jurisdiction.

"(d) **Vertical Clearance.** Fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches.

"**EXCEPTION:** Upon approval vertical clearance may be reduced, provided such reduction does not impair access by fire apparatus and approved signs are installed and maintained indicating the established vertical clearance.

"(e) **Permissible Modifications.** Vertical clearances or widths required by this section may be increased when, in the opinion of the chief, vertical clearances or widths are not adequate to provide fire apparatus access.

"(f) **Surface.** Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface so as to provide all-weather driving capabilities." (20 tons)

"(g) **Turning Radius.** The turning radius of a fire apparatus access road shall be as approved by the chief." (45 feet)

"(h) **Turnarounds.** All dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with approved provisions for the turning around of fire apparatus.

"(i) **Bridges.** When a bridge is required to be used as access under this section, it shall be constructed and maintained in accordance with the applicable sections of the Building Code and using designed live loading sufficient to carry the imposed loads of fire apparatus.

"(j) **Grade.** The gradient for a fire apparatus access road shall not exceed the maximum approved by the chief." (15%)

"(k) **Obstruction.** The required width of any fire apparatus access road shall not be obstructed in any manner, including parking of vehicles. Minimum required widths and clearances established under this section shall be maintained at all times.

"(l) **Signs.** When required by the fire chief, approved signs or other approved notices shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof or both."

Water supply shall be in accordance with UFC Section 10.301(c):

"(c) **Water Supply.** An approved water supply capable of supplying required fire flow for fire protection shall be provided to all premises upon which buildings or portions of buildings are hereafter constructed, in accordance with the respective county water requirements. There shall be provided, when required by the chief, on-site fire hydrants and mains capable of supplying the required fire flow.

"Water supply may consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow.

"The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be protected as set forth by the respective county water requirements. All hydrants shall be accessible to the fire department apparatus by roadways meeting the requirements of Section 10.207.

  
DARRYL OLIVEIRA  
Fire Chief

JCP:lpc

**Helber Hastert & Fee**  
*Planners, Inc.*

January 20, 2006



Darryl J. Oliveira, Fire Chief  
County of Hawaii  
Fire Department  
25 Aupuni St. Room 103  
Hilo, HI 96720

**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Chief Oliveira,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment. We have reviewed your requirements, and have inserted a paragraph under Section 5.3 Police and Fire Protection:

*Fire protection systems, which are old and in need of service, would be upgraded as buildings are renovated. The Proposed Action would expand KAC floor area by about one-third, but new building spaces would be built with fireproof materials wherever possible, and would incorporate sprinkler systems and a modern alarm system. All work would comply with Uniform Fire Code (UFC) standards and all applicable governmental regulations. Fire equipment access would comply with UFC Section 10.207, and fire flow water supply would comply with UFC Section 10.301(c).*

Your letter will also be reproduced and included with the Draft and Final EAs, and contractors would be required to comply with the cited provisions.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Draft EA and we have added your name to the list of Draft EA recipients.

Sincerely,



Charles Willson  
Planner

Harry Kim  
Mayor



County of Hawaii  
POLICE DEPARTMENT  
349 Kapiolani Street • Hilo, Hawaii 96720-3998  
(808) 935-3311 • Fax (808) 961-8869

Lawrence K. Mahuna  
Police Chief  
Harry S. Kubojiri  
Deputy Police Chief



November 23, 2005

Mr. Thomas A. Fee  
AICP  
Principal  
Helber, Hastert & Fee Planners  
Honolulu, HI 96813

Attn: Charles Wilson

Dear Mr. Fee:

Subject: Komohana Agricultural Complex Renovation and New  
Construction Draft Environmental Assessment Pre-Consultation,  
Hilo, Hawaii

Staff, upon review of the above-mentioned project, has neither concerns nor comments to offer in regard to this request at this time. There will be no impact on traffic in the area and it is requested that our agency be removed from the list of parties to review the EA.

Thank you for the opportunity to comment.

Sincerely,

*James M. Day*  
JAMES M. DAY  
ASSISTANT POLICE CHIEF  
AREA I OPERATIONS

LW/lli

RECEIVED  
DEC 15 2006  
HELBER, HASTERT & FEE  
PLANNERS

DATE: 12/15/06

"Hawaii's County is an Equal Opportunity Provider and Employer"

Helber Hastert & Fee  
Planners, Inc.

January 20, 2006

Lawrence K. Mahuna, Police Chief  
County of Hawaii  
Police Department  
349 Kapiolani Street  
Hilo, HI 96720

RE: Comments to Komohana Agricultural Complex Renovation and New  
Construction Draft EA

Dear Chief Mahuna,

Thank you for your response to our preconsultation request on the Komohana Agricultural Complex Draft Environmental Assessment. We appreciate your determination that there will be no impact on traffic in the area, and understand you have neither concerns nor additional comments to offer.

Per your request, you will be removed from the list of reviewers for the Draft EA.

Thank you again for taking the time to consider this project and to respond. A copy of your letter and this response will be appended to the Draft EA.

Sincerely,

Charles Willson  
Planner

Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
Tel. 808.545.2055 • Fax 808.545.2050 • www.hhf.com • e-mail: info@hhf.com

## 11.0 PARTIES CONSULTED / RECIPIENTS OF THE DRAFT EA

Draft EAs were mailed to the agencies and organizations listed below. Substantive comments received were addressed in the Final EA. A total of 11 agencies and organizations provided written comments, and are identified by an asterisk (\*) below. Their letters and the corresponding responses are included in this section.

### **FEDERAL**

- \* Army Corps of Engineers, Honolulu District
- US Department of the Interior, Fish & Wildlife Service
- US Department of Agriculture, Natural Resources Conservation Service

### **STATE OF HAWAII**

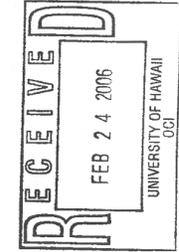
- Department of Health
  - Environmental Planning Office
  - Environmental Management Division
- \* Office of Environmental Quality Control
- \* Department of Accounting & General Services
- Department of Land and Natural Resources
  - Chairperson, Board of Land and Natural Resources
  - Office of Conservation and Coastal Lands
- \* Historic Preservation Division
- Division of Forestry and Wildlife
- Office of Conservation and Resources Enforcement
- Office of Planning, Department of Business, Economic Development & Tourism
- \* Department of Transportation
- Department of Agriculture
- \* Office of Hawaiian Affairs
- UH Mānoa Environmental Center
- Chancellor, University of Hawai'i at Hilo
- Chancellor, Hawai'i Community College
- Hilo Public Library

### **COUNTY OF HAWAII**

- \* Planning Department
- \* Board of Water Supply
- \* Department of Environmental Management
  - Solid Waste Division
  - Wastewater Division
  - Technical Services Section
- Department of Research and Development
- Fire Department
- Department of Public Works

### **PRIVATE / OTHER**

- \* Hawai'i Electric Light Co.
- \* Hawaiian Telecom
- Sierra Club, Moku Loa Group



DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
BUILDING 223  
FORT SHAFTER, HAWAII 96858-5440



REPLY TO  
ATTENTION OF: CEPOH-EC-T

February 22, 2006

Civil Works Technical Branch

Mr. Maynard Young  
University of Hawaii  
1951 East-West Road  
Honolulu, Hawaii 96822

Dear Mr. Young:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Renovation and New Construction at the Komohana Agricultural Complex, South Hilo, Hawaii (TMK 2-4-1: 41). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

- a. Based on the information provided, a DA permit is not required for the project.
- b. We concur with the flood hazard information provided on page 3-4 of the DEA.

Should you have any questions, please call Ms. Jessie Dobinchick of my staff at 438-8876.

Sincerely,

*James Pennaz*  
James Pennaz, P.E.  
Chief, Civil Works  
Technical Branch

Heiber Hastert & Fee  
Planners, Inc.

March 20, 2006

James Pennaz, P.E.  
Chief, Civil Works  
Technical Branch  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Building 223  
Fort Shafter, Hawaii 96858-5440  
Attn: CEPOH-EC-T



RE: Comments to the Draft Environmental Assessment for the  
Komohana Agricultural Complex Renovation and New Construction

Dear Mr. Pennaz,

Thank you for your comments on the Draft Environmental Assessment for the Komohana Agricultural Complex. We appreciate your confirmation that a Department of the Army Permit will not be required for the project, and your concurrence with the flood hazard information provided on pages 3 – 4 of the Draft EA.

If we have any further questions on these matters, we will contact Mr. Jessie Dobinchick at 438-8876.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Final EA.

Sincerely,

*Charles Willson*

Charles Willson  
Planner

cc: Mr. Maynard Young

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET  
HONOLULU HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4186  
E-MAIL: eoqc@state.hawaii.us

GENEVEVE SALMONSON  
DIRECTOR

Ms. Genevieve Salmonson, Director  
Office of Environmental Quality Control  
State of Hawaii  
235 South Beretania Street, Suite 702  
Honolulu, HI 96813



Helber Hastert & Fee  
Planners, Inc.

March 22, 2006

February 17, 2006  
Jan Yokota, Director of  
Office of Capital Improvements  
1951 East West Road  
Honolulu, Hawaii 96822

Attention: Maynard Young  
Dear Ms. Yokota:

Subject: Draft Environmental Assessment (EA)  
Komohana Agricultural Complex Renovation & New Construction, UHH

We have the following comments to offer:

**Research:** What kinds of research are conducted at this facility? What level are the labs? Is there any genetic research being carried out? Please include this information in the final EA.

**Traffic impacts:** The draft EA discussed impacts to traffic after the new facilities are operational. What are the anticipated impacts during the construction phase? Will there be a staging area on site for large equipment? If so, what measures will you take to prevent vandalism and to secure the safety of passers-by and pedestrians?

**Sustainable building techniques:** Please consider applying sustainable building techniques presented in the "Guidelines for Sustainable Building Design in Hawaii." In the final EA include a description of any of the techniques you will implement. Go to our website at <http://www.state.hi.us/health/oaac/guidance/sustainable.htm> or contact our office for a paper copy of the guidelines.

**Paving:** Hawaii Revised Statutes 103D-407 requires the use of recycled glass in paving materials whenever possible. In the final EA indicate if you will follow this requirement.

If you have any questions, call Nancy Heinrich at 586-4185.

Sincerely,

  
GENEVEVE SALMONSON  
Director

c: Charlie Wilson, HHH

**RE: Comments to the Draft Environmental Assessment for the Komohana Agricultural Complex Renovation and New Construction**

Dear Ms. Salmonson,

Thank you for your comments on the Draft Environmental Assessment for the Komohana Agricultural Complex. Your comments are addressed in the order presented:

**Research: What kinds of research are conducted at this facility? What level are the labs? Is there any genetic research being carried out? Please include this information in the final EA.**

As described in Section 1.5 of the Draft EA, KAC conducts applied research with direct application to improving the productivity and profitability of Hawaii-based agriculture. To elaborate slightly, we added the following sentence, and restructured the second sentence:

Specific research areas include evaluation of tropical fruit and nut crops, ornamentals, flowers, foliage, quarantine treatments, invasive species, plant and soil nutrition, plant growth, plant propagation and growth cycle, control of plant diseases, and the control of insect and vertebrate (e.g., coqui frog) pests. Research also looks at land and water management and conservation strategies, agricultural business issues (such as transportation, storage, handling, and processing for shipment).

Not all research is laboratory-based; some is focused on the human resources part of CTAHR's mission, and the majority of it is connected to the information dissemination, outreach, and extension activities.

Regarding your question on "genetic research", this is an excessively broad term about something that has gone on informally even before the concept was popularized by Gregor Mendel in 1866. Genetic research goes on, but is not a threat. If the question was intended to ask about genetic engineering – the production of genetically modified organisms (GMOs) with recombinant DNA – this is not conducted at KAC, so was not discussed in the EA. However, KAC does maintain laboratory cultures of genetically modified papaya in the cellular stage and a few plantlets that were genetically modified elsewhere. These cultures are strictly limited to laboratory tests and do not have reproductive stages.

Safety regulations and protocols that KAC staff are required to follow were discussed in the Draft EA under Section 6.1.6.2 Biological Safety Protocols and Controls. As explained under Section 6.1.6.2, all seeds, samples, spores, vermin, and pathogens are handled according to strict safety protocols. Samples and test equipment are autoclaved to assure destruction of all

living organisms. This section was also footnoted to identify UH, State, and Federal requirements.

Because genetic manipulation is not conducted at KAC, and current studies are limited to laboratory tests only, this issue was not discussed in depth in the EA. The risk from growing GMOs results from the potential for the open air release of pollen which could genetically alter other crops in an uncontrolled fashion. The only GMOs known to be grown on the Big Island are papayas grown in Puna, and the concern with these is the potential for the spread of transgenic pollen which could potentially genetically alter other papayas grown on the island. This is of special concern to the organic papaya growers. KAC does provide walk-in services to local farmers and homeowners; samples (including papayas) are commonly brought in for assistance in identifying plant diseases, determining optimal fertilization, and related matters, and/or for testing and diagnosis. This means GMO seedlings, or other samples may be present inside the facility for diagnostic purposes. This material would not be allowed to mature, reach a reproductive stage, produce pollen, or propagate, and would therefore not pose a threat to other papayas anywhere. All seeds, samples, and cell cultures are destroyed (and test equipment sterilized) by autoclaving when no longer needed.

In response to the second question regarding the level of the labs, the following paragraph was added as a footnote near the end of Section 2.1 Renovation and New Construction (Proposed Action) on page 2-5:

Existing laboratories in the Building C wing are rated Biosafety Level 1 (BSL 1, for work with minimal risk to the human environment) except for the two plant pathology labs, which are rated as BSL 2 (for work with plant diseases which require containment). The proposed Building D would also be rated BSL 1, except BSL 2 standards will apply to five rooms: two new plant pathology labs, the Agricultural Diagnostic Service Center (ADSC), the culture room, and the acclimatization room. This information is preliminary, based on KAC's intentions, and assumes ADSC and the pathology labs are moved to the new wing. KAC does not engage in work of a hazardous nature. See Section 6.1.6.2, Biological Safety Protocols and Controls, for a discussion of biosafety issues and controls.

**Traffic impacts: The draft EA discussed impacts to traffic after the new facilities are operational. What are the anticipated impacts during the construction phase? Will there be a staging area on site for large equipment? If so, what measures will you take to prevent vandalism and to secure the safety of passers-by and pedestrians?**

We addressed this concern by adding the following information at the end of Section 5.2 Traffic:

**Construction Period Impacts:** Additional traffic impacts will be experienced during the construction period. These impacts will involve movement of workers onto and off the property at the beginning and end of the work shift, staging of construction equipment onto and off the site, transportation of construction material to the site, and removal of demolition debris. This could increase traffic congestion, parking requirements, and potential conflicts with employee and public access to KAC.

**Mitigation Measures:** There are no operational period impacts, therefore no mitigation is required. However, during construction periods, contractor access to the site would normally be directed to the South Aohoku cul-de-sac at the northeast corner of the property, avoiding the Komohana Street entrance and potential conflicts with employee and public access and parking. Traffic congestion along Komohana Street is well known, and it is expected contractors will schedule movement on and off the site at off-peak hours whenever practicable.

Construction equipment and material staging and storage will be provided in the open yard area at the northeast corner of the property behind the locked gate. This will provide a secure location,

keep the equipment and material separated from parking, access, and traffic areas and out of sight, and will avoid creating an attractive nuisance for the general public. Additional space is also available along the north, east, and southeast portions of the property, but unlikely to be needed. Worker parking can be accommodated inside the South Aohoku gate (for greater security), or outside the fence if needed. South Aohoku presently serves no other properties, so there is no potential to disturb any neighborhood in this area.

**Sustainable building techniques: Please consider applying sustainable building techniques presented in the "Guidelines for Sustainable Building Design in Hawaii." In the final EA include a description of any of the techniques you will implement. Go to our website at <http://www.hawaii.gov/health/oegc/guidance/sustainable.htm>, or contact our office for a paper copy of the guidelines.**

Sustainable standards have been employed whenever practicable and permitted by the budget. In some instances, this is required by code, as with lighting and air conditioning. Examples of other sustainable practices include the installation of EIFS (insulated) siding to reduce energy consumption, sun shielding to be installed along the inner walkways and on the east face of the new laboratory building, and the enclosed walkways on the new building wing. Mechanical systems upgrades are also anticipated, but final design is not complete and it is presently unknown what other features will be included within the available budget. Additional upgrades are likely to be instituted in a later phase when additional budget allocations become available.

**Paving: Hawaii Revised Statutes 103D-407 requires the use of recycled glass in paving materials whenever possible. In the final EA indicate if you will follow this requirement.**

Currently, no paving other than interior walkways is envisioned for this project, so paving was not discussed. Currently, only concrete walkways are anticipated to connect the new wings of the complex to the existing structures and to provide access to the parking lot. These walkways exist at the ground and second floor levels, and would use the same concrete as the rest of the structure. However, should repaving be required, conditions imposed by construction contracts require contractors to abide by all applicable laws. To clarify this, we adjusted the language under Section 2.1 Renovation and New Construction (Proposed Action) to state:

"All renovation work and new construction would meet current code standards and contractors would be required to comply with all applicable laws and regulations."

Thank you again for your interest in this project. If we have further questions, we will contact Nancy Heinrich at 586-4185. A copy of your letter and this response will be appended to the Final EA.

Sincerely,



Charles Willson  
Planner

cc: Ms. Jan Yakota, UH Office of Capital Improvements

LINDA LINGLE  
GOVERNOR



STATE OF HAWAII

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P.O. BOX 119, HONOLULU, HAWAII 96810

RUSS K. SAITO  
COMPTROLLER  
KATHERINE H. THOMSON  
DEPUTY COMPTROLLER

(P)1069.6

MAR - 6 2006



Mr. Maynard Young  
University of Hawaii, Office of Capital Improvements  
1951 East-West Road  
Honolulu, HI 96822

Dear Mr. Young

Subject: Renovation and New Construction at Komohana Agricultural Complex  
Draft Environmental Assessment  
South Hilo, Hawaii,  
TMK: 2-4-01: por 41

Thank you for the opportunity to review the information regarding the subject project. The project does not impact any of the Department of Accounting and General Services' projects or existing facilities and we have no comments to offer.

If you have any questions regarding the above, please have your staff call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

ERNEST LAU  
Public Works Administrator

DD:mo

c: Mr. Charles Willson, Helber Hastert & Fee, Planners  
Ms. Genevieve Salmonson, OEQC

Helber Hastert & Fee  
Planners, Inc.

March 20, 2006



Ernest Lau, Public Works Administrator  
Department of Accounting and General Services  
PO Box 119  
Honolulu, HI 96810

RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA

Dear Mr. Lau,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment, and for your determination that the project does not impact any of the Department of Accounting and General Services' projects or existing facilities.

If we have any follow-up questions, we will contact Mr. David DePonte of the Planning Branch at 586-0492.

Thank you again for your consideration of this project. A copy of your letter and this response will be appended to the Final EA.

Sincerely,

Charles Willson  
Planner

cc: Mr. Maynard Young, UH Office of Capital Improvements  
Ms. Genevieve Salmonson, OEQC



PERFECT SERVICE  
 BOARD OF LAND AND NATURAL RESOURCES  
 COMMISSIONER OF LAND AND NATURAL RESOURCES  
 ROBERT K. MAHEUA  
 DEPUTY DIRECTOR - LAND  
 DEAN NAKANO  
 ACTING DEPUTY DIRECTOR - WATER  
 DIVISIONS: RECREATION, BOATING AND OCEAN RECREATION  
 COMMISSION ON THE STATE OF NATURAL RESOURCES  
 CONSERVATION AND CULTURAL LANDS  
 CONSERVATION AND CULTURAL LANDS  
 HISTORIC PRESERVATION  
 HISTORIC PRESERVATION  
 MARSHALL ISLANDS PRESERVE COMMISSION  
 STATE PARKS

STATE OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 STATE HISTORIC PRESERVATION DIVISION  
 601 KAMOKILA BOULEVARD, ROOM 555  
 KAPOLEI, HAWAII 96707

LINDA LINGLE  
 GOVERNOR OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 STATE OF HAWAII

February 13, 2006

Charles Wilson, Project Planner  
 Helber Hastert & Fee, Planners  
 733 Bishop Street, Suite 2590  
 Honolulu, Hawaii 96813

LOG NO: 2006.0321  
 DOC NO: 0602MM20  
 Archaeology

Dear Mr. Wilson:

**SUBJECT:** Chapter 6E-8 Historic Preservation Review (State/University of Hawaii) –  
 Draft Environmental Assessment (DEA) for Renovation and New Construction at  
 Komohana Agricultural Complex  
 Waiakea Ahupua'a, South Hilo District, Island of Hawaii'i  
 TMK: (3) 2-4-001-041

Project consists of construction of new facilities for University of Hawaii, College of Tropical Agricultural and Human Resources (CTAHR) at the University Research Park, University of Hawaii at Hilo. Project consists of a 7.9-acre portion of the subject property.

We believe that **no historic properties will be affected** by this undertaking because:

- a) intensive cultivation has altered the land
- b) residential development/urbanization has altered the land
- c) previous grubbing/grading has altered the land
- d) an acceptable archaeological assessment or inventory survey found no historic properties
- e) this project has gone through the historic review process, and mitigation has been completed
- f) other: *Parcel was subject of an approved Archaeological Inventory Survey (Hammatt 1993)*  
*Four sites were identified, no further work was recommended. None of the four sites identified is within the project area.*

In the event that historic resources, including human skeletal remains, are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Section, needs to be contacted immediately at (808) 327-3690.

Aloha,  
  
 Melanie Chinen, Administrator  
 State Historic Preservation Division

MM-dlb

Helber Hastert & Fee  
 Planners, Inc.

March 22, 2006

Melanie Chinen, Administrator  
 Hawaii Department of Land and Natural Resources  
 Historic Preservation Division  
 601 Kamokila Blvd., Room 555  
 Kapolei, HI 96707

**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Ms. Chinen,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment. We very much appreciate your determination that no historic properties will be affected by this undertaking because (1) this project has gone through the historic review process, and mitigation has been completed, and (2) the parcel was the subject of an approved Archaeological Inventory Survey (Hammatt 1993) where four sites were identified (none within the project area), and no further work was recommended.

The Final EA has been amended to include the following (p. 3-10):

"...contract documents will require that, in the event that historic resources, including human skeletal remains, are identified during construction activities, all work shall cease in the immediate vicinity of the find, the find shall be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Section, shall be contacted immediately at (808) 327-3690 to determine the appropriate course of action."

Thank you again for your interest in this project, and the helpfulness of your staff in providing timely feedback. A copy of your letter and this response will be appended to the Final EA.

Sincerely,

Charles Willson  
 Planner

Ref.: Log No. 2006.0321 Doc No. 0602MM20 Archaeology

LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

March 14, 2006

Mr. Maynard Young  
University of Hawai'i, c/o Office of Capital Improvements  
1951 East-West Road  
Honolulu, Hawaii 96822

Dear Mr. Young:

Subject: Komohana Agricultural Complex  
Draft Environmental Assessment (DEA) for  
Renovation and New Construction  
TMK: 3<sup>rd</sup> 2-4-01: por. 41

Thank you for your transmittal requesting our review of the subject project. The subject project proposes to renovate three existing buildings and construct two additional buildings. The proposed action will not have an impact on our State highway facilities.

Because of southbound afternoon traffic congestion on Komohana Street we recommend that the project consultant consider a secondary access to South Aohoku Street. Both of these facilities are under County jurisdiction.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA  
Director of Transportation

c: Genevieve Salmonson, The Office of Environmental Quality Control  
Charles Willson, Helber Hastert & Fee, Planners

RODNEY K. HARAGA  
DIRECTOR  
Deputy Directors  
BARRY FUKUNAGA  
BRENNON T. MORIOKA  
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.2066



Helber Hastert & Fee  
Planners, Inc.

March 22, 2006

Rodney K. Haraga, Director  
Department of Transportation  
869 Punchbowl Street  
Honolulu, HI 96813

RE: **Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Haraga,

Thank you for your comments on the above referenced project, and for your determination that the proposed project will not have an impact on State highway facilities.

South Aohoku Street currently serves as a secondary access to KAC. There are security concerns so the gate is locked except for large group meetings or when access is needed to the lower garden area. In the long term, after the traffic signal is installed at the Nowelo / Komohana intersection, and after funding for access improvements is secured, staff may find it more desirable to use the South Aohoku access as congestion on Komohana increases.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Final EA.

Sincerely,

Charles Willson  
Planner

cc: Ms. Genevieve Salmonson, OEQC  
Mr. Maynard Young, UH Office of Capital Improvements

PHONE (808) 594-1888

FAX (808) 594-1865



**STATE OF HAWAII**  
**OFFICE OF HAWAIIAN AFFAIRS**  
771 KAPI'OLANI BOULEVARD, SUITE 600  
HONOLULU, HAWAII 96813



March 8, 2006

Maynard Young  
University of Hawaii 'i  
c/o Office of Capital Improvements  
1951 East-West Road  
Honolulu, HI 96822

**RE: Draft Environmental Assessment for Renovation and New Construction at Komohana Agricultural Complex, Waiākea, South Hilo, Hawaii'i Island; TMK: 2-4-001:041**

Dear Maynard Young,

The Office of Hawaiian Affairs (OHA) is in receipt of your February 3, 2006, request for comments on the above project, which would allow the University of Hawaii 'i College of Tropical Agriculture and Human Resources to renovate three existing, obsolete classroom buildings for office use at the Komohana Agricultural Complex and to build two new buildings: a two-story laboratory building and an adjacent teleconference/lunch room facility. OHA offers the following comments.

We appreciate that, per our previous request, you contacted our Hilo Community Resource Coordinator, Lukela Ruddle, and that you followed her request and also contacted Mariamne Maigret at the State Historic Preservation Division office in Kona. We further appreciate the language in the Draft EA, which clarifies that these are ceded lands, leased to the University of Hawaii 'i by the Department of Land and Natural Resources.

Although it is unexpected that any cultural properties will be found during ground disturbance for this project because of its highly disturbed state, OHA will rely on the applicant's assurances in the Draft EA that should iwi kūpuna or Native Hawaiian cultural deposits be found during ground disturbance, work will cease, and the appropriate agencies be contacted pursuant to applicable law.

Sincerely,

Charles W. Nāmu 'o  
Administrator

CC: Lukela Ruddle  
Community Resource Coordinator  
OHA – Hilo Office  
162 A Baker Ave.  
Hilo, HI 96720-4869

✓ Charles Willson  
Project Planner  
Helber, Hastert & Fee Planners  
733 Bishop Street, Suite 2590  
Honolulu, HI 96813  
  
The Office of Environmental Quality Control  
235 Bishop Street  
Suite 2590  
Honolulu, HI 96813

**Helber Hastert & Fee**  
Planners, Inc.

March 22, 2006

Clyde W. Namu'o, Administrator  
Office of Hawaiian Affairs  
711 Kapi'olani Blvd., Ste. 500  
Honolulu, HI 96813

OHA Ref: HRD05/2127 B



**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Namu'o,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment.

We understand that, in the event that any Native Hawaiian cultural deposits, iwi kupuna, or other artifacts are found during ground disturbance and construction activities, all work needs to cease in the vicinity of the find and the State Historic Preservation Division contacted pursuant to applicable law.

The Final EA now reads (p. 3-10):

"...contract documents will require that, in the event that historic resources, including human skeletal remains, are identified during construction activities, all work shall cease in the immediate vicinity of the find, the find shall be protected from additional disturbance, and the State Historic Preservation Division, Hawai'i Section, shall be contacted immediately at (808) 327-3690 to determine the appropriate course of action."

Thank you again for your interest in this project, and the helpfulness and aloha of your staff (Gladys Brigham and Lukela Ruddle of your Hilo office, and Heidi Guth in Honolulu) in providing timely feedback. A copy of your letter and this response will be appended to the Final EA.

Sincerely,

Charles Willson  
Planner

cc: Ms. Genevieve Salmonson, OEQC  
Ms. Lukela Ruddle, Community Resource Coordinator, OHA Hawai'i Section

Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
Tel. 808.545.2055 • Fax 808.545.2050 • www.hhf.com • e-mail: info@hhf.com

Harry Kim  
Mayor



County of Hawaii

PLANNING DEPARTMENT  
101 Aupuni Street, Suite 3 • Hilo, Hawaii 96720-3043  
(808) 961-8288 • FAX (808) 961-8742

Christopher J. Yuen  
Director  
Brad Kurokawa, ASLA  
LEED™ AP  
Deputy Director



February 16, 2006

Mr. Maynard Young  
University of Hawaii  
c/o Office of Capital Improvements  
1951 East-West Road  
Honolulu HI 96822

Dear Mr. Young:

**Draft Environmental Assessment**

**Subject: Komohana Agricultural Complex Renovation and New Construction**

**Tax Map Key: 2-4-1:Portion of 41**

This is to acknowledge receipt of a Helber Hastert & Fee Planners, Inc. letter dated January 20, 2006 which responded to our earlier comments on the proposed project. Also acknowledged is receipt of the Draft Environmental Assessment for the aforementioned project.

After reviewing the document, we have no additional comments to offer.

If you have questions, please feel free to contact Esther Imamura or Larry Brown of this office at 961-8288, Extension 257 or 258, respectively.

Sincerely,

CHRISTOPHER J. YUEN  
Planning Director

ETI:cd  
P:\WPWIN60\ETI\EA\Draft\Fre-consult\Young Komohana Ag Complex.doc

Hawai'i County is an Equal Opportunity Provider and Employer.

Mr. Maynard Young  
University of Hawaii  
Page 2  
February 16, 2006

xc: Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu HI 96813

Mr. Charles Willson  
Helber Hastert & Fee Planners, Inc.  
Pacific Guardian Center  
733 Bishop Street, Suite 2590  
Honolulu HI 96813

**Helber Hastert & Fee**  
*Planners, Inc.*

March 20, 2006



Christopher J. Yuen, Director  
County of Hawaii  
Planning Department  
101 Aupuni Street, Suite 3  
Hilo, HI 96720-3043

**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Yuen,

Thank you for your review of the Komohana Agricultural Complex Draft Environmental Assessment, and our letter responding to your earlier comments. We understand you have no additional comments at this time, but appreciate your department having taken the time to review our submittal and to respond.

Should we have additional questions, we will be in contact with Esther Imamura or Larry Brown of your department at 961-8288 (ext. 257 or 258, respectively).

Thank you again for your assistance with this project. A copy of your letter and this response will be appended to the Final EA, and we will provide the Planning Department a copy of the Final EA as soon as it is released.

Sincerely,

Charles Willson  
Planner

cc: Ms. Genevieve Salmonson, OEQC



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII  
 345 KEKUAŌA STREET, SUITE 20 • HILO, HAWAII 96720  
 TELEPHONE (808) 961-8050 • FAX (808) 961-8657

March 7, 2006



Mr. Maynard Young  
 University of Hawai'i  
 c/o Office of Capital Improvements  
 1951 East-West Road  
 Honolulu, HI 96822

**DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
 RENOVATION AND NEW CONSTRUCTION AT KOMOHANA  
 AGRICULTURAL COMPLEX  
 TAX MAP KEY 2-4-001:PORTION OF 041**

We have reviewed the subject document and our comments are as follows.

Water is available from a 12-inch waterline in Komohana Street, which fronts the parcel. Currently, the project has a service lateral with the Department to service a 2-inch meter. However, the meter connection size will be determined by the anticipated maximum daily water usage and peak-hour flow recommended by a registered engineer in the State of Hawai'i for the complex's total usage. The water demand calculations will be subject to review and approval by the Department. The Department will also require that a backflow preventer be installed just after the meter on the customer's side.

Should there be any questions, please call Ms. Shari Komata of our Water Resources and Planning Branch at 961-8070, extension 252.

Sincerely yours,

  
 Milton D. Pavao, P.E.  
 Manager

SHK:SCO

copy - Ms. Genevieve Salmonson, Director, State of Hawai'i, Office of Environmental Quality Control  
 ✓ Mr. Charles Wilson, Helber Hastert & Fee, Planners, Inc.

... *Water brings progress...*

The Department of Water Supply is an Equal Opportunity provider and employer. To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights, Room 326-N, Whitten Building, 14th and Independence Avenue, SW, Washington DC 20250-9410. Or call (202) 726-5864 (voice and TDD)

**Helber Hastert & Fee**  
 Planners, Inc.

March 20, 2006

Milton D. Pavao, P.E., Manager  
 Department of Water Supply  
 County of Hawai'i  
 345 KekuaŌa Street, Suite 20  
 Hilo, Hawai'i 96720

**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Pavao,

Thank you for your comments on the Komohana Agricultural Complex Draft Environmental Assessment.

Section 5.1 (Utilities, Water) of the Final EA has been adjusted to state:

"KAC is connected to a 12-inch County water line which fronts the parcel at Komohana Street. Water is currently supplied to the complex by a service lateral and an existing 2-inch meter."

Further on in the same section it states:

"Department of Water Supply will require installation of a backflow prevention device downstream of the meter, and must review and approve calculations for connection of the new Building D wing."

We also understand that meter connection size will be determined by the anticipated maximum daily water usage and peak-hour flow for the complex's total usage, as recommended by a Hawai'i licensed registered engineer, and that the water demand calculations will be subject to review and approval by the Department of Water Supply.

Thank you again for your assistance with this project. If we have additional questions, we will contact Ms. Shari Komata of the Water Resources and Planning Branch at 961-8070, ext. 252. A copy of your letter and this response will be appended to the Final EA.

Sincerely,



Charles Willson  
 Planner

cc: Maynard Young, UH Office of Capital Improvements

Pacific Guardian Center • 733 Bishop Street, Suite 2590 • Honolulu, Hawaii 96813  
 Tel. 808.545.2055 • Fax 808.545.2050 • www.hbf.com • e-mail: info@hbf.com



Harry Kim  
Mayor



**County of Hawaii**

**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

25 Aupuni Street, Room 210 • Hilo, Hawaii 96720-4252  
(808) 961-8083 • Fax (808) 961-8086

February 21, 2006

University of Hawaii 'i  
c/o Office of Capital Improvements  
1951 East-West Road  
Honolulu, HI 96822

Attention: Maynard Young

Re: Draft Environmental Assessment (DEA) for Renovation and New Construction at  
Komohana Agricultural Complex, South Hilo, Hawaii 'i, TMK 3<sup>rd</sup> 2-4-01: por 41

Dear Mr. Young,

We offer the following comments regarding the proposed project:

Wastewater Division  
Requires monitoring of existing sewer to ensure adequate capacity.

If you have additional questions regarding this requirement, please contact Peter Boucher, P.E.,  
Wastewater Division Chief at 961-8513.

Thank you for allowing us the opportunity to offer input on this project and if we can be of  
further assistance, please don't hesitate to contact us.

Barbara Bell  
DIRECTOR

cc: OEQC  
Helber Hastert & Fee, Planners  
Nelson Ho, Deputy Director  
Peter Boucher, WWD Chief

**Helber Hastert & Fee**  
Planners, Inc.

March 22, 2006

Barbara Bell, Director  
County of Hawaii  
Department of Environmental Management  
25 Aupuni Street, Room 210  
Hilo, HI 96720



**RE: Comments to Komohana Agricultural Complex Renovation and New  
Construction Draft EA**

Dear Ms. Bell,

Thank you for your comments on the Draft Environmental Assessment for the Komohana  
Agricultural Complex.

We have incorporated your comment into Section 5.1 (Utilities, Wastewater / Sewer) on page  
5-1 of the Final EA, which has been adjusted to state:

"...the existing sewer line requires monitoring to ensure adequate capacity."

Thank you again for your review of this project. If we have additional questions, we will contact  
Mr. Boucher at 961-8513. A copy of your letter and this response will be appended to the Final  
EA.

Sincerely,

Charles Willson  
Planner

cc: Ms. Genevieve Salmonson, OEQC  
Mr. Nelson Ho, Deputy Director  
Mr. Peter Boucher, WWD Chief



February 23, 2006



Office of Capital Improvements  
Attn: Mr. Maynard Young  
University of Hawai'i  
1951 East-West Road  
Honolulu, HI 96822  
(808) 956-4071

Dear Mr. Young:

Subject: Draft Environmental Assessment (DEA) for Renovation and New Construction of the Komohana Agricultural Complex, Waiakea, South Hilo, Hawaii (TMK: 3rd 2-4-01: por41).

Thank you for the opportunity to review the Draft Environmental Assessment.

We do not have any objections to the renovation and new construction planned at the Komohana Agricultural Complex for the University of Hawaii. We do have the following general comments:

1. HELCO's Komohana Substation serves the Komohana Agricultural Complex and has adequate capacity to serve this proposed development.
2. We strongly recommend that energy efficient and conservation features suitable to reduce the peak electrical demand are part of the development's plans. We recommend that this development take full advantage of waste heat recovery equipment to recycle and reuse the waste heat rejected by air conditioning and refrigeration equipment. If this equipment is incorporated in the development's original design, the amount of energy required will be substantially reduced.
3. The project consultants and engineers are urged to contact HELCO's Engineering Department as soon as practicable to open a service request to insure timely procurement of long lead equipment. A remote meter reading option is now available using the electrical lines as communication medium to a central master receiver at the substation. This option will require additional equipment in the HELCO meters and the substation. A cost estimate for this option may be requested from the Engineering Department.

Office of Capital Improvements  
Attn: Mr. Maynard Young  
University of Hawai'i  
February 23, 2006  
Page 2

Should you have any questions, please contact me at (808) 969-0321 or Hal Kamigaki at (808) 969-0322.

Sincerely,

  
Clyde H. Nagata, P.E.  
Manager, Engineering Department

CHN:HK:jk



**Helber Hastert & Fee**  
*Planners, Inc.*

March 20, 2006



Clyde H. Nagata, P.E.,  
Manager, Engineering Department  
Hawaii Electric Light Company, Inc.  
PO Box 1027  
Hilo, HI 96724-1027

**RE: Comments to Komohana Agricultural Complex Renovation and New Construction Draft EA**

Dear Mr. Nagata,

Thank you for your comments on the Draft Environmental Assessment for the Komohana Agricultural Complex, and your confirmation that HELCO's Komohana Substation serves the Komohana Agricultural Complex and has adequate capacity to serve this proposed expansion.

We are passing your letter on to the project architect for follow-up regarding energy efficiency, waste heat recovery, and remote meter reading options.

Should we have additional questions, we will contact you at (808) 969-0321 or Hal Kamigaki at (808) 969-0322.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Final EA.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles Willson".

Charles Willson  
Planner

cc: Mr. Maynard Young, UH Office of Capital Improvements  
Mr. John Hara, John Hara Associates, Inc.  
Ms. Lori Takeyama-Goshi, John Hara Associates, Inc.

Network Engineering and Planning  
OSP Engineering - Hawaii

March 6, 2006

Helber Hastert & Fee, Planners  
Pacific Guardian Center  
733 Bishop Street, Suite 2590  
Honolulu, Hawaii 96813  
Attention: Charles Wilson

**Subject: Draft Environmental Assessment (DEA) for Renovation and New Construction at Komohana Agricultural Complex, South Hilo, Hawaii, TMK 3<sup>rd</sup> 2-4-01: por 41**

Dear Mr. Wilson:

Thank you for allowing us to review and comment on your Draft Environmental Assessment for the above project.

This area is fed from our Kawaiiani Central Office, which is located at the intersection of Kawaiiani and Iwalani Street. We have adequate facilities at this central office to service your project.

Should you have any questions, please contact Rodney Keili at 933-6488.

Sincerely,

  
Gordon Yadao  
Section Manager-Network Engineering

GY/rk

c: TPS# 06062

Hawaiian Telcom

161 Kinoole Street  
Hilo, HI 96720

Phone 808 933-6488  
Fax 808 935-0475



**Helber Hastert & Fee**  
Planners, Inc.

March 20, 2006

Gordon Yadao, Section Manager  
Network Engineering and Planning  
Hawaiian Telcom  
161 Kinoole Street  
Hilo, HI 96720

**RE: Comments to the Draft Environmental Assessment for the Komohana Agricultural Complex Renovation and New Construction**

Dear Mr. Yadao,

Thank you for your comments on the Draft Environmental Assessment for the Komohana Agricultural Complex. We appreciate your correction indicating the location of the office serving this site, and your confirmation of the adequacy of your facilities. We have modified the Telecommunications section of the Final EA to address your comments as follows:

**TELECOMMUNICATIONS:** Telephone service is supplied by Hawaiian Telcom from the Kawaiiani Central Office, located at the intersection of Kawaiiani and Iwalani Streets. Hawaiian Telcom has confirmed that these facilities are adequate to furnish the additional telephone hookups required and the requirements of the new teleconferencing facility to be constructed on-site.

If we have additional questions, we will contact Rodney Keili at 933-6488.

Thank you again for your interest in this project. A copy of your letter and this response will be appended to the Final EA.

Sincerely,



Charles Willson  
Planner

Ref.: TPS# 06062

## **12.0 DISTRIBUTION LIST FOR THE FINAL EA**

Final EAs were delivered to agencies and organizations recommended by OEQC and to those that commented on the Draft EA (see list below).

### **STATE OF HAWAI'I**

- Department of Health
  - Office of Environmental Quality Control
- Department of Accounting & General Services
- Department of Land and Natural Resources
  - Land Division
  - Historic Preservation Division
- Department of Transportation
- Office of Hawaiian Affairs
- University of Hawai'i
  - UH Office of Capital Improvements, Facilities Planning and Design
  - UH Mānoa College of Tropical Agriculture and Human Resources
  - Komohana Agricultural Complex

### **COUNTY OF HAWAI'I**

- Planning Department
- Board of Water Supply
- Department of Environmental Management

### **PRIVATE / OTHER**

- Hawai'i Electric Light Co.
- Hawaiian Telecom

### **HAWAI'I PUBLIC LIBRARIES / DEPOSITORIES**

- Hawai'i Public Library Main Branch
- Hawai'i Documents Center
- Hilo Public Library
- Department of Business, Economic Development & Tourism Library

## 13.0 REFERENCES

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- County of Hawai'i Department of Research and Development. *2002 County of Hawai'i Data Book*. December 2003. Available at: [http://www.hawaii-county.com/databook\\_current/dbbooktoc.htm](http://www.hawaii-county.com/databook_current/dbbooktoc.htm).  
Table 5.18 - Climatic Normals, Means, and Extremes for Hilo Airport: 2002 from: [http://www.hawaii-county.com/databook\\_current/Table%205/5.18.doc](http://www.hawaii-county.com/databook_current/Table%205/5.18.doc); Table 5.10 - Volcanic Eruptions on Hawai'i Island: 1750 to 2004 [http://www.hawaii-county.com/databook\\_current/Table%205/5.10.pdf](http://www.hawaii-county.com/databook_current/Table%205/5.10.pdf);  
Table 5.11 - Earthquakes of Magnitude 5 or Greater: 1974 to 2005. [http://www.hawaii-county.com/databook\\_current/Table%205/5.10.pdf](http://www.hawaii-county.com/databook_current/Table%205/5.10.pdf)
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- State of Hawai'i Department of Business, Economic Development, and Tourism (DBEDT). *The State of Hawai'i Data Book 2004*. Table 5.36, Climatic Normals, Means, and Extremes for Hilo, Kahului, Honolulu, and Lihue Airports: 2004. Available online at: [http://www3.hawaii.gov/DBEDT/images/User\\_Files/Images/databook/db04/sec05\\_a1883.pdf](http://www3.hawaii.gov/DBEDT/images/User_Files/Images/databook/db04/sec05_a1883.pdf)
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