DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
715 SOUTH KING STREET, SUITE 311 ● HONOLULU, HAWAII 96813 ● AREA CODE 808 ● PHONE: 768-7762 ● FAX: 768-7792

MUFI HANNEMANN
MAYOR

DEBORAH KIM MORIKAWA
DIRECTOR

MARK K. OTO
SENIOR ADVISOR

October 25, 2007

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

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact
Hale Wai Vista, Waianae, Oahu
Tax Map Key (1) Key 8-6-01: 035

The Department of Community Services (DCS) has reviewed the comments received during the 30-day public comment period which began on January 8, 2007. DCS has determined that this project will not have significant environmental effects, and has issued a FONSI. Please publish this notice in the next available OEQC Environmental Notice. We have enclosed a completed OEQC Publication Form and four copies of the final environmental assessment for your use.

We appreciate your assistance with this matter. Please call Mr. Keith Ishida at 768-7750 should you have any questions.

Sincerely,

Deborah Kim Morikawa
Director

DKM:ki

Enclosures

FINAL ENVIRONMENTAL ASSESSMENT

HALE WAI VISTA
AFFORDABLE RENTAL APARTMENT DEVELOPMENT
78 AND 86 FARRINGTON HIGHWAY

TMK: 8-6-1: 35

HAWAII HOUSING DEVELOPMENT CORPORATION

Randolph G. Moore, Board Chair

Gary S. Furuta, Project Manager

1828 Young Street, Ste. 201

Honolulu, Hawaii 96826

Department of Community Services

715 S. King Street, Suite 408

Honolulu, Hawaii 96813

Accepting Agency/Responsible Entity

Deborah Kim Morikawa, Director

Certifying Officer

Kusao & Kurahashi, Inc.

Planning and Zoning Consultants

2752 Woodlawn Drive, Suite 5-202

Honolulu, Hawaii 96822

AUGUST 2007

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FINAL ENVIRONMENTAL ASSESSMENT

HALE WAI VISTA
AFFORDABLE HOUSING PROJECT
Waianae, Hawaii
TMK: 8-6-001: 035

I. INTRODUCTION

The developer, Hawaii Housing Development Corporation, a non-profit organization, proposes to develop an affordable rental housing project on a 5.02 acre property located adjacent to Waianae Mall as indicated in the attached Location Map. The proposed development will consist of four multi-family buildings and one multi-purpose building as indicated in the attached plans, Appendix I. A total of about 215, 2 and 3 bedroom affordable rental units, and a resident managers unit, will be developed. The affordable units will be rented to qualified families. After meeting with the Waianae Neighborhood Board on September 5, 2006, the developer reduced the height for the two mid-rise buildings. Originally proposed for 8 stories with a roof height of 70'-9", these building are now 7 stories with a height of 60' 1" to the top of the main roof. The other three buildings are 2-story structures. The two multi-family structures will be 27'-1" high and the community multi-purpose building will be about the same height. Heights limits in the surrounding area include 25 feet for properties within the Residential district to 40 feet for those properties zoned B-2 Community Business and I-2 Intensive Industrial. Previously planned with 293 parking stalls, 38 additional stalls have been added for a total of 331 stalls, more then required by the zoning code.

It is anticipated that the project will be developed in two phases. Phase I will consist of a 7-story building with a total of 84 units. Phase II will include the

remaining buildings including three multi-family buildings and a multi-purpose building. The proposed multi-purpose building will be used by the residents in the project, and it could provide space for various social uses and possibly include a Head Start program or community meeting rooms.

This Final Environmental Assessment Report for the development of an affordable rental housing project is prepared pursuant to and in accordance with the requirements of Chapter 343 HRS and Chapter 200 of Title 11, Administrative Rules - Environmental Impact Statement Rules and 24 Code of Federal Regulations part 58.

The action that triggers this assessment is the proposed use of Federal, State and City funds.

All adjoining property owners were notified by letter dated August 25, 2006 of the proposed project and of the developers presentation before the Waianae Neighborhood Board No. 24. Copies of this notification letter are attached as Appendix II.

The proposed multi-family affordable rental project is not a permitted use in the B-2 Community Business District under the Land Use Ordinance (Section 7.80-4) as shown on Exhibit 1, Location and Zoning Map. The developer will seek exemptions from zoning and other development requirements as provided for in Chapter 201H, Hawaii Revised Statutes (HRS) upon satisfaction of environmental assessment requirements.

II. GENERAL INFORMATION

A.	Project Name	:	Hale Wai Vista
B.	Developer/Applicant/ Grant Recipient	:	Hawaii Housing Development Corp. 1828 Young Street, #201 Honolulu, Hawaii 96826 Randolph G. Moore, Board Chair Gary S. Furuta, Project Manager
C.	Project Representative	:	Mr. Gary S. Furuta, Project Manager Phone: 429-7815
D.	Recorded Fee Owner	:	Hawaii Housing Development Corp. 1828 Young Street, #201 Honolulu, Hawaii 96826
E.	Accepting Agency/ Responsible Entity	:	Department of Community Services City and County of Honolulu 715 S. King Street, Suite 311 Honolulu, Hawaii 96813
F.	Tax Map Key	:	8-6-001: 035
G.	Agent/Preparer	:	Kusao & Kurahashi, Inc. Planning and Zoning Consultants 2752 Woodlawn Drive, Suite 5-202 Honolulu, Hawaii 96822 Phone: (808) 988-2231
H.	Location	:	86-78 and 86-86 Farrington Highway Waianae, Hawaii

I.	Estimated Total Project Cost	:	$62 Million
J.	Lot Area	:	5.02 acres
K.	Zoning	:	B-2 Community Business District (Exhibit 1)
L.	State Land Use	:	Urban
M.	Development Plan		
	Land Use Map	:	Country Town (Exhibit 2)
N.	Public Infrastructure Map:		No improvements affecting the development site (Exhibit 3)
O.	Special District	:	Not in Special District
P.	Existing Use	:	Vacant
Q.	List of Agencies Consulted (Draft EA)	:	Senator Colleen Hanabusa Representative Maile S.L. Shimabukuro Councilmember Todd K. Apo U.S. Fish and Wildlife Service U.S. Army Corps of Engineers State Historic Preservation Division State Department of Land and Natural Resources

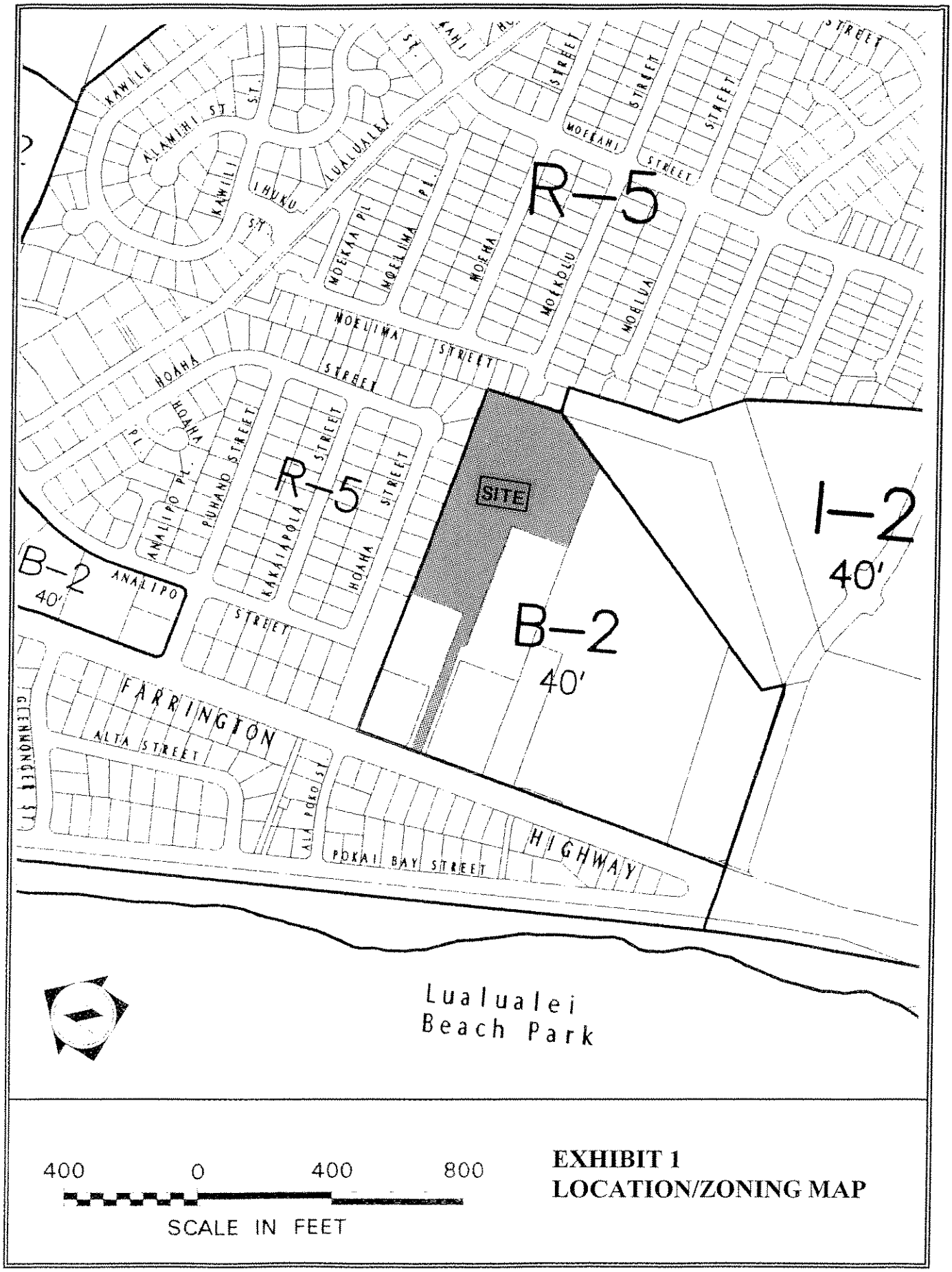
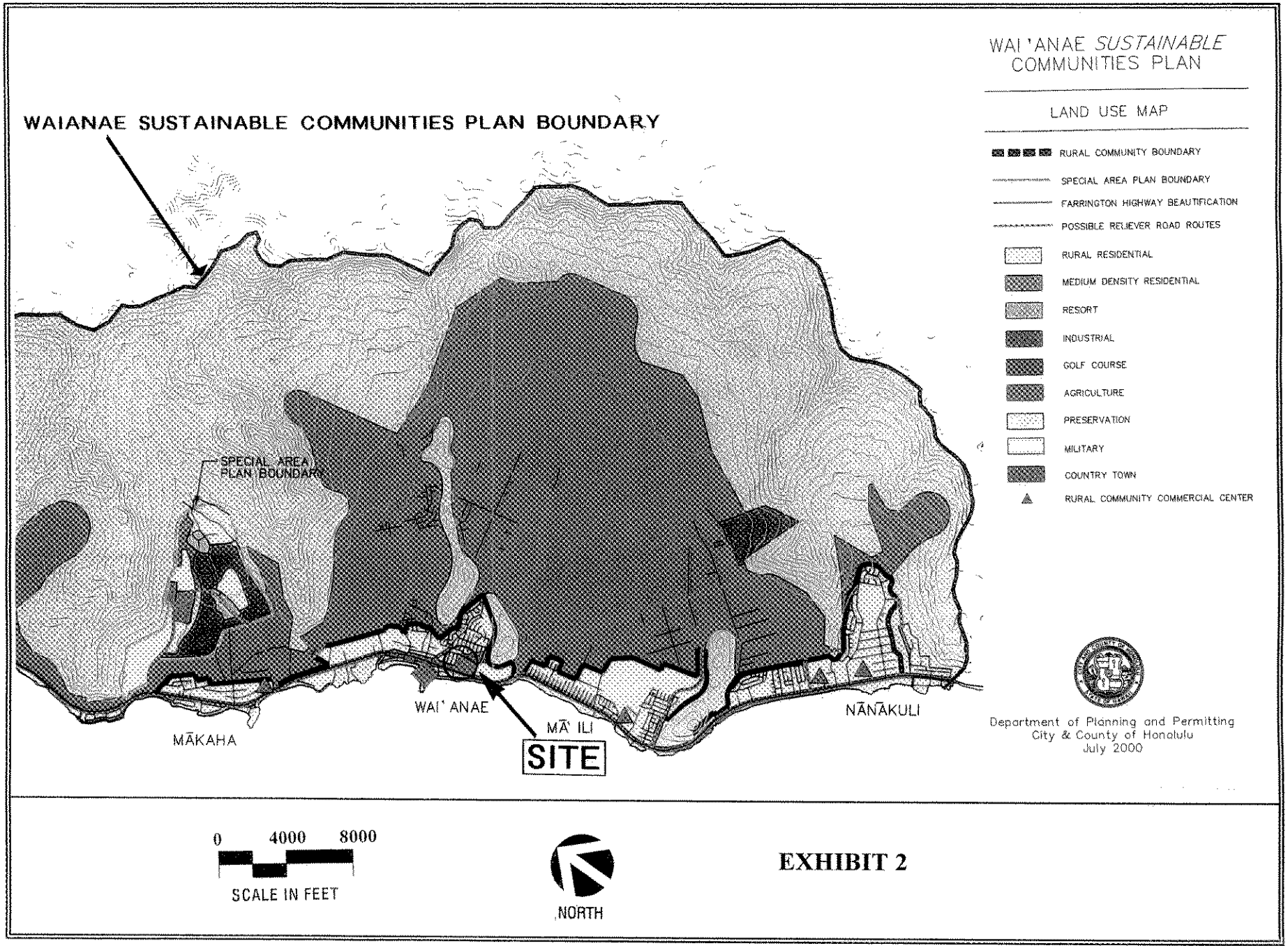


EXHIBIT 1
LOCATION/ZONING MAP


WAIANAE SUSTAINABLE COMMUNITIES PLAN BOUNDARY
SPECIAL AREA PLAN BOUNDARY
MĀKAHA
WAI'ANAE
MĀ'ILI
SITE
NĀNĀKULI
WAI'ANAE SUSTAINABLE COMMUNITIES PLAN
LAND USE MAP
RURAL COMMUNITY BOUNDARY
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POSSIBLE RELIEVER ROAD ROUTES
RURAL RESIDENTIAL
MEDIUM DENSITY RESIDENTIAL
RESORT
INDUSTRIAL
GOLF COURSE
AGRICULTURE
PRESERVATION
MILITARY
COUNTRY TOWN
RURAL COMMUNITY COMMERCIAL CENTER
Department of Planning and Permitting
City & County of Honolulu
July 2000
0 4000 8000
SCALE IN FEET
NORTH

EXHIBIT 2

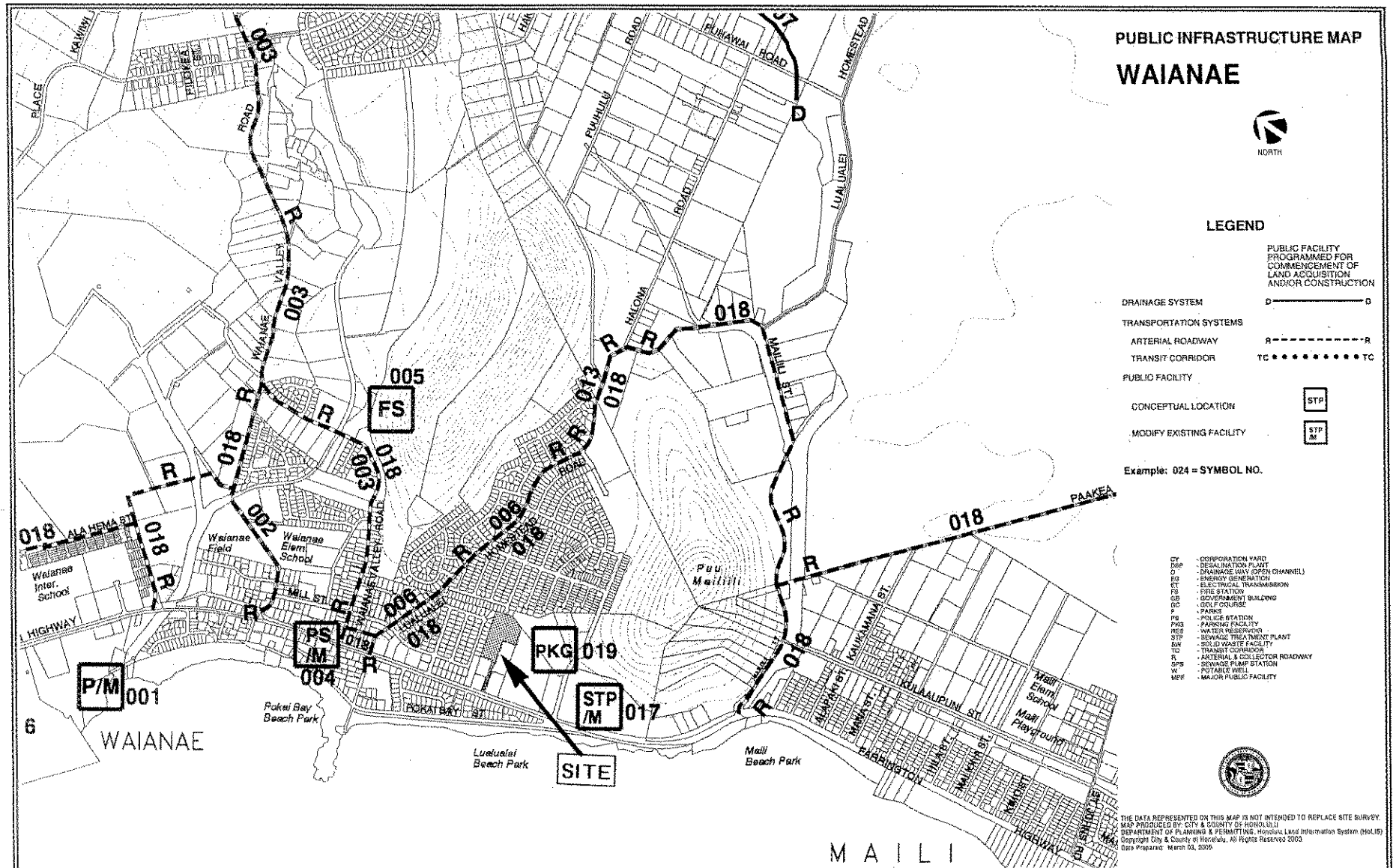

PUBLIC INFRASTRUCTURE MAP
WAIANAE
NORTH
LEGEND
PUBLIC FACILITY PROGRAMMED FOR COMMENCEMENT OF LAND ACQUISITION AND/OR CONSTRUCTION
DRAINAGE SYSTEM
TRANSPORTATION SYSTEMS
ARTERIAL ROADWAY
TRANSIT CORRIDOR
PUBLIC FACILITY
CONCEPTUAL LOCATION
MODIFY EXISTING FACILITY
Example: 024 = SYMBOL NO.
CY - CORPORATION YARD
DSP - DESALINATION PLANT
D - DRAINAGE WAY (OPEN CHANNEL)
EG - ENERGY GENERATION
ET - ELECTRICAL TRANSMISSION
FS - FIRE STATION
GB - GOVERNMENT BUILDING
GC - GOLF COURSE
P - PARKS
PS - POLICE STATION
PKG - PARKING FACILITY
RES - WATER RESERVOIR
STP - SEWAGE TREATMENT PLANT
SW - SOLID WASTE FACILITY
TC - TRANSIT CORRIDOR
R - ARTERIAL & COLLECTOR ROADWAY
SPS - SEWAGE PUMP STATION
W - POTABLE WELL
MPF - MAJOR PUBLIC FACILITY
THE DATA REPRESENTED ON THIS MAP IS NOT INTENDED TO REPLACE SITE SURVEY.
MAP PRODUCED BY: CITY & COUNTY OF HONOLULU
DEPARTMENT OF PLANNING & PERMITTING, Honolulu Land Information System (HoLIS)
Copyright City & County of Honolulu, All Rights Reserved 2003
Date Prepared: March 03, 2005
WAIANAE
MAILI
Waianae Inter. School
Waianae Field
Waianae Elem. School
Pokai Bay Beach Park
Luaiualai Beach Park
Maili Beach Park
Puu Mailiili
Maili Elem. School
Maili Playground
FS 005
PS /M 004
P/M 001
PKG 019
STP /M 017
SITE
0 1000 2000
SCALE IN FEET

EXHIBIT 3

State Department of Health
Office of Environmental Quality Control
State Department of Transportation
State Land Use Commission
State Department of Agriculture
State Housing Finance & Development Corp.
Office of Hawaiian Affairs
State Department of Transportation

Department of Environmental Services
Honolulu Emergency Services Department
Honolulu Fire Department
Honolulu Board of Water Supply
Honolulu Department of Parks and Recreation
Department of Planning and Permitting
Honolulu Police Department
Department of Transportation Services

R. Others : Neighborhood Board No. 24
Hawaiian Electric Company

III. DESCRIPTION OF PROPOSED ACTION

A. PURPOSE AND NEED FOR THE PROPOSAL

1. Purpose

Data@Work, Inc. a market research firm that specializes in analyzing residential real estate markets for developers, has been retained by the Hawaii Housing Development Corporation, General Partner of Hale Wai Vista L.P., to perform a study analyzing the

market for affordable family rental housing in Waianae. The market study, conducted in 2006, entitled, "Affordable Rental Project Feasibility Addendum for Hale Wai Vista III", focuses on the historical, current, and projected for sale and rental market conditions and trends to help forecast the absorption for the proposed rental units.

The study, provided in Appendix VII, generally relates that the local economy has been growing with the growth of job counts, improved income levels, population growth and low unemployment. In Section XII of the summary the report states that the booming real estate market is expected to slow but that this trend is not the case at the lower end of the price range.

Regarding the proposed rentals the study concludes the following: "....we foresee that this project will receive a sufficient number of rental applications to be able to achieve 100% occupancy within the first six months of availability. We support this forecast with further evidence that the demand side of the market is strong and will continue strong for the next 2-3 years (barring any external shocks to the market, and/or the economy). The global economy is poised to grow at a consistently high rate in the next 1-2 years, which is key to Hawaii's economy going forward.

On the supply side, we see continued tightening in the market rate rental market. We also see no new construction targeting this

market segment, the affordable rental market for families looking for a residence suitable for aging-in-place. There are a very few projects targeting affordable for-sale housing, but even they are meeting with community resistance in their neighborhoods. Finally, we point to the zero vacancies and the long waiting lists at the existing comparable projects that subsidize the rents for low-income households.

Thus, we see a level of current demand that is well above and beyond the current supply."

Generally, families and individuals will be allowed to remain in the project as long as they meet established income criteria.

The proposed rental units will remain affordable for 61 years. The developer does not propose to covert the affordable rental units to market rate units before the 61 years is over.

2. Target Market

As currently planned, the proposed affordable family rental multi-family development will service the needs of households who earn at or below 30% , 50% and 60% of the area medium gross income (AMGI). It is anticipated that 12 units will be provided to households earning at or below 30% AMGI, 78 units will be provided to households earning up to 50% of AMGI and the remaining 125 units will go to households earning up to 60% AMGI.

As currently envisioned, rental units will be made available to

families earning up to about 30, 50 and 60% of Honolulu' s median family income.

Maximum Incomes by Household Size

Household Size	30% AMGI*	50% AMGI	60%AMGI
2 Persons	$17,100	$28,500	$34,200
3 Persons	$19,250	$32,100	$38,520
4 Persons	$21,400	$35,650	$42,780

*AMGI =Average Median Gross Income

Rents

	Maximum Allowable Rental Rates	Approximate Initial Rates (including utility allowance)
Two bedroom units at 30% of AMGI -	$481/month	$481
Two bedroom units at 50% of AMGI -	$802/month	up to $733
Three bedroom units at 50% of AMGI -	$926/month	$837
Two bedroom units at 60% of AMGI -	$963/mo.	up to $742
Three bedroom units at 60% of AMGI -	$1,112/mo.	up to $885

As indicated in the above table the rents charged to residents will often be lower than

the allowable rental rates under Federal guidelines. The net approximate rates, including the utility allowance, will cover the cost of utilities.

B. GENERAL DESCRIPTION

1. Proposed Development

The applicant, Hawaii Housing Development Corporation, proposes to develop an affordable rental housing project on a 5.02 acre property located adjacent to Waianae Mall. As indicated on the Site Plan, included in Appendix I, the development will consist of four multi-family buildings providing a total of about 215 affordable dwelling units with one resident manager's unit, and a multi-purpose building. It is anticipated that the project will be developed in two phases.

The first building to be constructed in Phase I of the development, a seven story building with 84 units, will be located at the southern end of the property as indicated on the site plan located near the industrial and commercial zoned properties. Parking for this building is planned adjacent to the building and along the driveway stem. As indicated in the floor plans there will be a total of 12 units on each floor arranged in a double loaded configuration with a hallway separating the two rows of apartment units. Units will vary in size from about 591 to 751 square feet and consist of two and three

bedroom units.

The Ground Floor Plan, provided in Appendix I, indicates there will be a mechanical and electrical room on the ground floor in addition to a lobby/mailroom, managers office and storage room. A trash chute will be located at the west end of the building.

Access to the upper apartment floors of the building will be provided by an elevator and stairs.

Phase 2 will consist of the remaining four buildings including three apartment buildings and the multi-purpose building. One of the multi-family buildings will be the same as the building constructed in Phase 1 with 84 units. The other buildings are 2-story structures and have 24 units each. The two multi-family structures will be 27'1' high and the community multi-purpose building will be about 30' high. Again, both two and three bedroom units will be provided on each floor. Stairs and elevators will provide access to the second level.

There will be a total of about 331 on-site at-grade parking stalls provided for the project. These will be provided to residents with some stalls set aside for visitors and the remainder for the users of the multi-purpose building. This is about 38 stalls more than the 293 stalls originally proposed and 42 more than the required number of stalls. The number of parking stalls was increased because the Neighborhood Board suggested increasing the number. Loading stalls will be

provided at each of the multi-family buildings.

An irrigation system will be installed to provide adequate water coverage to all proposed planting areas. There are currently no plans to use recycled water for irrigation.

Open space and a recreational area will be provided on-site in those areas not occupied by parking and buildings. These areas are located around the multi-purpose building, at the west end of the property as shown on the site plan provided in Appendix I.

The project will be managed by one or more resident managers that will live in the complex.

The multi-purpose building will be used by the residents in the development, and could provide space for various social uses possibly including a Head Start program or community meeting rooms.

2. Location, Existing Conditions and Trends

The project site is located on the leeward coast in Waianae on the island of Oahu. The address of the property is 86-78 and 86-86 Farrington Highway. The lot is a flag lot with access off Farrington Highway and a secondary access off Moekolu Street. (Moekolu Street is not proposed for regular vehicular access.)

The property is within the area that is served by the Waianae Neighborhood Board No. 24. The irregularly shaped lot is identified by Tax Map Key 8-6-001: 035.

The footprint of the former warehouse that occupied the site remains apparent and is documented in files with the Department of Planning and Permitting. Historical records indicated that at one time a vehicular repair facility was located here. According to a Phase I Environmental Site Assessment Report, prepared by Mid Pacific Industries, LLC., there are no signs of subsurface structures or soil contamination.

3. Surrounding Area

The property is situated within a commercial/residential area in Waianae. It is bound on the north by residential single family dwellings. South of the site is Waianae Mall. The area to the west of the site is developed with City Mill, some structures used by the Leeward Community College, a small commercial center a, restaurant and a gasoline filling station.

The Waianae Coast Community Transit Center is located at the far end of an adjacent city-owned property as indicated on Exhibit 4.

4. Land Use Approvals

a. State Land Use

The development site is designated Urban under state land use and the proposed affordable rental apartment development is consistent with this designation.

c. General Plan

The City's General Plan is a comprehensive statement of objectives and policies which expresses the long-range aspirations of Oahu's residents. This document identifies areas of concern.

Among the objectives for housing, the General Plan calls for decent housing for all the people of Oahu at prices they can afford. The proposed housing project is consistent with several of the identified policies, many of which are related to affordability and one related to streamlining approval and permitting procedures.

The consistency of the development relative to population goals are identified in Section IV. A. which discusses demographics.

b. Development Plan

It is within the Rural Community Boundary of the Waianae Sustainable Community Plan. Generally, this boundary is intended to reflect a development character of low-density, low-rise, small scale development. In it's letter of February 21, 2007 the Department of Planning and Permitting indicated that it believed that he proposed project was generally inconsistent with the visions of Waianae as a rural community as identified in Section 2.2 of the Waianae Sustainable Communities Plan.

We note that the purpose of the project is to provide affordable housing for families and that this resource promotes the values expressed in the vision statement for the future of the Waianae District. The proposed housing is intended to provide adequate shelter and a safe and supportive environment for children, elderly and families.

The affordable family apartment development site is designated Country Town on the existing Waianae Sustainable Communities Plan Land Use Map. designation as indicated in Section "A.1.5 Country Town" of the Waianae Sustainable Communities Plan. Other uses envisioned for this land use designation include compatible service businesses and light industry.

The proposed family affordable rental housing will require the following exemptions from the Waianae Sustainable Communities Plan:

i. Section 2.2 (Page 2-2) relating to "We are a rural community."

ii. Section 2.7.3 "Country Town and Village Centers" states that the Country Town Centers "...should also contain some clustered housing units, including second-story housing units above ground-level

commercial space. Structures should be one and two stories in height." The proposed structures would exceed the recommendation that the residences be two stories. The underlying height allows for development of structures up to 40 feet.

iii. Section 3.8.2, "Land Use Policies and Guidelines" states that the principal land use policies includes "No increase in lands designated for residential use."

iv. Section 3.8.3.1 "Height of Residential Structures" states that residential building heights should generally not exceed two stories or 30 feet, including the roof form, .." Two of the proposed structures will exceed this recommended height.

v. Section 3.10.3.3 (page 3-45) relating to two-story structures; housing types of town homes, duplex units, and cluster single-family homes; high-rise and midrise apartment buildings not appropriate; and density of about 10 units per acre.

c. Public Infrastructure Maps

No improvements affecting this site appear on the Public Infrastructure Map. However, there is a planned parking facility

to the east of the project site, as indicated on Exhibit 3.

d. Zoning

The development site is zoned B-2 Community Business District. The proposed affordable rental apartment use is not a permitted use within this zoning district. Accordingly, the applicant will seek an exemption from this standard of the B-2 Community Business District during the processing of a Chapter 201-H, Hawaii Revised Statutes (HRS) application, which allows exemptions from development standards for the development of affordable housing. In addition to this exemption, the developer will be seeking several other exemptions related to development standards for the B-2 Community Business District, including height, parking lot landscaping and park dedication.

The B-2 Community Business District has a 40-foot height limit, while two out of the five buildings being proposed will be mid-rise building with a height of about 60'-1", the three other proposed buildings are two story structures with a height of approximately 27 to 30 feet, considerably below the 40 foot allowable height limit.

(On May 22, 1980 the Zoning Board of Appeals approved a variance from the Comprehensive Zoning Code to allow a retail department store in an I-1 Light Industrial District. This

variance approval is not applicable to the proposed affordable housing project.)

e Park Dedication

Park dedication requirements are specified under Chapter 22, Revised Ordinances of Honolulu. The applicant is proposing to provide about 22,647 square feet of open space park area as indicated on the site plan. In addition a play apparatus will be provided. The multi-purpose building could also be used for recreational purposes. The applicant will seek an exemption from the park dedication requirements as provided for in Chapter 201-H, Hawaii Revised Statutes.

f. Fees

The applicant will be seeking an exemption from the following fees:

-Building permit

-Plan review fees

-Grading and grubbing permit fees

-Private storm drain connection license fee

-Deferral of payment of wastewater system facility charges and Board of Water Supply water system facilities charges

-Subdivision (for creation of a sewer easement on the adjacent Waianae Mall Property)

C. TECHNICAL CHARACTERISTICS

1. Use Characteristics

The applicant will provide all 215 rental apartment units (100%), to those residents who earn up to, or less than, 60% of the area median gross income (AMGI). The remaining unit will be provided to the resident manager.

The proposed rental rates are considerably below-market and would offer an attractive alternative to other rental units in the area. The project's proximity to potential employment and public transportation, including the planned Waianae Coast Community Transit Center, will also allow residents an opportunity to live closer to where they might work, obtain services and transportation.

As previously noted, the applicant will seeking exemptions from zoning and development standards, including the proposed multi-family use, as provided for in Chapter 201H, HRS. A list of anticipated exemptions is provided in Appendix VIII.

2. Physical Characteristics

As indicated in the plans attached in Appendix 1, the applicant proposes to develop an affordable rental housing project on a 5.02 acre property located adjacent to Waianae Mall. As indicated on the Site Plan, included in Appendix I, the development will consist of four multi-family buildings providing a total of about 215 affordable rental

dwelling units, one resident managers unit and a multi-purpose building. It is anticipated that the project will be developed in two phases as indicated on the attached plans.

The fence/wall will be placed at the perimeter of the project site, except for the flag access portion of the property and an emergency vehicular access from Moekolu Street. Access by residents to surrounding businesses will be via the flag access road. The fence/wall will not affect public access by residents to area businesses and is intended to increase security for the project.

The first building to be constructed in Phase I of the development will be located at the southern end of the property as indicated on the site plan. It will be an seven story building with parking surrounding the building. As indicated in the floor plans there will be a total of 12 units on each floor arranged in a double loaded configuration with a hallway separating the two rows of apartment units. One of the units will be reserved for a resident manager. There will be four handicapped accessible units in the building. There will be a mixture of two and three bedroom units on each floor as indicated on the floor plans.

The site plan was designed to minimize impact to the surrouding community and adjacent residents. The taller mid-rise buildings are situated at near the Waianae Mall and the interior of the site. The

remaining two story structures are situated adjacent to the existing single family residents.

The Ground Floor Plan, also included in Appendix I indicates there will be a mechanical and electrical room on the ground floor in addition to a lobby/mailroom, managers office and storage room. A trash chute will be located at the west end of the building.

Access to the upper apartment floors of the building will be provided by an elevator located at one end of the building and stair wells at either end of the building.

Phase 2, although shown as Phase II and III on the site plan for funding purposes, will include the remainder of the project and include a second seven story building and parking, similar to the Phase I building, which will be located as indicated on the plans provided in Appendix I, two multi-family buildings located toward the north side of the property adjacent to the residentially zoned properties and a multipurpose building. The two multi-family buildings will be about 27 feet high with 12 dwelling units on each floor. Again, both two and three bedroom units will be provided on each floor. Each building will have a loading stall. Stair ways will be provided at either end of each building. Elevators and ADA accessible units will also be provided in each of the buildings.

Parking for these buildings will be provided as indicated on the

site plan. At this time parking for the multi-purpose building is being provided at 1 stall per 400 square feet of floor area. This would more than cover the use of the property as a meeting/recreation facility for tenants only (accessory use except for offices) or as a day care which would require about 1 stall per 350 square feet of classroom area but would not require parking for certain day care accessory uses (for residents).

Accordingly, about 289 parking stalls will be required. The applicant is proposing to provide about 331 parking stalls.

An irrigation system will be installed to provide adequate water coverage to all proposed planting areas.

Open space and a recreational area will be provided on-site in those areas not occupied by the buildings and parking. These areas are located around the multi-purpose building, and at the west end of the property.

The project will be managed by one or more resident managers that will live in the complex.

3. Construction Characteristics

As previously indicated the development will be constructed in two phases and the first building will begin as soon as the applicant is able to receive approval of the development by the City, including permit approvals. The remaining phases will follow as funding and

permitting becomes available.

The development will be built at or near existing grade. Excavation for the development should be limited to the footings and foundation of the structure.

Dust control measures appropriate to the situation will be employed by the contractor, including where appropriate, the use of water wagons, erection of dust barriers and other methods for minimizing dust.

IV. IMPACTS

A. DEMOGRAPHIC IMPACTS

1. Residential Population

The development will provide 215 rental apartment units and one residential managers unit. These units could support a resident population of about 858. (This is based on census data averages for household size.)

The General Plan Population Guidelines establish a population range for the Waianae area for the year 2010 at between 38,000 and 42,000 persons, which represents about 4% of the population of Oahu. In 2000 the actual population for the Waianae area was 42,259, or about 4.8% of the population of Oahu. Population trends reported in the Annual Report on the Status of Land Use on Oahu show that this

trend is expected to continue for some time into the future. The proposed rental housing project is expected to provide direly neede affordable rental housing for the estimated additional 858 persons living in the Waianae area.

2. Visitor Population

The development is not expected to impact the visitor population.

3. Character or Culture of the Neighborhood

The vacant property is adjacent to commercial, residential and industrial properties. The current land use designation, B-2 Community Business, generally calls for development of commercial uses with a maximum height of 40 feet. The site is surrounded by a variety of uses including commercial, medical, residential and soon a transit center.

The site has previously been used for industrial purposes and is currently surrounded by a variety of urban uses. The current zoning allows for construction of structures up to the 40-foot height limit. The developer has developed a site plan that situates the seven story buildings closer to the commercial and industrial uses and the two-story structures along the side of the property that faces the residential area. In this manner the project was designed to be compatible with the existing character of this neighborhood.

4. Displacement

The subject property has been a vacant lot for a number of years, therefore, there will be no displacement of any business or dwelling units due to the proposed development.

B. ECONOMIC IMPACTS

1. Economic Growth

As a rental apartment development the Hale Wai Vista development will have primarily a secondary effect on economic growth by providing short-term construction jobs. The development will also provide a limited amount of long-term, full time employment for a resident manager, security guard and maintenance personnel.

The residents of the 216 apartment units are expected to patronize the businesses in the area. This would provide an additional economic stimulus for the existing businesses.

2. Employment

As mentioned earlier, the development will provide short-term construction jobs and a few long-term jobs in the form of a resident manager, security guard and a maintenance person. The development will also benefit existing service contractors, e.g. elevator maintenance companies, security companies, alarm companies, appliance companies etc., as well as businesses in the area. A property manager will be used to manage the property.

3. Government Revenues/Taxes

Tax revenues will be generated by the short-term construction work and also modest revenues by the long-term employment.

The fee exemptions to be requested in the 201H application to the City and County of Honolulu are as follows:

-Building permit

-Plan review fees

-Grading and grubbing permit fees

-Private storm drain connection license fee

-Deferral of payment of wastewater system facility charges and Board of Water Supply water system facilities charges.

C. HOUSING IMPACTS

1. Increase Supply

The proposed 215 affordable rental apartment units planned for this development will increase the number of affordable rental units available to residents in the Waianae area.

2. Affordable Units

The applicant proposes that 100% of the rental apartment units will be affordable to families who fall within the category, at or below 60% of the area median income.

The affordable housing project could be expected to improve

socio-economic conditions in the area by possibly providing housing to those without housing or for those who live in substandard and possibly over crowded conditions.

Crowded conditions are viewed to exist when the occupancy guide lines such as HUD recommended occupancy limits used by the City are exceeded (maximum of 5 individuals for a 2-bedroom unit, 7 individuals for a 3-bedroom unit, and 9 individuals for a 4-bedroom unit).

D. PUBLIC SERVICES

1. Access and Transportation

Vehicular access to the flag lot will be from Farrington Highway. Farrington Highway fronting the property is a four-lane highway with a posted speed limit of 25 miles per hour. Concrete sidewalks are provided between the traffic lanes and the properties on the east side of the highway. A median lane for left turn extends from near the front of the project site to the intersection with Leihoku Street. Although connected with Moekolu Street, the applicant does not propose to use this roadway for vehicular access. It is not anticipated that the project will affect the mutual use of existing access easements from Farrington Highway that were established by 88/SUB-4.

Vehicular access to the site will be from Farrington Highway on

the existing access road. As described in the Traffic Report, provided in Appendix III, a portion of the stem of the flag lot currently serves as an access road to parking lots on adjacent properties.

The pavement width for the level private driveway access (under multiple ownership) currently varies from about 60 feet near the juncture with Farrington Highway diminishing to the width of the flag access.

Julian Ng, Incorporated has prepared a traffic assessment for the affordable rental apartment development. The traffic assessment is titled "Traffic Assessment for Hale Wai Vista" and dated October 20, 2006. Please refer to Appendix III - Traffic Assessment.

The traffic assessment states that the traffic generated by the development will be less than the threshold suggested by the Institute of Transportation Engineers "that a traffic access/impact study be conducted whenever a proposed development will generate 100 or more added (new) peak direction trips to or from the site during the adjacent roadways' peak hours or the development's peak hour."

In the year 2010 there will be 45 additional cars leaving the site during the morning peak hour and 25 project related cars leaving the site in the afternoon peak hour. For traffic traveling north on Farrington Highway during the morning peak hour there will be 10 project related cars entering the access drive and 45 additional cars

entering the site during the afternoon peak hour. The project related increase for cars traveling on Farrington Highway in the opposite direction (south) will be the same as the increase for those traveling north.

There are bus stops located on the far side of the traffic signal at the Waianae Mall driveway. Several City bus routes currently run on Farrington Highway, providing both local service within Waianae and local and express service to downtown Honolulu.

The Waianae Coast Community Transit Center, which is currently under construction, will be located at the far end of the adjacent city property, near Leihoku Street. This will provide a hub for commuters to catch municipal buses to various locations.

The traffic report recommends the following be considered:

"a. a smooth, all-weather surface for pedestrian access conforming to the requirements of the American with Disabilities Act (ADA) should be provided between the sidewalk on Farrington Highway and the development's building entrances.

b. the layout of the development should not block emergency access between the property and Moekolu Street (this does not preclude the installation of a gate or other barrier to prevent vehicular or pedestrian movement across the property line during normal conditions)."

Access from Moekolu Street will be coordinated with the various emergency response agencies at the City. An agreement will be developed these agencies to determine the operation of the emergency access procedures.

According to the traffic engineer for the project, " The project is expected to increase ridership on the public transit system. Public transit use is estimated to be between 15% and 25% of the total trips generated by the project, or between 20 and 35 persons per hour (from the site in the morning, toward the site in the afternoon) with a daily total transit ridership of between 150 and 300 passengers.

Bus service is provided on Farrington Highway on Route "C" (express route to Honolulu), Route 40 (local route between Makaha and Honolulu), and Routes 401, 402, and 403 (local circulation routes within the Waianae area). Together, these routes provide seven buses per hour in each direction during the day, or a capacity of about 350 passengers. The project impact, therefore, would be between 5 and 10 percent of the existing transit capacity.

Ridership Projections

	Peak direction vehicle trip generation	Person-trips, assuming 1.2 persons/vehicle	Transit trips, at 15% of total	Transit trips, at 25% of total
AM Peak Hour	88	106	19	35
PM Peak Hour	88	106	19	35
Daily (two-way)	730	876	155	292

The applicant's flag lot has flag stems or access easements that are not under its control on either side of his flag stem between the proposed development area and Farrington Highway, creating a wide access way. This being said, the applicant will provide an all-weather surface pedestrian path that meets ADA (Americans with Disabilities Act) on the southern side of his property on which there is no adjacent flag stem or easement to the building sites. From that point to Farrington Highway, pedestrians will need to travel on other properties located south of the applicant's flag stem to get to Farrington Highway. A pedestrian access on the southern side of the applicant's flag stem, beyond the point mentioned would, result in a pedestrian way splitting the access way and creating an unsafe condition. The access to Farrington highway is paved and level.

2. Water

The Honolulu Board of Water Supply (BWS) currently provides potable water for the development site. No off-site water

improvements are needed to service the proposed development. In a letter dated February 1, 2007, the BWS indicated that a capacity study was being conducted to determine the availability of water. In a subsequent phone contact BWS on June 25, 2007 BWS staff indicated that the existing water system was determined to be adequate to accommodate the proposed development and that the final decision on the availability of water would be confirmed when building permits were submitted for approval.

The design of the development will incorporate water efficient toilet fixtures, low flow shower heads and sink faucets, for water conservation.

The proposed landscaped area is somewhat limited because the developer proposes to provide a maximum number of parking stalls. The applicant may consider xeriscape landscaping to reduce the demand for water.

3. Wastewater

The average daily wastewater flow expected to be discharged by the proposed development is estimated to be approximately .353 million gallons per day based on the proposed rental apartment use.

Municipal wastewater service for the area is provided by a 10 inch diameter wastewater transmission line located at the mauka edge of the property that runs along the rear property line of the Waianae Mall and

connects to a 15 inch diameter wastewater transmission line under Leihoku Street. The Department of Planning and Permitting indicated that the 10 inch diameter wastewater transmission line that serves the site is inadequate to accommodate the project and that the applicant will have to upgrade this line by providing a new 10 inch diameter line.

The applicant proposes to install a new 10 inch diameter wastewater transmission line parallel to the existing line to accommodate the proposed housing project.

The daily wastewater flow of 0.353 million gallons per day is the "design peak flow" and that includes all the applicable quantities of wastewater flow such as the maximum flow and the applicable infiltration/inflow rate. (We note that the average daily per capita flow of wastewater, based only on domestic consumption is 80 gallons per day based on the Design Standards of the Department of Wastewater Management.)

4. Drainage

According to contour lines shown on the Historical United States Geological Survey (USGS), Waianae Quadrangle, the property is located at approximately 23 feet above mean sea-level. The contour lines in the area of the property indicate that area is sloping gently to the west/southwest, toward the ocean. The nearest body of water is the Pacific Ocean, approximately 1/4 miles to the southwest of the property.

According to the Phase 1 Environmental Site Assessment, "Surface water appears to drain in a west southwestward direction across the site based on the contours of the site. Storm drains are located in various locations along curbs and in landscaped areas on the adjacent parcels, which discharge to the municipal storm water management system.

Design of onsite drainage systems will comply with "Rules Relating to Storm Drainage Standards, Department of Planning and Permitting, City and County of Honolulu, 2000". The applicant will also employ best management practices (BMP's) to control and reduce the discharge of pollutants during the construction of Hale Wai Vista apartments.

On site drainage systems will be designed to accommodate a storm with a 10-year recurrence interval. Storm water runoff from a 10-year storm will be approximately 2 cubic feet per second for the existing and with development conditions. Although the on-site drainage system is designed for the 10-year storm recurrence interval, the existing box culvert is designed for a 50-year storm.

Drainage from a portion of the area (about 3.28 acres) will be conveyed to the existing 8 by 4 foot box culvert owned by the City that runs along the east side of the property. The applicant proposes to install a water treatment system that will treat the storm water runoff

prior to discharge into the box culvert. Storm water from the remaining portion of the property will be detained via an infiltration/sub-drainage system and will eventually infiltrate to the ground. A dry well at the end of the drain inlet will be provided as an overflow provision.

The project will employ Best Management Practices such as plain drain inlet inserts and the a storm water wastewater treatment system to satisfy Storm Water Quality requirements of the "Rules Relating to Storm Drainage Standards."

There are not anticipated to be cumulative impacts as a result of the proposed drainage because the project will not impact the capacity of the existing 4 by 8 foot drainage box culvert. And the remaining storm water will be retained onsite. In addition a drywell will also be provided as an overflow provision.

A drainage report for the project will be provided for review and approval by the Department of Planning and Permitting. In addition temporary Best Management Practices will be incorporated on the construction plans to address runoff from construction activities.

5. Solid Waste Disposal

The solid waste generated by the proposed development will be collected by a private refuse firm and will not impact municipal refuse services.

6. Schools

The schools which serve this area are Waianae Elementary and Leihoku Elementary, Waianae Intermediate, and Waianae High School. Based on the State Department of Education (DOE) estimates for calculating the demand for student services, the proposed affordable rental development will add to the student population as follows:

a) Elementary (Kindergarten to 5th) - 43 students

b) Middle (6th to 8th) - 9 students

c) High (9th to 12th) - 13 students

The following table, derived from information provided by the State Department of Education, provides the capacity, the actual 2006-2007 student enrollment, the projected enrollment for 2009-2010, and 2011-2012.

Student Enrollment

School	Capacity	Enrollment '06-'07	Projected Enrolment '09-'10	Projected Enrolment '11-'12
Leihoku Elementary	901	752	699	705
Waianae Intermediate	1066	1056	970	948
Waianae High	1802	2218	1922	1777

(Source: State Department of Education)

According to the staff at the DOE, the capacity projections provide a rough guideline of school capacity. Based on the above information, the Waianae High School currently exceeds the student capacity. This condition is expected to diminish but continue into the 2009-2010 school year. Leihoku Elementary and Waianae Intermediate School are not expected to exceed the schools capacity based on the State's projections.

In a July 14, 2006 letter the State Department of Education stated that if the Hale Wai Vista required a land use approval from the State Land Use Commission or City Council, the DOE would ask for a school fair-share contribution. It also expressed concern that students living in the project site have a safe and direct route to elementary schools. Students traveling to each of these schools on foot or by bicycle are expected to exit the site using the back roads of the mauka residential area rather than the highly traveled Farrington Highway.

The Principal of the Leihouku Elementary School wrote to express concern regarding the potential impact that the proposed development would have on the student enrollment and capacity at Leihoku Elementary School. He also sited the additional enrollment that he expected from a planned residential housing development, Ke Ola O Pokai Bay as a concern.

7. Parks

There are a variety of parks and other recreational opportunities

in the vicinity of the project site. Beach parks include: Ma'ili, Lualualei, Pokai Bay, Mauna Lahilahi, and Makaha beach parks. Other recreational facilities include the Waianae District Park and three community parks, Waianae Piliaau Field, Maili Playground, and Makaha Valley Park. The area is also served by two boat harbors, Pokai Bay Boat Harbor and Waianae Boat Harbor. There are two golf courses in the area, the Makaha Valley Country Club and the Makaha Golf Club.

It is anticipated that the residents of the project may utilize some of these facilities for recreational purposes. Given the variety and number of recreational facilities available including the extensive public beach area, the project is not expected to significantly impact any particular facility.

Under the park dedication ordinance the applicant would be required to provide a 23,760 square feet of park area. The applicant is proposing to provide about 22,647 square feet of park area and a play apparatus. The multi-purpose building may also be used for recreational purposes. The applicant will be seeking an exemption from the park dedication requirements under the 201-H application.

In it's letter of January 25, 2007 the Department of Parks and Recreation recommended incorporation of a full size composite play apparatus for the young children who may live on the project site. The developer is planning on providing a play apparatus on the site for

project residents as indicated on the site plan.

8. Police

The development site will be serviced by patrol officers from Waianae Police Station which is located about a half mile from the project site at 85-939 Farrington Highway.

In a letter dated August 3, 2006, during the preconsultation period, the Honolulu Police Department commented that the proposed affordable rental project was not anticipated to have a significant impact on the facilities or operations of the Honolulu Police Department.

9. Fire

The nearest fire station is located at 85-645 Farrington Highway, approximately one mile from the project site. In its letter of August 16, 2006, the Honolulu Fire Department cited applicable fire code requirements. The applicant proposes to comply with all of these requirements including those noted below. A fire apparatus access road will be provided within the distances required by the fire code. A fire protection system, as required by the Fire Department, will be provided per the Board of Water Supply standards. Civil drawings will be submitted to the Honolulu Fire Department for review and approval prior to the Building Permit being issued.

Emergency access for fire trucks will be from both Farrington Highway and Moekolu Street.

10. Utilities

a. Electric

The Hawaiian Electric Company has existing power lines serving this area and the applicant will coordinate development of Hale Wai Vista to ensure that the power lines will be adequate to support the proposed rental apartment development.

In addition, the design of the project incorporates energy efficient light fixtures and energy star appliances for energy conservation.

In it's letter of March 12, 2007, the Hawaiian Electric Company (HECO) stated that there were existing overhead facilities within and supplying the project area. HECO requested that pre-final development plans be submitted for review and that they be notified in the event relocation of electrical facility is required.

b. Telephone

Hawaiian Telcom has existing utility service lines in the area. It is expected that these existing lines will be used to service this proposed apartment development. No off-site work is expected.

E. ENVIRONMENTAL IMPACTS

1. Historical and Archaeological Resources

The development site is not on the State or Federal Register of Historic Places.

In it's February 13, 2007 letter commenting on the Draft EA the State Historic Preservation Division (SHPD) concurred with the applicants proposal to prepare and archaeological inventory survey plan, archaeological inventory survey and cultural impact assessment.

The archaeological assessment is provided in Appendix XI. The scope of work for preparation of the Archaeological assessment included the following:

- consultation with community members;

-a ground survey for the purpose of identifying and documenting historic properties.

- subsurface testing to determine and document subsurface cultural deposits that might exist on the site; and

-background research of historical records;

The summary of the report observes that there previously was significant surface disturbance of the property. This section finally states the following:

"No significant cultural deposits or limestone sinkholes were observed within the project area. Due to the heavy and disturbance, it is unlikely that intact subsurface cultural deposits remain within the project area."

Regarding the potential effects that the project might have on archaeological resources the archaeological assessment concludes that no historic properties were identified within the project area. As a consequence, the project is not expected to affect historic properties. If in the unlikely event that cultural resources, including but not limited to limestone sinkholes containing human remains or other significant cultural or paleoenvironmental deposits are encountered during construction, work in the area should stop and the SHPD should be promptly notified.

2. Cultural Impact Assessment

A cultural impact assessment, which was completed in April 2007, is provided in Appendix XII. This assessment examined historical documents, reviewed existing archaeological information, and documented interviews with community members knowledgeable about the historic and traditional practices in the area. The study did not identify cultural practices involving the project site. The community contacts identified the following as community concerns related to the future development of the project area:

"1. If the height of the building for the apartment complex is above 2 stories (as in the current design) the Mauka-makai view plane will be obstructed. A number of culturally significant features of the landscape associated with the mo'olelo (legends) of

Lualualei and Wai'anae (e.g. Pu'u Ma'ili' ili, Pu'u Pahe'ehe'e, Mauna Kauwale, Pu'u Makali'i) may be blocked. Additionally, landmarks used for teaching navigation to youth groups, as well as identifying fishing locations, may no longer be visible from the reefs to the ridge-tops.

2. The low-income apartments may be (eventually) converted to private properties or condominiums and not serve the purpose for which they were originally intended.

3. There are sinkholes in the area that may contain human burials."

To address the concerns related to views the applicant prepared several photographic images to simulate the visual impact of the project on views from various vantage points. This photographic study is provided in Appendix V.

These photographs indicate that the top portions of the midrise multi-family structures will be visible from some segments of Farrington Highway. However, views of the existing commercial development along the highway, appear to dominate views towards the mountains. Because elevations along the coastline would be at a lower elevation, the proposed buildings are not expected to be visible from the shoreline. The image of the project from Leihoku Street (in the direction of Pu'u Pahe'ehe'e) indicates that the multi-family building proposed for Phase 1 will be visible from that public roadway but that the building will not obscure the view of the land form in the

background. In addition, the applicant proposes a landscape buffer along the property line that will tend to soften the buildings from this vantage point. A view of the project site from a mauka location, somewhat close to the site, indicates that only the top portions of the midrise building will be visible, but will not obstruct significant views of the coast.

The funding for the development requires that the project remain affordable for 61 years, virtually the economic life of the building.

Regarding the potential effects that the project might have on archaeological resources the archaeological inventory survey did not identify historic properties within the project area. As a consequence, the project is not expected to affect historic properties. If in the unlikely event that cultural resources, including but not limited to limestone sinkholes containing human remains or other significant cultural or paleoenvironmental deposits are encountered during construction, work in the area would stop and the SHPD would be promptly notified.

3. Natural Resources

a. Water Resources

The Phase 1 Environmental Site Assessment Report states the following:

"According to Technical Report Number 179 "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii" prepared by the Water

> Resources Research Center University of Hawaii, the property is located in the Makaha Aquifer system which is part of the Waianae Aquifer sector. The system includes an unconfined basal aquifer where fresh water is in contact with seawater. The groundwater is currently used however it is considered neither a drinking water source or ecologically important. The groundwater contains moderate salinity and is replaceable with a high vulnerability to contamination. This aquifer is underlain by a confined aquifer or undefined aquifer with indistinguishable compartments. Ground water in this aquifer is considered of potential use, it is neither considered a drinking source or ecologically important, moderate salinity, is considered replaceable with a low vulnerability to contamination."

The proposed project is not anticipated to impact this aquifer. According to staff at the State Department of Safe Drinking Water Branch, there are no "sole source aquifers" in the vicinity of the project.

The nearest surface water in the vicinity of the property is the Pacific Ocean, located approximately 1/4 mile west southwest of the property. No settling ponds, lagoons, surface impoundments, wetlands or natural catch basins were observed on the property at the time Mid Pacific Industries conducted a

site investigation.

b. Flood Plain Management

Except for a small portion of the flag stem, the development site is in Zone D, an area where flood hazards are undetermined. A portion of the flag stem is in zone AE, with a flood elevation of 10 feet above mean sea level. There are no improvements proposed in this area.

The project will comply with applicable flood hazard requirements.

c. Wetlands Protection

The development site is an urbanized lot that contains no wetlands.

d. Coastal Zone Management

The development site is not within the Special Management Area, which is regulated by the City under Chapter 25, Revised Ordinances of Honolulu.

e. Unique Natural Features

The development site is level with soil suitable to support urban development as can be seen from development on adjacent lots. There are no unique natural features such as sand dunes or sloped areas where erosion would be a concern.

f. Flora and Fauna

This urbanized site does not contain any wildlife habitats

or rare or endangered flora or fauna.

g. Agricultural Lands and the Federal Farmland Protection Policy

The development site is in an urban area where its use will not impact agricultural lands or lands with the potential for agricultural use. It is zoned B-2 Community Business District.

h. Environmental Justice

The Environmental Protection Agency (EPA) defines Environmental Justice (EJ) as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations and policies." The applicant will adhere to all the required City, State and Federal environmental laws in the development of Hale Wai Vista, an affordable family rental apartment development. Furthermore, the development of this project is intended to improve the living standards and quality of life for those families who earn 60% or below the area average medium gross income (AMGI).

i. Wild and Scenic Rivers Act - Federal

According to a discussion with staff at the Federal Commission on Water Resources there are no wild or scenic rivers designated in the State of Hawaii.

F. TOPOGRAPHY

The subject site is relatively flat and is located in an urban setting. Historical United States Geological Survey (USGS), Maps were reviewed

during the preparation of the environmental site assessment for the property. The environmental site assessment states the following:

> "According to the contour lines on the topographic map published in 1998 the contour lines indicated that the property is located at approximately 23 feet above mean sea level (MSL). The contour lines in the area of the Property show the area is sloping gently to the west/southwest, toward the ocean. The nearest body of water is the Pacific Ocean, approximately 1/4 mile to the southwest of the project site."

G. SOILS

The U.S. Department of Agriculture Soil Conservation Service Soil Survey Report for the Island of Oahu (1972) classifies the soils for this area as Mamala Stony Clay (0-12% slopes) on the eastern side (housing site) and Mokuleia Clay on the western side (roadway stem).

The Mamala Stony Clay loam in representative profile has a surface layer consisting of a dark reddish brown stony clay loam approximately 8 inches thick. Stones on the surface layer are mostly coral rock fragments. Below is a dark reddish brown silty clay loam approximately 11 inches thick. The soil is underlain by coral limestone and consolidated calcareous sand up to 20 inches in depth. The soil is mildly alkaline with moderate permeability, Runoff is slow to medium and the erosion hazard is slight.

The Mokuleia Clay has a representative profile the surface layer is very

dark grayish-brown clay loam about 16 inches thick. The next layer, 34 to more than 48 inches thick, is dark -brown and light-gray, single-grain sand and loamy sand. The surface layer is neutral in reaction, and the underlying material is moderately alkaline. Permeability is moderate in the surface is slow. Runoff is very slow, and the erosion hazard is no more than slight. The available water capacity is about 1.8 inches per foot in the surface layer and about 1.0 inches per foot in the subsoil. In places roots penetrate to a depth of 5 feet or more. Workability is difficult because of the sticky, plastic clay. This soil is used for sugar cane and pasture.

H. PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

Mid Pacific Industries (MPI), LLC completed a Phase 1 Environmental Site Assessment of the proposed Hale Wai Vista in June 2006.

The Phase 1 Environmental Site Assessment concludes the following:

> "No on site, off site, previous resolved environmental conditions, or de minimus environmental conditions were identified in connection with the Property during the course of this assessment." The report continues by stating that "This assessment has revealed no evidence of recognized environmental conditions in connection the Property."

It was recommended, based on the finding of the Environmental Site Assessment Report that any grading or subsurface installation work be monitored to determine if any subsurface structures or signs of contamination

are present in the area of the former warehouse building. If signs of structures or contamination are present, call MPI to evaluate. No obvious signs of contamination or subsurface structures were present at the tine of the inspection.

During the September 5, 2006 Neighborhood Board meeting it was indicated that there had been a question of contamination on the site in the past. In a letter dated October 3, 2006, the State Department of Health noted that it conducted an inspection of the site and verified that the solid waste materials that had been improperly disposed of had been cleaned up and that no further action was required. A copy of that letter is provided in Appendix IV.

I. NOISE

Short term noise impacts at construction sites are a normal result of construction activity. The State Department of Health administers rules and regulations relating to the hours during which construction is permitted and the noise levels permitted during those hours. The contractor will be required to apply for a permit from the State Department of Health should noise from construction activities exceed regulatory limits. The contractor will abide by the noise regulations incorporated into the permit.

Long term noise impact from the proposed development are not expected to be significant due to the nature of the proposed residential rental apartment use. All of the proposed rental units will be equipped with an air conditioner. The mid-rise buildings have been situated closer to the

commercial and industrial uses which tend to be less sensitive to noise impacts. As mentioned earlier, the increase in traffic is not expected to have a significant impact on the surrounding area. If a commercial establishments were developed on the property, as allowed under the current zoning, the potential for noise impacts on the surrounding properties could be expected to be greater.

A noise assessment study for the project is provided in Appendix XIII. This study concludes that the noise at the site is classified as "acceptable" based on criteria established by the U.S. Department of Housing and Urban Development. In addition, although the future noise levels are expected to increase slightly due to community noise from within the project, future Environmental Protection Agency guidelines are not expected to be exceeded., but will not exceed

J. AIR QUALITY

Short term impacts on air quality are expected to be primarily related to dust generated by the construction activity. Dust will be generated in the course of excavating for foundations and utility lines. Dust control measures appropriate to the situation will be employed by the contractor, including where appropriate, the use of water wagons, erection of dust barriers and other methods for minimizing dust.

K. VISUAL IMPACT

The two tallest structures will be 60'-1" in height, which is just over 20

feet over the allowable height limit. The remaining three structures will be lower then the allowable 40 foot height limit. The 1987 Coastal View Study identifies Farrington Highway as a coastal roadway which offers intermittent coastal views in the vicinity of the project site. The proposed development will generally not be visible from this roadway and will not affect any of the significant views identified in this document.

The visual impact of this development will be an in filling of an B-2 Community Business District lot currently underutilized and surrounded by a mixture of commercial, industrial and residential units. As this and other underutilized lots in the area are developed, the primary visual impact will be to existing nearby structures. Many of the existing structures are commercial in nature with limited views of the site. Although structures on the site are currently allowed to be up to about 4 stories, the applicant has sited the two story structures adjacent to the existing residential properties to minimize potential impacts to their properties.

The attached photographic simulation shows views toward the project site from several vantage points and demonstrates that the proposed structures will have minimal impact to views from the surrounding areas. Although portions of the taller buildings can be seen these structures will not dominate the viewshed. (Additional discussion related to views is provided in Section VI, E, 2, above.)

L. HAZARDS

According to the Phase I Environmental Site Assessment Report for the property, provided in Appendix IX, there are no known hazardous materials on the site. As previously indicated a recent site investigation by the State Department of Health found that no further action was needed to remove hazardous materials. Based on a field investigations conducted by consultants and developer, there are no known hazardous operations on or near the proposed project.

A survey of the area was conducted to identify the location of aboveground storage tanks on adjacent properties and to determine their size and distance form the property. A report of that information is included in Appendix X. All but one of the above ground storage tanks were found to comply with the HUD Environmental Standards, Sitings of HUD Assisted Projects near Hazardous Operations, 24 CFR 51 C for distance. The above ground storage tank located at City Mill does not meet the direct acceptable separation distance for Blast and People exposure. However, this tank is located on the southeast side of the City Mill building. The project is located 300 feet north and west of the above ground storage tank. The City Mill building is of concrete masonry construction and is about 24 feet high. This should provide adequate mitigation as outlined in the HUD standards.

V. MAJOR IMPACTS AND ALTERNATIVES CONSIDERED

As mentioned throughout this report the proposed affordable rental apartment development will not have a significant impact on the surrounding area in terms of public services and the environment.

Positive socio-economic impacts are projected with the provision of affordable housing, and increases in employment both short term and long term.

A. NO ACTION

This alternative was considered and rejected due to the continuing negative cash flow that would result from payment of property taxes, maintenance cost and liability expenses for the vacant land.

B. COMMERCIAL DEVELOPMENT

The project site is designated for commercial development with an allowable height of 40 feet. This site has been vacant for a number of years. It is adjacent to existing commercial development. There was apparently little economic incentive to expand the existing commercial area on to the site. There is however a tremendous demand and need for affordable rental units.

C. ORIGINAL RENTAL PROJECT AND ALTERNATIVES

The project was originally conceived with two eight-story multi-family buildings with a height of approximately 71 feet, with the remaining two

multi-family building and multi-purpose building being two stories with an approximately height of 27 feet. One of the 8-story, 84 unit buildings, is financed with 9% Low Income Housing Tax Credits and a Rental Housing Trust Fund loan, among other sources of funding. The remaining multi-family buildings are financed with 4% Low Income Housing Tax Credits/Hula Mae bonds and another Rental Housing Trust Fund loan.

When this proposal was presented to the Waianae Neighborhood Board on September 5, 2006, the board expressed concern regarding the height of the eight-story buildings and the proposed number of parking stalls.

The applicant met with the Neighborhood Board on three occasions, September 5, 2006, November 14, 2006 and March 6, 2007 in an endeavor to address concerns that have been raised. As a result of the first meeting with the Neighborhood Board, two of the buildings were reduced in height from 70 feet to 61 feet and additional parking was provided (the height limit for the property is 40 feet). Based on concerns raised about the building heights the applicant went through a second redesign (described below) of the project and was able to offer one building with a 61-foot height, three buildings under 40 feet in height and one building about 27 feet in height. This plan was not supported by the Neighborhood Board and one board member commented that the structures should all be no higher than two stories. The applicant cannot provide affordable housing at the 60% and below of median income with two story structures and has decided to keep the

three buildings situated adjacent to single family homes located on Hoaha Street at two stories (about 27 feet in height) and to provide two 61-foot apartment buildings on an area of the site further from single family residences and closer to the proposed Transit Center and the Waianae Mall. The applicant has provided several photographic renderings from public viewing points to depict the visual impact of the proposed development (enclosed), which does not have a significant impact on views from public viewing points.

D. PREFERRED ALTERNATIVE

The preferred alternative, described in this report, with two seven story buildings and three two story buildings, was developed to address community concerns. This alternative allows the developer to maintain the initially proposed the unit count, thus helping to ensure the continued financing for the project. This alternative dropped the height of the eight-story buildings to seven stories. The reduction in height is accomplished by relocating parking from under the building, to outside of the building foot print. In addition to reducing the height, the number of parking stalls was increased by about 37 stalls, more than would be required by the LUO. This alternative was presented to the Waianae Neighborhood Board on November 14, 2006. Minutes of the Neighborhood Board meetings are provided in Appendix XIIIV.

E. ALTERNATIVE LAYOUT

As another alternative the applicant considered revising the project to one seven story building, at about 61 feet in height, with the remaining multi buildings, in generally the same foot print, as two, three-story buildings and one four story building, all within the 40-foot height limit. The tallest building would be situated in adjacent to the commercial and industrial zoned properties with the one three-and four-story building on the northern side of the property, closer to some single family dwellings. This scheme would have all but one of the buildings (located adjacent to commercial and industrial properties), be within the allowable height limit. This alternate scheme would add about $3 Million to the cost of the project. This alternative was presented to the Waianae Neighborhood Board on March 6, 2007. At the time of the Neighborhood Board presentation the agent for the developer explained that since funding had already been approved for Phase 1 with 84 units, the number of units and building height could not be reduced without loss of funding and significant delay. At that meeting Board members expressed concerns regarding the height of the buildings and visual impact, contaminated soils, and egress thru a residential subdivision. This scheme may be relatively undesirable because it would result in higher structures located in closer proximity to the existing residential developments.

VI. MITIGATION MEASURES

Since impacts from the proposed development are not expected to be significant, no extraordinary mitigation measures are planned. However, in order to minimize construction impacts of the development, the applicant's contractor will employ dust control measures where appropriate, including the use of water wagons, erection of barriers, and other methods for minimizing dust. The contractor will also be required to apply for a permit from the State Department of Health should noise from construction activities exceed regulatory limits. The contractor will abide by the noise regulations incorporated into the permit.

Although, the Environmental Site Assessment for the project found no evidence of environmental conditions in connection with the property, grading and subsurface work will be monitored to determine if any subsurface structures or signs of contamination are present in the area of the former warehouse buildings. If signs of structures or contamination are found, the environmental consultant will be contacted to evaluate the potential contamination.

As previously indicated, the project is not expected to affect historic properties. If in the unlikely event that cultural resources, including but not limited to limestone sinkholes containing human remains or other significant cultural or paleoenvironmental deposits are encountered during construction, work in the area should stop and the SHPD will be notified to determine the appropriate course of action.

The developer sought to mitigate the potential impacts of the proposal on the surrounding area by situating the taller buildings closer to the commercial and

industrial zoned property. The eight-story buildings were lowered to be seven stories. To further mitigate potential project impacts to the developer is proposing perimeter landscaping.

VII. GOVERNMENT PERMITS AND APPROVALS REQUIRED

The development will require the following governmental permits or approvals:

- 201H approval from the Honolulu City Council.
- Building Permits from the Department of Planning and Permitting, City and County of Honolulu.
- Grading Permits from the Department of Planning and Permitting, City and County of Honolulu
- Subdivision for creation of a sewer easement
- Storm drain connection license

VIII. SIGNIFICANCE CRITERIA

The following review of the significance criteria indicates that the development will not have a significant impact on the environment.

- **No irrevocable commitment to loss or destruction of any natural or cultural resource would result.**

  The vacant development site is an urbanized lot that is mostly

rock ground cover with overgrown shrubs and was previously developed.

The property is not listed on either the State or Federal Registers of Historic Places. With no previous record of historic or archaeological discoveries, the proposed development is not expected to have an impact on archaeological resources. Archaeological studies will be undertaken to confirm this.

During the construction of the development, should any previously unidentified archaeological resources such as artifacts, shell, bone, or charcoal deposits, human burial, rock or coral alignments, pavings or walls be encountered, the applicant will stop work and contact the Historic Preservation Office for review and approval of mitigation measures.

- **The action would not curtail the range of beneficial uses of the environment.**

The proposed development will not curtail, but will instead enhance the range of beneficial uses of the environment. The present vacant property partially covered in asphalt, remnant foundations and sparse vegetation, offering no beneficial use of the possible uses associated with the environment. With the development of the proposed Hale Wai Vista, landscaping and an irrigation system will be installed where none exist at the present time. The development site will provide much needed affordable family rental units to meet the

growing housing demands.

- **The proposed action does not conflict with the state's long-term environmental policies or goals and guidelines.**

The State's environmental policies and guidelines are set forth in Chapter 343, Hawaii Revised Statutes, "State Environmental Policy". The broad policies set forth include conservation of natural resources and enhancement of the quality of life. As discussed earlier, the development does not adversely affect significant natural resources. With the proposed development, the existing vacant property will be developed to provide our community with affordable rental units. This will enhance the quality of life for residents of Hale Wai Vista.

- **The economic or social welfare of the community or state would not be substantially affected.**

The development will give a temporary boost to the State's economy with the provision of short-term construction employment and related tax impacts, and a few long-term jobs in the form of a resident manager and a maintenance person.

The social welfare of the community would be positively affected by the development of this affordable rental project which will serve qualified families who, otherwise be unable to rent a home of their own. The Hale Wai Vista Affordable Rental development will offer an attractive living environment for families in close proximity to public

transit, employment opportunities and goods and services.

Residents in Hale Wai Vista Apartments will have a long term positive economic affect on businesses in the area, by providing a source of new customers.

- **The proposed action does not substantially affect public health.**

The proposed action will not affect public health. The proposed land use is compatible with the surrounding residential and commercial developments.

- **No substantial secondary impacts, such as population changes or effects on public facilities, are anticipated.**

As previously noted under "Residential Population"m the General Plan Population Guidelines establish a population range for the Waianae area for the year 2010 at between 38,000 and 42,000 persons, which represents about 4% of the population of Oahu. In 2000 the actual population for the Waianae area was 42,259, or about 4.8% of the population of Oahu. Population trends reported in the Annual Report on the Status of Land Use on Oahu show that this trend is expected to continue for some time into the future. The proposed rental housing project is expected to result in an additional 858 persons living in the Waianae area.

The existing water system is adequate to accommodate the proposed apartment building, according to a BWS letter dated August

14, 2006. (Appendix IV, Agency Comments).

The applicant is proposing to construct the needed wastewater disposal improvements that will be needed to serve the project.

Julian Ng, Incorporated has prepared a traffic assessment report for the development, dated October 20, 2006, and titled Traffic Assessment for Hale Wai Vista. In the overview that introduces the report it was stated that the project is not expected to have a significant impact to traffic conditions in the area taking into account the expected ambient growth of traffic. The project is in close proximity to the Waianae Coast Transit Center and bus routes on Farrington Highway. The proposed development will increase weekday traffic volumes on Farrington Highway by less than 2 ½%.

- **No substantial degradation of environmental quality is anticipated.**

The development will not result in a substantial degradation of the environment. Only minimal impact is projected during the construction phase. Excavation for the development should be limited to the footings and foundation of the structure. Dust control measures appropriate to the situation will be employed by the contractor, including where appropriate, the use of water wagons, erection of dust barriers and other methods for minimizing dust. Only minimal impact is projected during the construction phase of the proposed development.

As previously indicated the project is not expected to

substantially degrade environmental quality.

- **The proposed action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effect on the environment.**

The proposed development does not involve a commitment to larger actions nor will it result in cumulative impacts to the environment. The proposed Hale Wai Vista affordable rental development will not generate future developments, creating a cumulative impact.

- **No rare, threatened or endangered species or their habitats would be affected.**

No rare, threatened, or endangered species or their habitats would be affected in the proposed development.

- **Air quality, water quality or ambient noise levels would not be detrimentally affected.**

Short term impacts on air quality are expected to be primarily related to dust generated by the construction activity. Dust will be generated in the course of excavating for foundations and utility lines. Dust control measures appropriate to the situation will be employed by the contractor, including where appropriate, the use of water wagons, erection of dust barriers and other methods for minimizing dust.

Short term noise impacts at construction sites are a normal result of construction activity. The State Department of Health administers rules and regulations relating to the hours during which construction is

permitted and the noise levels permitted during those hours. The contractor will be required to apply for a permit from the State Department of Health should noise from construction activities exceed regulatory limits. The contractor will abide by the noise regulations incorporated into the permit. The noise study conducted by the applicant found that noise levels are expected to increase slightly due to community noise from within the project site, but these will not exceed the EPA guidelines.

Long term noise impact from the proposed development are expected to be minimal due to the nature of the proposed rental apartment and the minimal increase in traffic projected.

Water quality would not be detrimentally affected by the proposed development. The Honolulu Board of Water Supply (BWS) currently provides potable water to the site and it has determined that the existing system is adequate to serve the project. There are no water bodies or aquifers that will be impacted by the project.

- **The project would not affect environmentally sensitive areas, such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.**

Except for a small portion of the flag stem, the development site is in Zone D, an area where flood hazards are undetermined. A portion of the flag stem is in zone AE, with a flood elevation of 10 feet above mean sea level. There are no improvements proposed in this

area.

There are no know environmentally sensitive areas on the property.

- **The action will not substantially affect scenic vistas and view planes identified in county or state plans or studies.**

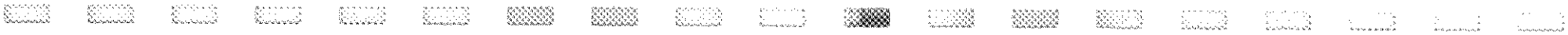
As previously indicated the proposed development will not impact on important coastal views which have been identified by the county in the 1987 Coastal View Study. The remaining three structures will be lower then the allowable 40 foot height limit. The 1987 Coastal View Study identifies Farrington Highway as a coastal roadway which offers intermittent coastal views in the vicinity of the project site. The proposed development will generally not be visible from this roadway and will not affect any of the significant views identified in this document.

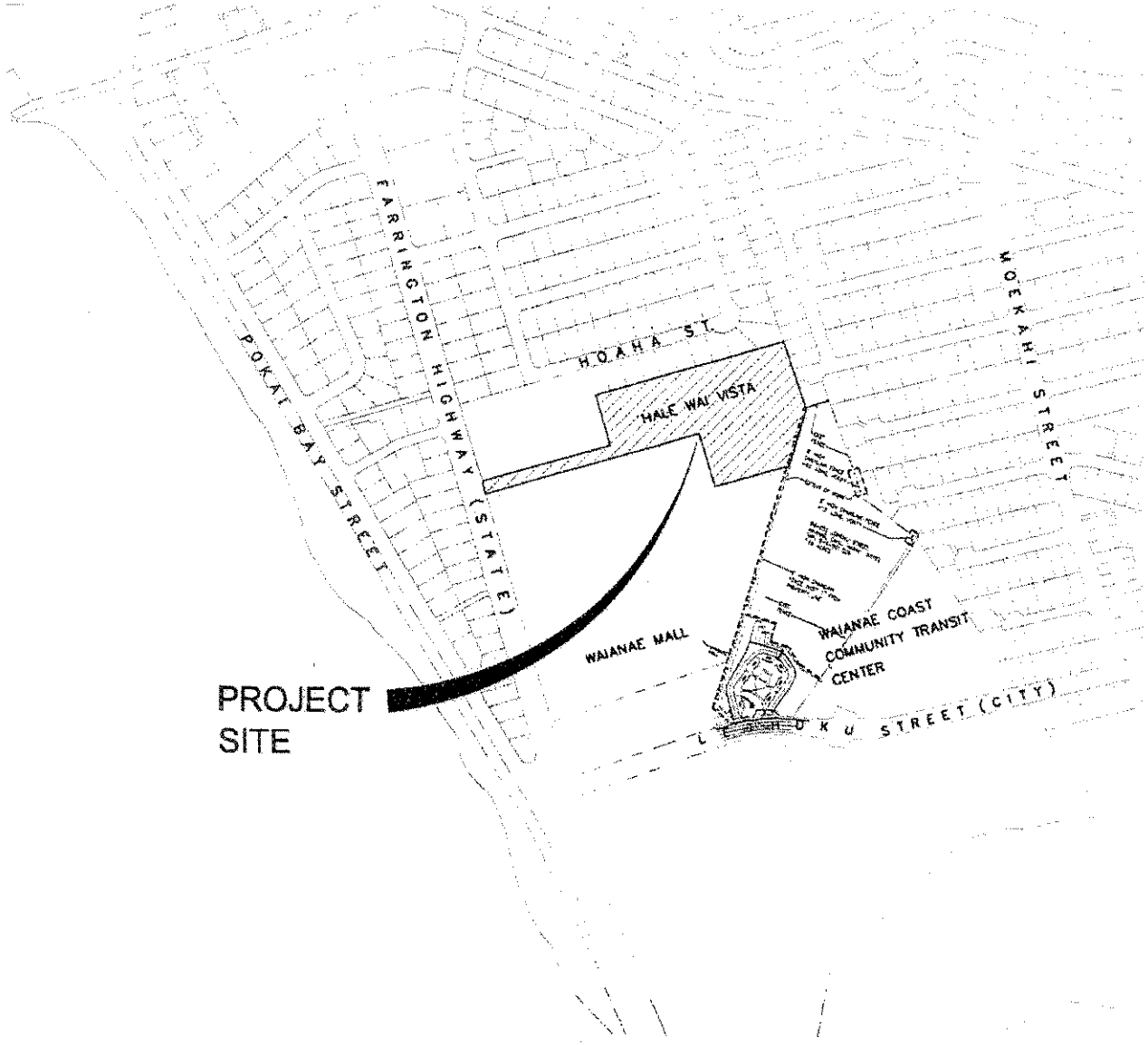
- **The action will not require substantial energy consumption.**

The Hawaiian Electric Company has existing power lines serving this area and the applicant will coordinate development of Hale Wai Vista to ensure that the electrical system and facilities will be adequate to support the proposed rental apartment development. The buildings will be designed to incorporate energy saving light fixtures, energy efficient split system air conditioning and energy efficient hot water heaters.

IX. RECOMMENDATION

Based on this Final Environmental Assessment, a Finding of No Significant Impact (FONSI) for the proposed Hale Wai Vista Affordable family rental development is delared.



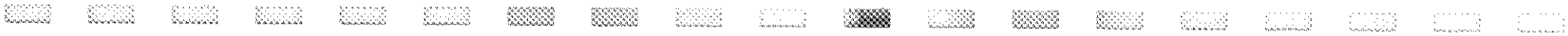


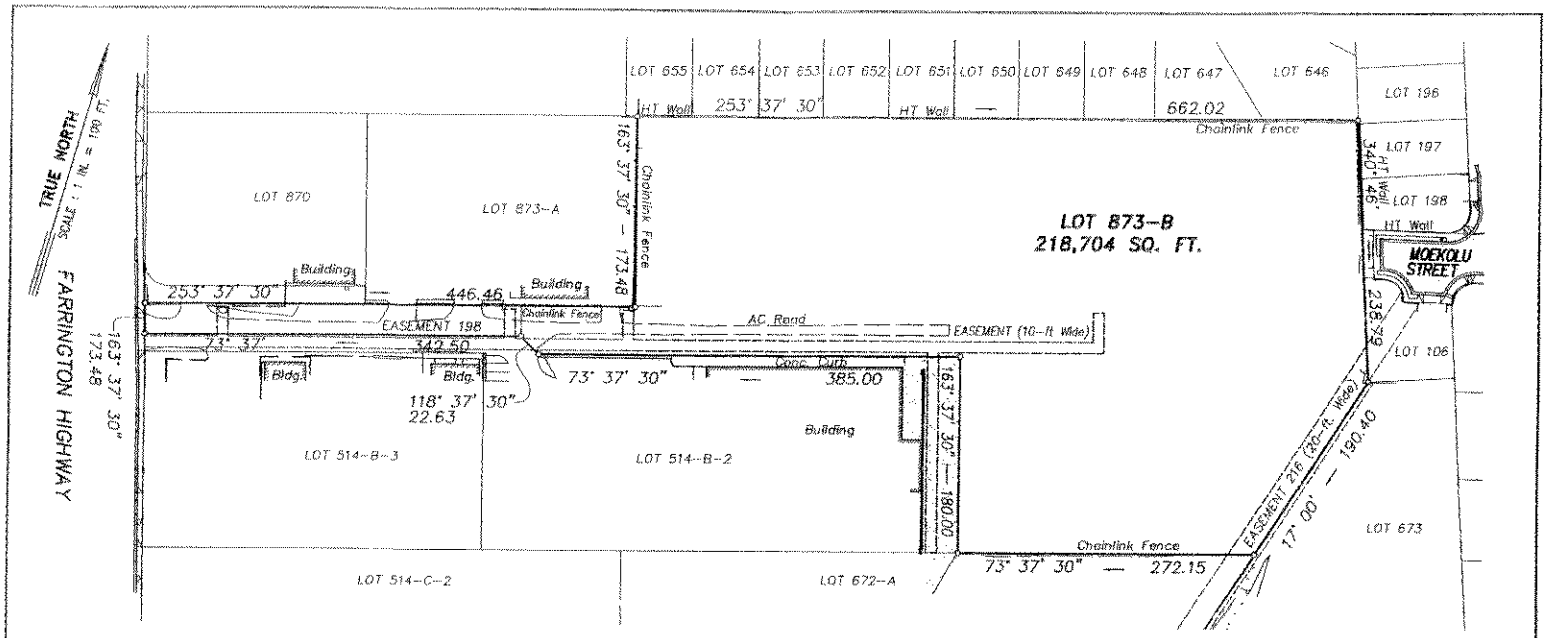
TMK: 8-6-001: 035 (PORTION)

LOCATION PLAN

NO SCALE

Attachment 3





PERIMETER SURVEY MAP
LOT 873-B
LAND COURT APPLICATION 1102 (MAP 381)
LUALUALEI, WAIANAE, OAHU, HAWAII

TAX MAP KEY: 8-6-01: 35

WILLIAM DEAN ALCON
LICENSED PROFESSIONAL LAND SURVEYOR
No. 8296
HAWAII, U.S.A.

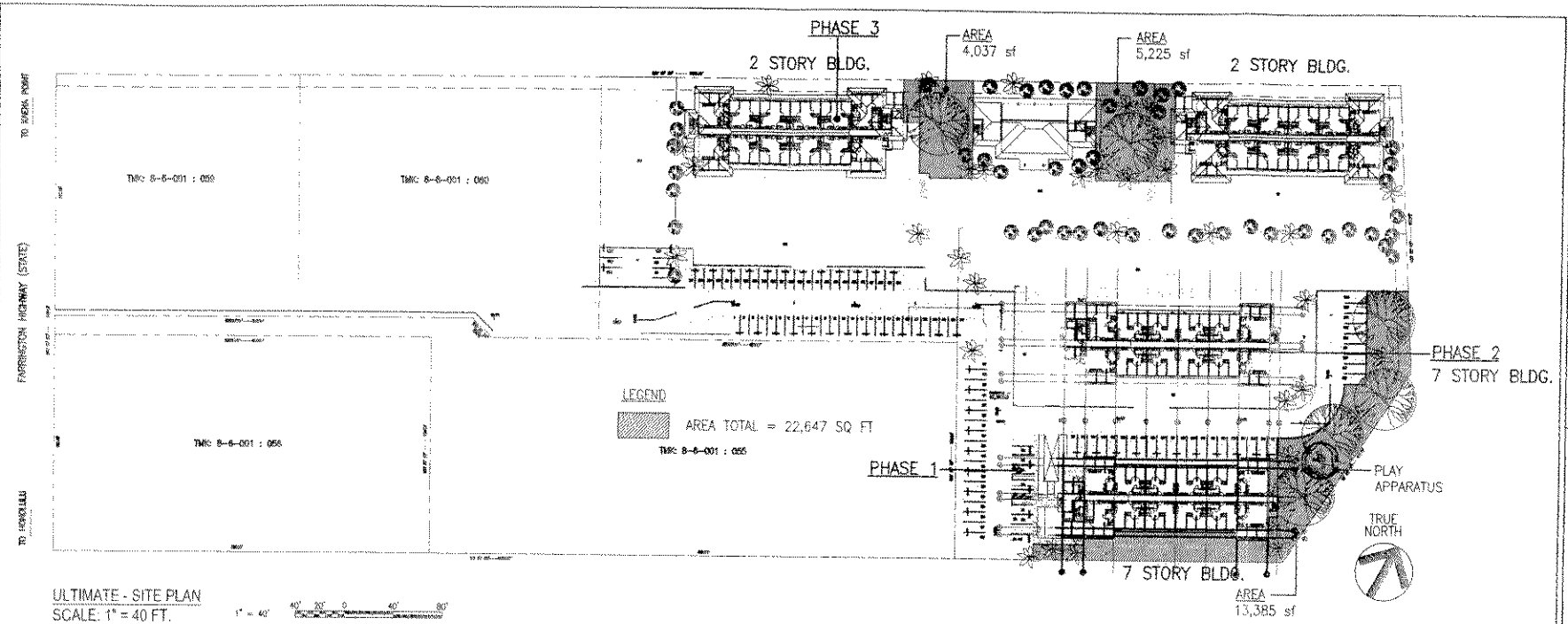
Lic. Exp. 4/08

Licensed Professional
Land Surveyor
Certificate Number 8296

060170.4A

ALCON & ASSOCIATES, INC.
ENGINEERS ~ SURVEYORS
716 UMI STREET, SUITE 250
HONOLULU, HAWAII 96819

DECEMBER 26, 2006



ULTIMATE - SITE PLAN
SCALE: 1" = 40 FT.

1" = 40'

LAND USE ORDINANCE DATA

ADDRESS	78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII
TAX MAP KEY	8-6-001: 035 (PORTION)
ZONING	B-2
MINIMUM LOT AREA	5,000 SF
ACTUAL LOT AREA	94,981 S.F.
MINIMUM LOT WIDTH	50'-0"
ACTUAL LOT WIDTH	XXX
MINIMUM YARDS	
FRONT	5'
SIDE/REAR	0' (PROVIDE 20 FT. @ BLDG. TO ALLOW UNPROTECTED WINDOW OPENINGS @ END UNITS)
MAXIMUM BUILDING AREA	NOT REGULATED
ACTUAL BUILDING AREA (BUILDING FOOTPRINT)	BUILDING 1: 9,804 S.F. BUILDING 2: 9,804 S.F. BUILDING 3: 9,873 S.F. BUILDING 4: 9,873 S.F. TOTAL LOT COVERAGE: 35,354 S.F.
MAXIMUM HEIGHT ALLOWED	45'-0"
ACTUAL HEIGHT	60'-1" TO ROOF LEVEL (71'-1" TO TOP OF ELEVATOR/STAIR PARAPET)
OPEN SPACE PROVIDED	34,500 S.F.
PRIVATE PARK SPACE REQUIRED	110 S.F. X 216 UNITS = 23,760 S.F.
PRIVATE PARK SPACE PROVIDED	XXX
ACTUAL GROSS FLOOR AREA	PHASE 1: BUILDING 1 – 69,167 S.F. (7 STORY BLDG. – 84 UNITS) PHASE 2: BUILDING 2 – 69,167 S.F. (7 STORY BLDG. – 84 UNITS) PHASE 3: BUILDING 3 – 19,746 S.F. (2 STORY BLDG. – 24 UNITS) BUILDING 4 – 19,746 S.F. (2 STORY BLDG. – 24 UNITS) COMMUNITY CENTER – 6,000 S.F. TOTAL GROSS AREA: 184,826 S.F.
TOTAL NUMBER OF UNITS	216 UNITS

PARKING CALCULATION:

PHASE 1:
BUILDING 1 (84 UNITS):
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS

(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

PARKING PROVIDED: 133 STALLS, 4 ACCESSIBLE,1 LOADING

PHASE 2:
BUILDING 2 (84 UNITS):
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 598 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS

(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

PARKING PROVIDED: -- STALLS,-- ACCESSIBLE, -- LOADING

TOTAL PARKING PROVIDED: -- STALLS

TOTAL PARKING REQUIRED FOR PHASE 1 & 2: 152 STALLS
TOTAL PARKING PROVIDED FOR PHASE 1 & 2: 152 STALLS

PHASE 3:
BUILDING 3 (24 UNITS)
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 3 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 31 STALLS

(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

BUILDING 4 (24 UNITS)
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 3 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 31 STALLS

(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

COMMUNITY CENTER:
2 STORY – 6,000 S.F. (3,000 S.F. EACH FLOOR)
PARKING REQUIRED: 6,000 S.F./400 = 15 STALLS

TOTAL PARKING RECAP SUMMARY – ULTIMATE PHASE
TOTAL PARKING REQUIRED: 293 STALLS (7 ACCESSIBLE)
TOTAL PARKING PROVIDED: 331 STALLS (10 ACCESSIBLE)
111 STALLS PROVIDED IN PHASE 1 (50 OF THESE ARE COMPACT)

BUILDING CODE DATA: (1997 UBC)

BUILDING 1 AND 2:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE II-FR
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	29,800 SF
MULTI-STORY (29,800 X 2)	59,600 SF
AREA INCREASE (59,600 X 2)	119,600 SF
ACTUAL AREA	69,475 S.F.
ALLOWABLE HEIGHT	12 STORIES
ACTUAL HEIGHT	7 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED
BUILDING AREA TABULATION	LESS THAN 25 FT.
GROUND FLOOR	9,804 S.F.
2ND – 7TH FLOORS	
TYPICAL FLOOR PLATE	9,846 S.F.
6 FLOORS	59,076 S.F.
ROOF LEVEL	
STAIR, ELEVATOR	287 S.F.
TOTAL GROSS FLOOR AREA:	69,167 S.F.

BUILDING 3 AND 4:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE V-N
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	6,000 SF
MULTI-STORY (6,000 X 2)	12,000 SF
AREA INCREASE (12,000 X 2)	24,000 SF
ACTUAL AREA	19,746 SF
ALLOWABLE HEIGHT	2 STORIES
ACTUAL HEIGHT	2 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED
BUILDING AREA TABULATION	LESS THAN 25 FT.
GROUND FLOOR	9,873 S.F.
2ND FLOOR	9,873 S.F.
TOTAL GROSS FLOOR AREA:	19,746 SF

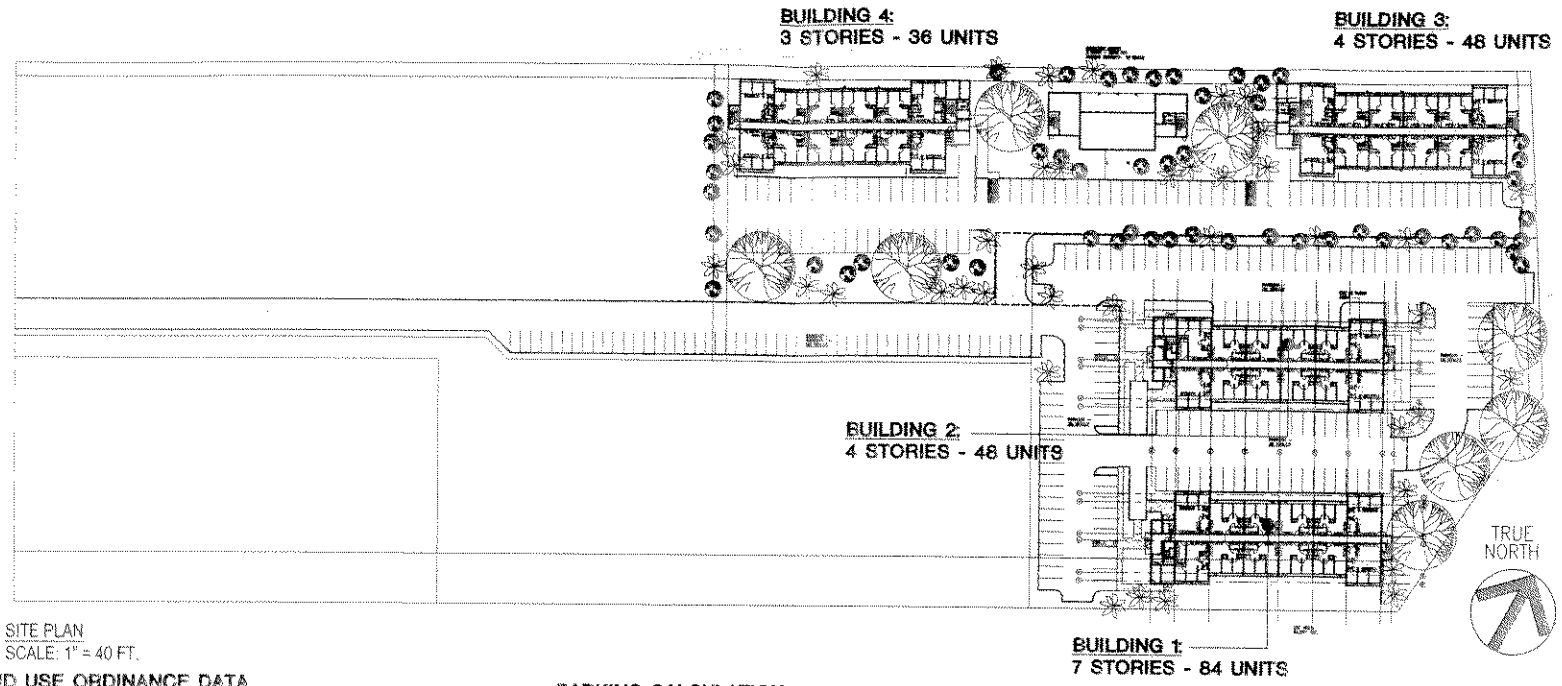
REVISIONS | BY

HALE WAI VISTA
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001: 035 (PORTION)

M & A HAWAII
ARCHITECTURE
PLANNING
INTERIOR DESIGN
CONSTRUCTION MANAGEMENT
745 FORT STREET
SUITE 518
HONOLULU, HI 96813
PH: (808) 946-2277
FAX: (808) 946-2253

Sheet Title

Date: 10 AUGUST 2007
Scale: AS NOTED
Job #:
Sheet #:



SITE PLAN
SCALE: 1" = 40 FT.

LAND USE ORDINANCE DATA

ADDRESS	78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII
TAX MAP KEY	8-6-001: 035 (PORTION)
ZONING	R-2
MINIMUM LOT AREA	5,000 SF
ACTUAL LOT AREA	94,581 S.F.
MINIMUM LOT WIDTH	50'-0"
ACTUAL LOT WIDTH	XX'
MINIMUM YARDS	
FRONT	5'
SIDE/REAR	0' (PROVIDE 20 FT. @ BLDG. TO ALLOW UNPROTECTED WINDOW OPENINGS @ END UNITS)
MAXIMUM BUILDING AREA	NOT REGULATED
ACTUAL BUILDING AREA (BUILDING FOOTPRINT)	BUILDING 1: 10,214 S.F. BUILDING 2: 10,214 S.F. TOTAL LOT COVERAGE: 39,428 S.F. (22% COVERAGE)
MAXIMUM HEIGHT ALLOWED	40'-0"
ACTUAL HEIGHT	70'-9" TO ROOF LEVEL (81'-9" TO TOP OF ELEVATOR/STAIR PARAPET)
OPEN SPACE PROVIDED	XX%
PRIVATE PARK SPACE REQUIRED	XX%
PRIVATE PARK SPACE PROVIDED	XX%
ACTUAL GROSS FLOOR AREA	PHASE 1: BUILDING 1 – 70,211 S.F. PHASE 2: BUILDING 2 – 39,492 S.F. BUILDING 3 – 39,492 S.F. BUILDING 4 – 29,632 S.F. COMMUNITY CENTER – 6,000 S.F. TOTAL GROSS AREA: 184,817 S.F.
TOTAL NUMBER OF UNITS	PHASE 1: BUILDING 1 – 84 UNITS (63 – 2 BEDROOMS/21 – 3 BEDROOMS) PHASE 2: BUILDING 2 – 48 UNITS (36– 2 BEDROOMS/12 – 3 BEDROOMS) BUILDING 3 – 48 UNITS (36 – 2 BEDROOMS/12– 3 BEDROOMS) BUILDING 4 – 36 UNITS (27 – 2 BEDROOMS/9 – 3 BEDROOMS) COMMUNITY CENTER TOTAL NO. OF UNITS – 216 UNITS (162– 2 BEDROOMS/54– 3 BEDROOMS)

PARKING CALCULATION:

PHASE 1:
BUILDING 1:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS

(5 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

PHASE 2:
BUILDING 2:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 4 FLOORS = 56 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 5 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 61 STALLS

(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

BUILDING 3:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 4 FLOORS = 56 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 5 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 61 STALLS

(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

BUILDING 4:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 3 FLOORS = 42 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 4 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 4: 46 STALLS

(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

COMMUNITY CENTER
2 STORY – 6,000 S.F. (3,000 S.F. EACH FLOOR)
PARKING REQUIRED: 6,000 S.F./400 = 15 STALLS
(1 VAN ACCESSIBLE STALL)

TOTAL PARKING REQUIRED FOR PROJECT: 289 STALLS

TOTAL PARKING PROVIDED: 289 STALLS

BUILDING CODE DATA: (1997 UBC)

BUILDING 1:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE 5-1HR
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	20,500 SF
MULTI-STORY (29,900 X 2)	59,800 SF
AREA INCREASE (59,800 X 2)	119,600 SF
ACTUAL AREA	70,211 S.F.
ALLOWABLE HEIGHT	12 STORIES
ACTUAL HEIGHT	7 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT. PROTECTED LESS THAN 20 FT.
BUILDING AREA TABULATION	
GROUND FLOOR	1,002 S.F.
2ND – 6TH FLOORS	
TYPICAL FLOOR PLATE	9,846 S.F.
7 FLOORS	68,922 S.F.
ROOF LEVEL	
STAIR, ELEVATOR	287 S.F.

ALTERNATE SITE PLAN

REVISIONS | BY

HALE WAI VISTA
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001: 035 (PORTION)

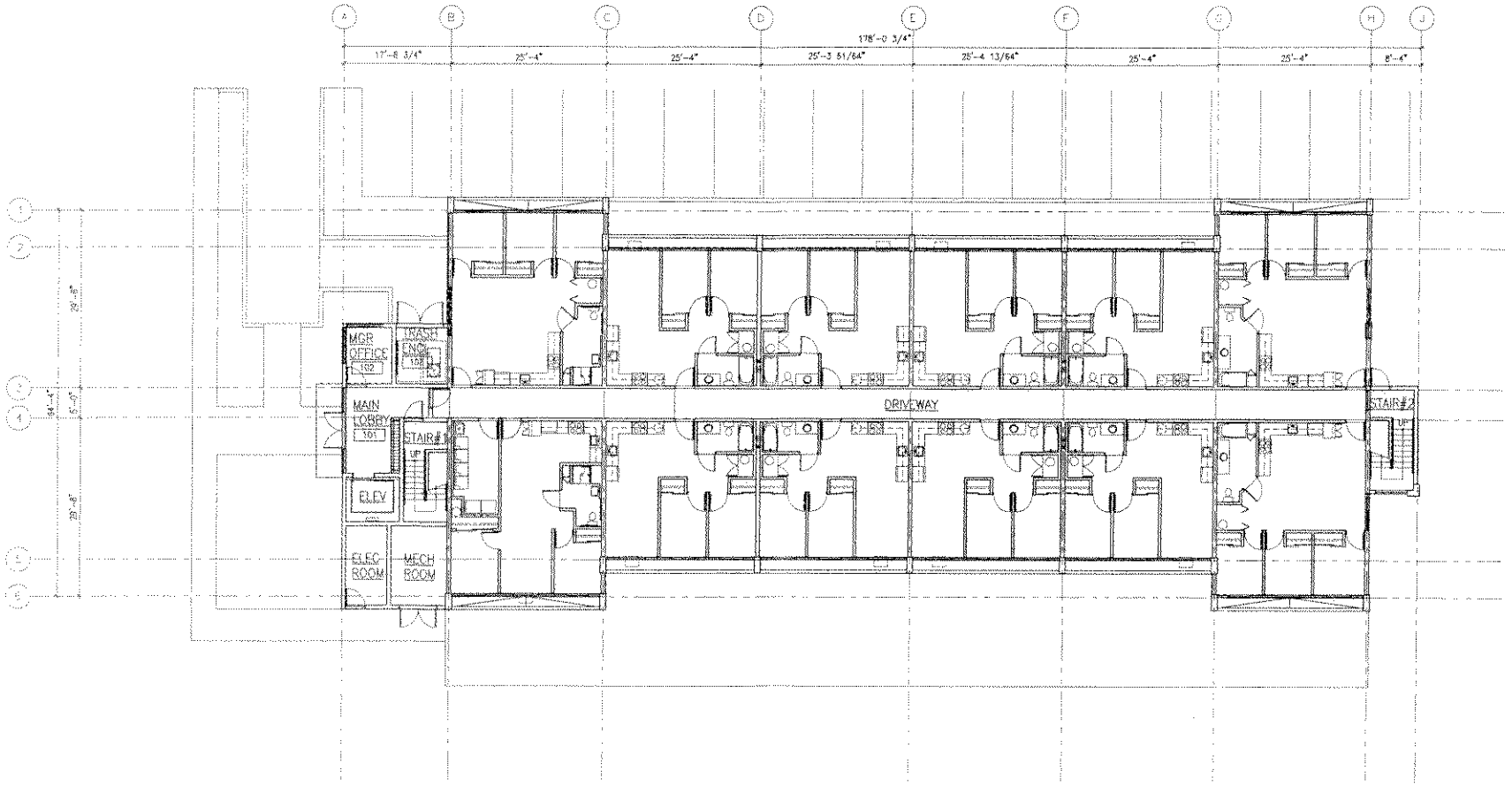
M & A HAWAII
ARCHITECTURE
PLANNING
CONSTRUCTION MANAGEMENT
737 Bishop Street
Suite 2290
Honolulu, Hawaii 96813
PH: (808) 946-7992
FAX: (808) 946-8593

Sheet Title:

Date: 12/5/2007
Scale: AS NOTED
Drawn by:
Job:
Sheet:

A-1

Date:



A GROUND FLOOR PLAN
A-2 SCALE: 1/8" = 1'-0"

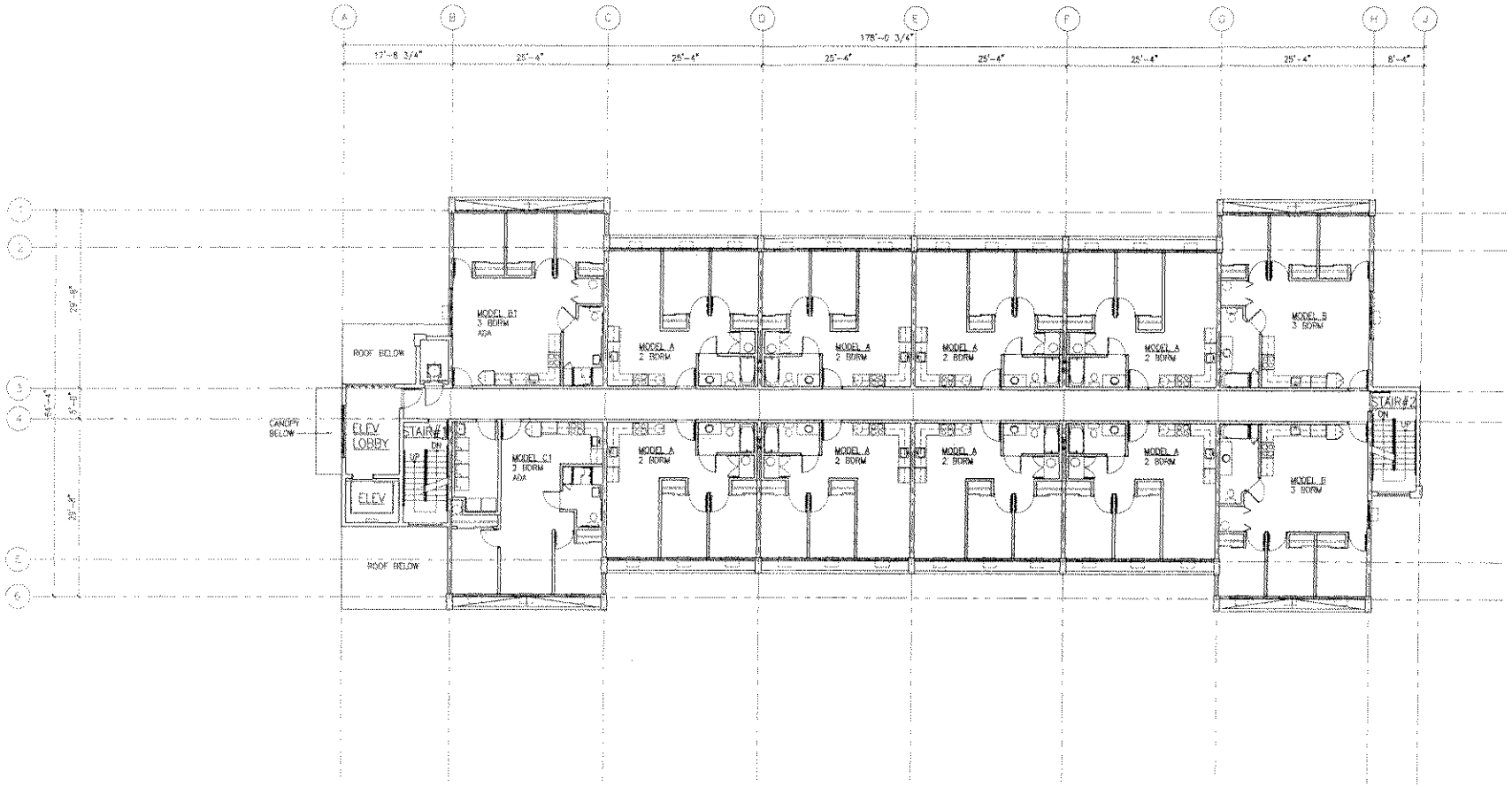
0 5' 10' 15'
1/8" = 1'-0"

REVISIONS | BY

HALE WAI VISTA
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001: 035 (FOR FILING)

Sheet Title
GROUND FLOOR PLAN

Date: AUGUST 2006
Scale: AS NOTED
Drawn By:
Job:
Sheet:
A-2



A SECOND FLOOR PLAN
A-3
SCALE: 1/8"= 1'-0"

0 5' 10' 15'
1/8" = 1'-0"

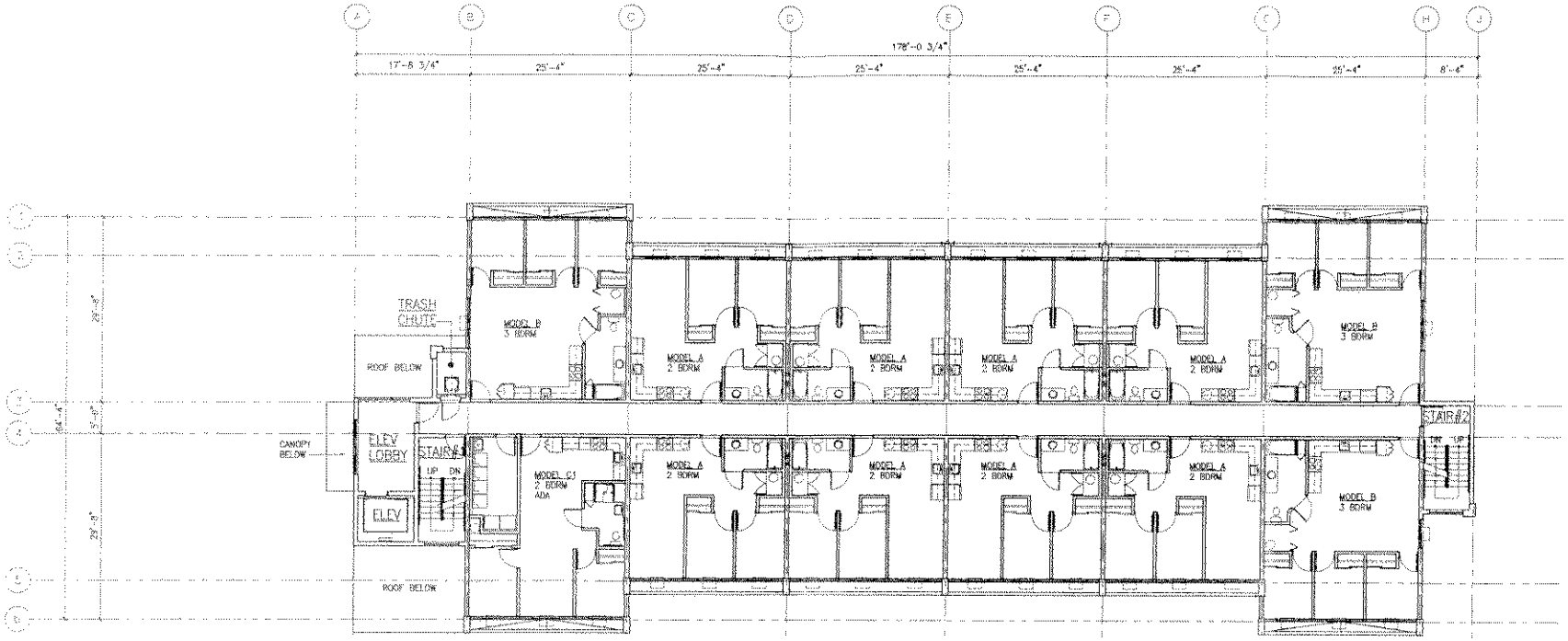
REVISIONS	BY

HALE WAI VISTA
78 & 85 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001 035 (PORTION)

MITSUNAGA & ASSOCIATES, INC.
ARCHITECTURE
ENGINEERING
PLANNING
CONSTRUCTION MANAGEMENT
740 AMAHA STREET
SUITE 310
HONOLULU, HI 96814
TEL: (808) 946-2992
FAX: (808) 946-2992

Sheet Title
SECOND FLOOR PLAN

Date AUGUST 2006
Scale AS NOTED
Drawn By
Job
Dwg
A-3
Sheet ___ of ___



A-4 3RD AND 4TH FLOOR PLAN

SCALE: 1/8"= 1'-0"

1/8" = 1'-0"

REVISIONS | BY

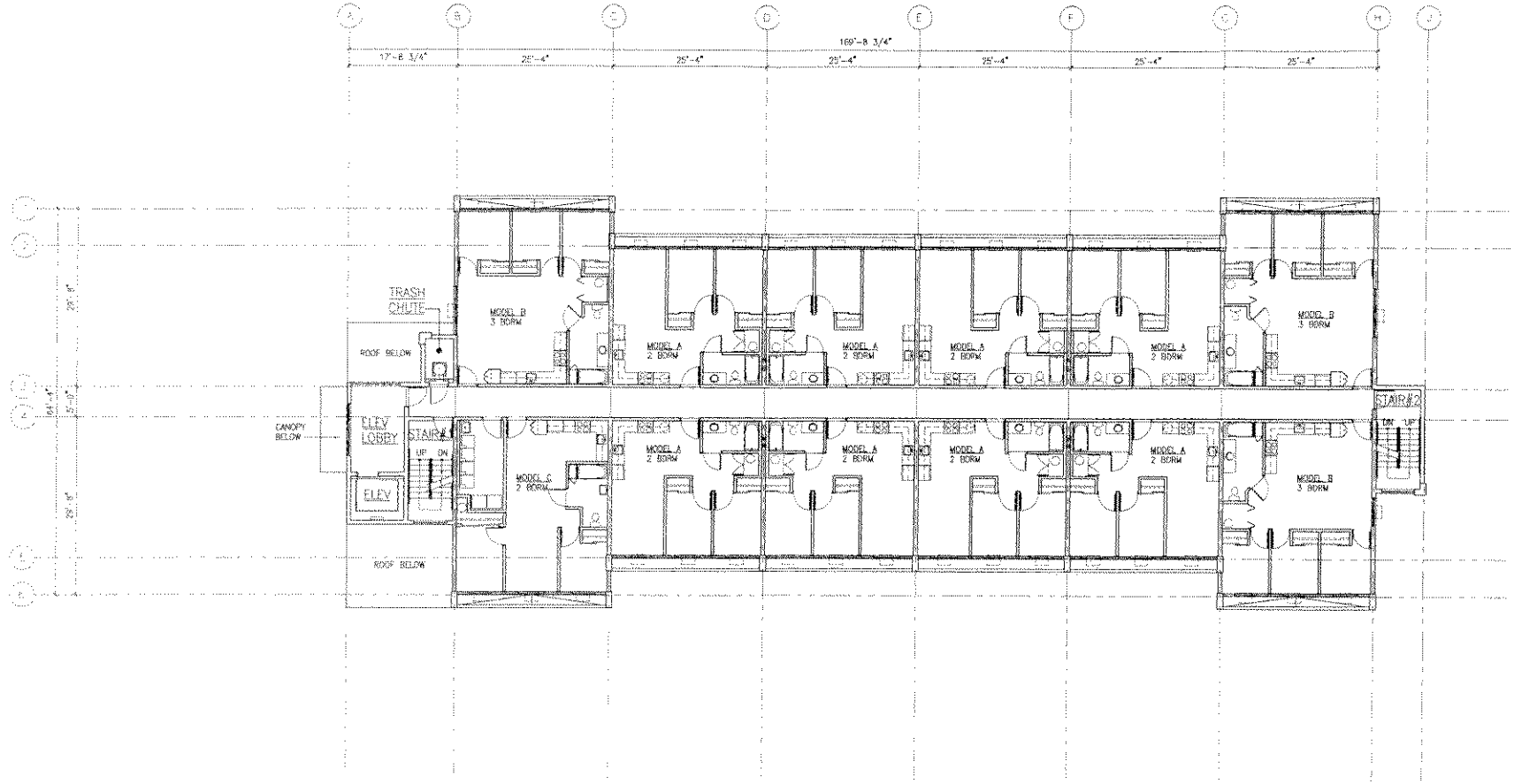
HALE WAI VISTA

79 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792

TMK: 8-6-001: 035 (PORTION)

Sheet Title
3RD AND 4TH FLOOR PLAN

A-4



A 5TH – 7TH. FLOOR PLAN
A-5 SCALE: 1/8" = 1'-0"

0 5' 10' 15'
1/8" = 1'-0"

REVISIONS	BY

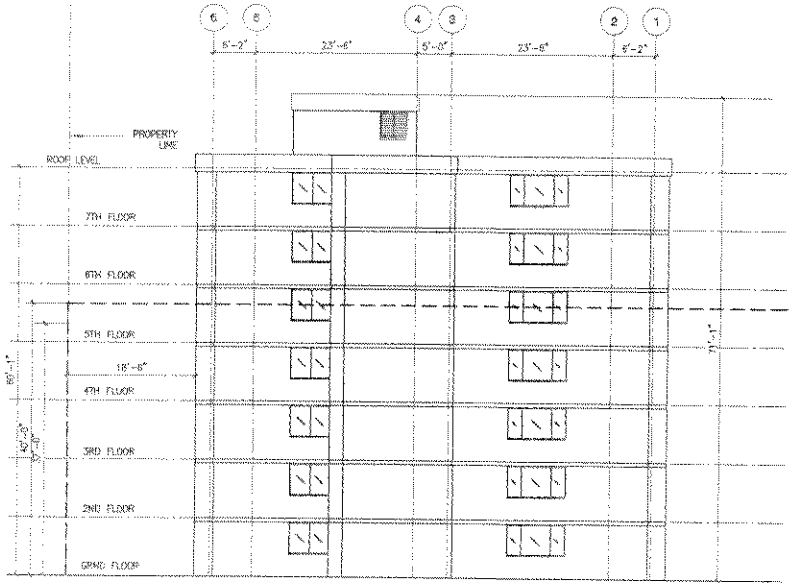
HALE WAI VISTA
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001-055 (NORTHERN)

MITSUNAGA & ASSOCIATES, INC.
ARCHITECTURE
ENGINEERING
PLANNING
CONSTRUCTION MANAGEMENT
747 AMAHI STREET
SUITE 310
HONOLULU, HI 96814
PH: (808) 949-7882
FAX: (808) 949-3582

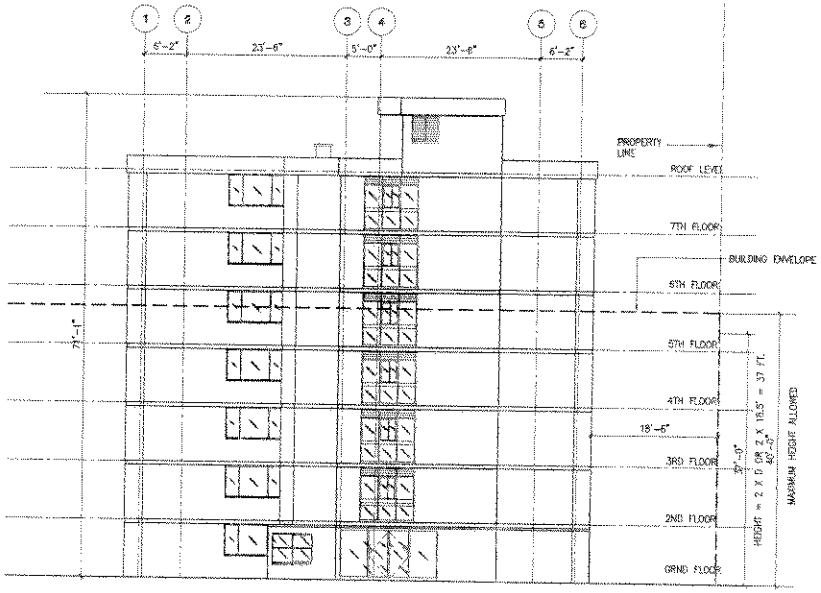
Sheet Title
5TH THRU 8TH
FLOOR PLAN

Date AUGUST 2008
Scale AS NOTED
Drawn By
Job
Sheet

A-5



A NORTH-EAST ELEVATION - BUILDING ENVELOPE STUDY
A-E SCALE: 1/8" = 1'-0"



B SOUTH-WEST ELEVATION - BUILDING ENVELOPE STUDY
A-F SCALE: 1/8" = 1'-0"

0 5' 10' 15'
1/8" = 1'-0"

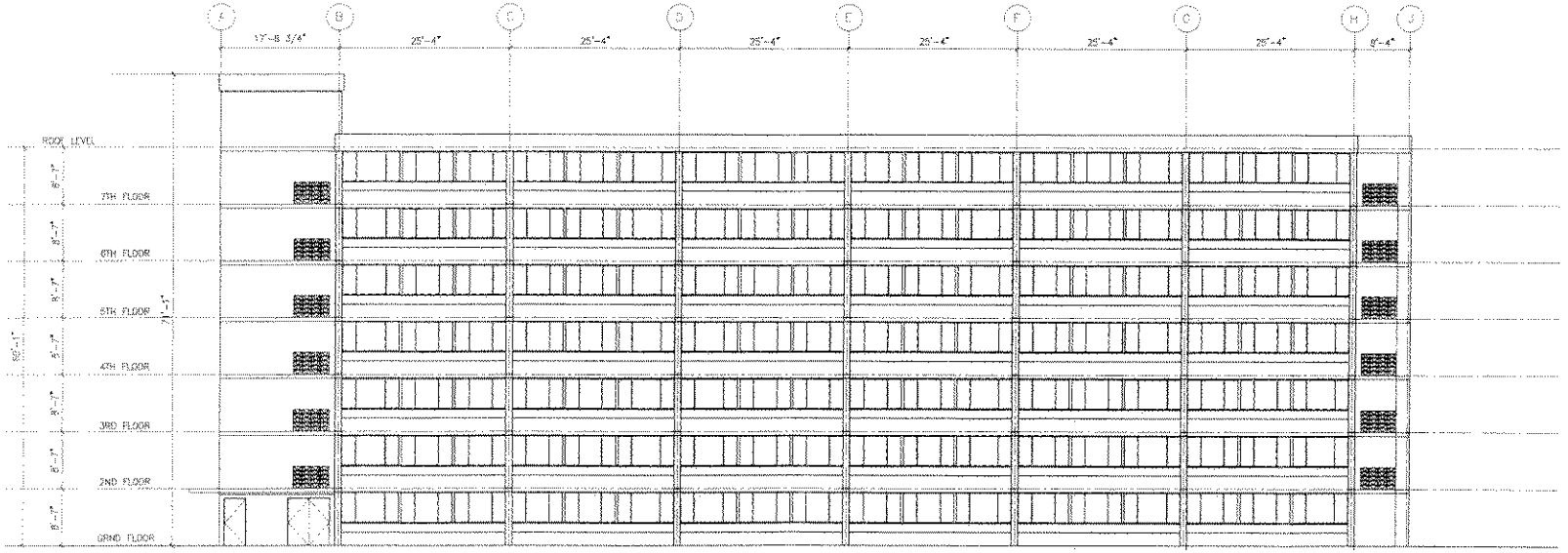
REVISIONS	BY

HALE WAI VISTA
98 & 94 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-4-001: 035 (PORTION)

M & A HAWAII

Sheet Title:

Date: 2 AUGUST 2007
Scale: AS NOTED
Drawn By:
Job:
Sheet:
Sheet: of



A
A-8
SOUTH-EAST ELEVATION
SCALE: 1/8"= 1'-0"

0 5' 10' 15'
1/8" = 1'-0"

REVISIONS | BY

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTITUTION OF THIS PROJECT WILL BE MADE IN ACCORDANCE WITH THE CONTRACTOR'S CONTRACTS AND DESIGN BY THE SUPERVISOR OF THE WORK AGAINST WHOSE SEALS, PROFESSIONAL, GENERAL, ARCHITECT, ENGINEER, AND CHIEF ENGINEER (ELECTRICAL)

EXPIRATION DATE: _____

SIGNATURE OF ENGINEER
LICENSED PROFESSIONAL ENGINEER
No. 4545
HAWAII

HALE WAI VISTA

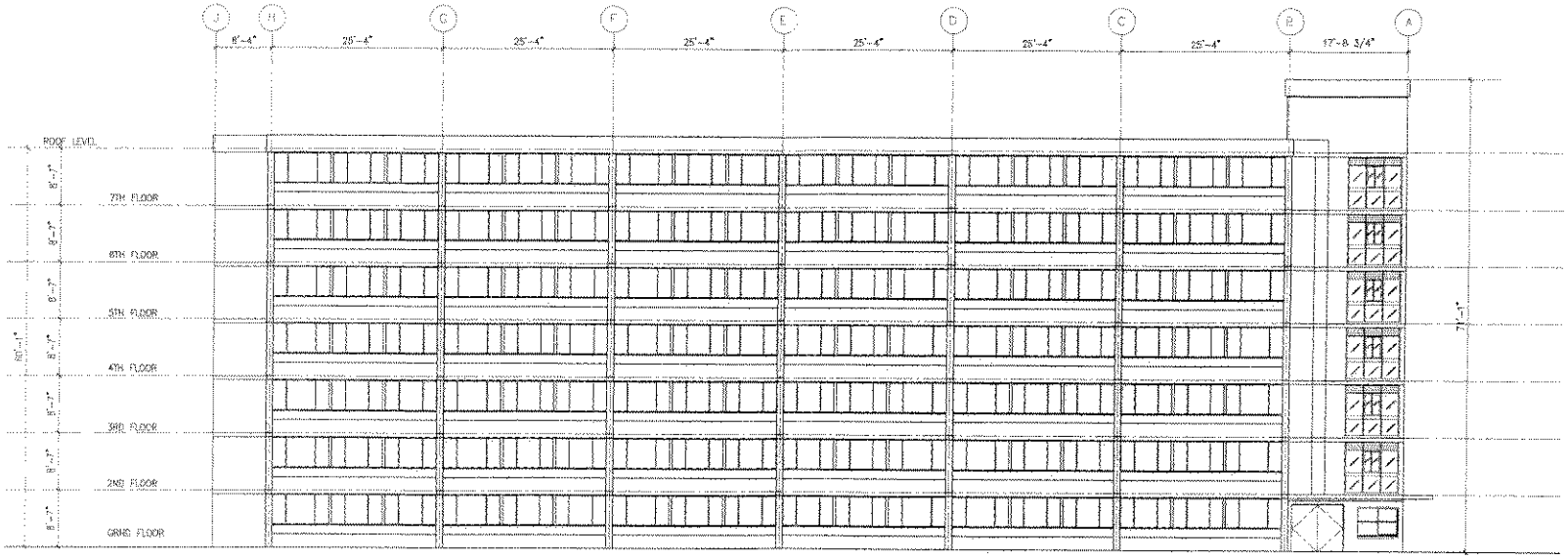
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK. NO. 6-9-005 (PORTION)

ATTENTION
A ASSOCIATES INC
ARCHITECTURE
ENGINEERING
PLANNING
CONSTRUCTION MANAGEMENT
147 ALUMNI STREET
SUITE 218
HONOLULU, HI 96814
PH. (808) 944-7992
FAX. (808) 944-2583

Sheet Title
EXTERIOR ELEVATIONS

Date AUGUST 2006
Scale AS NOTED
Drawn By
Job
Sheet

A-8



A/A-9 NORTH-WEST ELEVATION
SCALE: 1/8" = 1'-0"

0 5' 10' 15'
1/8" = 1'-0"

REVISIONS	BY

LICENSED PROFESSIONAL ARCHITECT No. 4548

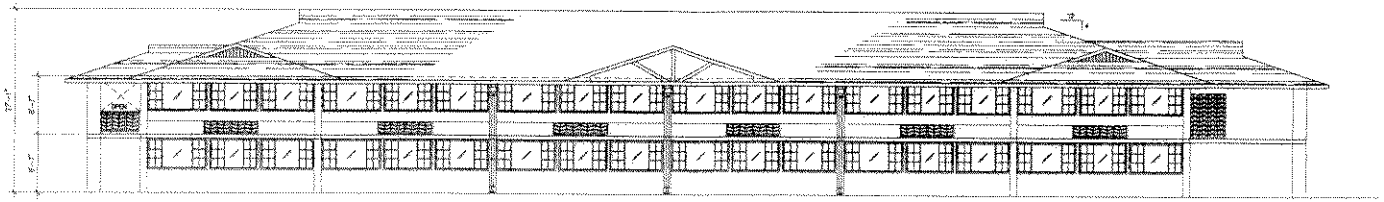
HALE WAI VISTA

TMK: 9-6-021: 035 (PORTION)

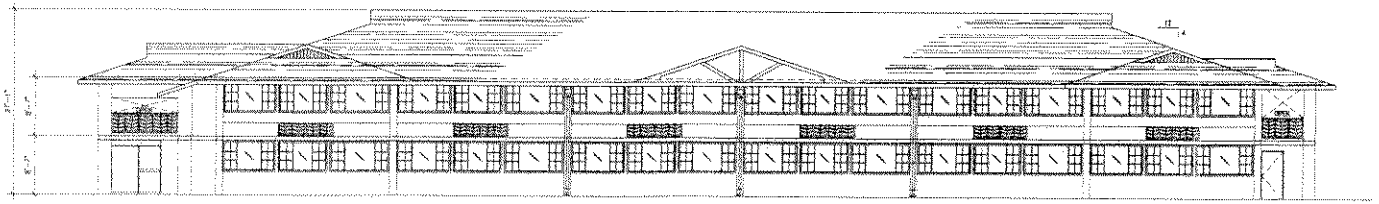
ARCHITECTURE
TRANSITIONS
PLANNING
CONSTRUCTION MANAGEMENT

Sheet Title
EXTERIOR ELEVATIONS

Sheet No.
A-9



A
A-XX
NORTH EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



B
A-XX
SOUTH EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"

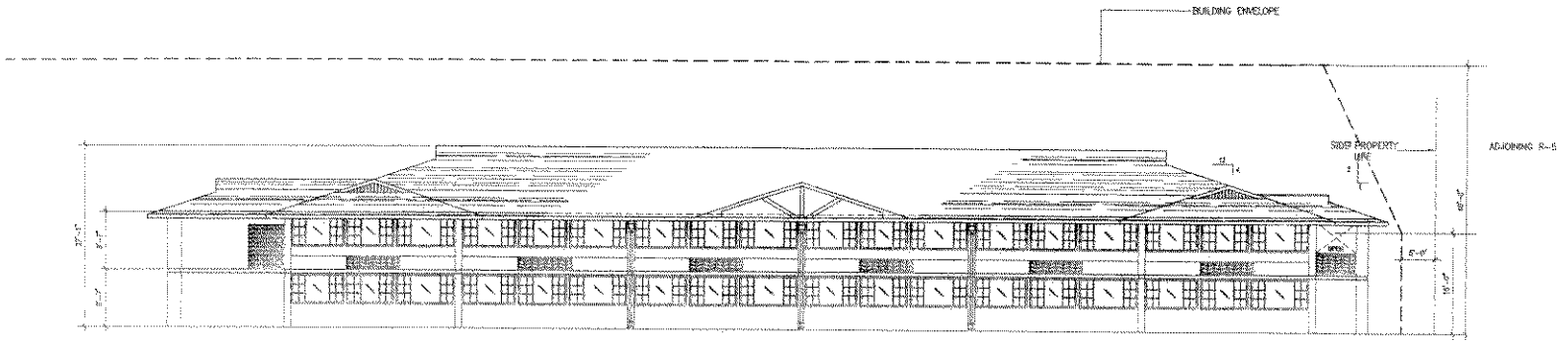
REVISIONS | BY

HALE WAI VISTA

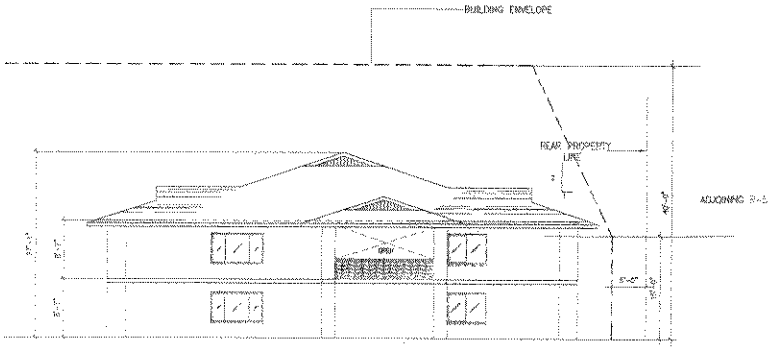
WAIANAE
TMK.
HAWAII

Sheet Title

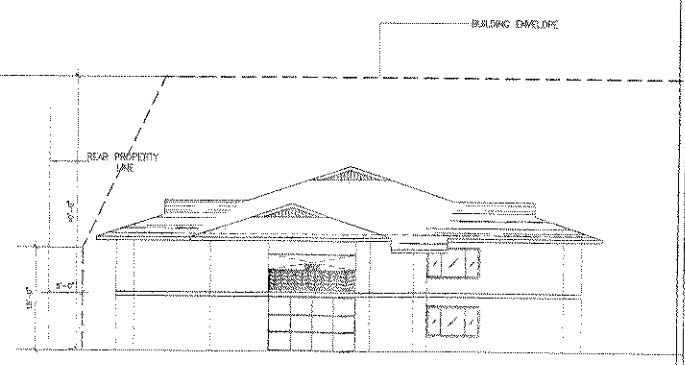
Date: XXX, 2006
Scale: AS NOTED



A A-XX **TOWN HOUSE FRONT ELEVATION - BUILDING ENVELOPE STUDY**
SCALE: 1/8" = 1'-0"



B A-XX **TOWNHOUSE SIDE ELEVATION - BUILDING ENVELOPE STUDY**
SCALE: 1/8" = 1'-0"



C A-XX **TOWNHOUSE SIDE ELEVATION - BUILDING ENVELOPE STUDY**
SCALE: 1/8" = 1'-0"

0 5' 10' 15'
1/8" = 1'-0"

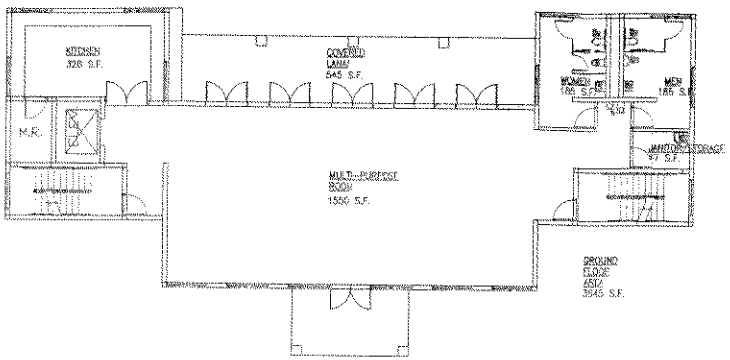
REVISIONS	BY

HALE WAI VISTA

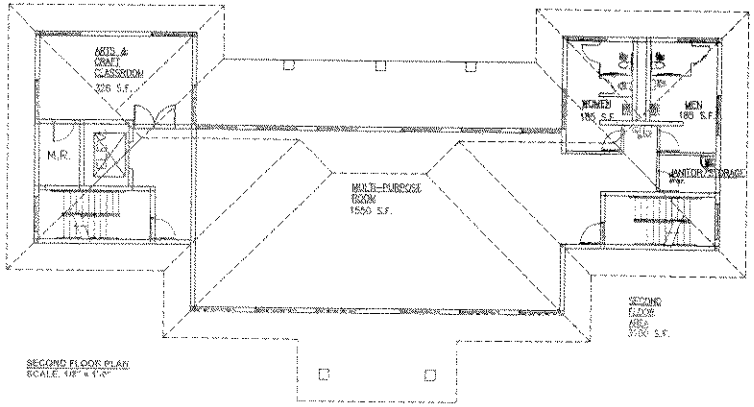
M & E HAWAII

Sheet Title

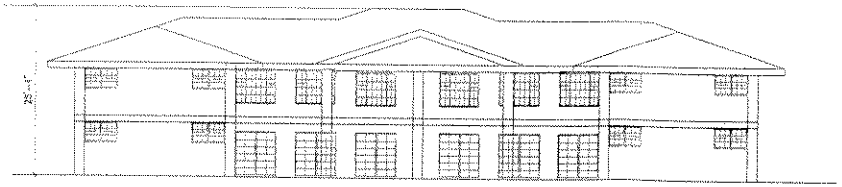
Date 2 AUGUST 2007
Scale AS NOTED
Drawn A.
Job
Sheet



GROUND FLOOR PLAN
SCALE: 1/8" = 1'-0"



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"



TYPICAL EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"

FLOOR AREA TABULATION

RM NO.	ROOM NAME	PROGRAMMED AREAS (SF)	ACTUAL NET PROVIDED (SF)
GROUND FLOOR AREA			
	PROGRAMMED AREAS		
	MULTI-PURPOSE ROOM	1550	
	EXTERIOR LANAI GATHERING AREA	545	
	SUBTOTAL PROGRAM AREA:	2095	
	SUPPORT AREA:		
	KITCHEN	326	
	WOMEN'S RESTROOM	185	
	MEN'S RESTROOM	185	
	CIRCULATION/STAIRS/ELEVATOR	852	
	TOTAL GROSS AREA – GROUND FLOOR	3645	
SECOND FLOOR AREA			
	PROGRAMMED AREAS		
	MULTI-PURPOSE ROOM	1550	
	ARTS AND CRAFT CLASSROOM	326	
	SUBTOTAL PROGRAM AREA:	1876	
	SUPPORT AREA:		
	WOMEN'S RESTROOM	185	
	MEN'S RESTROOM	185	
	CIRCULATION/STAIRS/ELEVATOR	852	
	TOTAL GROSS AREA – SECOND FLOOR	3100	
	TOTAL GROSS AREA – ENTIRE BLDG.	6745	

REVISIONS	BY

THIS SITE WAS PREPARED BY ME OR UNDER MY SUPERVISION OR CONSTRUCTION OF THIS PROJECT WILL BE MADE BY GENERAL CONTRACTOR OF CONSTRUCTION AND DEPARTMENT OF PUBLIC WORKS, DIVISION OF THE WORK ADMINISTRATION RULES, PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR AND LANDSCAPE ARCHITECT.
EXPIRATION DATE

HALE WAI VISTA

TMK: 8-4-001 011 (PORTION)

M & A HAWAII

Sheet Title

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 25, 2006

Dear Adjoining Property Owner:

Subject: Proposed Affordable Rental Project
Hale Wai Vista in Waianae
Tax Map Key: 8-6-1: 35

On behalf of the applicant, Hawaii Housing Development Corporation, and in accordance with the policies of the Department of Planning and Permitting (DPP) of the City and County of Honolulu, we are providing you, as an adjoining property owner, notification of our upcoming presentation before the Waianae Neighborhood Board. On the evening of Tuesday, September 5, 2006 we will be presenting information regarding a proposed affordable rental housing project. A summary, site plan and location map of the proposed Hale Wai Vista project are attached. We will describe the project including the anticipated permitting process and respond to your questions and/or concerns.

Date:	Tuesday, September 5, 2006
Time:	7:00 P.M.
Location:	Wai'anae Neighborhood Community Center 85-671 Farrington Highway

If you have any questions, please call me at 988-2231.

Very truly yours,

Ardis Shaw-Kim

cc: Gary Furuta
Department of Community Services

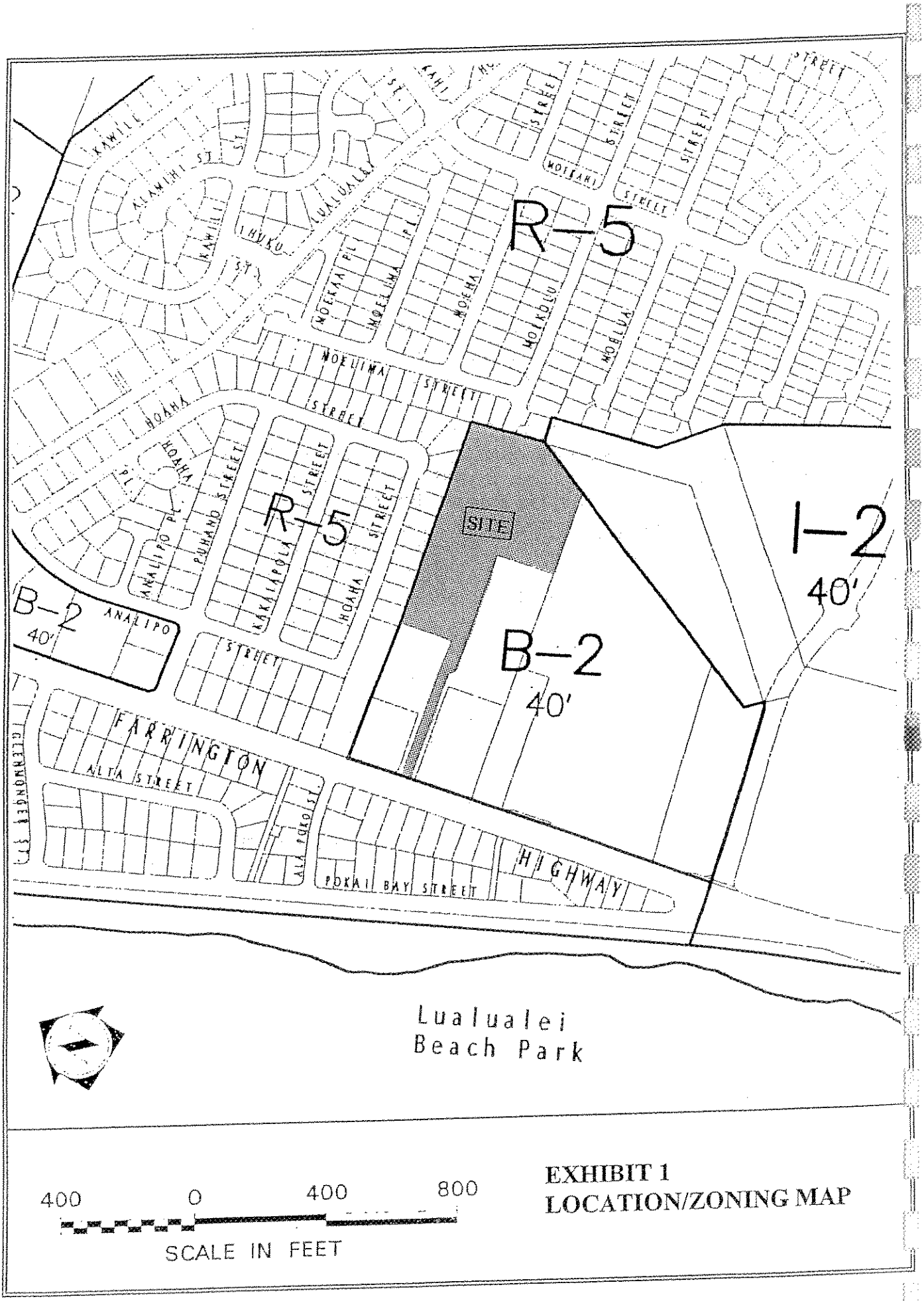
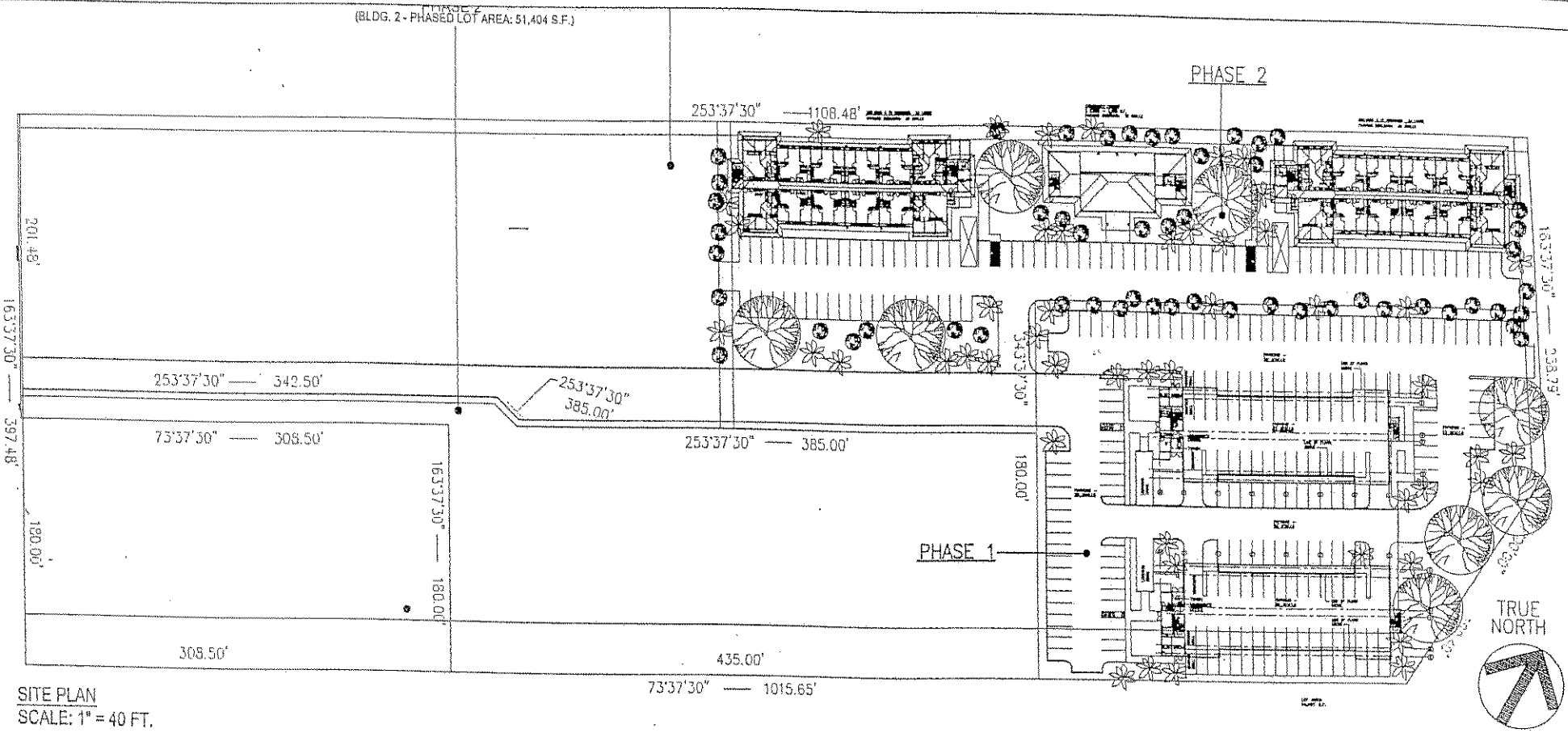


EXHIBIT 1
LOCATION/ZONING MAP



SITE PLAN
SCALE: 1" = 40 FT.

ND USE ORDINANCE DATA

RESS	78 & 88 FARRINGTON HIGHWAY WAIANAE, HAWAII
MAP KEY	8-8-001: 035 (PORTION)
NG	R-2
IUM LOT AREA	5,000 SF
AL LOT AREA	94,861 S.F.
IUM LOT WIDTH	50'-0"
AL LOT WIDTH	XXX
IUM YARDS	
FRONT	5'
SIDE/REAR	0' (PROVIDE 20 FT. @ BLDG. TO ALLOW UNPROTECTED WINDOW OPENINGS @ END UNITS)
IMUM BUILDING AREA	NOT REGULATED
AL BUILDING AREA (BUILDING FOOTPRINT)	BUILDING 1: 10,214 S.F. BUILDING 2: 10,214 S.F. TOTAL LOT COVERAGE: 20,428 S.F. (22% COVERAGE)
IMUM HEIGHT ALLOWED	40'-0"
AL HEIGHT	20'-8" TO ROOF LEVEL (81'-8" TO TOP OF ELEVATOR/STAIR PARAPET)
N SPACE PROVIDED	XXX
VATE PARK SPACE REQUIRED	XXX
VATE PARK SPACE PROVIDED	XXX
UAL GROSS FLOOR AREA	PHASE 1: BUILDING 1 – 70,211 S.F. PHASE 2: BUILDING 2 – 70,211 S.F. BUILDING 3 – 19,746 S.F. BUILDING 4 – 19,746 S.F. COMMUNITY CENTER – 8,000 S.F. TOTAL GROSS AREA: 109,703 S.F. NET RESIDENTIAL AREA: BUILDING 2: 53,221 S.F. BUILDING 3 & 4: 30,412 S.F. TOTAL COMMON AREA: 26,070 S.F.
TAL NUMBER OF UNITS	PHASE 1: BUILDING 1 – 84 UNITS (63 – 2 BEDROOMS/21 – 3 BEDROOMS) PHASE 2: BUILDING 2 – 84 UNITS (63 – 2 BEDROOMS/21 – 3 BEDROOMS)

PARKING CALCULATION:

PHASE 1:
BUILDING 1:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS
(5 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'
PARKING PROVIDED: 106 STALLS, 9 ACCESSIBLE, 2 LOADING

PHASE 2:
BUILDING 2:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS
(5 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'
PARKING PROVIDED: 106 STALLS, 9 ACCESSIBLE, 2 LOADING

BUILDING 3:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 2 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 30 STALLS
(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'
PARKING PROVIDED: 30 STALLS (2 ACCESSIBLE W/ 1 VAN ACCESSIBLE)

BUILDING 4:
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 2 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 30 STALLS
(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'
PARKING PROVIDED: 30 STALLS (2 ACCESSIBLE W/ 1 VAN ACCESSIBLE)

COMMUNITY CENTER
2 STORY – 8,000 S.F. (3,000 S.F. EACH FLOOR)
PARKING REQUIRED: 8,000 S.F./400 = 15 STALLS
PARKING PROVIDED: 15 STALLS (1 ACCESSIBLE VAN)

BUILDING CODE DATA: (1997 UBC)

BUILDING 1 AND 2:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE II-FR
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	29,900 SF
MULTI-STORY (29,900 X 2)	59,800 SF
AREA INCREASE (59,800 X 2)	119,600 SF
ACTUAL AREA	70,211 S.F.
ALLOWABLE HEIGHT	12 STORIES
ACTUAL HEIGHT	8 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED LESS THAN 20 FT.
BUILDING AREA TABULATION	
GROUND FLOOR	1,002 S.F.
2ND – 8TH FLOORS	
TYPICAL FLOOR PLATE	8,848 S.F.
7 FLOORS	58,822 S.F.
ROOF LEVEL	
STAIR, ELEVATOR	287 S.F.

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86-106 Hoaha Street
Waianae, Hi 96792

TMK: 8-6-018: 010
Francis & Jacqueline Malani
P.O. Box 6752
Hilo, HI 96720

TMK: 8-6-025: 198
Richard Chandler
86-947 Moelima Street
Waianae, HI 96792

TMK: 8-6-001: 056, 060
Susan & Lambert Lau Trust
2165 Ala Wai Boulevard
Honolulu, HI 96815

TMK: 8-6-018: 018
erry & Marlyn Acuram
86-107 Hoaha Street
Waianae, HI 96792

TMK: 8-6-018: 014
atrick & Jollette Lee
6-108 Hoaha Street
Waianae, HI 96792

TMK: 8-6-018: 012
Siaosi Timoteo
86-102 Hoaha Street
Waianae, HI 96792

TMK: 8-6-0125: 196
George & Adele Mier
86-943 Moelima Street
Waianae, HI 96792

TMK: 8-6-025: 106
Jay & Kananipumehana Amina
86-143 Kakaiapola Street
Waianae, HI 96792

TMK: 8-6-018: 019
Rose Miller
86-124 Hoaha Street
Waianae, HI 96792

TMK: 8-6-018: 017, 015
Robert Black
86-118 Hoaha Street
Waianae, HI 96792

TMK: 8-6-001: 055
West Oahu Mall Associates LLC
433 N. Camden Dr. Suite 900
Beverly Hill, CA 90210

TMK: 8-6-018: 011
Kenneth Monis
86-080 Hoaha Street
Waianae, HI 96792

TMK: 8-6-025: 197
Dean Sur
86-945 Moelima Street
Waianae, HI 96792

TMK: 8-6-114: 029
City and County of Honolulu
Dept. of Transportation Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

TMK: 8-6-018: 020
Hawaii Assn. 7th Day Adventist
2728 Pali Highway
Honolulu, HI 96817

TMK: 8-6-018: 016
Lynne-Rene Matsushima
86-114 Hoaha Street
Waianae, HI 96792

TMK: 8-6-001: 059
Jan. Properties LTD Partnership
4975 Kolohala Street
Honolulu, HI 96816

Summary Sheet
Hale Wai Vista Affordable Family Rental Project

The developer, the Hawaii Housing Development Corporation, proposes to develop an affordable rental housing project on a 5. 02 acre property located adjacent to Waianae Mall as indicated in the attached Location Map. The proposed development will consist of four multifamily buildings and one community-center building. A total of about 216 affordable rental units of varying sizes will be developed and rented to qualified families. As currently envisioned, rental units will be made available to families earning up to about 60% of Honolulu's median family income. Parking will be provided at the ground level on the project site.

In addition to preparing an environmental assessment for the project, the applicant will be submitting a 201-H application requesting certain exemptions from development standards for the development of affordable housing in accordance with State Statutes.

The project will be developed in phases as financing becomes available. Construction on the first multi-family building will commence as soon as all development permits are received.

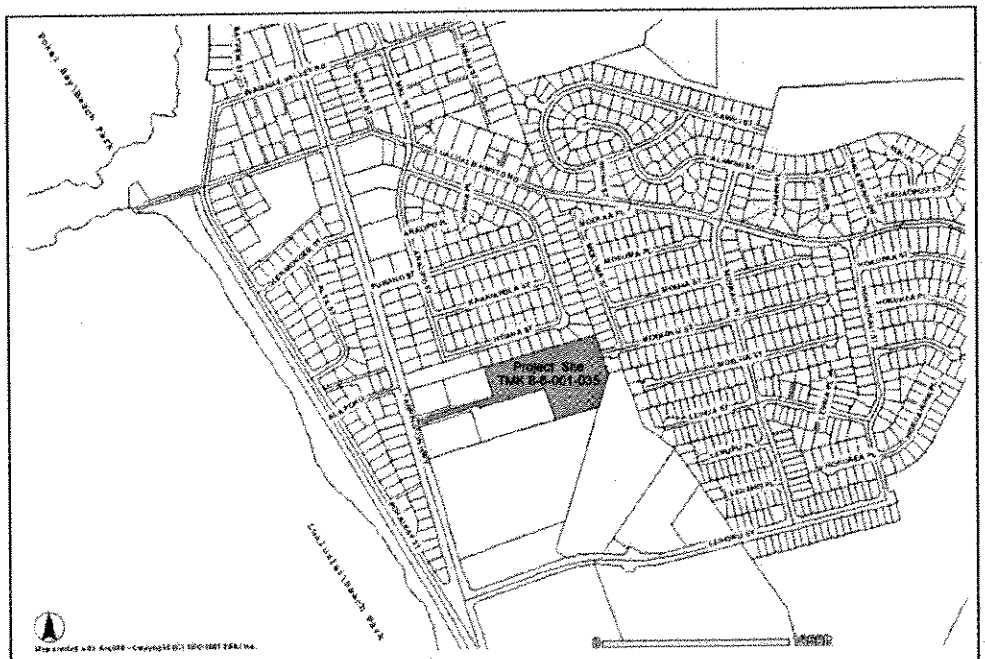
Traffic Assessment

Hale Wai Vista

Waianae, Oahu, Hawaii TMK 8-6-001: 035

March 2007

The Hawaii Housing Development Corporation proposes to develop an affordable rental housing project on a 5.02-acre property (TMK 8-6-001: 035) located adjacent to the Waianae Mall shopping center. (see Figure 1).



Vicinity plan from http://gis.hicentral.com/website/parcelzoning/viewer.htm

Figure 1 – Project Location

The proposed development will consist of four multifamily buildings and a community center built for use by the residents of the development. A total of 216 apartments will be developed and rented to qualified families. Parking will be provided at ground level on the project site. The project will be developed in two phases; the first phase will include one building with 84 apartments and the second phase will develop 132 apartments (a second 84-unit building and two additional buildings with 24 units each).

The traffic generated by the development at full occupancy has been estimated using trip rates from a widely used reference, as shown below. The community center is not expected to generate additional traffic, as it will be used by residents.

Table 1 – Traffic Generation (216 apartments)

	Trip rates *		Trips Generated	
	rate	% entering	entering	exiting
Typical Saturday	6.39	50%	690	690
Typical Sunday	5.86	50%	630	630
Average Weekday	6.72	50%	730	730
AM Peak Hour of adjacent street traffic	0.51	20%	22	88
PM Peak Hour of adjacent street traffic	0.62	65%	87	47
AM Peak Hour of generator	0.55	29%	34	84
PM Peak Hour of generator	0.67	61%	88	56
* Source: Institute of Transportation Engineers, *Trip Generation, 7th Edition*				

The traffic generated by the development will be less than the threshold suggested by the Institute of Transportation Engineers "that a traffic access/impact study be conducted whenever a proposed development will generate 100 or more added (new) peak direction trips to or from the site during the adjacent roadways' peak hours or the development's peak hour" (*Traffic Access and Impact Studies for Site Development*, Washington, D.C., 1991). The site layout is expected to reduce the traffic generated by the proposed development, due to internal connections to parking lots for the neighboring Waianae Mall shopping center and other adjacent commercial properties, as peak hour traffic generated by residential uses often include trips for shopping or dining purposes. The project, therefore, is not expected to have a significant impact to traffic conditions in the area. The remainder of this report provides additional information to support the conclusion that the development will not have significant traffic impacts.

Existing Conditions

The proposed development is located in the south portion of Waianae, on the west coast of Oahu. The development site is currently vacant and the project will occupy a portion of the property identified by TMK 8-6-001: 035, a "flag" lot that connects to Farrington Highway. A portion of the stem of the flag lot currently serves as an access road to parking lots on adjacent properties. Figure 2 shows the proposed site plan and identifies the large neighboring parcels.

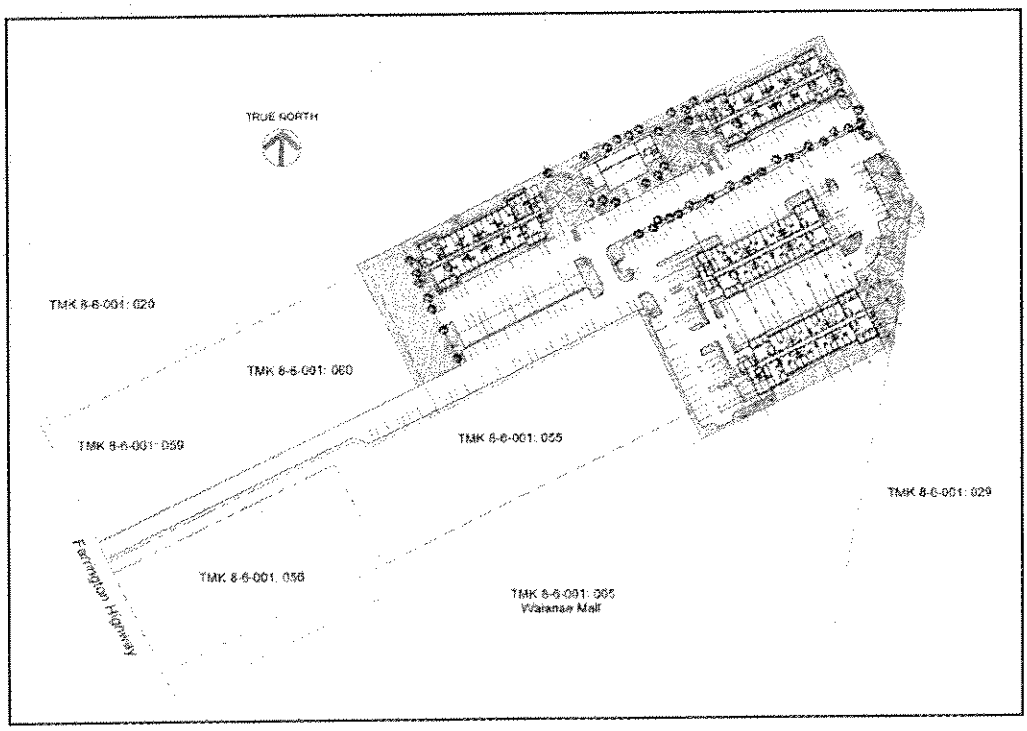


Figure 2 – Site Plan and Adjacent Properties

No vehicular access is proposed between the project site and the neighboring properties to the north or east. The Waianae Seventh-Day Adventist Church is located on the parcel identified by TMK 8-6-001: 020 to the north that fronts on Farrington Highway; the church also has vehicular access from Hoaha Street, a local street in the adjoining residential subdivision. The project site is bounded on the north by ten single family lots that have access from Hoaha Street, and to the east by three single family lots served by either Moekolu Street or Moelima Street. The end of Moekolu Street abuts the project site, but no

vehicular access to that street is proposed. The southeast boundary of the project site, which adjoins the site of the City and County of Honolulu's Waianae Transit Center that is currently being constructed, will not have any vehicular access.

Vehicular access to the project site will be from Farrington Highway on the existing access road. The existing access road provides the primary vehicular access to the two parcels (TMK 8-6-001: 059 & 060) located north of the access road. There are two buildings on these properties with a total floor area of approximately 36,000 square feet* in office and retail uses; these properties have parking lots with a total of approximately 100 stalls. The property on the south side fronting the highway (TMK 8-6-001: 056) includes a gasoline station and other buildings in office and retail use, with a total floor area of approximately 18,000 square feet.

The property identified by TMK 8-6-001: 055 is the site of a City Mill store and a parking lot with approximately 70 parking stalls. While a portion of the store appears to be located on the neighboring lot, the parcel is reported to have a building that has nearly 42,000 square feet of floor area. The Waianae Mall shopping center, located on the property identified by TMK 8-6-001: 005, and along with the next property to the south (TMK 8-6-001: 045), has several buildings with a total of 136,790 square feet of building area. With the City Mill store, the Waianae Mall has a total floor area of nearly 180,000 square feet.

Several driveways to Farrington Highway provide access to the parking lots in the Waianae Mall; a traffic signal controls traffic movements and pedestrian crossing of the highway at one of these driveways. In addition, three driveways from the parking lot connect to Leihoku Street, a collector street perpendicular to Farrington Highway. A traffic signal controls traffic movements and pedestrian crossings at the intersection of Farrington Highway and Leihoku Street.

Several City bus routes currently run on Farrington Highway, providing both local service within Waianae and local and express service to downtown Honolulu. Bus stops are located on the far side of the traffic signals at the Waianae Mall driveway.

* building floor areas are based on zoning information obtained from the City and County of Honolulu via links from http://gis.hicentral.com/website/parcelzoning/viewer.htm

While no traffic counts were done as part of this assessment, the traffic volumes generated by the proposed development are compared with the traffic that could be generated by existing uses to provide a perspective of the development's traffic impact. The existing Waianae Mall and the other commercial properties near the project site are estimated to have the potential to generate traffic as shown in Table 2.

Table 2 – Potential Traffic Generation, Existing Uses

	Waianae Mall		Other properties	
	entering	exiting	entering	exiting
Typical Saturday	6,700	6,700	3,100	3,100
Peak Hour of generator	660	610	300	270
Average Weekday	5,000	5,000	2,300	2,300
AM Peak Hour of adjacent street traffic	135	85	65	40
PM Peak Hour of adjacent street traffic	445	480	200	215
Traffic estimates based on equations for Shopping Center, from Institute of Transportation Engineers, *Trip Generation, 7th Edition*				

Traffic volumes generated by existing uses served by the access road on a weekday and during the weekday PM Peak Hour are about three times that expected to be generated by the proposed rental development.

Farrington Highway fronting the project is a four-lane highway with a posted speed limit of 25 miles per hour. Concrete sidewalks are provided between the traffic lanes and the properties on the east side of the highway. A median lane for left turn extends from near the front of the project site to the intersection with Leihoku Street. There are several single family residential properties with driveways on the opposite side of the highway.

The latest available estimate of average daily traffic (ADT) for the segment of Farrington Highway between Hakimo Road to the south and Waianae Valley Road to the north (from the State Department of Transportation, *Traffic Summary – Island of Oahu 2003*) is 31,102 vehicles per day in 2003. Past estimates of ADT on this part of Farrington Highway from the State Department of Transportation show that traffic volumes have not changed significantly; the ADT for 2003 is about 2% higher than the 1999 ADT, reflecting an average increase of about 0.5% per year.

Impact of the Proposed Development

Traffic estimates for year 2010 weekday peak hours at the intersection formed by the site driveway and Farrington Highway were developed assuming that highway volumes continue to increase from 2003 to 2010 at a rate consistent with the increase from 1999 to 2003. Other assumptions are that the existing buildings are fully occupied and driveway movements are evenly split in each direction on the highway (since local trips will tend to be from or to the north of the site, where most of Waianae and Makaha are situated, while longer trips will be to the south). Existing high volumes on the highway in the PM Peak Hour would limit capacity for the driveway and two-thirds of the traffic that would otherwise use the driveway was assumed to be diverted to other driveways serving the parking lots (the existing signal or driveways to Leihoku Street). Project traffic distribution onto Farrington Highway was estimated to be 50% in each direction. The peak hour traffic estimates are shown in Figure 3.

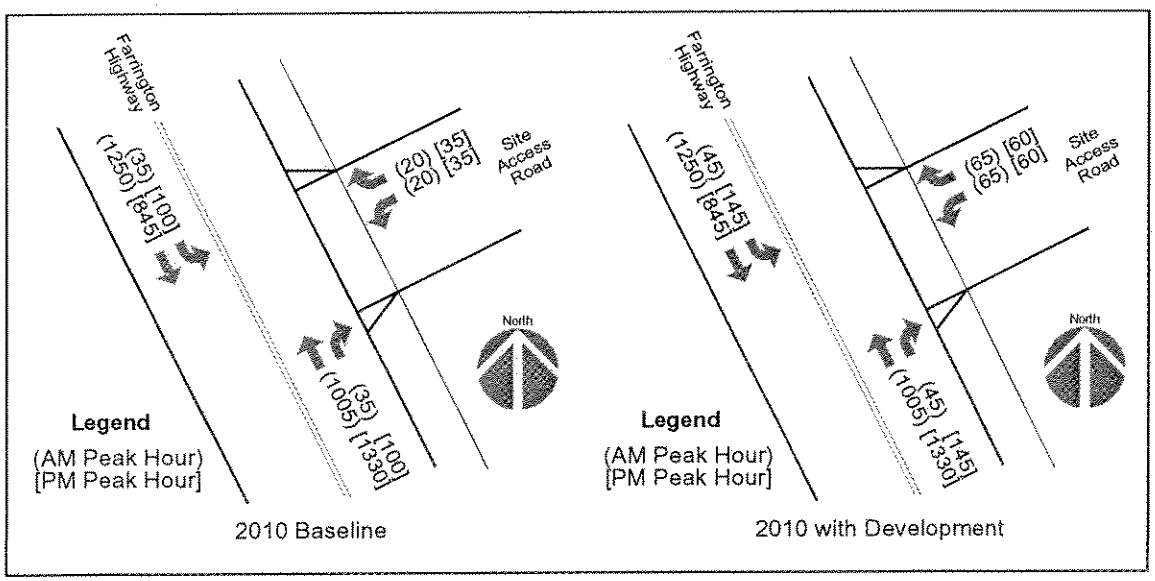


Figure 3 – Traffic Estimates (2010)

The site driveway forms an unsignalized intersection with Farrington Highway. The unsignalized intersection analysis procedure described in the *Highway Capacity Manual* was applied to estimate delays for each condition. However, because the site driveway is located between two signalized intersections, the delays for traffic movements into or out of the

driveway would be affected by the signal timings and their offsets. The results, shown in Table 3, are not presented to represent the delays at the driveway, but to illustrate the impact of the added traffic from the development.

Table 3 – Analysis Results

	AM Peak Hour		PM Peak Hour	
Peak Hour	Baseline	+ project	Baseline	+ project
Shared Lane on Driveway				
volume/capacity ratio	0.18	0.60	0.46	0.91
average delay (seconds per vehicle)	22.7	39.9	44.2	112.5
Level of Service	C	E	E	F
Left Turn from Farrington Highway				
volume/capacity ratio	0.06	0.08	0.27	0.42
average delay (seconds per vehicle)	11.5	11.7	17.2	20.8
Level of Service	B	B	C	C

The results of the analyses indicate that traffic on the site driveway wishing to turn onto Farrington Highway will experience increased delays with the added traffic resulting from the proposed development. In the AM Peak Hour, average delays would nearly double, but the volume will remain less than the available capacity. In the PM Peak Hour, volumes are much closer to capacity and the increase in delay is greater. For left turns from Farrington Highway into the driveway, there will be a small increase in the average delay during each peak hour, but the level of service for that movement will not change with the additional traffic due to the proposed development.

The proposed development will increase weekday traffic volumes on Farrington Highway by less than 2½% or the equivalent of five years of increase based on the recent trend in traffic volumes. Peak hour volumes are estimated to be affected by increases ranging from 1% to 5% of baseline (without the proposed development) volumes.

Conclusions and Recommendations

The traffic generated by the proposed development is only a small part of the total traffic that could be generated by the adjacent properties, which include the Waianae Mall and several commercial (retail and office) buildings between the development and Farrington Highway. The peak hour traffic volumes generated by the proposed development are less than the threshold recommended by the Institute of Transportation Engineers for conducting a site access or traffic impact study.

The existing driveway that provides access to the neighboring properties and its intersection with Farrington Highway may not have adequate capacity for egress during the PM Peak Hour if all existing users and the proposed development are to be served. However, traffic wishing to use the driveway to enter the highway from the site would do so through gaps in the highway flow created by the cycling of the nearby traffic signals. The traffic generated by the proposed project leaving the site, about one vehicle per minute, could be accommodated if use of the driveway were limited to those properties that have access easements over the driveway.

In addition, the following measures should be considered to improve access to the site:

a. a smooth, all-weather surface for pedestrian access conforming to the requirements of the American with Disabilities Act (ADA) should be provided between the sidewalk on Farrington Highway and the development's building entrances.

b. the layout of the development should not block emergency access between the property and Moekolu Street (this does not preclude the installation of a gate or other barrier to prevent vehicular or pedestrian movement across the property line during normal conditions).

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET * HONOLULU, HAWAII 96813
Phone: (808) 527-5827 * Fax: (808) 523-4210

SEWER CONNECTION APPLICATION

APPLICATION NO.: 2006/SCA-0363 STATUS: Approved with conditions

DATE RECEIVED: 06/07/2006 IWDP APP. NO.:

PROJECT NAME: Proposed Residential Development / Dwelling Unit

$829,808.00
Estimated Wastewater System Facility Charge*

LOCATION:

Zone	Section	Plat	Parcel
8	6	001	035

86-78 FARRINGTON HWY 218,704 Sq. Ft.

SPECIFIC LOCATION: 86-078 Farrington Hwy

APPLICANT: Lyon Associates, Inc., Mark Yonamine
841 Bishop St. Suite 2006
Honolulu, HI 96813

DEVELOPMENT TYPE: Dwelling, Multi-family SEWER CONNECTION WORK DESIRED: New

OTHER USES:

NON-RESIDENTIAL AREA: s.f. APPROXIMATE DATE OF CONNECTION: 12/07/2006

PROPOSED UNITS	EXISTING UNITS	UNITS TO BE DEMOLISHED
No. of New Units: 248	No. of Existing Units: 0	No. of Units to be Demolished: 0
Studios:	Studios:	Studios:
1-Bedroom:	1-Bedroom:	1-Bedroom:
2-Bedroom: 232	2-Bedroom:	2-Bedroom:
3-Bedroom: 16	3-Bedroom:	3-Bedroom:
4-Bedroom:	4-Bedroom:	4-Bedroom:
5-Bedroom:	5-Bedroom:	5-Bedroom:
6-Bedroom:	6-Bedroom:	6-Bedroom:

REMARKS Approval is conditioned that no sewer connection will be allowed until the upgrade to the existing 10-inch sewer line is constructed and completed by the owner/developer.

APPROVAL DATE: 06/08/2006

EXPIRATION DATE: 06/07/2008

Valid 2-years after approval date. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans.
** Applicable WSFC shall be collected at the prevailing rate in accordance with ROH 1990, Chapter 14, Sections 14-10.3, 14-10.4, 14-10.5 and Appendix 14-D.*

REVIEWED BY: *Arturo Saavedra Jr.*

A. Saavedra, Jr.
Site Development Division, Wastewater Branch

ExternalID: 024415264-001 JobId: 24415264

Initial Print Date: Thursday June 8, 2006 2:27 pm

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 25, 2006

United States Department of Agriculture- Rural Development
Attn: Denise Boswell, Multi-Family Housing Specialist
Hawai'i State Office – Western Pacific Region
Room 311, Federal Building
154 Waianuenue Avenue
Hilo, Hawai'i 96720

LOG NO: 2006.2897
DOC NO: 0608AJ15
Archaeology

Dear Ms. Boswell:

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Review –**
Hale Wai Vista Housing Project
Wai'anae Kai Ahupua'a, Wai'anae District, Island of O'ahu
TMK: (1) 8-6-001:035

We received the aforementioned project from the Hawai'i Housing Development Corporation on June 27, 2006. Subsequently, we requested a copy of the Phase 1 Environmental Site Assessment (ESA) for the undertaking, which we received on August 8, 2006. The proposed undertaking involves the development of an eight story low-income apartment rental building with a parking lot on the approximately 75,000 square foot subject parcel.

A review of records maintained at the State Historic Preservation Division (SHPD) indicates that an archaeological inventory survey of the subject parcel has not been conducted. According to the provided ESA, the subject parcel has been altered by previous construction activities. However, the extent of subsurface ground disturbance on the subject property is not clear. Additionally, two historically significant sites Pu'upahe'ehe'e Heiau (SIHP No. 50-80-07-152) and Kuilioloa Heiau (50-80-07-153) are located in the general vicinity of the proposed project area. We are concerned that unidentified subsurface features, traditional and/or historic, may still be present in the proposed project area. Ground-altering activities associated with the proposed undertaking may have an effect on historic sites which may be present.

For these reasons, an archaeological inventory survey is warranted prior to the issuance of permits for the proposed undertaking. The Hawai'i State Preservation Division website contains a listing of local firms (http://www.hawaii.gov/dlnr/hpd/archcon.htm). We recommend archaeological consultants to contact us, or, alternatively, to prepare a basic inventory survey plan (which can be forwarded to us for review)

Please contact Mr. Adam Johnson at (808) 692-8015 if you have any questions or concerns regarding this letter.

Aloha,

Peter Young, Chair
State Historic Preservation Officer

AJ:cmm

cc: Dean Sakata, Hawai'i Housing Development Corporation
Ardis Shaw-Kim, Kusao & Kurahashi Inc

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI'I 96804

OFFICE OF THE SUPERINTENDENT

July 14, 2006

Ms. Denise Boswell, Multi-Family Housing Specialist
United States Department of Agriculture – Rural Development
Federal Building, Room 311
154 Waianuenue Avenue
Hilo, Hawaii 96720

Dear Ms. Boswell:

The Department of Education (DOE) has reviewed the project overview for the Hale Wai Vista I residential project in Waianae. Students living in Hale Wai Vista would probably attend either Leihoku or Waianae Elementary Schools and they would attend Waianae Intermediate and Waianae High School. There is sufficient capacity for additional students in either of the elementary schools but there is no excess capacity for additional students at Waianae Intermediate or Waianae High School.

If the Hale Wai Vista project required land use approvals from the State Land Use Commission or the City Council, the DOE would ask those agencies to impose a school fair-share contribution requirement as a condition of approving land use changes. Since there was no reference to a need for land use approvals, the DOE has no option in requesting a condition.

The DOE is concerned that students who would live in the project have a safe, direct way to be able to walk or ride their bicycles to their elementary school.

Thank you for the opportunity to provide comments on your project overview. If you have any questions, please call Heidi Meeker of the Facilities Development Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

c: Randolph Moore, Acting Assistant Superintendent, OBS
Duane Kashiwai, Public Works Manager, FDB
Mamo Carreira, CAS, Campbell/Kapolei/Waianae Complex Areas

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The Senate
The Twenty-Third Legislature
of the
State of Hawaii
STATE CAPITOL
HONOLULU, HAWAII 96813

August 25, 2006

Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, HI 96822

Dear Ms. Shaw-Kim:

I am writing in response to your request for pre-consultation comments on a proposed Draft Environmental Assessment for a planned family affordable rental housing project located in Waianae, off of Farrington Highway adjacent to Waianae Mall.

I must clearly state at the outset that I support efforts to address Hawaii's critical affordable housing and homelessness problem. I supported the legislation enacted in 2005 that created Chapter 201H of the Hawaii Revised Statutes, which established the Hawaii Housing Finance and Development Administration.

Still, as the Senator representing the community in which you plan to develop the proposed affordable rental project, I believe the Draft Environmental Assessment should address the following concerns. First, the affordable rental project is being proposed on land classified as commercial or more specifically zoned as B-2 or community business. Section 21-3.110 (a) and (c) of the Revised Ordinances of Honolulu describes the purpose and intent of business districts:

> **Sec. 21-3.110 Business districts--Purpose and intent.**
> (a) The purpose of the business districts is to set aside areas for commercial and business activities to meet and support the economic growth of the city. The districts provide for the buying and selling of goods and services, the transportation and distribution of commodities and other complementary economic activities. Other uses which are supportive of or compatible with business activities are also permitted. These districts help to ensure a favorable business climate and support the economic and social well-being of city residents.
> (c) The intent of the B-2 community business district is to provide areas for community-wide business establishments, serving several

neighborhoods and offering a wider range of uses than is permitted in the B-1 district. The intent is to apply this district to areas conveniently accessible by vehicular and pedestrian modes and served by adequate public facilities. Typically, this district would be applied to lots along major streets and in centrally located areas in urban and urban fringe areas.

The Draft Environmental Assessment must explain how this issue will be addressed. Admittedly, the site is adjacent to residential areas and this proximity should also be given consideration. Nevertheless, the fact that the land is zoned B-2 and this project is not the type of use permitted in this area pursuant to the Master Use Table in the Revised Ordinances of Honolulu should be explained in the Draft Environmental Assessment.

Second, the Draft Environmental Assessment should detail the exemptions from development standards you reference in your letter. While the need for affordable housing is great, we must ensure minimum standards are still met to prevent the deterioration of homes as experienced by similar housing projects in the area.

Third, the Draft Environmental Assessment should note traffic conditions because the project would be off of Farrington Highway and require access through an already traffic congested area with neighboring stores and schools.

Finally, the socio-economic and cultural impacts must be given full consideration. The proliferation of affordable rental projects in a community with some of the worst socio-economic conditions in the state require adequate consideration. To address these concerns, environmental justice considerations must be incorporated in the Draft Environmental Assessment.

This initial list of concerns responds to the information provided thus far in your letter dated July 31.

Sincerely,

Colleen Hanabusa
Senator, Twenty-First District

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
LEIHOKU ELEMENTARY SCHOOL
88-285 LEIHOKU STREET
WAIANAE, HAWAII 96792

October 10, 2006

TO: Ardis Shaw-Kim
Kusao & Kurahashi, Inc
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

FROM: Randall Miura, Principal
Leihoku Elementary School

SUBJECT: Pre-consultation on a Draft Environmental Assessment for a Proposed Affordable Rental Project Hale Wai Vista in Waianae. Tax Map key: 8-6-1: 35

Thank you for sharing the preliminary information on the proposed Hawaii Housing Development Corporation's family affordable rental housing project in Waianae, as well as seeking my input.

As of this date, the major concern would be the major impact that this proposed development would have on the student enrollment of Leihoku Elementary School and thus, our physical capacity to provide adequate facilities. Currently, Leihoku Elementary School has an enrollment of 745 students, with the anticipation of a significant student enrollment increase from the Ke Ola O Pokai Bay residential housing development (126 single family, 3 and 4 bedroom homes currently under construction) by July 2007. With just the projected increase of students from the Ke Ola O Pokai Bay development alone, Leihoku Elementary School would be at maximum capacity.

Thus, may I please ask that information regarding this project also be shared with my Complex Areas Superintendent, Mamo Carreira; as well as the other Waianae Complex Schools, especially Waianae Elementary, Waianae Intermediate, and Waianae High School as this development will also have a major impact on their student population.

Again, thank you for seeking my input and the sharing of the information. If you have any questions, or need further information, please feel free to call me at 697-7100.

cc: Mamo Carreira, Complex Area Superintendent

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4432 • FAX: (808) 527-6743
DEPT. INTERNET: www.honoluludpp.org • INTERNET: www.honolulu.gov

MUFI HANNEMANN
MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

2006/ELOG-1907(sn)

September 7, 2006

Ms. Ardis Shaw-Kim
Kusao & Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Re: Pre-Consultation on Draft Environmental Assessment
Hale Wai Vista – Proposed Affordable Rental Project
86-078 & 86-086 Farrington Highway - Waianae
Tax Map Key 8-6-1: 35

This responds to your request for comments on the preparation of a Draft Environmental Assessment for the above project. Our comments are as follows:

1. Clarify the project boundaries and the size of the lot. The conceptual site plan indicates that a portion of Phase 2 will be constructed on an adjoining lot which was not identified on the project data table. Also, the data table indicates that only a portion of the site will be developed while the plans show that the entire site will be developed.

2. Describe the access to the site. Subdivision No. 88/SUB-4 indicates that three lots mutually use the existing access. Will the project affect this mutual use?

3. Address the comments from our July 5, 2006 letter to the United States Department of Agricultural-Rural Development regarding the project's compliance with the site's B-2 Community Business District zoning where multi-family dwelling use is not permitted and the project's implementation and conformance to the Waianae Sustainable Communities Plan.

4. Address the project's compliance with the B-2 zoning district development standards and other Land Use Ordinance (LUO) requirements. Provide a justification for requested exemptions, including potential adverse impacts on the adjoining residentially-zoned lots.

   We note that certain development standards on the table were not completed. Also, the required yards identified in the table are incorrect. Please refer to the LUO for the required yards when a B-2 zoning district adjoins residentially-zoned lots.

5. Address the project's compliance with the park dedication requirements.

6. Ensure the project complies with the enclosed instructions for "Obtaining Exemptions for Affordable Housing Projects Pursuant to Chapter 201G, Hawaii Revised Statutes." We recognize that there were changes to the HRS, including the section number to 201H. Therefore, please review the instructions in conjunction with the revised HRS to ensure that the project complies with the affordable housing requirements.

7. Clarify whether Variance No. 79/ZBA-207 is still applicable.

We appreciate the opportunity to review and comment on the project. Should you have any questions, please contact Sharon Nishiura at 523-4256.

Very truly yours,

Robert M Barrington

for Henry Eng, FAICP, Director
Department of Planning and Permitting

HE:nt

Enclosure

doc no. 473907

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PLANNING AND PERMITTING

OBTAINING EXEMPTIONS FOR AFFORDABLE HOUSING PROJECTS
Pursuant to Chapter 201G, Hawaii Revised Statutes

PHASE I - PRE-CONSULTATION REQUIREMENTS

Prior to having a project reviewed by DPP for a determination of eligibility, the developer must complete the following:

- Obtain control of the project site.
- Develop a preliminary project concept (estimated total number of units, rental vs. sales, single-family detached vs. multi-family, mix of affordable vs. market units and period of affordability, etc.) and site plan.
- Ascertain market demand for proposed development.
- Conduct site analyses and feasibility studies.
- Confirm the requirement for preparing and filing a Finding of No Significant Impact or Environmental Impact Statement for the project in compliance with Chapter 343, Hawaii Revised Statutes.
- Obtain City DPP (Wastewater Branch) approval to connect to the municipal sewer system. In the case of alternative treatment systems, obtain the State Department of Health's (DOH) approval of the wastewater disposal method for the proposed project.
- Initiate consultations with affected community groups, including Neighborhood Boards and City Councilmember.
- Identify potential sources of project financing.
- Confirm that the proposed project is not located in a flood plain or tsunami hazard area. If it is, proposed mitigation measures should be identified.

PHASE II - DETERMINATION OF ELIGIBILITY

The purpose of this phase is to determine whether the project is eligible under Chapter 201G and to identify major concerns relating to development of the project.

A. Preliminary Application

The developer/applicant must complete the *Application for Determination of Eligibility, Chapter 201G, HRS Exemption* and submit the following materials to DPP with the application:

1. Evidence of control of the project site (or right to develop site);
2. Preliminary subdivision map, if applicable;
3. Preliminary site plan (drawn to an appropriate scale);
4. Preliminary list of proposed exemptions;
5. Approval from DPP (Wastewater Branch) to connect to the municipal sewer system or from the DOH for alternative treatment systems;
6. Preliminary commitment letters to finance the project.
7. Experience and financial statements of the developer/applicant;
8. Pre-development studies, including site analyses, feasibility studies and market analysis;
9. Development schedule; and
10. Environmental impact statement, finding of no significant impact or environmental assessment pursuant to Chapter 343, HRS.

B. Development Notification

DPP will notify the developer in writing of project eligibility.

PHASE III - FORMAL PROJECT REVIEW AND PROCESSING

A. If there are no major concerns, the developer will be requested to complete and submit the *Application for Obtaining Chapter 201G, HRS Exemptions* along with all documentation, for DPP review and approval. The developer may be requested to submit additional information.

B. Line Agencies' Review

1. After DPP accepts the *Application for Obtaining Chapter 201G, HRS Exemptions* for processing, the developer will be requested to provide 20 sets of plans and outline specifications to DPP.

2. DPP will coordinate distribution of the plans and exemptions requested among agencies and request written comments from the agencies regarding the proposed project and requested exemptions.

3. Agencies will review the plans and exemptions requested to ensure that the project and exemptions requested do not negatively affect public health and safety.

4. It shall be the responsibility of the developer and/or the project's architect/engineer/consultant to work directly with agencies to address their concerns. Developer's architect/engineer may have to modify plans to address agency comments. (For example, the proposed site plan may need to be rearranged so as to enable private recreation space to be provided on-site).

5. After all agency concerns are satisfied, DPP will prepare the 201G Exemption Request package requesting the City Council's approval of the requested exemptions. The package will typically include preliminary plans, outline specifications, a draft agreement between the City and developer insuring the project is built and operated as presented by the developer, and a draft resolution that itemizes each proposed exemption. The developer must provide 20 sets of plans which reflect all amendments agreed upon during the agencies' review projects for inclusion in the 201G Exemption Request package sent for the City Council's review.

C. City Council Review

1. The City Council has 45 days from the date of its receipt of the 201G Exemption Request package to act on the resolution. The Council may require modifications to the project during the course of its deliberations.

2. The 201G Exemptions Request Package is first reviewed by the Zoning Committee of the City Council. The developer or representative shall be present at all Zoning Committee meetings to make a presentation on the project and respond to any questions or concerns regarding the proposed project.

3. If approved by the Zoning Committee, a Committee Report recommending adoption of the 201G resolution is referred to the full Council for formal adoption. The developer or representative shall be present at the full Council meeting to respond to any questions or concerns regarding the proposed project.

4. City Council action on the exemption request may take one of the following forms;

   a. The Council may vote to approve the exemption request.

   b. The Council may vote to approve the exemption request with conditions, including a time limit on development

   c. The Council may vote to deny the exemption requests.

   d. The Council may choose not to act upon the exemption requests. If no action is taken, the exemption requests are deemed to be approved after the 45-day Council review period lapses.

D. Project Development Phase

1. The developer completes final plans and specifications for the proposed project and obtains necessary permit approvals. Project plans must not deviate substantially from the plans approved by the City Council.

2. The approved resolution should be attached to the building permit application.

ELIGIBILITY REQUIREMENTS FOR 201G PROJECTS

A. ELIGIBLE PROJECTS

Projects eligible to receive exemptions from development standards must:

1. Provide for economically integrated housing, by stipulation and design, where at least 50% of the units in the project are made affordable to low, moderate and gap group income households; for rental projects the units should be affordable for a period of not less than 25 years; and

2. Contain at least 50 dwelling units. Projects developed solely for persons with special living needs shall not be subject to this requirement. Projects developed solely for lower-income purchasers or renters by nonprofit housing organizations must contain at least 20 units, or obtain a waiver from the DPP.

B. AFFORDABILITY REQUIREMENTS

1. Sales prices or rental rates for a minimum of 50% of the total units in the project must be affordable to DPP's target groups. (See the attached schedule for the current income limits of the target groups.)

2. The total number of units in the proposed project are to be distributed as follows:

   a. A minimum of 10% of the total number of units in the project must be affordable to lower-income households earning annual incomes which do not exceed 80% of the median income for the City and County of Honolulu, adjusted for family size.

   b. A minimum of 20% of the total number of units must be affordable to moderate-income households earning annual incomes ranging between 81% and 120% of median income.

   c. The remaining affordable units required may be affordable to gap group households earning annual incomes ranging between 121% and 140% of median income.

   d. A maximum of 50% of the total units may be sold or rented at rates determined by the developer, including market rates.

3. Guideline for affordable rental rates: Sum of monthly rent and utility payments

does not exceed 30% of a household's gross monthly income.

4. Guideline for affordable sales prices: The maximum mortgage amount (sales price minus a maximum down payment of 10%) that can be amortized over 30 years by a monthly payment of principal, interest, and related impounds (property tax, insurance and maintenance fees) that does not exceed 30% of a household's gross monthly income.

5. Guideline for affordable unit sizes: The sizes of the affordable housing units shall be comparable to the market units.

INCOME LIMITS
(Effective April 2004)

INCOME GROUP	% OF MEDIAN	HOUSEHOLD SIZE							
		1	2	3	4	5	6	7	8
"VERY VERY LOW"	30%	$13,800	$15,750	$17,500	$19,700	$21,300	$ 22,850	$ 24,450	$ 26,000
VERY LOW	50%	$23,000	$26,300	$29,550	$32,850	$35,500	$ 38,100	$ 40,750	$ 43,350
"LOW"	60%	$27,600	$31,560	$35,460	$39,420	$42,600	$ 45,720	$ 48,900	$ 52,020
LOWER	80%	$36,800	$42,050	$47,300	$52,550	$56,750	$ 60,950	$ 65,150	$ 69,400
MEDIAN	100%	$45,990	$52,560	$59,130	$65,700	$70,956	$ 76,212	$ 81,468	$ 86,724
GAP	120%	$55,200	$63,100	$70,900	$78,800	$85,200	$ 91,400	$ 97,800	$104,000
UPPER GAP	140%	$64,400	$73,590	$82,775	$91,960	$99,310	$106,660	$114,010	$121,450

FAIR MARKET RENTS

BEDROOMS	STUDIO	1-BDRM	2-BDRM	3-BDRM	4-BDRM
FAIR MARKET RENT (Certificate*) (As of 10/1/04)	$668	$783	$ 955	$1,386	$1,550
PAYMENT STANDARD (Voucher only) (As of 1/28/04)	$706	$845	$ 995	$1,347	$1,457
UTILITY ALLOWANCES (All electric) (8/15/01)	$ 41	$ 60	$ 77	$ 95	$ 113
HOME Rents (2/97)					
FMR	$756	$904	$1,064	$1,438	$1,556
50%	$565	$606	$ 726	$ 840	$ 936
65%	$715	$767	$ 923	$1,057	$1,261

* No more certificates after 10/98 (grandfathered)

OCCUPANCY GUIDELINES

UNIT SIZE	STUDIO	1-BDRM	2-BDRM	3-BDRM	4-BDRM
MINIMUM OCCUPANTS	1	1	2	3	4
MAXIMUM OCCUPANTS	2	3	5	7	9

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PLANNING AND PERMITTING

APPLICATION FOR DETERMINATION OF ELIGIBILITY,
CHAPTER 201G, HRS EXEMPTIONS

I. PROJECT NAME_____

II. DEVELOPER/APPLICANT INFORMATION:

A. Developer/Applicant_____

B. Address_____

C. Principal Contact Person_____

Telephone Number_____

D. Development Experience

Project	Units	Sale/Rental	Status

E. Development Team_____

_____

III. SITE INFORMATION

A. Address_____

B. Tax Map Key_____

C. Land Area_____

D. Land Owner_____

E. General Description (shape, topography)_____

_____

IV. PROPOSED PROJECT DESCRIPTION:

A. Preliminary Project Concept (intended occupants, and their income levels, sales or rental units) _____

_____

_____

_____

B. Total No. of Units _____

C. Number of Affordable Units _____

D. Period of Affordability _____ Years

E. Description of Improvements (type of structure, height, unit types, number of parking and loading stalls) _____

_____

_____

_____

F. Proposed Sale Prices/Rental Rates

	< 80%	81%-120%	121%-140%	Market
Studio				
1-Bedroom				
2-Bedrooms				
3-Bedrooms				
4-Bedrooms				
Other				

G. Estimated Development Cost:

Land _____

Pre-Development Studies _____

Architectural and Engineering Fees _____

Site Improvements _____

Building Construction _____

Sales/Marketing Expenses _____

Other _____

Total Development Cost: $_____

H. Source(s) of Financing _____

_____

V. LAND USE INFORMATION

A. State Land Use Designation _____

B. Zoning (LUO) _____

C. Special District (if applicable)_____

D. Height Limit_____

E. Street Setbacks _____

F. Historic Properties (if applicable) _____

G. Special Management Area _____

H. Flood Zone (attach map) _____

I. Tsunami Inundation Zone _____

J. Existing Use(s)_____

K. Surrounding Use(s) _____

L. Major Environmental Concerns_____

_____

_____

_____

VI. INFRASTRUCTURE

A. Sewer _____

B. Water _____

C. Access _____

D. Drainage _____

VII. COMMUNITY INPUT

A. Neighborhood Board No. _____ Date: _____

B. Other Community Groups/Members _____

_____

VIII. ENVIRONMENTAL REVIEW

Chapter 343, Hawaii Revised Statues

_____ Environmental Impact Statement Required

_____ Finding of No Significant Impact

_____ Environmental Assessment

_____ Not applicable

If the project is not subject to Chapter 343, HRS, the applicant must assess the impacts of the proposed project in accordance with the guidelines for Preparing Environmental Assessments, Chapter 4 and Appendix H, of the Guidebook for the Hawaii State Environmental Review Process, Office of Environmental Quality Control.

IX. OTHER PERMITS/APPROVALS REQUIRED (please list)

_____

_____

_____

X. MAJOR EXEMPTIONS REQUESTED (please list)

_____

_____

_____

_____

Attachments

Developer/Applicant qualifications and financial statements
Nonprofit documents (if applicable)
Location map
Site plan
Subdivision plan
Site control documentation
Flood Insurance Rate Map
Wastewater approval
Neighborhood Board minutes
Environmental review document
Preliminary financing commitments
Development schedule
Preliminary studies

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PLANNING AND PERMITTING

APPLICATION FOR OBTAINING CHAPTER 201G, HRS EXEMPTIONS

I. PROJECT NAME _____

A. Tax Map Key _____

B. Landowner _____

II. DEVELOPER/APPLICANT INFORMATION

A. Name _____

B. Address _____

C. Principal Contact Person _____

Telephone Number _____

D. Development Team _____

III. PROJECT DESCRIPTION

A. Proposed Project Concept _____

_____

_____

_____

B. No. of Units/Size

	No. of Units	Size (Sq. Ft.)	% Affordable
Studio			
1-Bedrooms			
2-Bedrooms			
3-Bedrooms			
Other (please specify)			
Total Units			

C. Period of Affordability_____ years

D. Description of Improvements (type of structures, height, number of parking and loading stalls, recreational space, amenities)_____

_____

_____

_____

IV. APPROVALS

A. Neighborhood Board No. _____ on _____

B. Status of Other Permits/Approvals Required

_____

_____

_____

V. OTHER STUDIES

Attach other studies which may have been prepared for the project, such as market assessment, soil/foundation study, traffic assessment, grading plan.

VI. EXEMPTIONS (detailed list of all exemptions required and citations)

_____

_____

_____

_____

Attachments:

Documentation of Community Approval
Environmental Review Document
OEQC Bulletin
Site Plan
Landscape Plan
Typical Floor Plan
Building Elevations
Grading Plan
Outline Specifications
Detailed List of Exemptions
Development Budget (if revised)
Development Schedule (if revised)
Other Studies

Posse Doc 142922

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
636 SOUTH STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 723-7139 • FAX: (808) 723-7111 • INTERNET: www.honolulufire.org

MUFI HANNEMANN
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ALVIN K. TOMITA
DEPUTY FIRE CHIEF

August 16, 2006

Ms. Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
Suite 5-202, Manoa Market Place
2752 Woodlawn Drive
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Subject: Preconsultation on a Draft Environmental Assessment for a
Proposed Affordable Rental Project
Hale Wai Vista in Waianae
Tax Map Key: 8-6-001: 035

In response to your letter dated July 28, 2006, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material you provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)

2. Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

   On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in excess of the 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

3. Submit civil drawings to the HFD for review and approval.

In addition, please note that our new address is:

Honolulu Fire Department
636 South Street
Honolulu, Hawaii 96813-5007

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SK:bh

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
http://www.honolulupd.org
www.honolulu.gov

MUFI HANNEMANN
MAYOR

BOISSE P. CORREA
CHIEF

GLEN R. KAJIYAMA
PAUL D. PUTZULU
DEPUTY CHIEFS

OUR REFERENCE BS-DK

August 3, 2006

Ms. Ardis Shaw-Kim
Kusao and Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

This is in response to your letter of July 28, 2006, regarding a Pre-consultation on a Draft Environmental Assessment for a proposed affordable rental project (Hale Wai Vista) in Waianae.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Michael Tamashiro of District 8 at 692-4253 or Mr. Brandon Stone of the Executive Bureau at 529-3644.

Sincerely,

BOISSE P. CORREA
Chief of Police

By
JOHN P. KERR
Assistant Chief of Police
Support Services Bureau

Serving and Protecting with Aloha

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

MUFI HANNEMANN, Mayor

RANDALL Y. S. CHUNG, Chairman
HERBERT S. K. KAOPUA, SR.
SAMUEL T. HATA
ALLY J. PARK

RODNEY K. HARAGA, Ex-Officio
LAVERNE T. HIGA, Ex-Officio

CLIFFORD P. LUM
Manager and Chief Engineer

August 14, 2006

Ms. Ardis Shaw-Kim
Kusao & Kurahashi, Incorporated
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim

Subject: Your Letter of July 28,2006 on the Pre-consultation on a Draft Environmental Assessment for a Proposed Affordable Rental Project Hale Wai Vista in Waianae, TMK: 8-6-001:035

Thank you for the opportunity to comment on the proposed affordable rental project in Waianae.

The existing water system is presently adequate to accommodate the proposed development. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply (BWS) reserves the right to change any position of information stated herein up until the final approval of your building permit. The final decision on the availability of water will be confirmed when the building permit is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

There is an existing 8-inch water main within an easement granted to the BWS within this parcel. We request the submittal of construction plans for our review and approval to ensure adequate clearance is provided to our water main in accordance with BWS standards.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

K. Shida

KEITH S. SHIDA
Principal Executive
Customer Care Division

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4529 • Fax: (808) 523-4730 • Internet: www.honolulu.gov

MUFI HANNEMANN
MAYOR

MELVIN N. KAKU
DIRECTOR

TP6/06-160933R
TP6/06-160957R

July 21, 2006

Ms. Denise Boswell, Multi-Family Housing Specialist
U.S. Department of Agriculture – Rural Development
Hawaii State Office – Western Pacific Region
Room 311, Federal Building
154 Waianuenue Avenue
Hilo, Hawaii 96720

Dear Ms. Boswell:

Subject: Hale Wai Vista I, Waianae, Hawaii

Thank you for the June 22, 2006 letter from Hawaii Housing Development Corporation, requesting our review of and comments on the transmitted project overview. We have the following comments for your consideration as the environmental assessment (EA) for the subject is being prepared:

1. The EA should discuss transportation impacts, including short-term impacts during construction, and proposed mitigation measures.

2. Access to the proposed project should be TheHandi-Van accessible and should allow the vehicles to drop-off/pick-up passengers without having to reverse.

3. For your information, the Waianae Transit Center will be constructed on a parcel adjacent to the project site.

Should you have any questions regarding these comments, please contact Ms. Faith Miyamoto of the Transportation Planning Division at (808) 527-6976.

Sincerely,

Melvin N. Kaku

MELVIN N. KAKU
Director

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to
EMD/SHWB

October 3, 2006

S1003AS

CERTIFIED MAIL NO. 7006 0100 0001 4788 8839
RETURN RECEIPT REQUESTED

NO FURTHER ACTION

Mr. Ryan Totoki
WAMA Corporation
765 Amana St., Ste. 500
Honolulu, Hawaii 96814

Dear Mr. Totoki:

SUBJECT: NO FURTHER ACTION
86-78 Farrington Highway
Future Hale Wai Vista Site
TMK: 1-8-6-001:035

The Solid Waste Section (SWS) of the Hawaii Department of Health (DOH) conducted a site inspection at the subject site. This inspection was conducted to verify the clean-up of solid waste materials that were improperly disposed at the site since 1996, when DOH-SWS initiated an investigation.

Based on the site inspection, DOH-SWS has determined that the solid waste materials that were disposed at the site have been removed. You are hereby informed that DOH-SWS will be closing the investigation on this complaint site and that no further action is required from the property owner(s) at this time. However, should additional information become available, additional investigative or remedial activities may be necessary.

Should you have any questions regarding this letter, please call Mr. Aroquiaraj Sandou of our Solid Waste Section at (808) 586-4226.

Sincerely,

STEVEN Y.K. CHANG, P.E., CHIEF
Solid and Hazardous Waste Branch

c: Mr. Michael Polkinghorn, Mid Pacific Industries, LLC

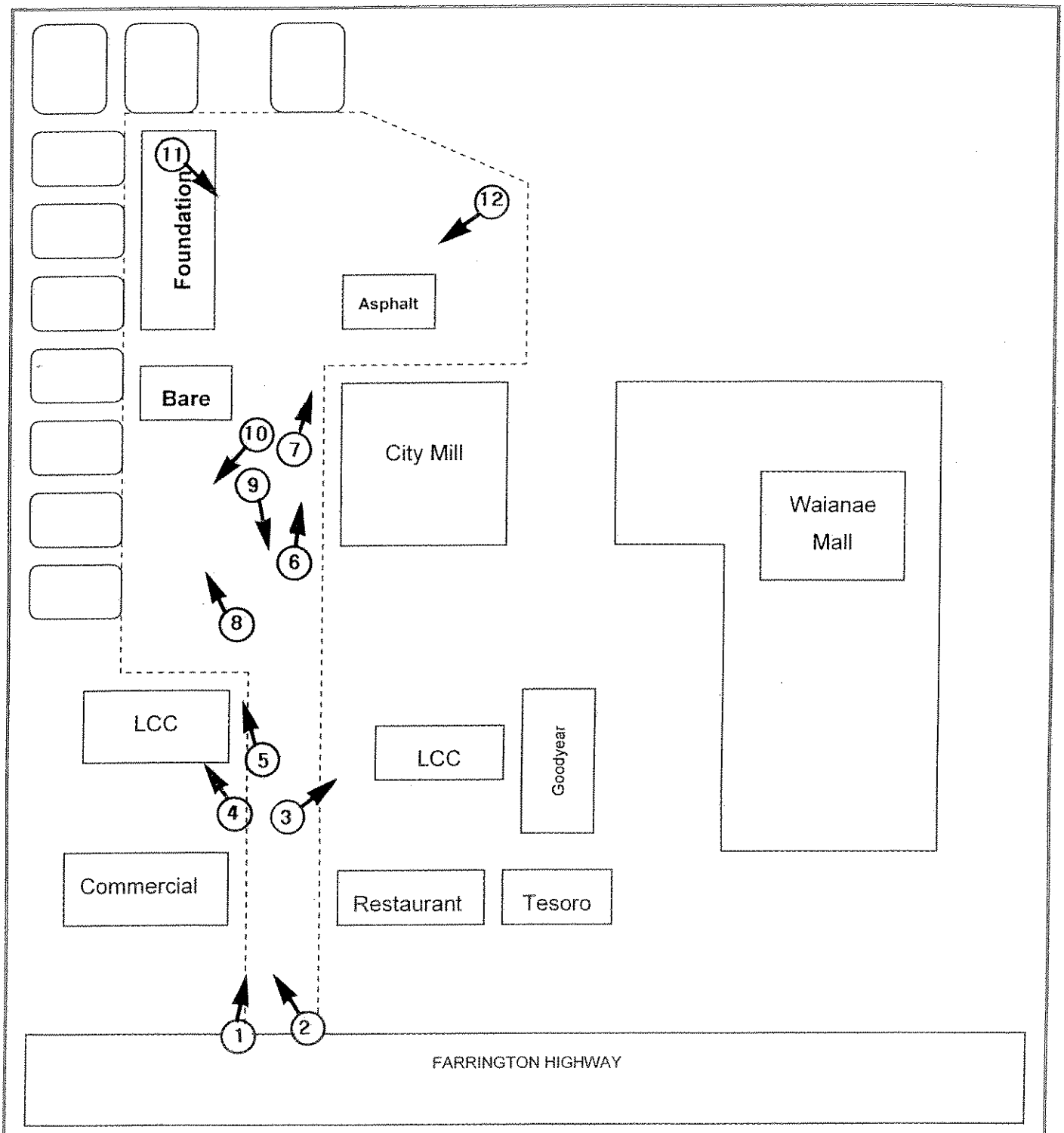

Photo Legend

DRAWING NOT TO SCALE

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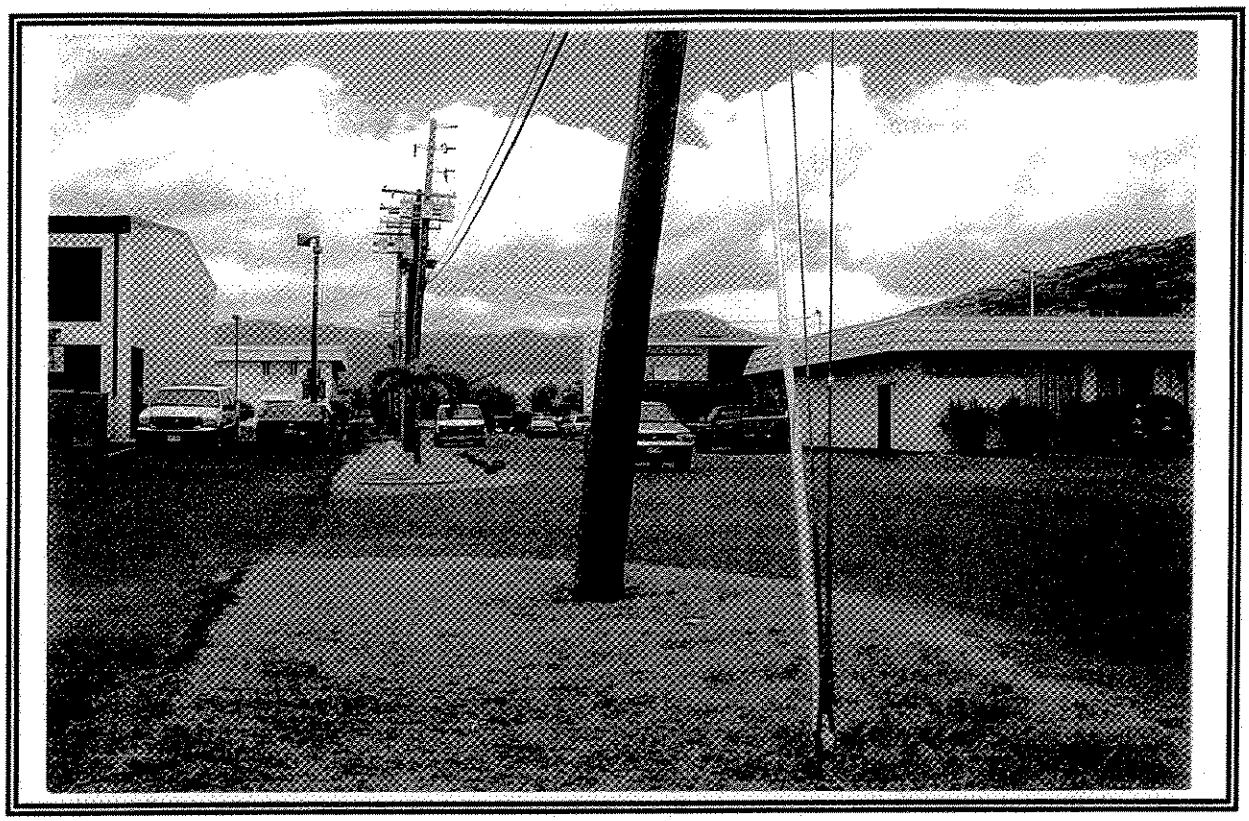
Photos 1, 2, 3, 4 and 11, 12 by MPI Environmental.

mpi Environmental

Site Name: 86-78 Farrington Highway
Waianae, Hawaii 96792

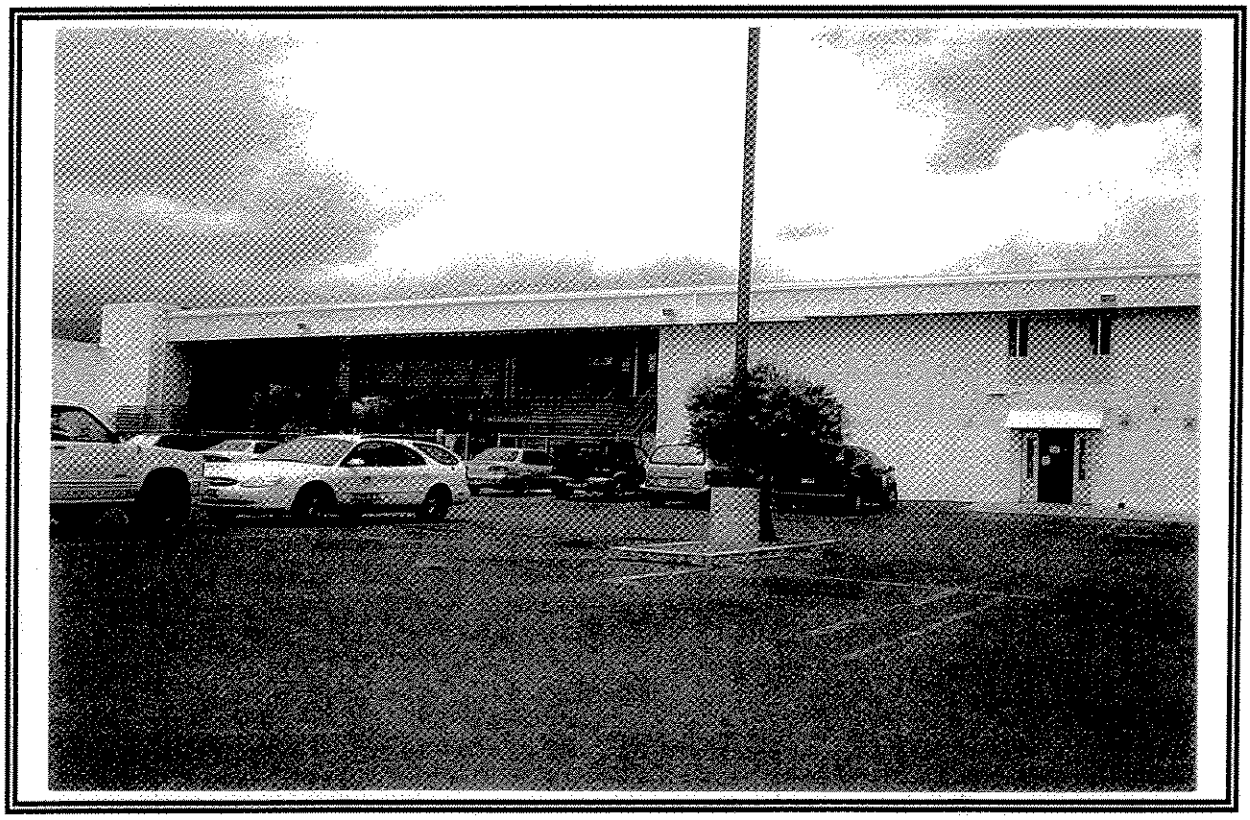
Project Number: 6E004



Photograph No. 1

Photograph No. 2

Photograph No. 3



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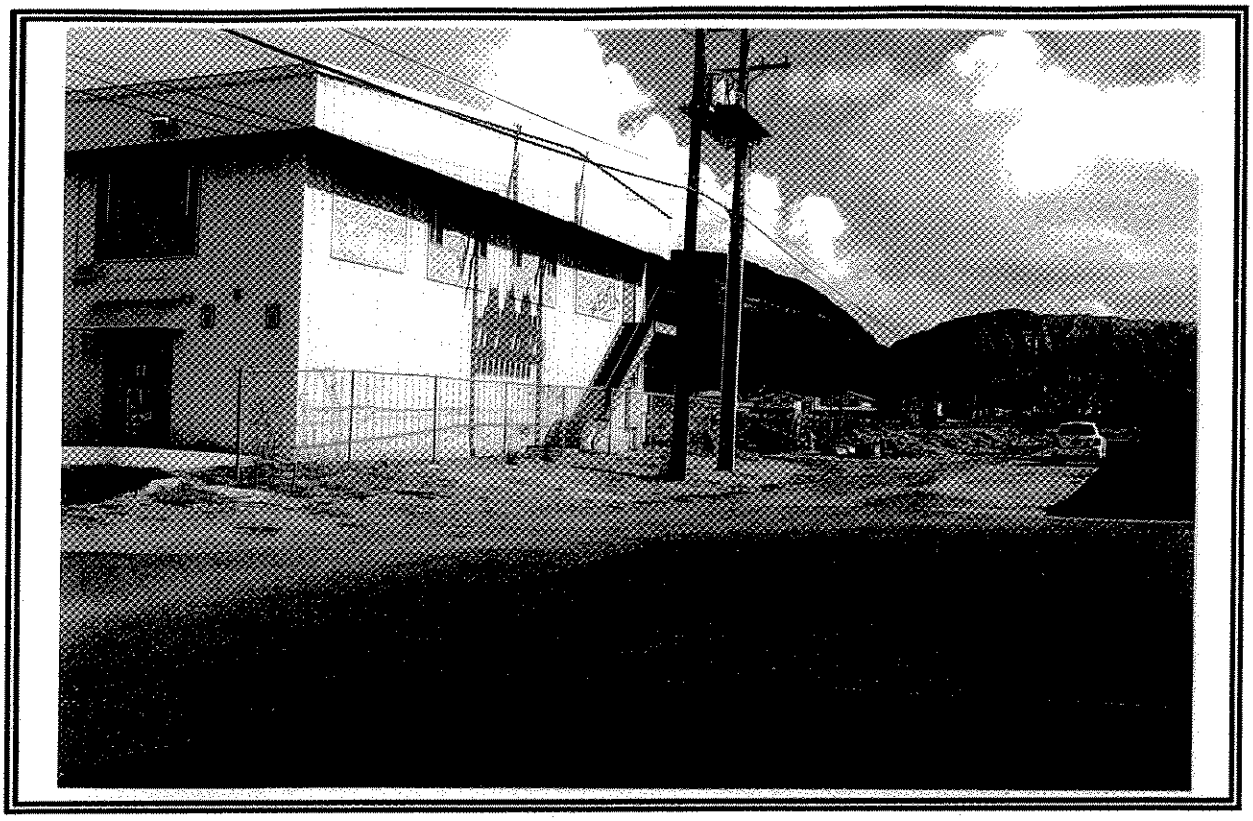

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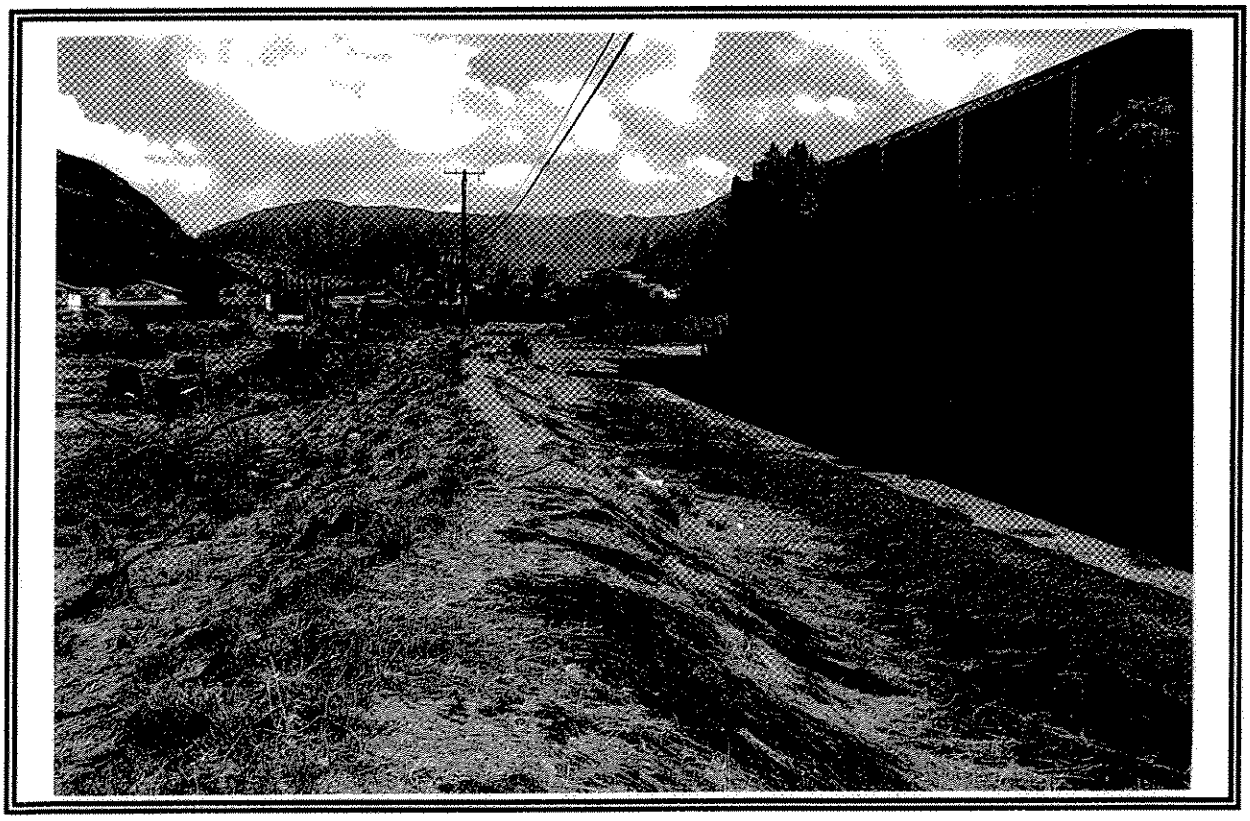

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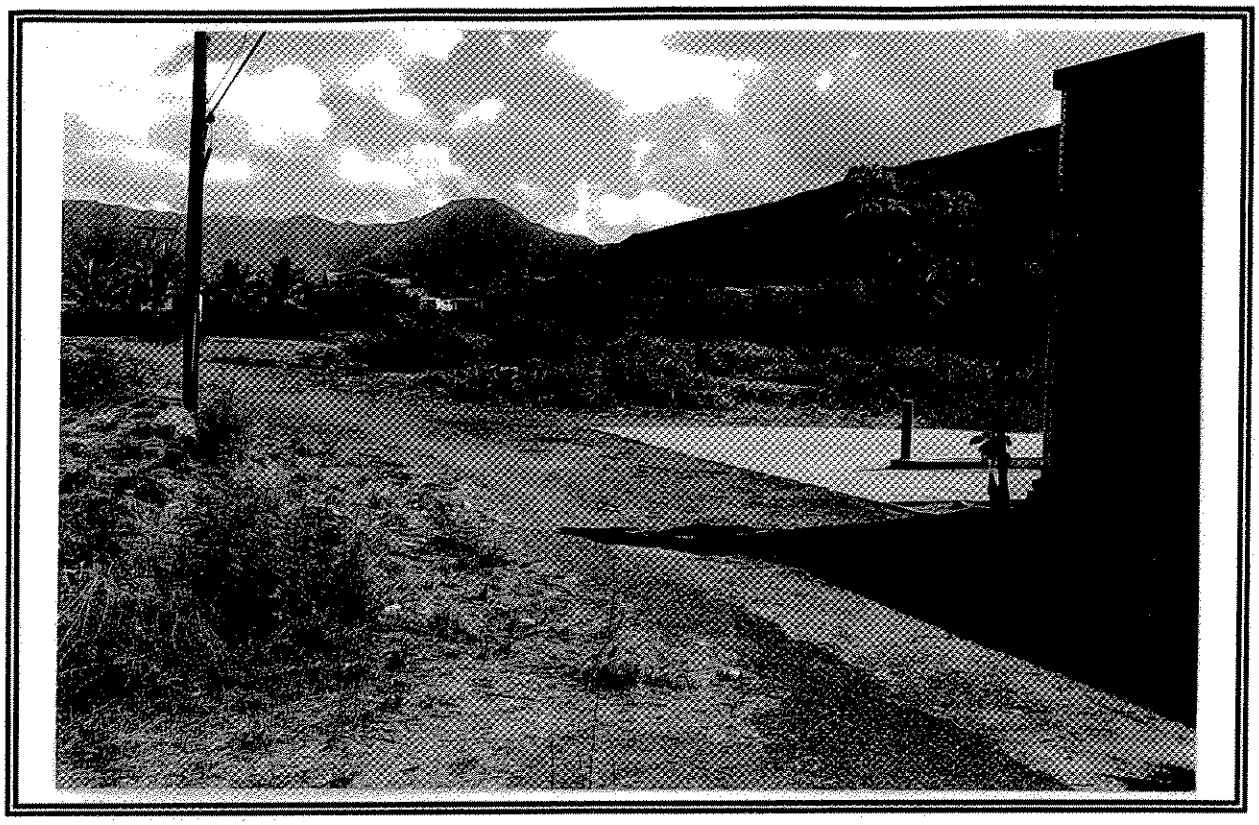

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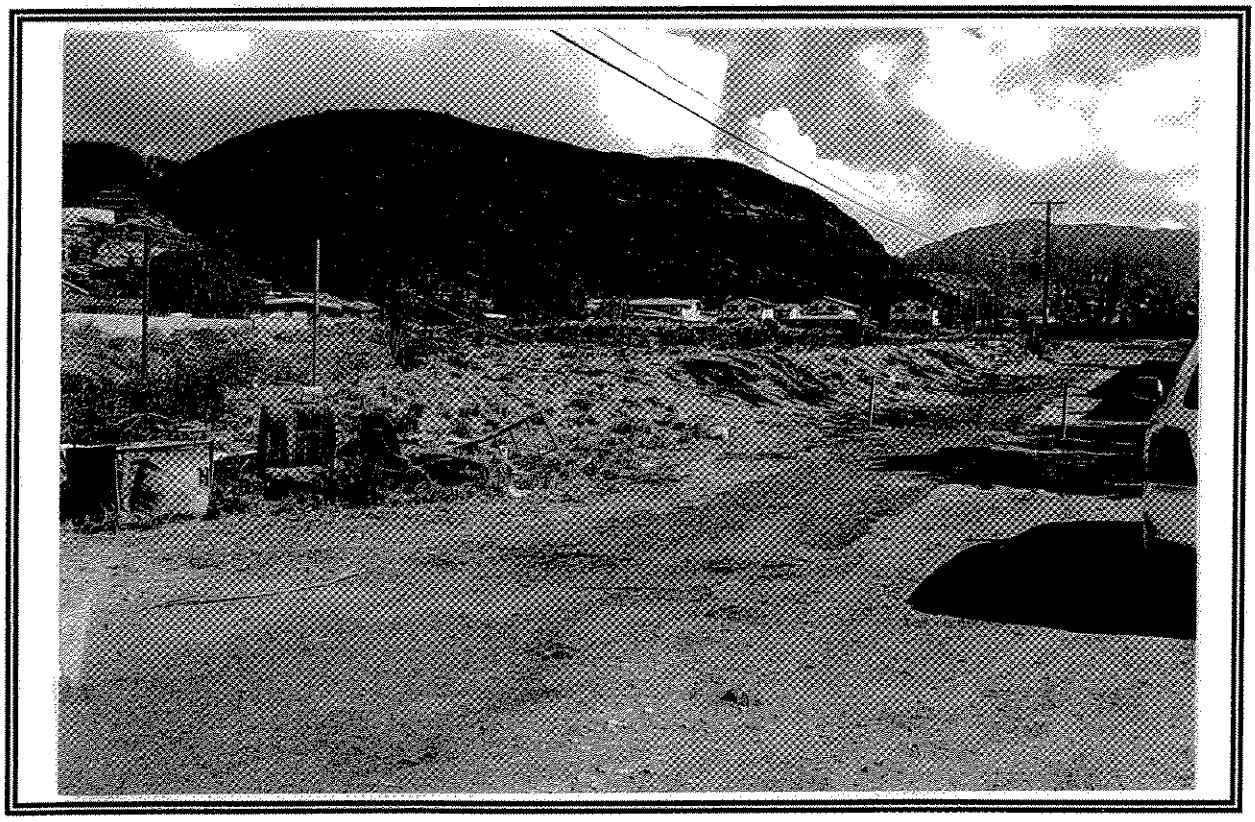

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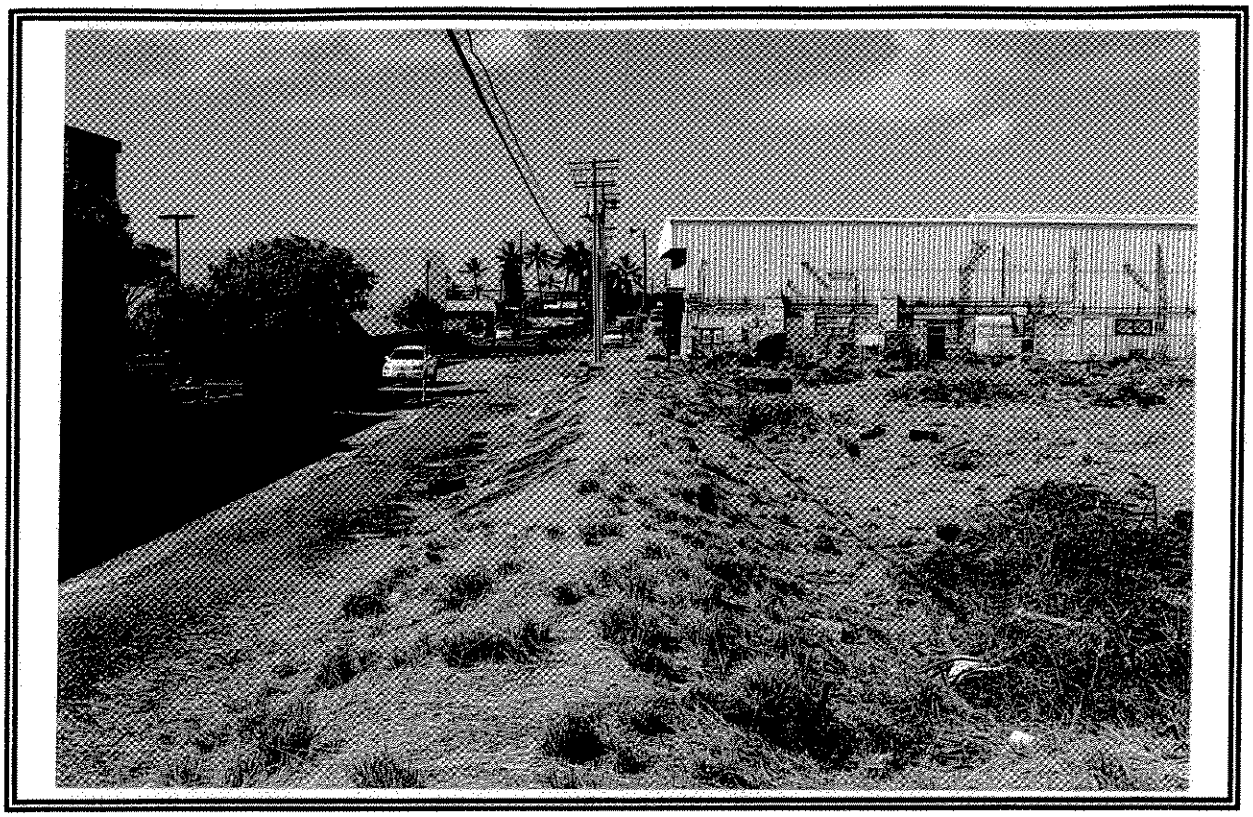

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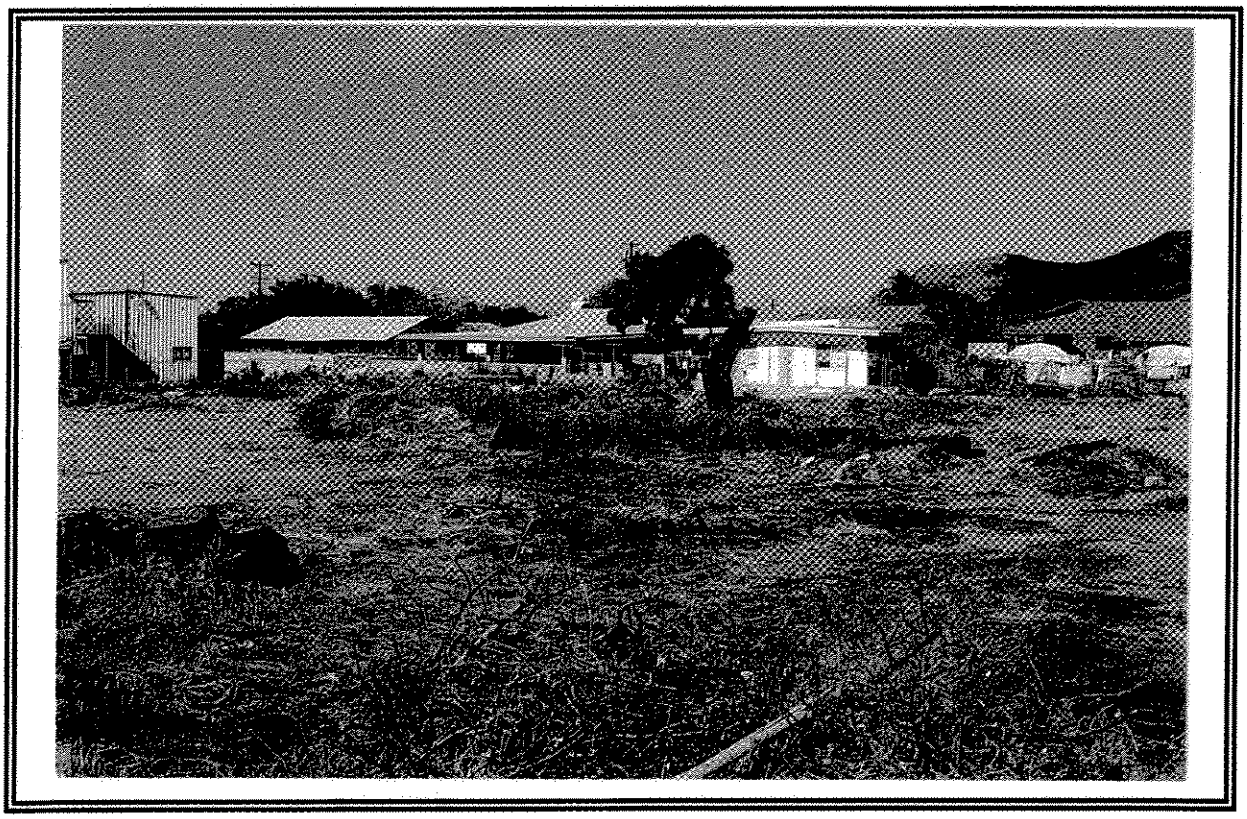

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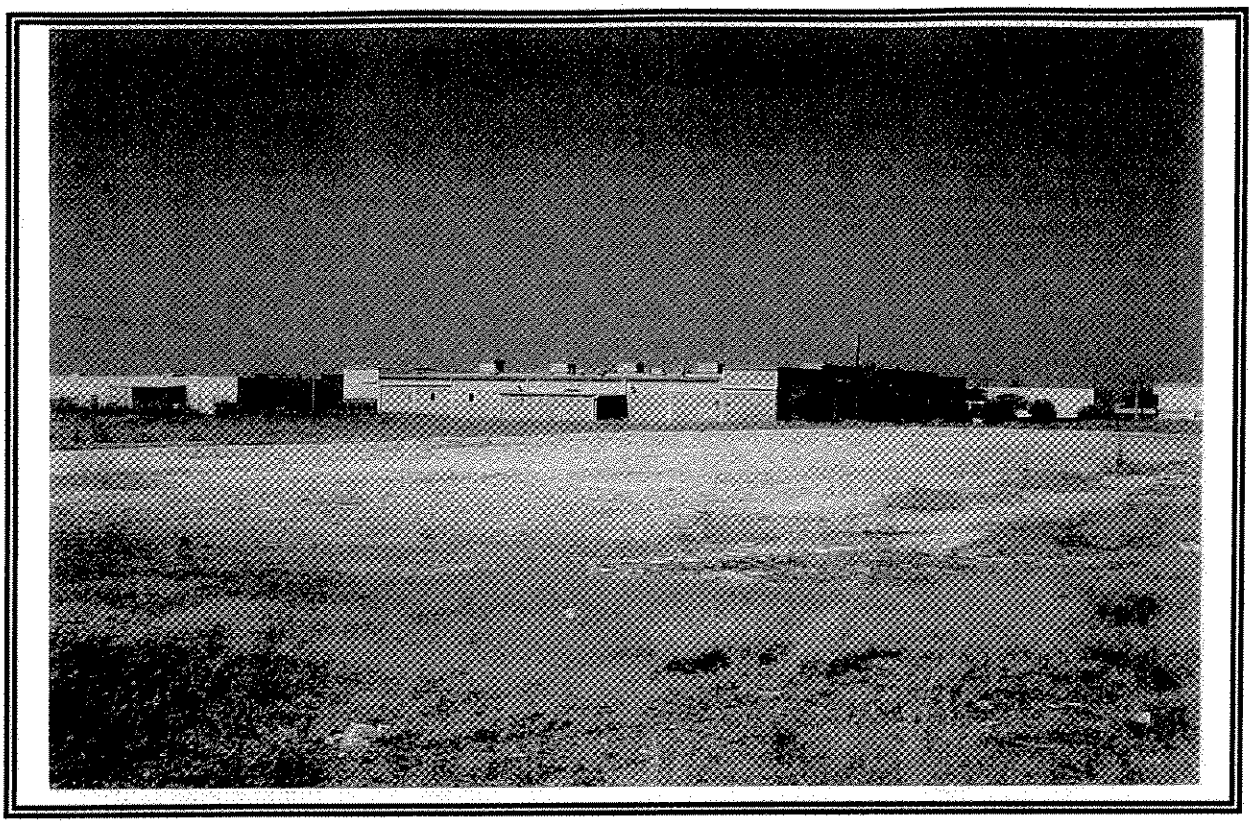
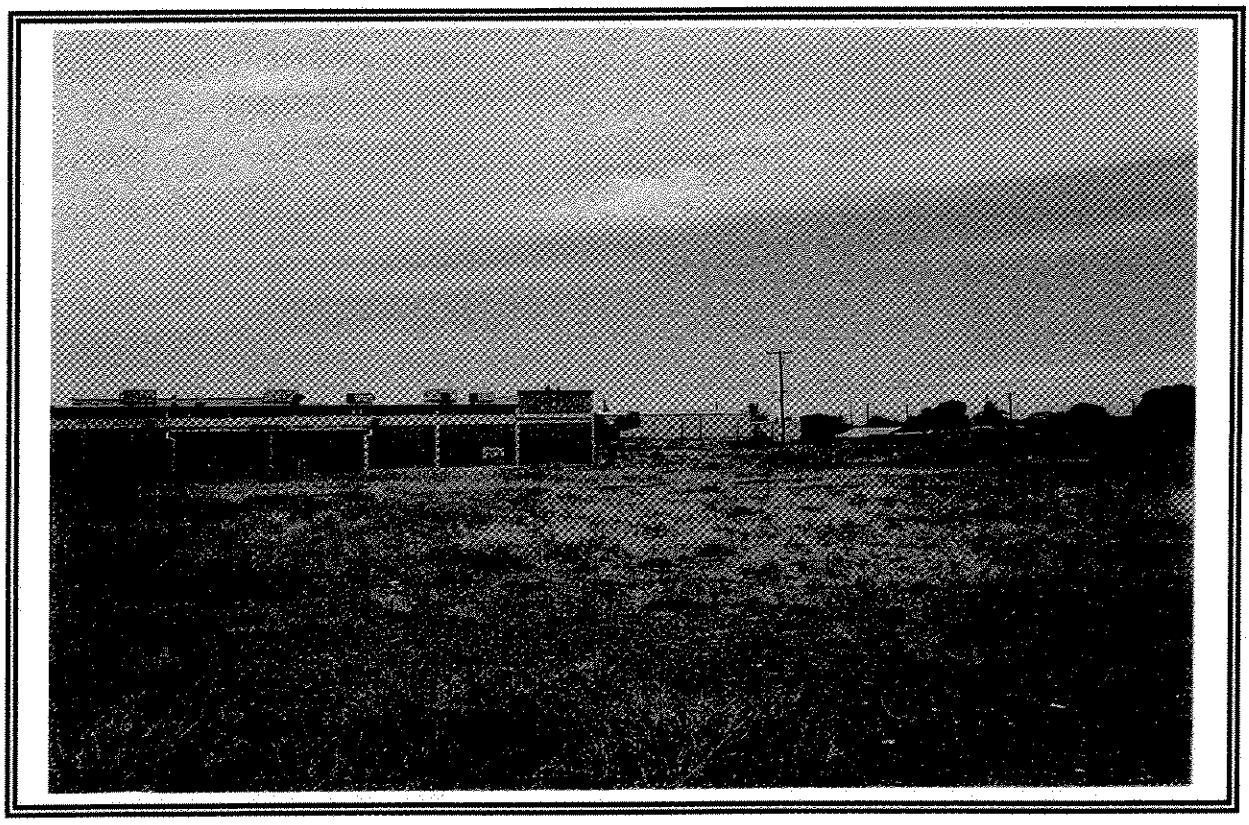


Photograph No. 11



Photograph No. 12

Glenmonger St
Alia St
Pokai Bay St
Puhano St
Hoaka St
Kakaiapola St
Moekaa Pl
Moelima Pl
Moeha St
Mc Coy St
Ala Poko St
86-78 Farrington Highway, Waianae
Leipupu Pl
Leileho Pl
Leihoku St
1
2
3
4
© 2007 Navteq
Photo Legend
Google

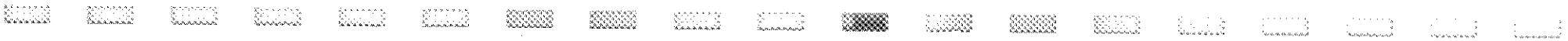
1

07/07/10

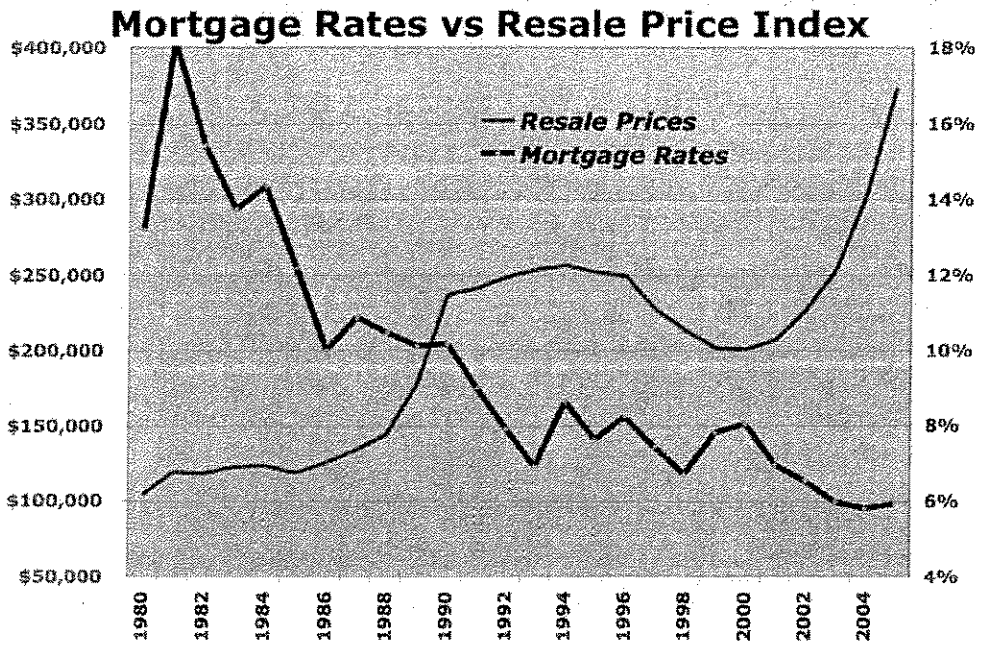
PARTY

Exhibit B1
Hale Wai Vista Construction Implementation Schedule

	2007		2008		2009		2010	
	JAN - JUNE	JULY - DEC	JAN - JUNE	JULY - DEC	JAN - JUNE	JULY - DEC	JAN - JUNE	JULY - DEC
OFFSITE:								
Sewer								
Drainage								
ROADWAY								
ONSITE:								
Sewer								
Drainage								
Water								
Electrical								
CMU PERIMETER FENCING								
HALE WAI VISTA I								
HALE WAI VISTA II - bldg 1								
HALE WAI VISTA II - bldg 2 & 3								
MULTIPURPOSE BUILDING								



AFFORDABLE RENTAL PROJECT FEASIBILITY ADDENDUM FOR HALE WAI VISTA III



By Ricky Cassiday

Data@Work

A RESIDENTIAL REAL ESTATE MARKET RESEARCH CONSULTANCY

4405 Kilauea Avenue, Honolulu, Hawaii

(808) 291-4407

• rcassiday@aol.com •

I.INTRODUCTION & IDENTIFICATION OF STUDY AND RESEARCHER

Data@Work, a market research firm that specializes in analyzing residential real estate markets for developers, has asked to do an addendum to the earlier market study for the purpose of accommodating an additional 68 family units. The net rents will match those in the earlier report for Hale Wai Vista I and II.

The study entailed collecting, comparing and analyzing information that has a bearing on the numerous aspects of market demand for the proposed project, including but not limited to publicly available real property, economic and commercial data. Rental information was collected from rental agencies, condominium resident managers, and the classified ads in the Sunday *Honolulu Advertiser*. Income and demographic information were obtained from the State of Hawaii, City and County of Honolulu, Bureau of the Census, Applied Geographic Systems and National Decision Systems.

II. IDENTIFICATION OF THE PROJECT

The original Hale Wai Vista I and Hale Wai Vista II concept is that of an affordable family rental housing complex, specifically 2 buildings of 8 stories, with 84 units each, 12 units per floor, for a total of 167 rental units and one resident manager's unit. The sizes of the units will be as follows: Two-bedroom: approximately 600 sq. ft; Three-bedroom: approximately 750 sq. ft

The additional phase, Hale Wai Vista III, consists of a maximum of two low-rise two-story buildings totaling an additional 48 apartment units (twelve 3 Bedroom/1Bath and thirty six 2 Bedroom/1Bath). The apartment units are similar to the units in HWV I and HWV II, except that they are in two story buildings.

In terms of common area and amenities, the project will have an entry lobby, elevator, mail room, trash chute on every floor, laundry rooms, private park, mechanical and electrical rooms; resident manager's office. It is located at 86-78/86-86 Farrington Highway, in Waianae, on Farrington Highway between Lualualei Homestead Road and Leihoku Street, on Oahu.

SUMMARY TABLE

Unit	*HWV I & II*	*HWV III*	*Total*
2-Bedroom	126	36	162
3-Bedroom	42	12	54
Total	**168**	**48**	**216**

Target Market: In order to qualify, the rental candidates will have to demonstrate that their annual incomes fall within the limits established by the affordable housing policy guidelines. The rental schedule proposed is as follows:

THE PROJECT UNIT DESCRIPTION AND COUNTS

	% AMI	HUD max monthly Gross Rent	Proposed Monthly Net Rent	Proposed, as a % of HUD max.
2 Bedroom	30%	$481	$359	74%
2 Bedroom	60%	$963	$734	76%
3 Bedroom	60%	$1,112	$870	78%

These additional units will be going in at 60% AMI.

III. GEOGRAPHIC DEFINITION AND ANALYSIS OF THE MARKET AREA

We define the market area geographically as being island-wide. We are comfortable with this definition as being neither overly liberal nor overly conservative.

On the liberal side, some may say that the target market for condominium rental units should be located in a closer proximity to the actual site. This may be so, but only for very few households.

The facts that support this definition of market area are:

- That the entire island's population is within a 30-mile radius (and over 90% is within a 15 mile one).
- That the clear and present rental (as well as owner-occupied) housing shortage on the island, translating to a growing need for rental housing at an affordable level (something the open market is not providing).

Thus, we posit that the need for a well-built unit at an advantageous rental price is so great as to overwhelm the objections of moving 25 miles (maximum) for 99% of the qualifying households.

On the conservative side, we ignore those households outside the island or the state who could readily move to Oahu in order to rent such a unit. Indeed, there are significant housing shortages on Maui and Kauai, and a low-income household there could well decide to move to Oahu, where the cost of living is 10%-20% lower and the medical (and other) facilities are more extensive and available.

IV. ANALYSIS OF HOUSEHOLD SIZES AND TYPES IN THE MARKET

The study guidelines call for an analysis of household sizes and types in the market.

As seen below, most of Oahu's condominium housing stock is quite old:

- 17% of the total condo housing stock was built before 1970
- 46% of it was built between 1970-1979,
- 18% was built between 1980-1989, and,
- 15% was built between 1990-1999.

This project will constitute (or contribute) 1.6% of what was built in the last decade, 1990-1999.

Furthermore, most of Oahu's condominium housing stock is quite small:

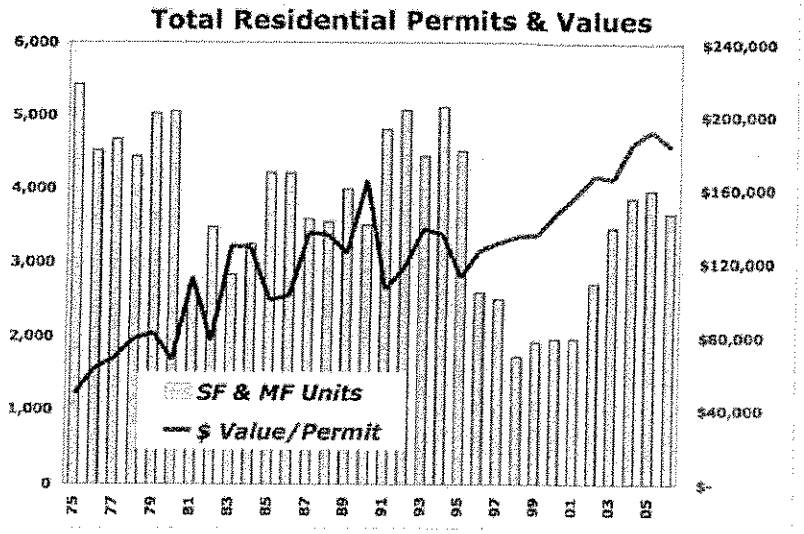
- 13% of all condominium units on Oahu are between 1,250 and 1,500 sq. ft.,
- 7% of all units are between 1,500 and 1,750 sq. ft.,
- 3% of all units are between 1,750 and 2,000 sq. ft., and
- 1% of all units are over 2,000 sq. ft.

The rest of the condo stock averages less than 1,250 sq. ft. in size.

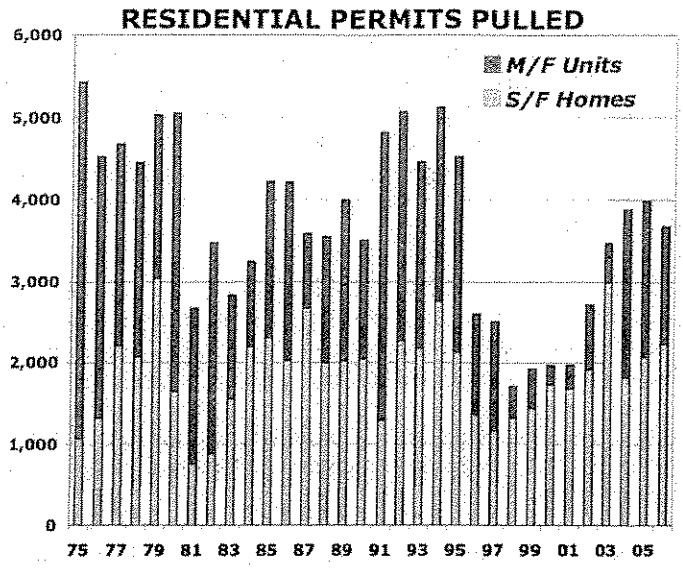
What this says is that the project is entering a market characterized by older units, units that are small in size, and units that are not very highly valued.

V. HOUSING SUPPLY

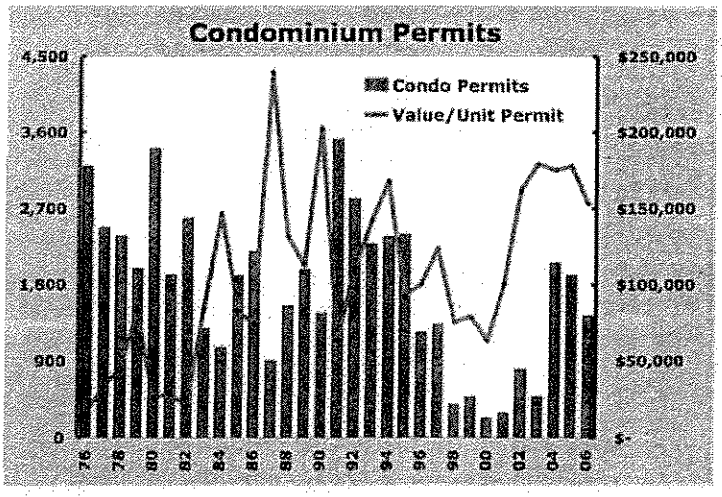
The easiest way to look ahead to where the housing market is going is by examining the activity in permits (where developers apply for permission, and pay their fees, for building residential units. Obviously, a low level of permits indicates small increases will be made to the stock of housing (and vice versa). And low levels of per unit value indicate that the units being built are for the lower end of the market (and vice versa). As seen in the TOTAL RESIDENTIAL PERMITS AND VALUES Chart below, the recent permitting activity is lower than in pervious cycles, also is focused on producing higher cost housing – which does not bode well for the market, especially at the lower price ranges.



Up until four years ago, low supply has been the condition of the market, and had been like that for the last 6-7 years. This can be seen in the latter part of the RESIDENTIAL PERMITS PULLED Chart. Relative to cycles, the most recent activity, 2003-2005 (est.) is just 'average': 3,000 to 4,000 dwelling units a year. In the other two cycles, permit activity went much higher.



Furthermore, particular to this cycle is that much of this activity rests largely on single-family home production. Indeed, save for last year and this, there has been little activity in (or apparent preference for) multifamily (M/F) production. This is the housing that best addresses the needs of lower income households. Without ample supplies of multi-story, attached housing, the for-sale prices, and the rental housing prices, are going to feel strong pressure to move higher.



When isolating for just the condominium activity, it is not very active, and the values are high, as can be seen in the CONDOMINIUM PERMITS Chart. At the end of the last real estate cycle, in 1991 and 1995, the value/unit was low, but the number of units is very high – this situation would be very helpful to solving the current housing shortage.

VI. HOUSING DEMAND

The prime determinant of housing demand is household formation, itself is a function of the economy and demographic and social trends in the short term, residential housing demand is driven by economics – specifically of job creation/income growth, as well as interest rate trends. In the long term, housing demand is driven by population growth, demographic changes and lifestyle attitudes (indeed, faster population growth means higher land and housing values).

VII. RECENT ECONOMIC ACTIVITY

Through the 1st quarter of 2006, the local economy has been humming right along, with construction expenditures and commitments growing, visitor induces (hotel room rates and occupancies) moving upwards, and federal spending flowing strongly now (and is so projected for several years, even without the likelihood of DOD locating a carrier group at Pearl Harbor).

That said, there is slowing projected ahead, mainly thanks to economic constraints, specifically a very low jobless rate – with unemployment so low, there is little room for the economy to expand without more able bodied employees.

All the major economic forecasting points to this, even though most other indicators are growing nicely. The latest quarterly forecast update from the University of Hawaii's Economic Research organization (UHERO) summarized by saying, "Prospects for the Hawai'i economy continue to look very good for 2006... 2005 job growth has been revised upward and that strength has carried over into 2006. As expected, there are now signs that slowing has begun to occur, particularly in neighbor island economies. In the face of a very tight labor market, further slowing is expected to continue over the next several years."

As reported in April, the state has the lowest jobless rate (2.5%) in the nation, for the twenty-second straight month (nationally, it sits at 4.8%). As mentioned, Hawaii's seasonally adjusted unemployment rate has remained under 3%, making it hard for local employers to find new hires.

Much of this is driven by tourism, which is breaking records and likely to continue to do so. Last year, 7.46 million visitors are projected to visit (the state's first 7 million plus year), up 6.4% from last year's strong performance (8.5%). The forecasts by the states Department of Business, Economic Development and Tourism are for it to grow between 2.4% to 2.5% for the next 3 years.

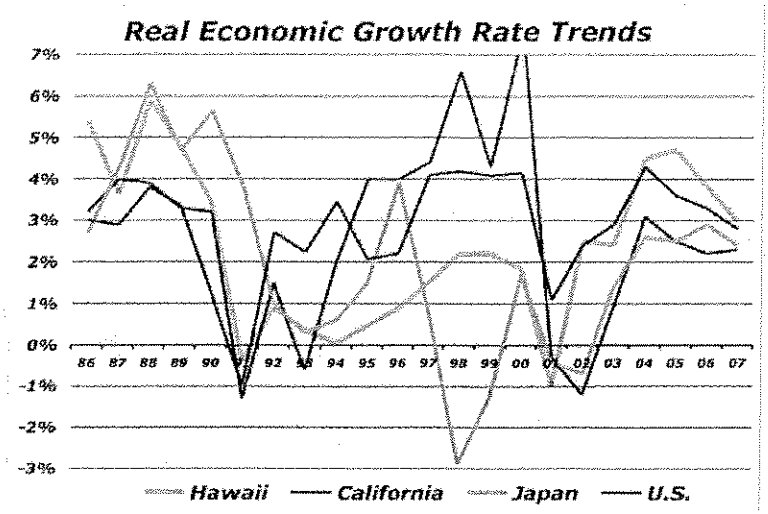
Hotel revenues set a record in 2005 of $3 billion plus, more than half of which came from luxury resorts, and total expenditures exceeded $11.8 billion (up 8.7%). This year, it is forecast to be $12.3 billion (up 4.6%) and then remain above 5% p.a. growth for the next three years. Oahu leads the state in terms of proportional increases for occupancy (86.3%), rates ($137) and RevPAR ($119). Nationally, Hawaii stands second in occupancy, room rates and RevPAR, to New York City.

Joe Toy of Hospitality Advisors LLC said Hawai'i is one of the top investment targets for the hotel industry, saying, "The investment returns on hotel properties nationally and in Hawai'i in particular are high."

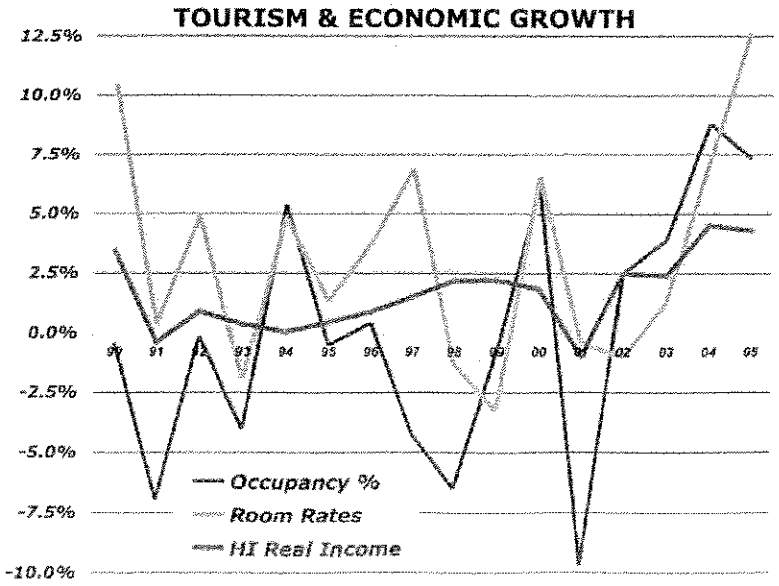
Over the past three years there were 25 hotel property transactions totaling more than $3.1 billion, with at least seven properties in various stages of the process, totaling about $700 million, Toy believes Hawaii is going to see more new builds (of condominiums and time-shares: "Hotel properties are still in very high demand here because of the lack of any new additions in the pipeline, and the markets are flush with cash."

Looking ahead, once again, Hurricanes in the Atlantic and terrorism in Asia should continue deflect business to Hawaii. Better yet, the eastbound Asian market is feeling the stimulus of strong economic growth. Finally, the rise in energy prices should fuel visitor (and second home) demand from Canada, Alaska and the Rocky Mountain states.

Good news in the longer run is the return to steady economic growth of Japan. For instance, the consensus forecast by the ECONOMIST Poll of Forecasters this year for Japan's economic growth has been raised several times recently, and currently sits at 2.5% for 2005 and at 2.9% for 2006. It also has raised the view of US Real GDP growth in 2005 from 3.5% to 3.6%, with and 3.3% in 2006 from 3.2%. Hawaii's Gross State Product growth was projected at 3.8% last year and forecasted to be 3% this year (and 2.6% in 2007).



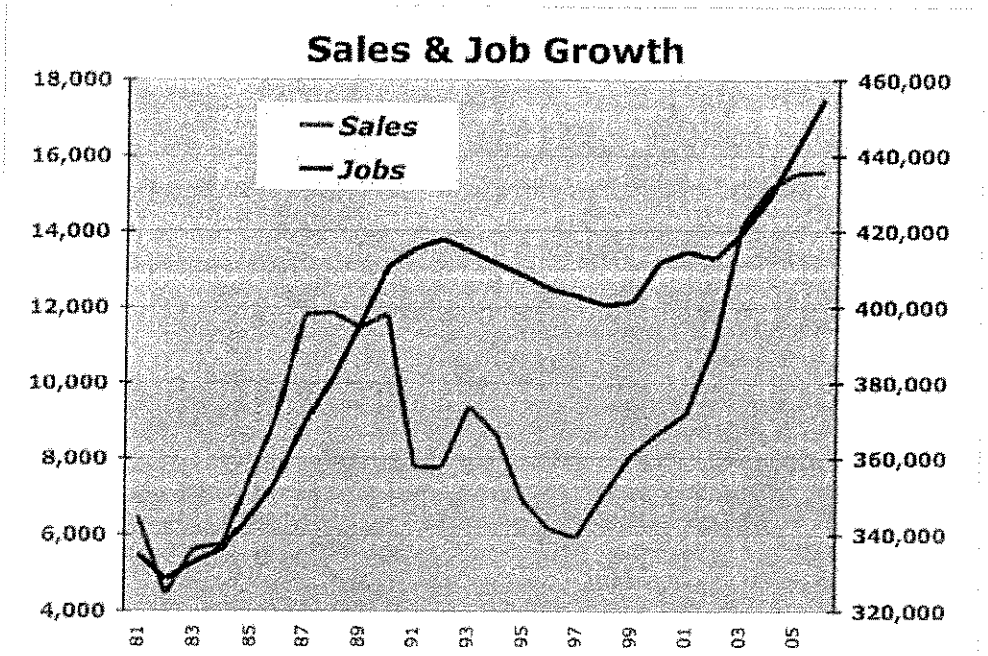
The net of this, as seen in the ECONOMIC GROWTH TRENDS Chart (above), all three major of Hawaii's visitor markets – Japan, California and US -- are again expanding economically at strong rates, except at a slightly lower level then the last cycle, 1986-90. This bodes well for future growth of tourism, and delivers a welcome stimulus to the real incomes of local families (as seen in the TOURISM AND ECONOMIC GROWTH Chart).



In addition to the visitor spending, the federal government is pouring billions into Oahu's economy, due to the military activity post 9/11. On Oahu, there are several major funded programs: the addition of several new military platforms (the Stryker brigade), the upgrading the communications and logistics infrastructure and the privatization of military housing (Hawai'i would gain 3,700 troops by 2011 as 50,000 service members are brought home to the United States from Germany and South Korea).

Expenditures in this last example – building and renovating homes for service personnel -- stretch out well beyond the decade, which helps underpin the optimism that this economic expansion has more than one or two years to run.

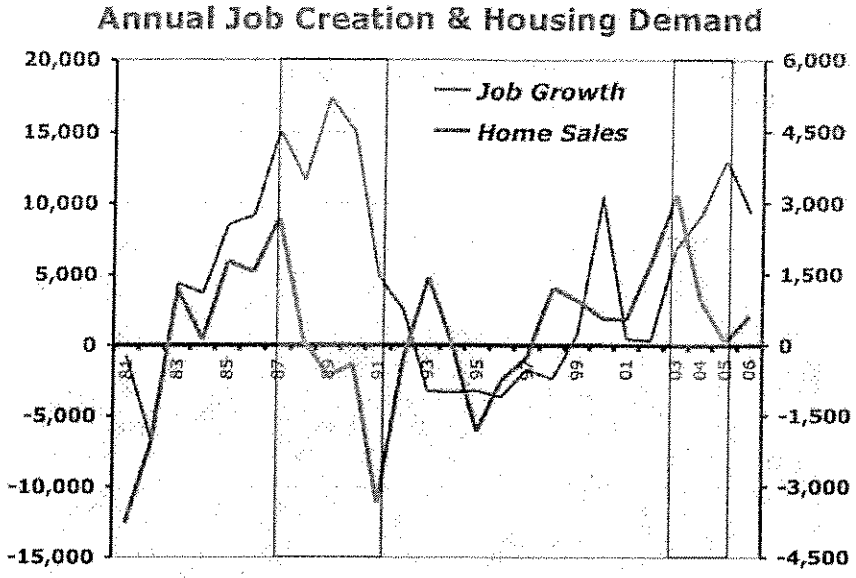
Given this ramped up public expenditure on housing, as well as the money flowing into private real estate (residential, commercial and industrial), the latest UHERO construction forecast also was revised upward, with a benign projection that the cycle could 'approach its peak' in three years, 2008.



Interestingly, there has not been the same high degree of job growth (adding 80,000 plus jobs in 7 years, as opposed to 60,000 in 6 years) in this economic cycle, as there was in the last one. This can be seen in the blue line in the SALES & JOB GROWTH Chart.

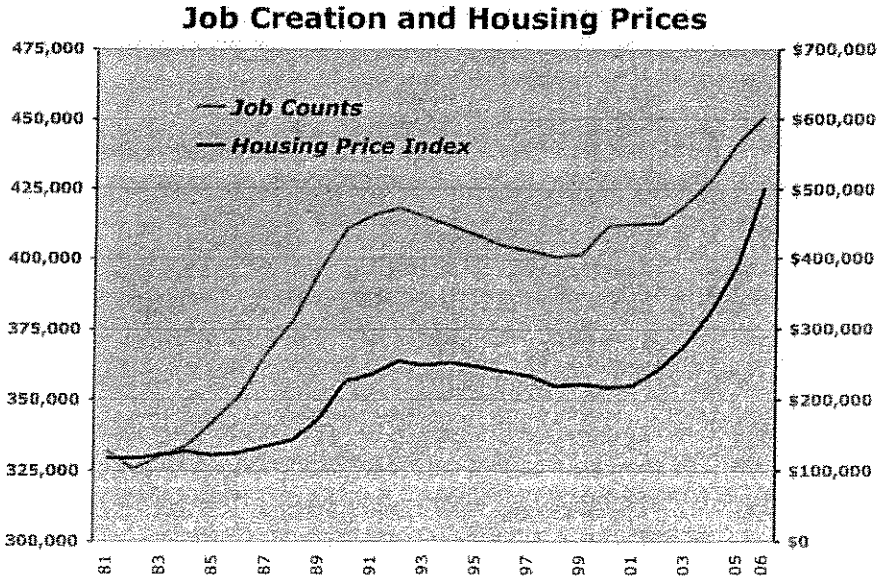
Either there is a lot of informal job growth, hidden from the statisticians, or there is a lot more job growth coming in the pipeline (such as non-payroll jobs i.e., self-employed, contract labor). Another explanation for this is the arrival of offshore investors (arbitraging their inflated West Coast home values into the lower Oahu ones) and second homeowners.

Another way of looking at this is the annual change in job counts and residential sales.



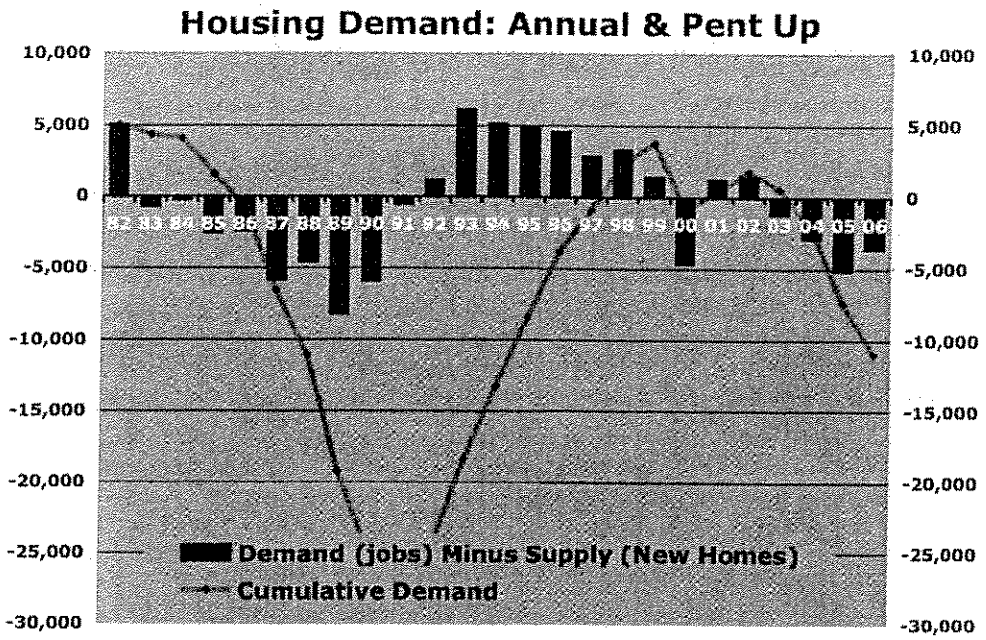
The ANNUAL JOB GROWTH AND HOUSING DEMAND Chart shows even more clearly how many more residential sales there has been relative to the number of jobs created. With more jobs than houses to buy (demand greater than supply), then the price of houses rises. This is shown in the chart by a yellow shaded area.

Another way to show that is by comparing job count growth to a housing index (resale and new, condo and single family) in the JOB CREATION AND HOUSING PRICES Chart.



When there's not enough homes available (either because of strong job creation or second home demand) in any one year, then the residual of that is set aside as pent-up demand for next year. We tried to quantify this pent-up demand by taking a factor of housing demand via job creation, and matching that up with new housing supply.

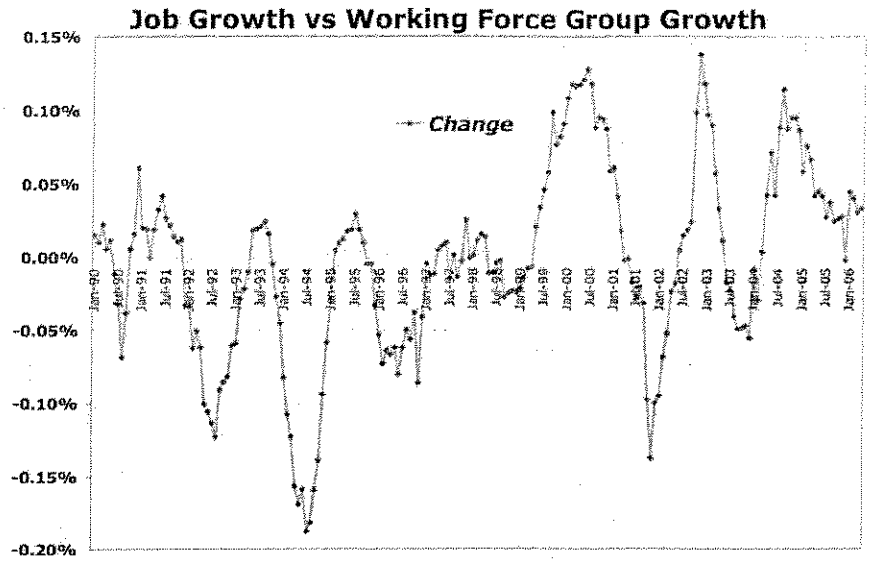
What we found is an undersupply, and this is demonstrated in the HOUSING DEMAND: ANNUAL & PENT UP chart (with the annual demand shown as purple bars, and the cumulative of that, shown as the red line).



However, this leads to a major concern going forward: the growth of jobs is outpacing the supply of housing, leading to rising prices (dramatically so)... with the effect of reducing the number of workers that are available to businesses within the local economy.

Another one of the clouds on the horizon that could grow to cut out the sunny side of the economy is costs, specifically energy and labor ones. The first ups the costs of travel and shipping, and hampers consumer spending, and thus ripples through the local economy.

The second adds to inflation, but at least helps to increase overall wage income. The inflationary pressure comes in because the growth of jobs has outpaced the growth of the work force. As seen in the Job Growth vs. Working Force Chart, job demand has outpaced job supply for most of this decade.

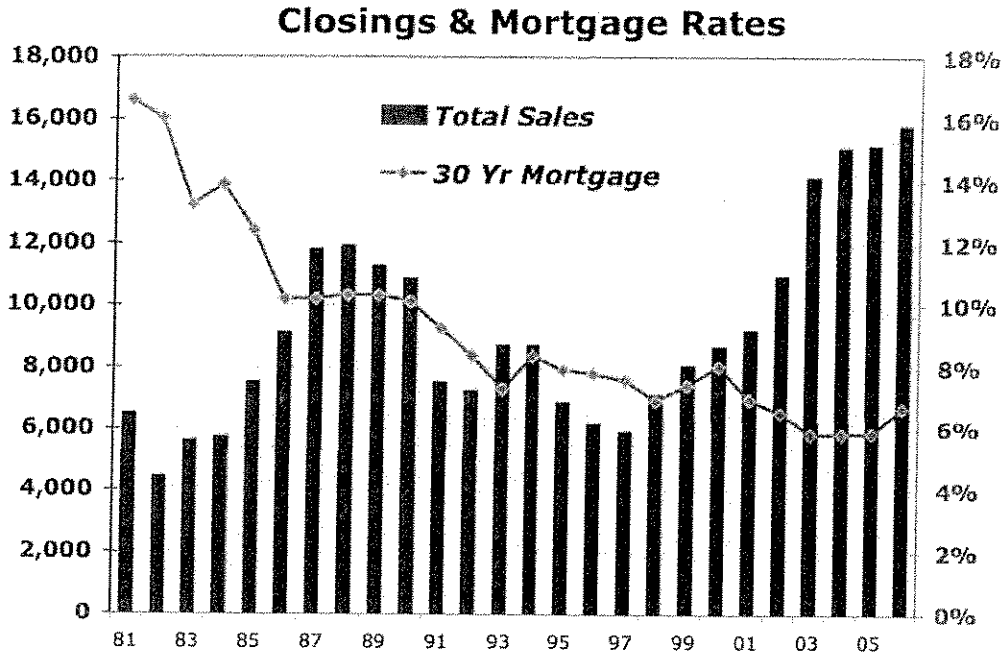


As noted earlier, there is a detrimental effect on housing market stability from persistently strong job creation, and that is a lack of housing and a upward movement of prices (and a negative effect on housing affordability). This is the currant state of the market, as seen in the following section.

VIII. TOTAL OAHU RESIDENTIAL FOR-SALE MARKET

SALES & PRICES: Oahu's market for residential property is well into it's upswing, toying with setting yet another new record for closings.

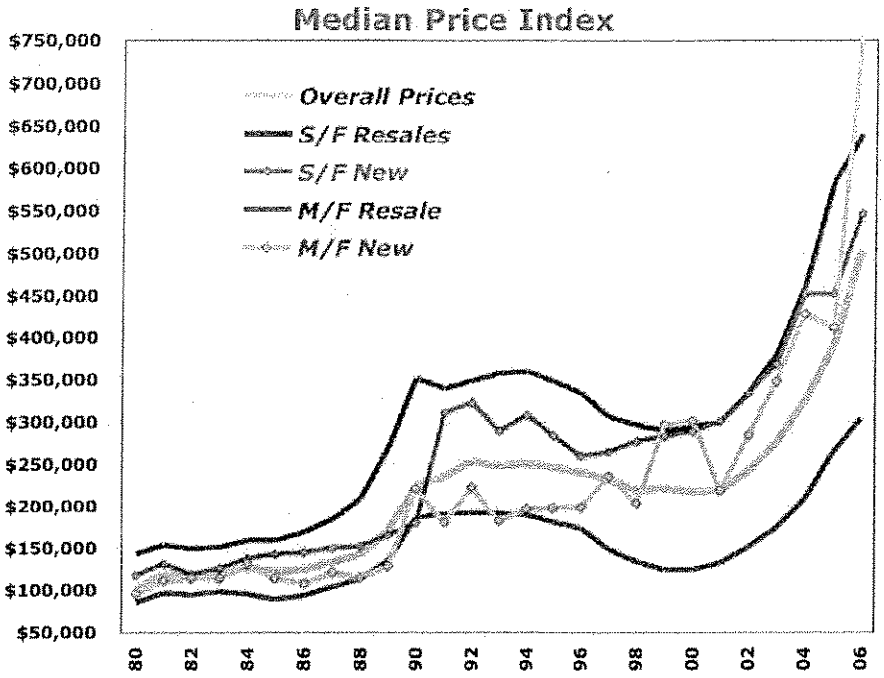
Last year, total closings hit 15,000 units, but with the dampening effect of dramatic price rises this year, we do not foresee it exceeding the 16,000 level.



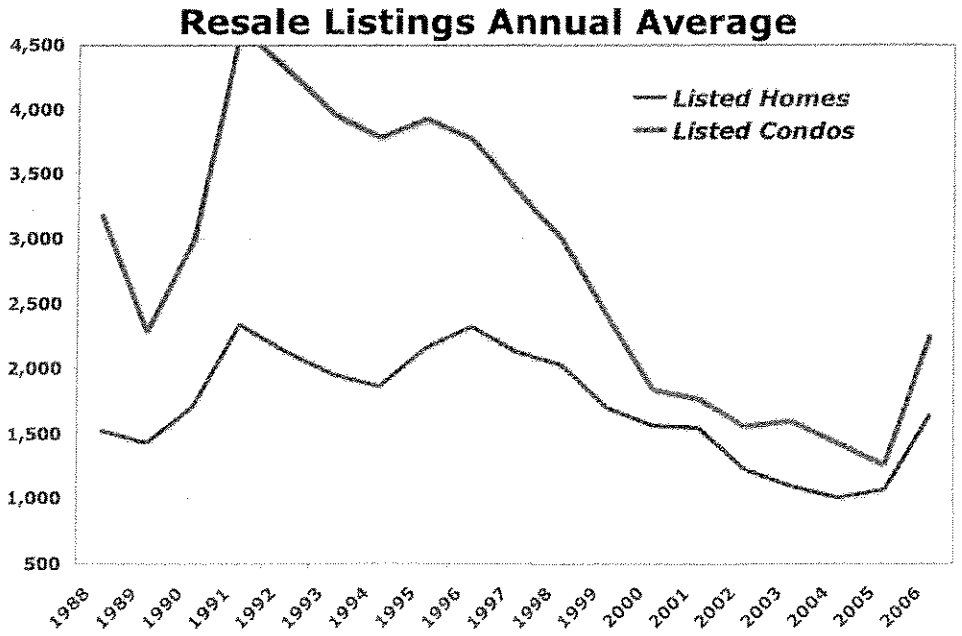
In terms of the trend, this would make it the 8th year of the up cycle, much of it thanks to low interest rates (illustrated in the CLOSINGS & MORTGAGE RATE chart). But note that, starting last year, the interest rates bottomed out and have been rising slowly since.

As such, for 2006, we expect the growth in closings to flatten further, or be reversed altogether, depending mainly on the ability of the new homes industry to deliver product. That said, it is noteworthy that these record sales occurred against the backdrop of some pretty substantial price rises.

The All Housing price index (all resales, single family and multifamily, and all new sales, single family and multifamily) rose from $390,679 in 2005 to $505,000 YTD this year. That is a 30% improvement, which can be added to the price rise of 20% from 2004-2005.



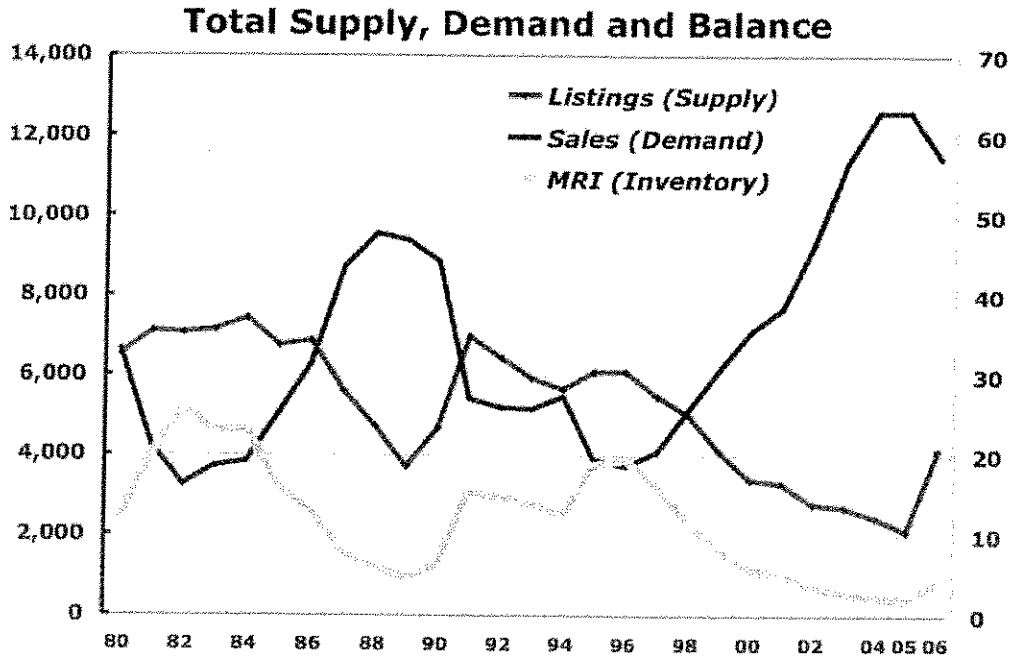
LISTINGS AND MONTHS OF REMAINING INVENTORY: With demand at an all-time high, the issue of supply becomes important, particularly in terms of future prices.



The major source for housing supply comes from resale listings (especially now, given the relatively low production of new homes). The TOTAL RESALE LISTINGS Chart shows these levels for 1988-2005, plus YTD 2006. YTD 2006 vs. 2005, the average monthly average of single family listings is up 54% and those for condos up 80%.

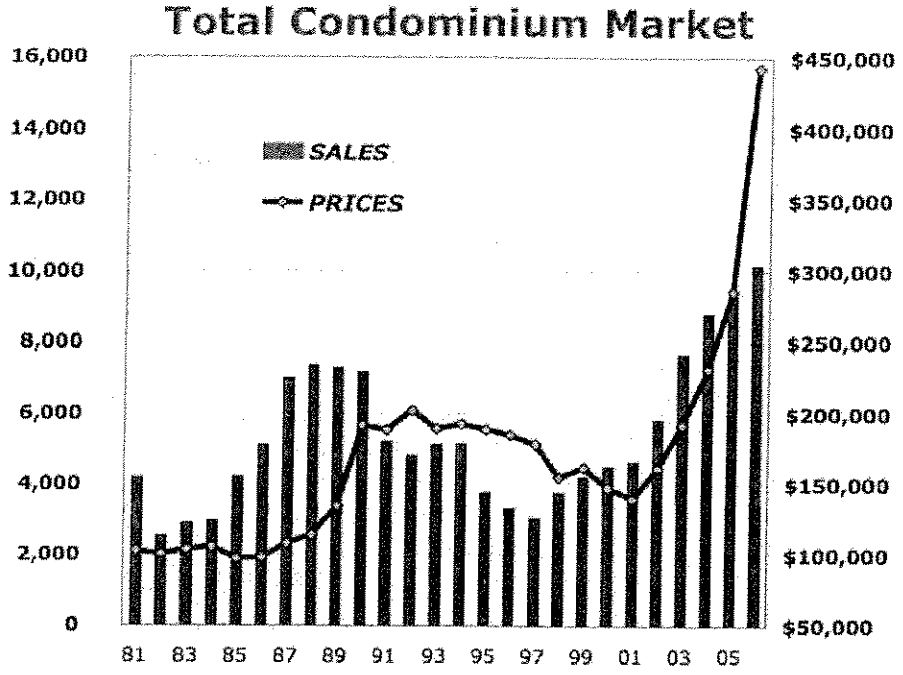
Currently, Single Family listings are at 71% of where they were at the top of the last cycle, 1996, while condos are 57% of the way up to their high point, set in 1995. While alarming if out of context, this needs to be related to sales and inventory.

This can be seen, in the TOTAL SUPPLY, DEMAND AND BALANCE Chart, which shows the balance in the relationship between listings (supply) and sales (demand) -- months of remaining inventory (MRI). Months of Remaining Inventory is the number of total listings (supply) divided by current demand, and expressed in the amount of time it would take current demand to exhaust current supply. Currently, there is only 4.3 months of supply available on the market, which is still very low historically (it is only 22% of the top of the last cycle, 19.6 months).

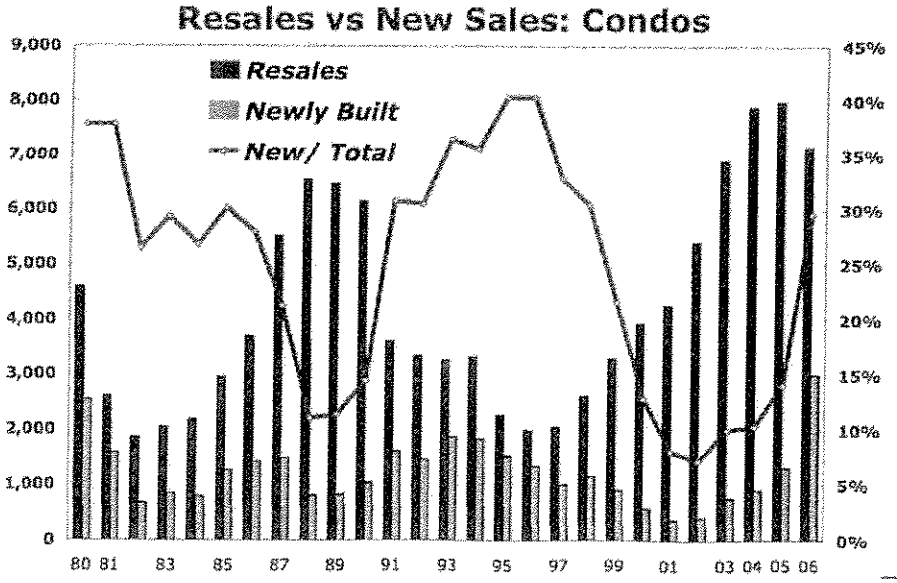


IX. CONDOMINIUMS

CLOSINGS AND PRICES: For the fourth straight year, condo sales are set to break their all-time record. YTD 2006 the market looks to expand by 9 % to over 10,100 closings, on top of the 5.8% it grew in 2005. Note that this growth is half the 31% it grew by in 2003. The overall market is now 231% ahead of the level of where it was when it started upwards (as opposed to the 190% that the market expanded by in the last cycle, 1982-1988).



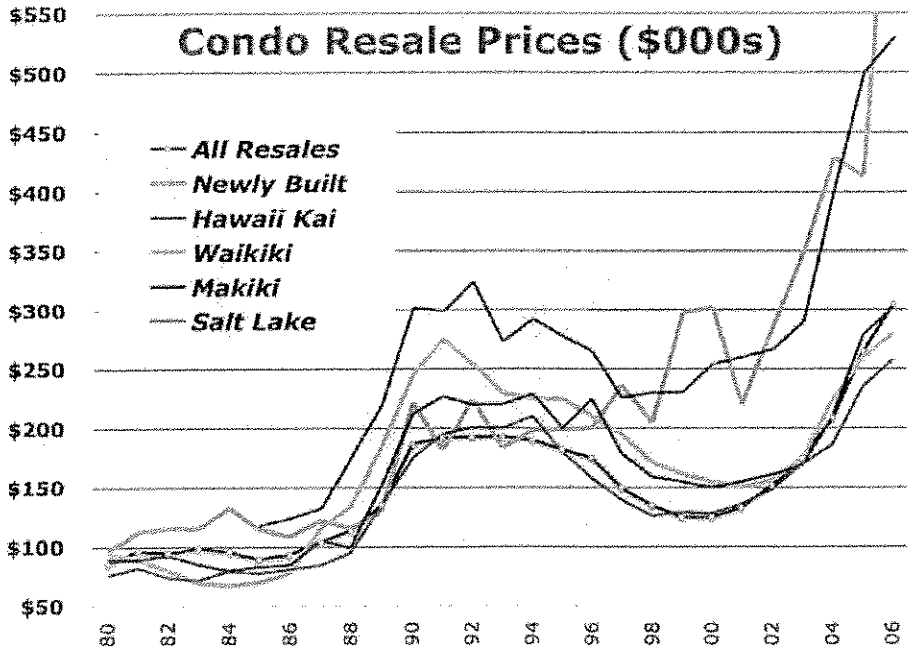
As opposed to the single family market, the multifamily one is producing at an accelerated pace, meeting demand (this year, 2006, is the one that the newly built segment begins to approximate



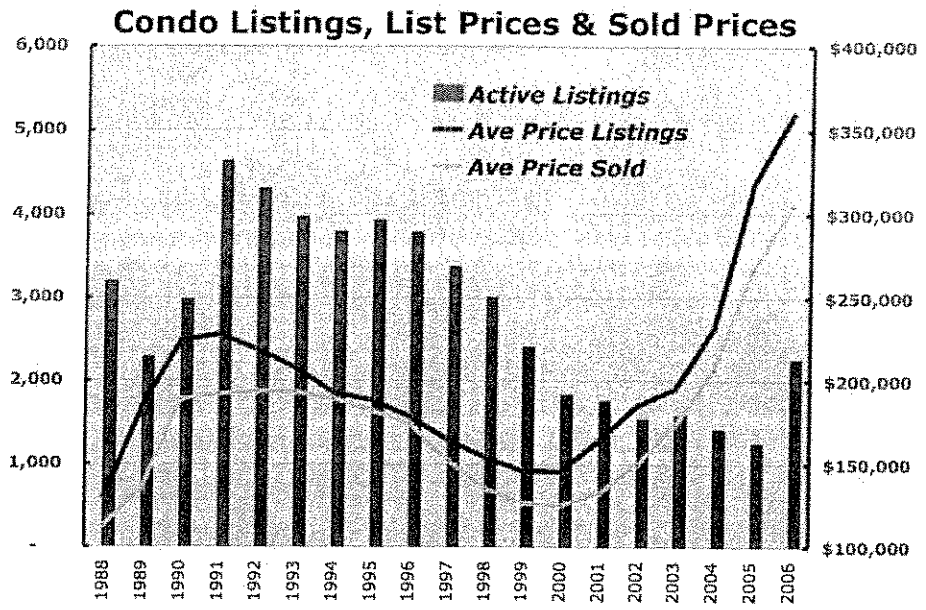
the share of market that the segment enjoyed at the top of the last cycle, see red line in RESALES VS NEW SALES Chart).

Going forward, this segment needs to become very active, in order to house the growing workforce (to say nothing of the existing one). What should lie ahead are several years of 2,000 plus unit closings.

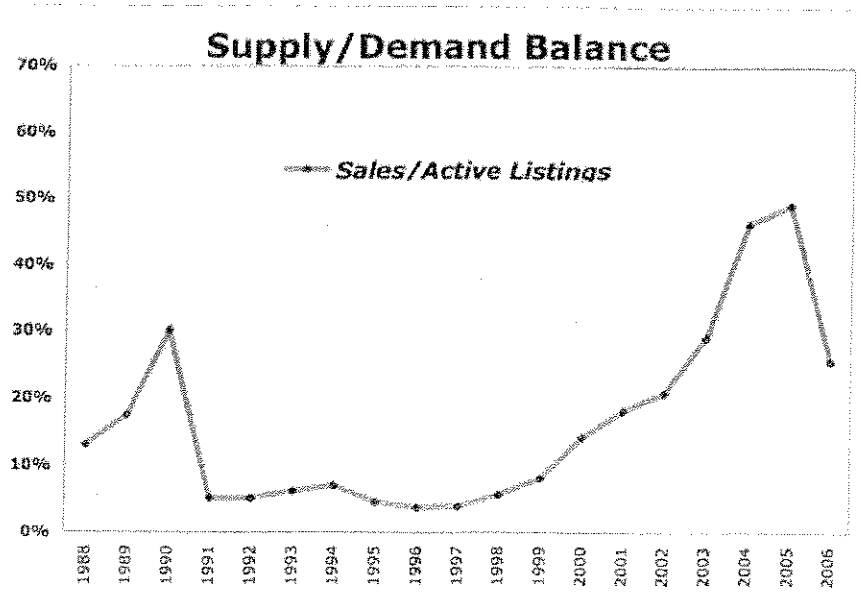
Prices are the one thing that could get in the way: already, the price index has risen 55% YTD 2005, to $442,600 plus. This comes on top of three years of 19%-23% appreciation rises. That said, it is worth remembering that prices have moved higher in only five of the last seven years... and that this years gain is driven by some very high end closings (the resale index is only up 15% YTD 2006).



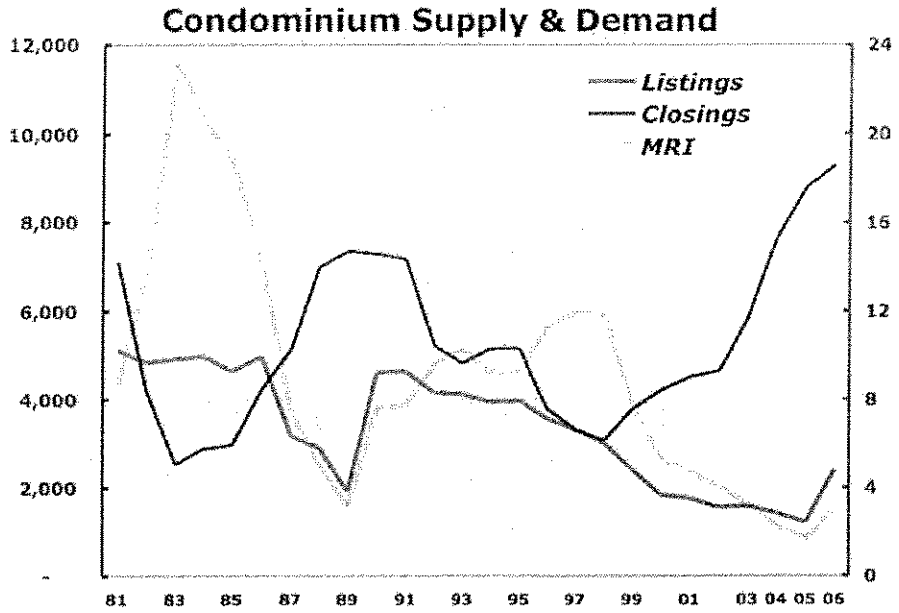
LISTINGS: Condominium listings (see the LISTINGS, LIST PRICES & SOLD PRICE Chart) are up, like the single family market. Unlike that market, prices for both listed and sold units are still climbing, indicating there is still more strength in the market to move prices higher.



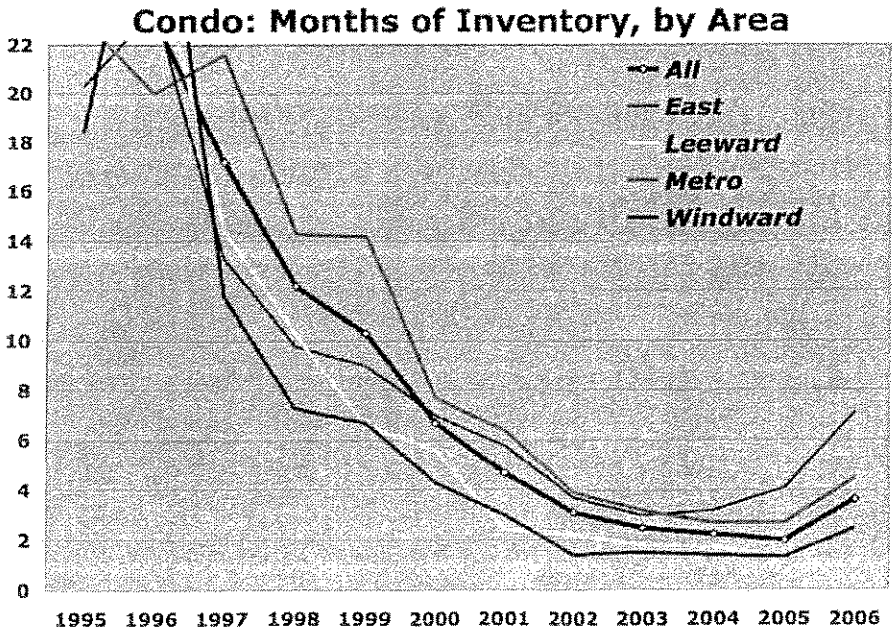
SUPPLY/DEMAND BALANCE: Like the single-family market, the trend in the balance between supply and demand (see SUPPLY/DEMAND BALANCE Chart) reversed this year, getting halved from 50% to 25%. :



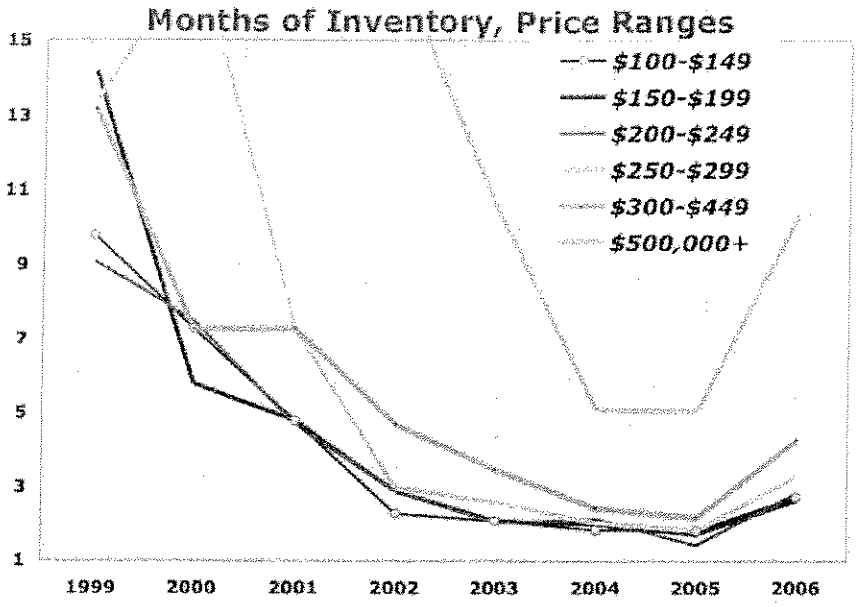
MONTHS OF REMAINING INVENTORY (MRI): The market's overall condition remains tight, favoring sellers over buyers. Like listings, MRI rose this year, but from 1.6 months for 2005 to 3.1 months YTD 2006.



The communities experiencing the tightest markets are Leeward Oahu and Windward Oahu.



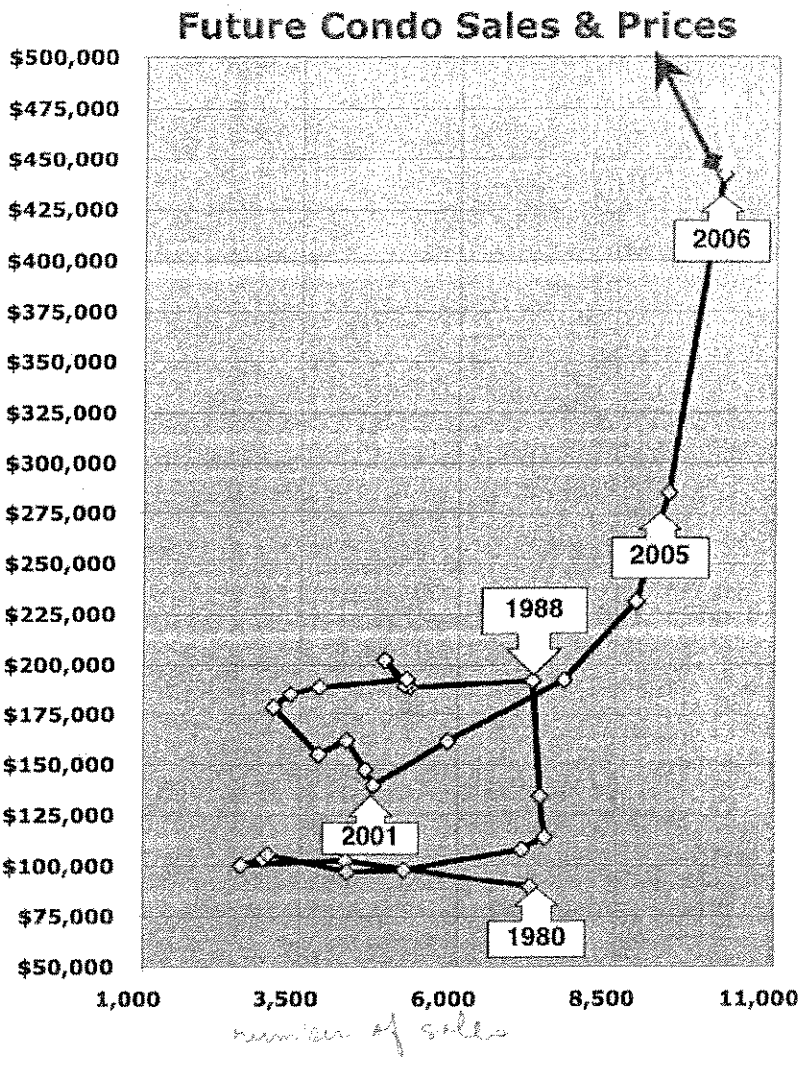
The price segments that are the tightest are the $200,000 to $250,000 price range and $150,000 - $199,000 price range.



X. OUTLOOK

This chart plots the relationship between price and sales, with the number of sales at the bottom axis and price on the vertical axis. Together, they illustrate the general tendency of markets to follow a pattern (or cycle) that starts with low sales and low prices.

To explain: this cycle 'starts' with low prices. Low prices generally attract buyers, which generates higher sales. Higher sales reduce inventory, which ultimately results in higher prices. Higher prices and lower inventory discourage buyers, which leads to lower sales. Lower sales, after a lag period, ultimately leads to falling prices, as sellers try to attract buyers. Lower sales also build up inventory. Lower prices and a larger selection (higher inventory) then reinvigorate buyers, which result in (our starting point) higher sales.

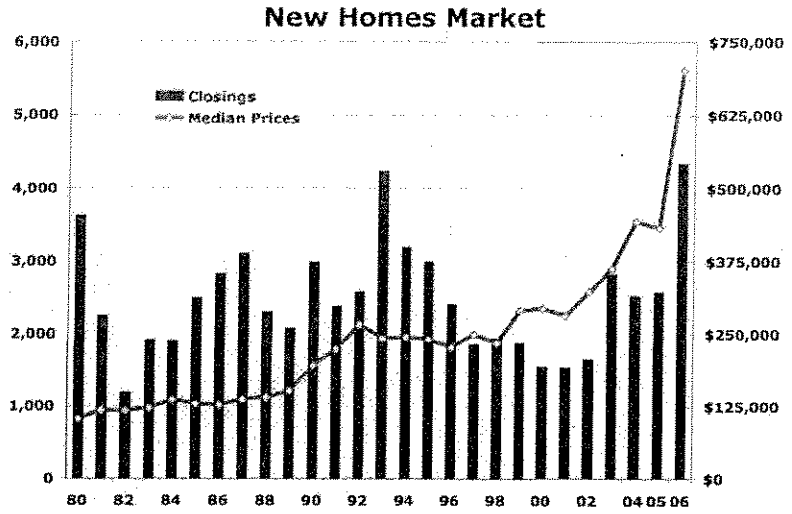


The yellow points on the blue line in the FORECASTING SALES AND PRICES Chart represent the market's position (in terms of the intersection of closings and prices) for every year since 1980.

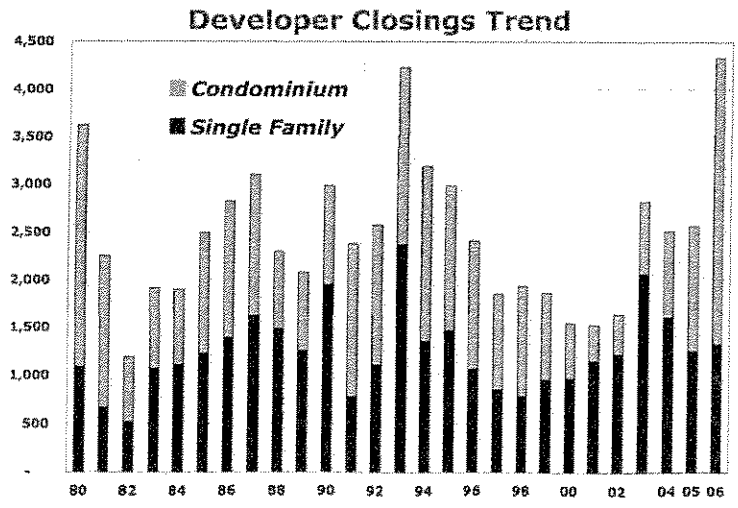
We think the condominium market is headed higher, at least in prices, and probably in closings, simply because higher rates will slow prices and new condos coming to market will help meet demand.

XI. NEW HOMES:

CLOSINGS AND PRICES: By way of background, the new homes market in 2003 had its first breakout year in a decade, hitting 2,845 units. Unfortunately, the two next years, were not able to build on it, thanks to the concrete strike and other shortages. This year, 2006, will make good on the promising 2003: sales are poised to set a record at 4,340 units (a nose ahead of 1993's 4,233 units).

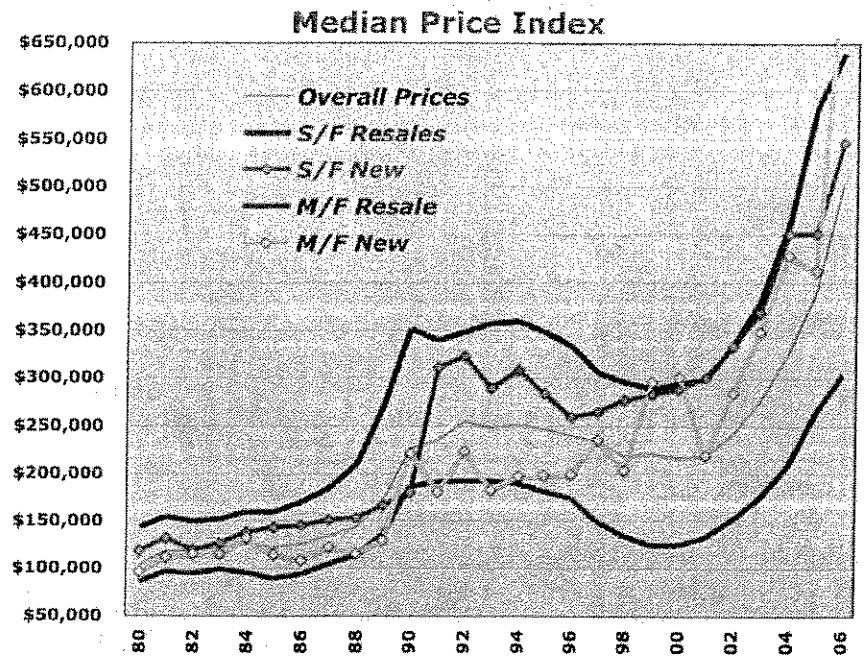


As seen in the DEVELOPER CLOSINGS TREND Chart, the problem is the decline in single family production. Part of this is the fact that several major master planned communities are running out of land (or have run out of land). Relative to several years ago, Waikele, Kapolei and Kunia are no longer producing homes this year, and Mililani will be out of it's inventory of entitled lots in 2 years. Furthermore, there may not be a smooth transition to higher production, as Kapolei and Royal Kunia II are more than 2 years away from delivering homes (as is Waiawa).



New homes price index is increasing this year, after falling last (off 2.6%). YTD 2006's median price index stands at $700,000 plus, up by over 60%, thanks to the high-end condo projects closing this year.

Breaking out the pricing trends by resale and new, condo and single family, the MEDIAN PRICE INDEX Chart shows that single family developers were able to price their homes at or above comparable area resale homes, and thus close the gap in price with the resale side of the single family market.

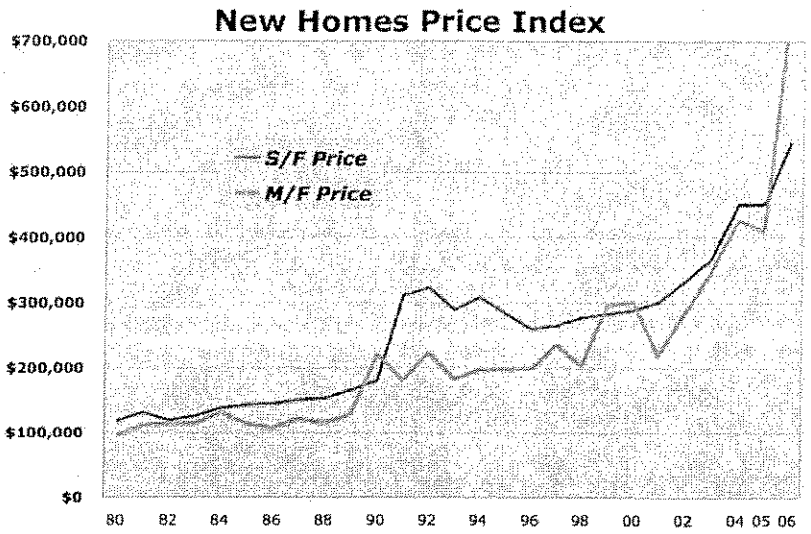


The same thing happened on the condominium market, except that they had a stronger market in the high-end infill locations (like Hawaii Kai or Waikiki) or on resorts (Ko Olina), and therefore have been able to price higher than their new single family brethren.

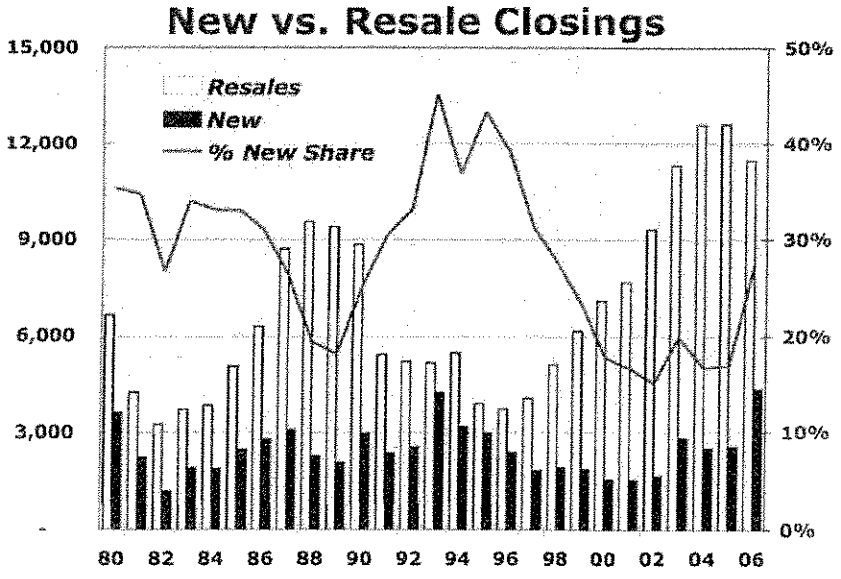
At this stage in the cycle, all developers are taking advantage of strong demand to cater to the higher end of the market, thus bolstering their profit margins.

As demand spreads into the middle-income brackets and the ones below, then developers will be able to target them with lower cost town home products (and begin to lose per unit margin while gaining higher unit production).

But, as seen in the NEW HOMES PRICE INDEX Chart, this has yet to happen.



In spite of all of this activity, the developer share of the overall market is quite low, particularly by historical standards (as seen in the NEW Vs RESALE CLOSING Chart). Even with the strong growth this year, developer market share has only just moved above the high teens. This leads us to believe that this sector will grow further in 2007 and beyond, as developers ultimately focus more attention on producing for the local market (and thus on building condominiums and other forms of attached housing).



The following table gives a better description of the trends in the new homes market. It shows the contracts (Sales), closings, the average list prices, the average closing prices and the average units available per project.

TOTAL NEW HOMES MARKET TRENDS

	2000	2001	2002	2003	2004	2005	2006
Sales	1,594	1,684	2,288	3,031	3,162	1,999	1,412
Closed	1,438	1,404	1,509	2,563	2,250	2,261	3,740
Ave List $	$291,093	$280,862	$338,252	$424,260	$521,096	$511,700	$545,177
Ave Closed $	$294,111	$283,512	$323,355	$364,138	$444,363	$433,311	$763,284
Availables	34	25	31	25	16	16	7

TOTAL NEW SINGLE FAMILY HOMES MARKET TRENDS

	2000	2001	2002	2003	2004	2005	2006
Sales	1,037	1,280	1,763	1,833	1,225	1,159	1,232
Closed	912	1,092	1,159	1,928	1,495	1,168	1,236
Ave List $	$289,682	$297,144	$340,487	$368,994	$496,174	$438,026	$552,604
Ave Closed $	$289,448	$301,669	$334,745	$369,120	$452,286	$452,585	$547,311
Availables	32	24	25	20	9	13	8

TOTAL NEW CONDOMINIUM MARKET TRENDS

	2000	2001	2002	2003	2004	2005	2006
Sales	557	404	525	1,198	1,937	840	180
Closed	526	312	350	635	755	1,093	2,504
Ave List $	$293,719	$229,275	$330,749	$508,820	$536,857	$613,354	$494,347
Ave Closed $	$302,195	$219,964	$285,637	$349,015	$428,674	$412,714	$869,891
Availables	38	28	46	36	33	23	3

For the remainder of the year, new home sales should grow in terms of transactions and values. This is thanks to the closings for the Ko'olani project, which should offset any potential slowdown (due to the shortage of asphalt) in the other market segments, single family and town homes.

XII. SUMMARY

In short, the local economy is in great shape: job counts have grown, incomes have been improving and people are moving (back) to Hawaii. Government spending is up, construction is strong, tourism is steady, people have money and many are spending it on real estate.

On the other hand, in terms of the real estate market, it is slowing down, thanks to pressure from higher interest rates and higher home prices. As these two forces take hold, demand will slow and listings will grow. As such, the market will begin to turn towards favoring buyers (for a change), especially in the market's where buyers have some discretion over their purchases. This is mainly the mid to the high end of the market, where a good many households are satisfied with their living situation.

This is not the case at the lower end of the price range, where there is a lack of housing that is priced appropriately for a lower income family. As such, this is the part of the cycle when affordable housing begins to get attention and to get funding.

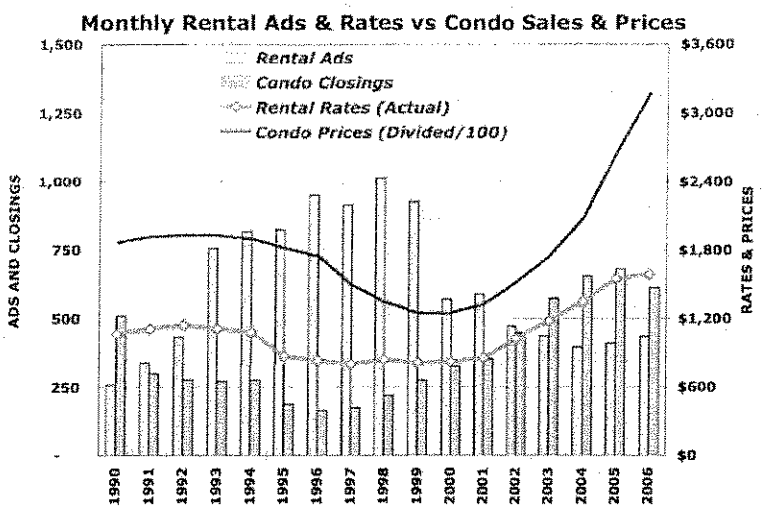
Given the rising cost of construction, it is likely that demand for reasonably priced housing will be satisfied by high-rise condos and low-rise town homes located in relatively low-cost neighborhoods (infill or suburban sites).

Going forward, we look for interest rates to stabilize at current rates around 6.7%. If this happens, then that will allow buyers to reenter the market without the uncertainty over higher rates. The removal of fear from buyer's mind should help all segments, but particularly have an immediate positive impact at the middle end of the market.

At the same time, we don't expect prices to retreat from these levels to any significant degree – there might be some small adjustments downward in segments that have seen dramatically higher prices, but these will not be at the lower end of the housing market.

XIII. OAHU RENTAL HOUSING MARKET

Simply put, the rental market has been tightening for five years now... and it mirrors what is happening in the for-sale market. As seen from the chart below, rental supply (the number ads) has shrunk, while rental rates have risen. Likewise, the price of condos on Oahu has also risen. .

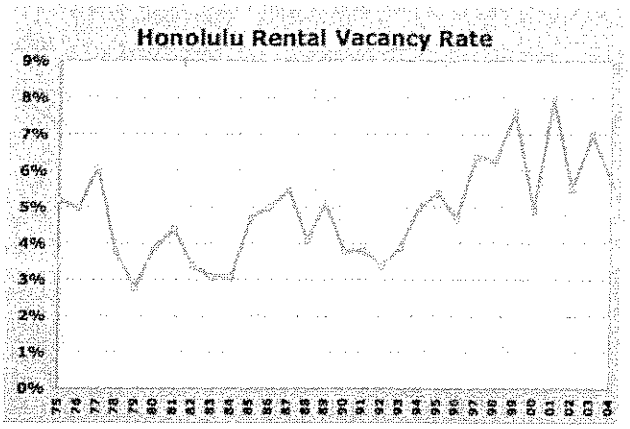


RENTAL MARKET OVERVIEW: Apartment living has been an important part of Oahu's housing market since the late 1960's. With developable land both limited and expensive, multi-family units have been the most efficient way to provide affordable housing for a significant percentage of Honolulu residents. New renters and residents, such as those just moving out on their own, retired persons, and others who do not have the desire or the ability to purchase real estate rely on the supply of available rental units for their housing needs. This applies, even more so, to those who are living on a fixed income: apartment living offers security, convenience, community and (hopefully) affordability.

In reviewing conditions in the overall market for rental units on Oahu, one looks at a number of different indicators of supply and demand, including: Vacancies, Levels of Advertisements and Average Rental Rates.

A. VACANCY LEVELS

The chart below tracks the estimated annual level of vacancies for the metropolitan area of Honolulu, thanks to data compiled each year by the U.S. Bureau of the Census.



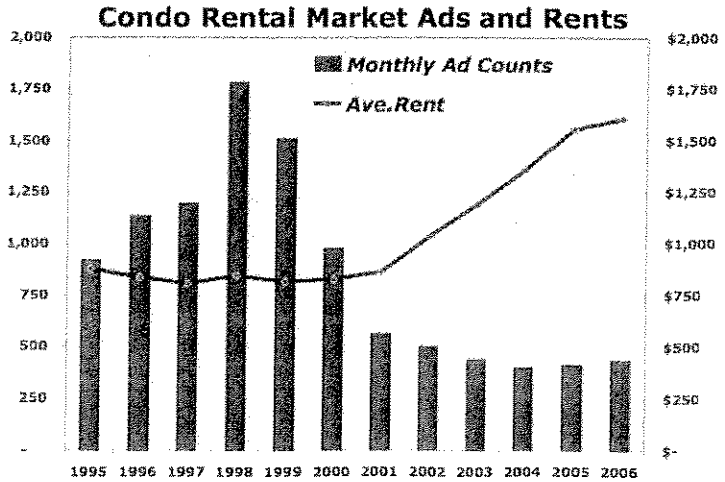
We believe that the current vacancy rate (in the 6% area for 2004, the latest date they reported) is very much on the high side, given current conditions. While Honolulu does not have any large scale housing rental operators, the two largest organizations, Moanalua Gardens and the Royal Kunia Club (along with Iroquois Point Club), have reported they have been able to raise their market-rate rents throughout this year by 4% to 7%, with very little resistance from their current tenants.

B. RENTAL ADVERTISING

An excellent indicator of rental market supply conditions is the number of apartments that are advertised for rent in the local newspaper. This will be called "Ad Counts" in the following tables and charts, and we use it here as an indicator of the supply of rental units available to the market.

In general, advertisement count is a counter-cyclical indicator: low numbers of advertisements are associated with strong (tight) rental market conditions while a high ad count number suggests there is excess supply relative to demand (a weak rental market: i.e., low rental prices).

The counts of rental ads have been in a downward trend since 1998, lowering the supply of units



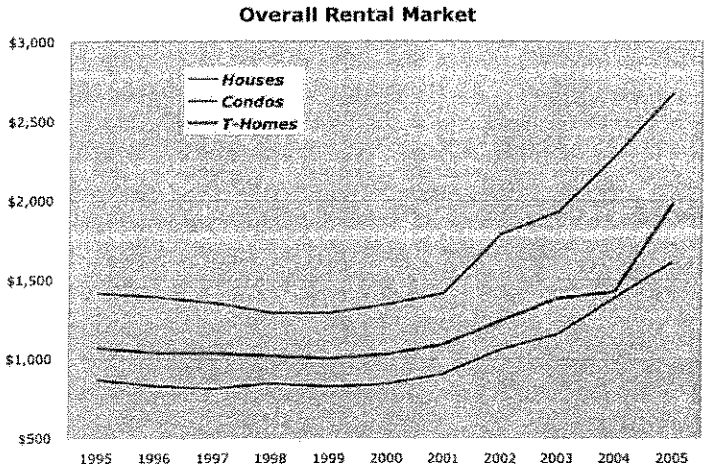
onto the market. This year, it looks like there is a small increase in the number of condominium rental ads. In conversations with rental agencies, it appears that the various deployments of armed service personnel to Iraq might be behind this: inasmuch as the soldier's tour is a year long, some of their families are choosing to relocate to the continental US for the duration of their tour, in order to be closer to family, friends, etc.

C. RENTAL RATES:

Another important relationship that helps to describe and forecast the rental market is trend in rates charged for rental units. The trend lately has been higher for each of the market segments, single family houses, condominium apartments and town home apartments.

The biggest increase has been for single family rents, as those units are the most sensitive to an upswing in both the economy in general, and the rental market in particular. Condominium unit rents usually lag behind. For this reason, we think that this upward trend should still have 2-3 years left to run (and then begin to flatten and/or stabilize).

The chart below describes the trend over the last 10 years.



Finally, we looked at the relationship between the numbers of rental ads to the level of rents charged. This is seen in the chart below, which depicts the historical relationship between annual advertising counts and average rents for Metropolitan Honolulu.

In general, the two lines seem to be inversely related: a falling number of ads appear to be a precursor to a rise in rents. This seems to be the case when ad counts started to fall off, starting in 1999. The next year, 2000, rental levels started creeping upward.

Again, we think that this rise in rental rates will be moving upwards over the coming 1-2 years, and then possibly moderating after that. We say this because the concurrent fall in the inventory is nearing levels that, in the 1980s, precipitated double-digit increases in rental levels.

XIV. TARGET RENTAL MARKET

MARKET OVERVIEW: In an article 12/9/03 about affordable rentals by Andrew Gomes of the Honolulu Advertiser, he quoted Darlene Hein, executive director of the Affordable Housing and Homeless Alliance, as saying the need for low-cost housing is dire. The following is from that article: Before the home market took off, about 80 percent of government-assisted Section 8 renters could find an apartment within 90 days, she said. Today, the figure is only 50 percent to 60 percent. "We are in a rental crunch," she said.

In a publication from the Long Term Care Policy Summit Proceedings, convened by Hawaii Institute on Public Affairs and sponsored by Department of Health, Executive Office on Aging held in Honolulu I9/5/03, they wrote: Hawaii will experience a rapid aging of its population. Hawaii enjoys the longest life expectancy in the US at 78.9 years and the 60+ population in Hawaii is growing two-and-a-half times faster than the national average. By 2020, Hawaii will have an estimated 400,000 residents over age 60, with this age group comprising 25% of the state's population.

XV. DEMOGRAPHIC ANALYSIS OF TARGET MARKET

The market area we define as the Island of Oahu, otherwise known as the City & County of Honolulu. We do this because, in general, people living on a small island identify themselves with the whole island. This is even truer when the island is very remote from all other major land areas.

Furthermore, we consider the whole island (within a 30 mile radius from the site) to be the target market because the particular product and/or service is both scarce and vital, from the point of view of this market: it is an affordable living situation that is tailored to their particular needs (that being aging in place).

According to CLARITAS, a demographic analysis firm of national stature, there are approximately 153,174 individuals living in the market area. This number has grown by 3% a year, since the 2000 census, which is the source data for these projections. Furthermore, this number is forecast to grow to 173,605 by 2010, or by 4,086 a year. This is a very significant growth rate. In contrast, the forecasted annual growth rate for the entire island's population over the next five years is 1%.

We used demographic data to estimate the number of households on Oahu who are living below the poverty level. The table below describes this:

	Totals 1999	Estimate 2006	Estimate 2009
Income Below Poverty Level	9,908	14,439	16,461
Married-Couple Families	3,032	4,419	5,037
In other Families	1,624	2,367	2,698
Male householder, no wife present	531	774	883
Female householder, no husband present	1,093	1,592	1,815
Unrelated individuals	5,252	7,654	8,725

To now proceed into the specifics of the target market, the table below defines the income levels for householders according to the number of people in the household:

Median Income	30% of AMI	50%of AMI	60% of AMI
2 Person	$16,250	$27,100	$32,520
3 Person		$30,500	$36,600
4 Person		$33,900	$40,680

For instance, it shows that the minimum annual income level that a two-person household would have to have in order to qualify for a rental unit in the proposed project is $27,100 at 50% of AMI.

We then relate this to the proposed project's product offering. The following table shows how many units are being built and to what target market they are being offered. In terms of allowable qualifying income, we show the minimums and the maximums an applicant can show.

Unit Count	Unit Type & Target's Income, As % of AMI	Qualifying Income, Minimum 2 Person	Qualifying Income, Maximum 4 Person	Qualifying Income, Maximum 5 Person
10	2 Bed, @ 30% AMI	> $16,250	> $20,305	
102	2 Bed, @ 50% AMI	> $27,100	> $33,900	
14	2 Bed, @ 50% AMI	> $27,100	> $33,901	
40	3 Bed, @ 60%	> $32,520	> $40,680	> $43,900

Thus, an applicant for one of the ten 2 bedroom units making 30% of AMI can qualify with an income level from under $16,250 to under $20,305. The same relates to the rest of the offerings. In an effort to be conservative, we will use only the minimums in quantifying the potential market.

The table below summarizes the number of individuals that meet the income requirements of this project. Thus, the table shows the size of the potential market (number of applicants) in 2000, 2005 and 2010, at all of the minimum income levels, given HUD's AMI for Honolulu.

Target Market	2000	2005	2010	Increase 2005-2010
Income less than $40,000	41,389	44,169	46,234	413
Income less than $32,520	26,385	26,716	27,438	144
Income less than $30,000	24,245	24,583	25,199	123
Income less than $27,100	21,825	22,093	22,529	87
Income less than $16,250	12,434	12,327	12,391	13

Next, we match the number of units with the number of potential applicants:

Unit Count	Unit Type & Target AMI	Qualifying Income	Total Market 2005	Total Market 2010
10	2 Bed, @ 30% AMI	> $16,250	12,327	12,391
102	2 Bed, @ 50% AMI	> $27,100	22,093	22,529
14	2 Bed, @ 50% AMI	> $27,100	22,093	22,529
40	3 Bed, @ 60%	> $32,500	26,716	27,438

Finally, to see the magnitude of demand against the proposed supply, we created a table comparing the number of units in terms of a share of market.

Unit Count	Unit Type & Target AMI	Total Market 2005	Share of 2005 Pool	Annual Increase	Share of Annual Increase (x2 Yrs)
10	2 Bed, @ 30% AMI	12,327	0.08%	13	38.8%
102	2 Bed, @ 50% AMI	22,093	0.46%	87	58.4%
14	2 Bed, @ 50% AMI	22,093	0.06%	87	8.0%
40	3 Bed, @ 60%	26,716	0.15%	413	4.8%

As seen, the proposed supply looks very insignificant when compared with the potential market, with a market share (Share of 2005 Pool) of under 1% for all units. Furthermore, it is also pretty small when just looking at the likely annual increase in demand (from above, 'Increase, 2005-2010). Note: we looked at this annual increase in demand in terms of two years, which is the soonest we think the project will be ready for occupancy (thus, the 13 units of demand annual increase became 26 units, which was 38.8% of the 10 two-bedroom units targeting the 30% AMI).

XVI. DESCRIPTION OF COMPARABLE UNITS IN THE MARKET AREA

Here, we turn from the demand side of the market in order to review the supply situation for units similar to those being contemplated by the proposed development.

INVENTORY: There are approximately 43 rental projects containing about 4,509 rental units on Oahu available to qualified low-income households. Of those, 117 are two-bedroom units and 4 are three-bedrooms.

The wait list time for just three-bedrooms is 18 months minimum and 36 months maximum. The wait list time for just the two-bedroom units is 10 months minimum and 24 months maximum.

The long waiting list times indicates the market is very tight for these units.

XVII. ANALYSIS OF PRACTICALLY AVAILABLE RENTS, VACANCY RATES, OPERATING EXPENSES AND TURNOVER RATES OF COMPARABLE PROPERTIES IN THE AREA.

The following tables give a description of the comparable properties in the area.

Comparable Two Bedroom Units						
Projects	Units	Living Area	Rent Range	Vacancies	V Rate	Turnover/Yr
Kamakee Vista	136	720	735-930	2	1.5%	6
Kauhale Kakaako	150	755	790-985	4	3.3%	10
Kulana Hale	11	720	886	0	0.0%	2
Punchbowl Homes	58	713	443	0	0.0%	6
Royal Kinau	21	722	725	1	4.8%	6
Tusitala Vista	7	600	738-886	0	0.0%	1
Hale Wai Vistas	126	600	357-587			

As seen, the proposed project is on the low-price side of the affordable rental market. Given that, it should overcome the other alternatives that are offered to households looking for affordable rentals (if there were alternatives).

Note: the operating expenses for most of these projects were unavailable for publication.

The marketplace within which 'market rate properties' compete is comprised of very few large unit rental properties and a great many small unit properties. Relative to other US urban center, this is unique and has to do with a number of things, including the visitor industry and the nature of the urbanization (or the lack thereof) on Oahu.

As short a while ago as 40 years, Oahu was primarily an agrarian economy, at least in terms of the dispersion of population near the plantation areas. As such, there was no real urban core around which people lived. Thus, there is no real core area with lots of large condominiums. The main area for that was in Waikiki, and that targeted short-term visitors. The rest of condominium development was small-scale, due to this dispersion, due to the rugged topography of the valleys and ridges on Oahu, due to the lack of capital for building large projects, and due to the lack of land for development (leasehold system).

As such, the rental marketplace for market rate properties is highly fragmented, and contains a great many 10-20 unit two-story 'walk-ups' (no elevator necessary, due to the limitation to two stories).

The import of this, relative to this study, is that there are no easily found comparable projects to examine. There are no large operators to call and survey for their rents, vacancy rates, operating expenses and turnover rates. Indeed, all those who were surveyed would not divulge anything more than the asking rent (most were agents, and a few were owners fearful I was a competitor).

As such, the analysis of this market segment is based on very thin information. It is our impression that there are very few comparables to what the proposed project is building. As such, we believe there will be little or no interference from the market-rate (non-subsidized) sector of the rental marketplace.

As a matter of interest, we did do an analysis of the rental market using advertised listings in the classified section of the major newspaper, The Honolulu Advertiser. This analysis follows.

This survey was completed at the end of April, this year, and for all Oahu, it shows these rental offerings in terms of whether they were Furnished, Partly Furnished, or Unfurnished. The market looks like the following:

2 BEDROOM RENTAL AVAILABLES, ALL OAHU OPEN MARKET

Furnished?	Open Units	Ave Rent	Minimum Rent	Maximum Rent
Furn	10	$2,909	$1,699	$4,250
Part Furn	111	$1,720	$900	$3,900
Unfurnished	80	$1,549	$900	$2,700
Grand Total	201	$1,705	$900	$4,250

The next two tables show the sub-markets, for all Central, Leeward and West Oahu, then just for the Waianae area.

2 BEDROOM RENTAL AVAILABLES, LEEWARD/WEST MARKET

Furnished?	Open Units	Ave Rent	Minimum Rent	Maximum Rent
Part Furn	33	$1,422	$900	$1,900
Unfurnished	83	$1,532	$900	$2,700
Grand Total	116	$1,504	$900	$2,700

2 BEDROOM RENTAL AVAILABLES, WAIANAE MARKET

Furnished?	Open Units	Ave Rent	Minimum Rent	Maximum Rent
Part Furn	6	$1,146	$1,000	$1,325
Unfurnished	4	$988	$905	$1,095
Grand Total	10	$1,089	$905	$1,325

In sum, there is no competitive interference from the open market for this project's two bedroom units.

In terms of the three bedroom market, we did a similar analysis, and arrived at a similar conclusion, as seen below:

3 BEDROOM RENTAL AVAILABLES, ALL OAHU OPEN MARKET

Furnished?	Open Units	Ave Rent	Minimum Rent	Maximum Rent
Furn	12	$2,225	$1,510	$2,810
Part Furn	28	$2,175	$1,505	$2,910
Unfurnished	6	$2,000	$1,400	$2,800
Grand Total	41	$2,189	$1,505	$2,910

3 BEDROOM RENTAL AVAILABLES, LEEWARD OPEN MARKET

Furnished?	Open Units	Ave Rent	Minimum Rent	Maximum Rent
Furn	1	$1,510	$1,510	$1,510
Part Furn	22	$2,050	$1,550	$2,850
Unfurnished	1	$1,900	$1,900	$1,900
Grand Total	24	$2,038	$1,510	$2,840

3 BEDROOM RENTAL AVAILABLES, WAIANAE MARKET

Furnished?	Open Units	Ave Rent	Minimum Rent	Maximum Rent
Unfurnished	1	$1,700	$1,700	$1,700
Grand Total	1	$1,700	$1,700	$1,700

XVII. PROPOSED PROJECTS IN THE MARKET AREAS

PROJECTED NEW INVENTORY: There are almost no new projects that are being built that compete directly with this project.

SUMMARY: In sum, we do not foresee any interference to an expeditious rent-out of the project coming from a comparable project.

XIX. MARKET ACCEPTANCE COMMENTARY & ABSORBTION FORECAST

Given that there are almost no material changes in the market relative to this target market, we are inclined to stick with our forecast made for the original phases one and two for this project. and that is that we foresee that this project will receive a sufficient number of rental applications to be able to achieve 100% occupancy within the first six months of availability. We support this forecast with further evidence that the demand side of the rental market is strong and will continue strong for the next 2-3 years (baring any external shocks to the local or world economy, and to the local real estate market). The global economy is poised to grow at a consistently high rate in the next 1-2 years, which is key to Hawaii's economy going forward.

On the supply side, we see continued tightening in the market rate rental market. We also see almost no new construction targeting this market segment, the affordable rental market for families looking for a residence suitable for aging-in-place. There are a very few projects targeting affordable for-sale housing, but even they are meeting with community resistence in their neighborhood. Finally, we point to the zero vacancies and the long waiting lists at the existing comparable projects that subsidize the rents for low-income households.

Thus, we see a level of current demand that is well above and beyond the current supply.

Requested exemptions

Waianae Sustainable Communities Plan

The proposed family affordable rental housing will require the following exemptions from the Waianae Sustainable Communities Plan:

1. Section 2.2 (Page 2-2) relating to "We are a rural community."

2. Section 2.7.3 "Country Town and Village Centers" states that the Country Town Centers "...should also contain some clustered housing units, including second-story housing units above ground-level commercial space. Structures should be one and two stories in height." The proposed structures would exceed the recommendation that the residences be two stories.

3. Section 3.8.2, "Land Use Policies and Guidelines" states that the principal land use policies includes "No increase in lands designated for residential use."

4. Section 3.8.3.1 "Height of Residential Structures" states that residential building heights should generally not exceed two stories or 30 feet, including the roof form, .." Two of the proposed structures will exceed this recommended height.

5. Section 3.10.3.3 (page 3-45) relating to two-story structures; housing types of town homes, duplex units, and cluster single-family homes; high-rise and midrise apartment buildings not appropriate; and density of about 10 units per acre.

Land Use Ordinance

1. Exemption from Land Use Ordinance ("LUO") Section 21-3.70-1(a) and Table 21-3, relating to permitted uses and structures, to allow a multi-family dwelling in the B-2 Community Business District.

2. Exemption from LUO Section 21-3.70-1(b) and Table 21-3.2, relating to height, to allow the main roof line of the structure to exceed the 40 foot height limit by about 20 feet and one inch.

3. Exemption from LUO Section 21-4.70(b), related to parking lot landscaping.

Fees

The applicant will be seeking an exemption from the following fees:

Application Fees

1. Exemption from Section 6-41.1, Revised Ordinances of Honolulu ("ROH"), relating to fees for applications under Chapter 21, Land Use Ordinance, to allow exemption from the $300 fee for a conditional use permit application for joint development of Tax Map Keys 9-4-17: 53 and 54.

2. Exemption from Section 18-6.2, ROH, to allow exemption from the fees for building permits.

3. Exemption from Section 18-6.1, ROH, to allow exemption from the fees for plan review.

4. Exemption from Section 22-1.1, ROH, to allow exemption from fees for subdivision applications (for the proposed sewer easement).

5. Exemption from Section 14-12.12, ROH, to allow exemption from fees from storm drain connection fees.

Infrastructure Fees and Charges

1. Exemption from Section 14-14.4, ROH, to allow exemption from the fees for grading and grubbing permits.

2. Exemption from Section 14-12.12(f), ROH, to allow exemption from the private storm drain connection license fee.

3. Deferral of payment of wastewater system facility charges and Board of Water Supply water system facilities charges until funding of a construction loan is available.

Park Dedication

1. Exemption from Chapter 22, Article 7, ROH, to allow exemption from the Park Dedication requirements and permit process.

mpi Environmental

July 31, 2007

Mr. Gary Furuta
GSF, Inc.
1177 Queen Street, #1202
Honolulu, Hawaii 96813

RE: Future Hale Wai Vista, 86-78 Farrington Highway, Waianae, Hawaii 96792
Adjacent Property Propane AST ASD's
MPI Project Number: 7E006

Dear Mr. Furuta,

In accordance with your request, Mid Pacific Industries, LLC (MPI) is pleased to provide the results of our reconnaissance of the surrounding sites to the proposed future Hale Wai Vista located at 86-78 Farrington Highway, Waianae, Hawaii 96792, TMK: (1):8-6-001:055 (the Property). This reconnaissance was performed to locate propane aboveground storage tanks (AST's) on adjacent properties and to determine their size and distance from the property.

The size of the AST was determined by information provided by the owner/operator or through field measurement and use of the Greer Tank Volume Calculator. Distance was calculated using a scaled aerial photograph and field measurement. The information was applied to the HUD Environmental Standards, Siting of HUD Assisted Projects near Hazardous Operations, 24 CFR 51 C.

Propane is considered a hazardous gas under this standard. HUD has acceptable separation distances (ASD's) established for these types of AST's for blast over pressure, people, and buildings in the event of an explosion or fire. The ASD calculations were made using Appendix II to 24 CFR 51 Subpart C – Development of Standards; Calculation Methods. The results are presented in the table below:

Location	AST Size	Distance	Blast ASD	Fire Width	People ASD	Building ASD
Cathay	500 Gallon	300'	230'	70'	300'	55'
City Mill	3,000 Gallon	300'	**310'**	110'	**440'**	85'
Waianae Mall	(2) 3,200 Gallon	660'	400'	160'	600'	120'
Pizza Hut	500 Gallon	1,033'	230'	70'	300'	55'

Notes: Bold distances indicate the Property distance is too close to the AST to comply with the standard.

This assessment indicates that the propane AST's located at Cathay Restaurant, Waianae Mall, and Pizza Hut; comply with the Blast and Fire ASD's. The AST located at City Mill does not meet the direct ASD's for Blast and People exposure. However, the AST is located on the southeast side of the City Mill Building. The Property is located 300 feet north and west of the

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AST. The Building is of concrete/masonry construction and is approximately 24 feet high. This should provide a mitigating measure as outlined in section 51.205 of the standard. The Property appears to be located in an area that meets HUD's ASD's for the propane AST's in the vicinity.

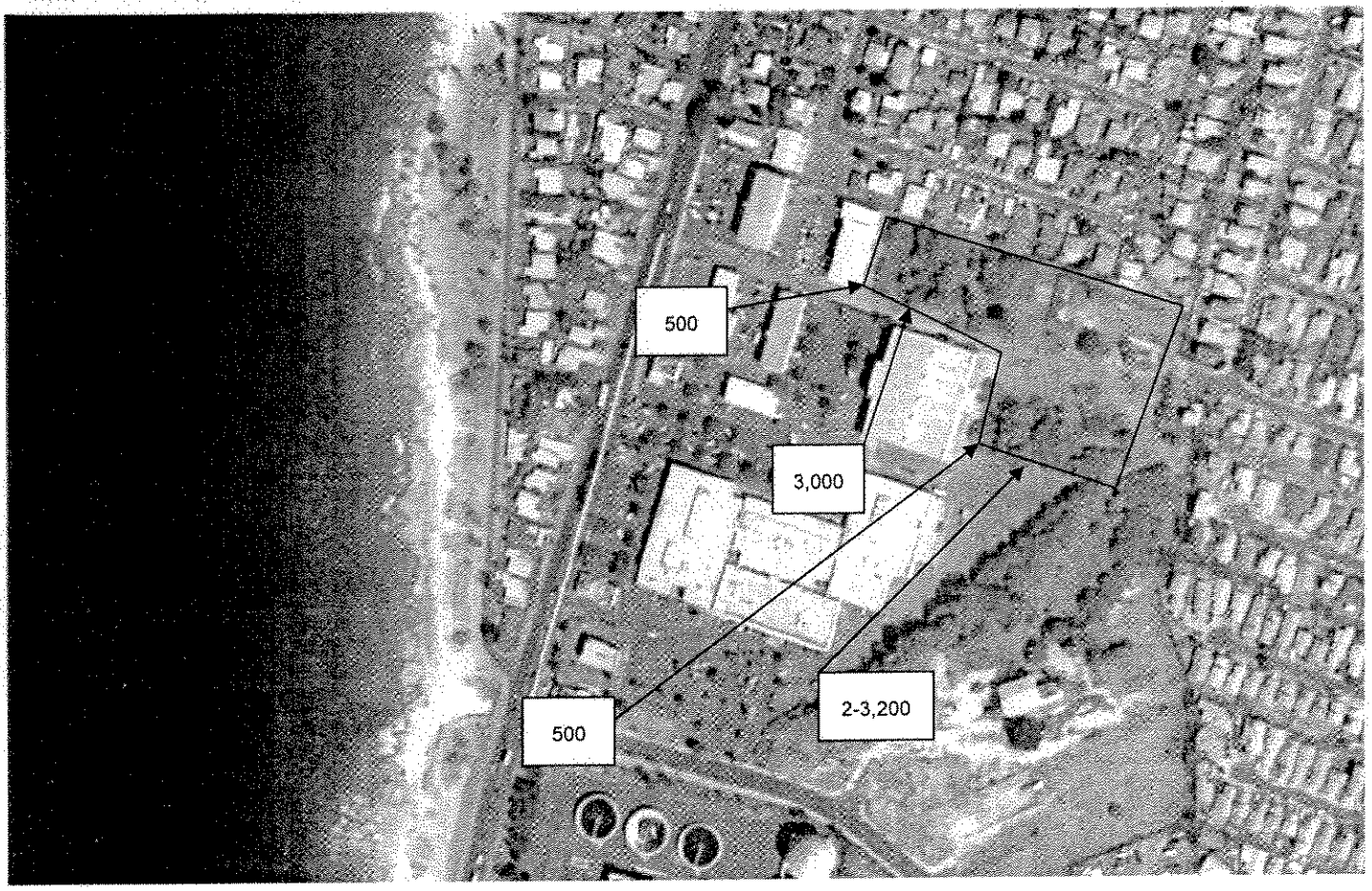
We appreciate the opportunity to provide environmental services to GSF, Inc. If you have any questions concerning this report please contact me at (808)536-3038. I have also forwarded a copy of this letter to Mr. Ernest Molins of HUD for his review and comment.

Sincerely,

MID PACIFIC INDUSTRIES, LLC

Michael Polkinghorn PG
Principal Manager

ATTACHMENT: Aerial Photograph



NOTES: Boxes indicate approximate location of tanks. Blue lines are the approximate distances to the site. The site is outlined in blue.

Propane AST's	**DRAWING NOT TO SCALE** N↗ Source: Google Earth
mpi Environmental	**Site Name:** 86-78 Farrington Highway Waianae, Hawaii 96792 **Project Number:** 7E006

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mpi Environmental

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Vacant Parcel / Future Hale Wai Vista
86-78 Farrington Highway
TMK: (1) 8-6-001: 035
Waianae, Hawaii 96792

Date Issued: June 6, 2006

MPI Project Number 6E004

PREPARED FOR:

Mr. Patrick Inouye

Central Pacific Bank

220 South King Street, Suite 2000

Honolulu, Hawaii 96813

mpi Environmental

June 6, 2006

Mr. Patrick Inouye
Central Pacific Bank
220 South King Street, Suite 2000
Honolulu, Hawaii 96813

RE: Hale Wai Vista Phase I Environmental Site Assessment Report
Vacant Parcel, 86-78 Farrington Highway, Waianae, Hawaii 96792
TMK: (1):8-6-001:055
MPI Project Number: 6E004

Dear Mr. Inouye,

Mid Pacific Industries, LLC (MPI) is pleased to provide the results of our Phase I Environmental Site Assessment of the vacant parcel (proposed future Hale Wai Vista) located at 86-78 Farrington Highway, Waianae, Hawaii 96792. This assessment was authorized and performed in general accordance with the requirements of ASTM Standard E 1527-05.

This assessment included a site reconnaissance as well as research and interviews with representatives of the public, property management, and regulatory agencies. An assessment was made, conclusions stated, and recommendations outlined.

We appreciate the opportunity to provide environmental services to GSF, Inc. and Central Pacific Bank. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (808)536-3038.

Sincerely,

MID PACIFIC INDUSTRIES, LLC

Michael Polkinghorn PG
Principle Manager

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EXECUTIVE SUMMARY

Mid Pacific Industries, LLC (MPI) has performed a Phase I Environmental Site Assessment (ESA) in general accordance with ASTM 1527-05 for the Vacant Parcel located 86-78 Farrington Highway, Waianae, Hawaii 96792 TMK: (1) 8-6-001:035 (the "Property"). The Property consists of 5 acres of land that is currently undeveloped. The site has signs of a former building foundation on it in the northeast corner.

The Phase I ESA is designed to provide GSF, Inc. and Central Pacific Bank with an assessment concerning environmental conditions (limited to those issues identified in the report) as they exist at the Property. This assessment was conducted utilizing generally accepted ESA industry standards in accordance with ASTM E 1527-05, Standard Practice for ESAs: Phase I ESA Process.

The Property is situated within a commercial/residential area in Waianae, Hawaii. The Property is bound to the north by residential single family homes, Hoaha Street, and more residential homes; to the east by residential homes; to the south by the Waianae Mall Parking Lot, vacant land, and the Waianae Mall; and to the west by City Mill in the Waianae Mall area some structures used by Leeward Community College, a small commercial center, a restaurant and a gasoline filling station. Based upon topographic map interpretation and site observations, groundwater flow beneath the Property is inferred to be in a southwestern direction, toward the ocean.

MPI obtained and reviewed a database report from Environmental Data Resources for the Property and the surrounding area. Based on the database report, no sites were identified as potential concerns to the Property. MPI did identify three (3) SHWS (State CERCLIS) sites and two (2) LUST sites located within the prescribed search radii. All of the sites identified were either cross or down-gradient, are located a significant distance from the Property, and/or were of a case closed status and therefore unlikely to affect conditions at the Property.

The footprint of the former warehouse on the northeast side of the property is apparent. Historical records indicate that at one time a vehicular repair facility was located here. No signs of subsurface structures or soil contamination were noted at the time of the site reconnaissance.

Conclusions

MPI has performed a Phase I ESA of the vacant parcel at Parcel located 86-78 Farrington Highway, Waianae, Hawaii 96792 TMK: (1) 8-6-001:035 in conformance with the scope and limitations of ASTM Practice E 1527-05. Any exceptions to or deletions from this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of Recognized Environmental Conditions in connection with the Property.

Recommendations

Based on the findings of this ESA, MPI recommends that any grading or subsurface infrastructure installation work be monitored to determine if any subsurface structures or signs of contamination are present in the area of the former warehouse building. If signs of structures or contamination are present, call MPI to evaluate. No obvious signs of contamination or subsurface structures were present at the time of the inspection.

1.0 INTRODUCTION

Mid Pacific Industries, LLC (MPI) was retained by GSF, Inc. and Central Pacific Bank to conduct a Phase I Environmental Site Assessment (ESA) of the Vacant Parcel located Parcel located 86-78 Farrington Highway, Waianae, Hawaii 96792 TMK: (1) 8-6-001:035 (the "Property"). The protocol used for this assessment is in general conformance with ASTM E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

On April 17, 2006, Michael Polkinghorn a representative of MPI, conducted a site reconnaissance to assess the possible presence of petroleum products and hazardous materials at the Property. MPI's investigation also included review of aerial photos, reconnaissance of adjacent properties, background research, and review of available local, state, and federal regulatory records regarding the presence of petroleum products and/or hazardous materials at the Property.

MPI contracted Environmental Data Resources Inc. (EDR) of Milford, Connecticut, to perform a computer database search for local, state, and Federal regulatory records pertaining to environmental concerns for the Property and properties in the vicinity of the Property (see Section 3.0).

1.1 Purpose and Scope of Services

This Phase I Environmental Site Assessment (ESA) was performed to determine if the site is subject to recognized environmental conditions (as defined by ASTM Standard E-1527-05) in connection with the Property. As used in this ESA, the phrase "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

MPI understands that the findings of this study will be used by GSF, Inc. and Central Pacific Bank to evaluate a pending financial transaction in connection with the Property. GSF, Inc. and Central Pacific Bank will construct the Hale Wai Vista upon the site with final approvals. The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E 1527-05. MPI warrants that the findings and conclusions contained herein were accomplished in accordance with the methodologies set forth in the Scope of Work. These methodologies are described as representing good commercial and customary practice for conducting an ESA of a property for the purpose of identifying recognized environmental conditions.

The assessment included records review, interviews and reconnaissance to evaluate whether such conditions exist in connection with the property. The protocol utilized for this Phase I ESA was in general accordance with the requirements of ASTM Standard E 1527-05 as specified in the assessment contract. This report includes documentation to support the analysis, opinions and conclusions as presented. Authorization to perform this assessment was in accordance with MPI Proposal 6014 dated April 21, 2006.

No other warranties are implied or expressed.

1.2 Assumptions

There is a possibility that even with the proper application of these methodologies there may exist on the Property conditions that could not be identified within the scope of the

assessment or which were not reasonably identifiable from the available information. MPI believes that the information obtained from the record review and the interviews concerning the site is reliable. However, MPI cannot and does not warrant or guarantee that the information provided by these other sources is accurate or complete. The methodologies of this assessment are not intended to produce all inclusive or comprehensive results, but rather to provide GSF, Inc. and Central Pacific Bank with information relating to the Property.

1.3 Limitations and Exceptions

The findings and conclusions contain all of the limitations inherent in these methodologies that are referred to in ASTM 1527-05. No specific limitations and exceptions to this ESA were encountered.

1.4 General Conditions

The work performed is governed by the Signed Proposal. The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. The conclusions presented in the report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed-upon services or the time and budgeting restraints imposed by the client. No subsurface exploratory drilling or sampling was done under the scope of this work. Unless specifically stated otherwise in the report, no chemical analyses have been performed during the course of this ESA.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This is subject to the limitations of historical documentation, availability, and accuracy of pertinent records, and the personal recollections of those persons contacted.

1.5 Reliance

All reports, both verbal and written, are for the benefit of GSF, Inc. and Central Pacific Bank. This report was prepared pursuant to the contract MPI has with GSF, Inc. and Central Pacific Bank. Reliance or any use of this report by anyone other than GSF, Inc. and Central Pacific Bank for whom it was prepared, is prohibited. Reliance or use by any such third party without explicit authorization in the report does not make said third party a third party beneficiary to MPI's contract with GSF, Inc. and Central Pacific Bank Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

This report has no other purpose and may not be relied upon by any other person or entity without the written consent of MPI.

2.0 SITE DESCRIPTION

2.1 User Provided Information

Pursuant to ASTM E 1527-05, MPI requested the following site information from GSF, Inc. (User of this report) and from the site contact.

ITEM	PROVIDED BY USER	NOT PROVIDED BY USER	DISCUSSED BELOW	DOES NOT APPLY
2.1.1 Pre-survey Questionnaire				X
2.1.2 Title Search		X		
2.1.3 Environmental Liens or Activity and Use Limitation		X		
2.1.4 Specialized Knowledge		X		
2.1.5 Valuation Reduction for Environmental Issues		X		
2.1.6 Identification of Key Site Manager	X			
2.1.7 Reason for Performing Phase 1 ESA	Yes See Section 1.1			
2.1.8 Prior Environmental Reports	X			
2.1.9 Other				X

2.2 Location and Legal Description

The project is located adjacent to the northeast corner of the Waianae Mall, on the Island of Oahu, Hawaii. According to the City and County of Honolulu County Real Property Tax Office the address for the Property is 86-78 Farrington Highway. The tax map key (TMK) for the Property is:

TMK (1) 8-6-001:035

According to the Honolulu County Tax Assessor's office, the Property is currently owned by Wama Enterprises.

2.3 Site and Vicinity General Characteristics

The Property currently consists of 1 parcel and is approximately 5 acres in size. Access to the Property is provided from an access road located on the west side of the property from Farrington Highway. Access to the site may also be made from the Waianae Mall Parking lot on the south side of the property. The parcel has sparse vegetation growing upon it. It appeared to have been recently cleared and grubbed. Signs of a former building footprint are apparent on the northeast side of the Property. No other structures or significant surface features were noted on the Property at the time of the reconnaissance.

The Property is situated within a commercial/residential area in Waianae, Hawaii. The Property is bound to the north by residential single family homes, Hoaha Street, and more residential homes; to the east by residential homes; to the south by the Waianae Mall Parking Lot, vacant land, and the Waianae Mall; and to the west by City Mill, some structures used by Leeward Community College, a small commercial center, a restaurant and a gasoline filling station. Based upon topographic map interpretation and site

observations, groundwater flow beneath the Property is inferred to be in a southwestern direction, toward the ocean.

2.4 Current Use of the Property

According to the City and County of Honolulu, the Property is zoned Commercial. Currently, the Property is undeveloped.

2.5 Description of Site Improvements

The Property currently consists of one parcel irregular in shape and approximately 5 acres in size. The Property is vacant and was recently cleared and grubbed at the time of the site inspection. Evidence of a former building foundation is apparent on the northeast side of the site. No other buildings or site improvements of significance were present at the Property.

2.6 Current Use of Adjoining Properties

During the vicinity reconnaissance, MPI observed the following land use on properties in the immediate vicinity of the Property.

North: The Property is bound to the north by residential single family homes, Hoaha Street, and more residential homes.

South Areas immediately south of the Property include south by the Waianae Mall Parking Lot, vacant land, and the Waianae Mall.

East: Areas immediately east of the Property consist of residential homes.

West: West of the Property is developed by the City Mill, some structures used by Leeward Community College, a small commercial center, a restaurant, and a gasoline filling station.

3.0 RECORDS REVIEW

3.1 Standard Environmental Record Sources

3.1.1 State and Federal Regulatory Review

Information from standard Federal and state environmental record sources was provided through Environmental Data Resources (EDR). Data from governmental agency lists are updated and integrated into one database, which is updated as these data are released. This integrated database also contains postal service data in order to enhance address matching. Records from one government source are compared to records from another to clarify any address ambiguities. The demographic and geographic information available provides assistance in identifying and managing risk. The accuracy of the geocoded locations is approximately +/-300 feet.

In some cases, location information supplied by the regulatory agencies is insufficient to allow the database companies to geocoded facility locations. These facilities are listed under the unmappables section within the EDR report. A review of the unmappable facilities indicated that none of these facilities are within the ASTM minimum search distance from the Property.

Regulatory information from the following database sources regarding possible recognized environmental conditions, within the ASTM minimum search distance from the Property, was reviewed. Specific facilities are discussed below if determined likely that a potential recognized environmental condition has resulted at the Property from the listed facilities. Please refer to Appendix D for a complete listing.

Federal NPL

The National Priorities List (NPL) is the Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program.

The Property is not listed as a NPL facility. No NPL sites are located within one mile of the Property.

Federal CERCLIS List

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list is a compilation of sites that the EPA has investigated or is currently investigating for a release or threatened release of hazardous substances.

The Property is not listed as a CERCLIS facility. No CERCLIS sites are listed within one-half mile of the Property.

Federal CERCLIS NFRAP Sites List

The CERCLIS No Further Remedial Action Planned (NFRAP) List is a compilation of sites that the EPA has investigated, and has determined that the facility does not pose a threat to human health or the environment, under the CERCLA framework.

The Property is not listed as a CERCLIS-NFRAP facility. No CERCLIS-NFRAP sites are listed adjoining the Property.

Federal Resource Conservation and Recovery Act (RCRA) CORRACTS TSD Facilities List

The EPA Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Treatment, Storage and Disposal (TSD) database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste. The CORRACTS database is the EPA's list of treatment storage or disposal facilities subject to corrective action under RCRA.

The Property is not listed as a RCRA CORRACTS TSD facility. No RCRA CORRACTS TSD facilities are listed within one mile of the Property.

Federal Resource Conservation and Recovery Act (RCRA) Non-CORRACTS TSD Facilities List

The RCRA TSD database is a compilation by the EPA of reporting facilities that treat, store or dispose of hazardous waste.

The Property is not listed as a RCRA-TSD facility. No RCRA TSD sites are listed within one-half mile of the Property.

Federal RCRA Generator List

The RCRA program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Generators database is a compilation by the EPA of reporting facilities that generate hazardous waste.

The Property is not listed as a RCRA facility. Longs Drugs is listed as a conditionally exempt small quantity RCRA Generator facility located at the Waianae Mall. A conditionally exempt small quantity generator produces less that 100 kg of hazardous waste or 1 Kg of acutely toxic hazardous waste per month. This site is not expected to impact the Property.

Federal Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) is a national database used to collect information or reported release of oil or hazardous substances.

No ERNS sites were listed on the Property.

State CERCLIS-Equivalent List

The Hawaii Department of Health maintains a State CERCLIS-equivalent list (SCL) referred to as Solid and Hazard Waste Sites (SHWS) under investigation that could be actually or potentially contaminated and presenting a possible threat to human health and the environment.

The Property is not listed as a State CERCLIS facility. Three SHWS sites are listed within one-half mile of the Property. All of these sites are located down/cross gradient and reasonably too distant from the Property create an impact.

Solid Waste/Landfill Facilities (SWLF)

A database of SWLF is prepared by the State of Hawaii Department of Health.

The Property is not listed as a SWLF facility. No SWLF facilities are listed within one-half mile of the Property.

State Leaking Underground Storage Tank List (LUST)

The State of Hawaii Department of Health compiles lists of all leaks of hazardous substances from underground storage tanks.

The Property is not listed as a LUST facility. Two LUST sites are listed within one-half mile of the Property. Of the 8 sites identified, 6 of the facilities have been granted a case closed status by the governing agency. A case closed status indicates that the responsible party has performed the appropriate remedial actions to satisfy the remedial requirements of the governing agencies and therefore these 6 sites are unlikely to adversely affect conditions at Property. The remaining facilities are located cross to the Property with respect to groundwater flow and/or are at a distance (all in excess of at least 1,200 feet from the Property) rendering the facility as unlikely to affect the Property.

- Larry's Chevron, 86-038 Farrington Highway. - This facility is located approximately 1,232 feet cross and down gradient and north of the property. The facility status for this site is site clean up completed in 2001. MPI believes this site is reasonably too distant (over 1,200 feet) and poses minimal risk to the subsurface soil and groundwater at the Property.
- Waianae Shell, 86-003 Farrington Highway. - This facility is located approximately 1,892 feet down and cross gradient and northwest of the property. A site clean up has been initiated. At this time the site is still undergoing remedial and monitoring operations. MPI believes this site is reasonably too distant (over 1,200 feet) and poses minimal risk to the subsurface soil and groundwater at the Property.

State Underground Storage Tank List (UST)

The State of Hawaii Department of Health compiles a list of UST locations.

The Property is not listed as an UST facility. No registered UST facilities are listed immediately adjacent to the Property.

3.1.2 Local Regulatory Review

3.1.2.1 County Recorder/ Assessor

According the City and County of Honolulu Recorder's Office, no environmentally-related liens or deed restrictions have been recorded against the Property.

3.1.2.2 Fire Officials

Records from City and County of Honolulu Fire Department were requested for review for evidence indicating the presence of USTs and for the use of hazardous materials. We are awaiting a response. This information will be forwarded immediately upon receipt.

3.1.2.3 Building Department

Records from Honolulu Building Department were reviewed for evidence indicating the developmental history of the Property, and for the presence of documentation relative to USTs. No such records were found.

According to the City and County of Honolulu, the Property is zoned for commercial usage.

3.1.2.4 Other Agencies

No other agencies were contacted.

3.2 Physical Setting Sources

3.2.1 Topography

Historical United States Geological Survey (USGS), Waianae Quadrangle, 7.5 minute series topographic maps were reviewed for this Phase I Environmental Site Assessment (ESA). The maps were published by the USGS in 1963, 1983, and 1998.

1963: According to the contour lines on the topographic map, the Property is located at approximately 23 feet above mean sea level (MSL). The contour lines in the area of the Property indicate the area is sloping gently to the west/southwest, toward the ocean. The nearest body of water is the Pacific Ocean approximately ¼ miles to the southwest of the Property. The access roadway from Farrington Highway is shown as a dirt road. A large warehouse structure is located on the northeast portion of the Property. The area immediately adjacent east is all quarry area. No surface waters are depicted as present on or adjacent to the Property, nor are production wells or other significant surface features depicted on the USGS map.

1983: According to the contour lines on the topographic map, the Property is located at approximately 23 feet above mean sea level (MSL). The contour lines in the area of the Property indicate the area is sloping gently to the west/southwest, toward the ocean. The nearest body of water is the Pacific Ocean approximately ¼ miles to the southwest of the Property. The warehouse structure is located on the northeast portion of the Property. The Mall shows up on the south adjacent site. The area immediately adjacent east is all quarry area. No surface waters are depicted as present on or adjacent to the Property, nor are production wells or other significant surface features depicted on the USGS map.

1998: According to the contour lines on the topographic map, the Property is located at approximately 23 feet above mean sea level (MSL). The contour lines in the area of the Property indicate the area is sloping gently to the west/southwest, toward the ocean. The nearest body of water is the Pacific Ocean approximately ¼ miles to the southwest of the Property. The warehouse and quarry areas are gone. Residential housing is depicted to the east. No surface waters are depicted as present on or adjacent to the Property, nor are production wells or other significant surface features depicted on the USGS map.

3.2.2 Soils/Geology

Based on the soil survey maps published by the USDA Soil Conservation Service (1972), the Property is mapped as Mamala Stony Clay (0-12% slopes) on the eastern side (future site) of the site and Mokuleia Clay on the western side (roadway).

The Mamala Stony Clay loam in representative profile has a surface layer consisting of a dark reddish brown stony clay loam approximately 8 inches thick. Stones on the surface layer are mostly coral rock fragments. Below is a dark reddish brown silty clay loam approximately 11 inches thick. The soil is underlain by coral limestone and consolidated calcareous sand up to 20 inches in depth.

The soil is mildly alkaline with moderate permeability. Runoff is slow to medium, and the erosion hazard is slight.

The Mokuleia Clay has a representative profile the surface layer is very dark grayish-brown clay loam about 16 inches thick. The next layer, 34 to more than 48 inches thick, is dark-brown and light-gray, single-grain sand and loamy sand. The surface layer is neutral in reaction, and the underlying material is moderately alkaline. Permeability is moderate in the surface is slow. Runoff is very slow, and the erosion hazard is no more than slight. The available water capacity is about 1.8 inches per foot in the surface layer and about 1.0 inches per foot in the subsoil. In places roots penetrate to a depth of 5 feet or more. Workability is difficult because of the sticky, plastic clay. This soil is used for sugarcane and pasture.

The Island of Oahu consists of two extinct shield volcanoes, Waianae and Koolau. Waianae, the older volcano, forms the western approximately one third of the Island. Koolau is believed to have been active after Waianae became extinct. Koolau forms the eastern two thirds of Oahu. The project site is located in an area dominated by stream and lagoonal deposits which overly the volcanic formations.

3.2.3 Hydrology

According to Technical Report Number 179 "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii" prepared by the Water Resources Research Center, University of Hawaii the Property is located in the Makaha Aquifer system which is part of the Waianae Aquifer sector. The system includes an unconfined basal aquifer where fresh water is in contact with seawater and the water in is in the upper surface of the saturated aquifer in sedimentary (nonvolcanic) lithology. The groundwater is currently used however it is considered neither a drinking water source or ecologically important. The groundwater contains moderate salinity (1,000 to 5,000 mg/Cl-) and is replaceable with a high vulnerability to contamination. This aquifer is underlain by a confined aquifer or unconfined aquifer with indistinguishable compartments. Ground water in this aquifer is considered of potential use, it is neither considered a drinking source or ecologically important, moderate salinity (1,000 to 5,000 mg/Cl-), is considered replaceable with a low vulnerability to contamination.

The nearest surface water in the vicinity of the Property is the Pacific Ocean located approximately ¼ mile west southwest of the Property. No settling ponds, lagoons, surface impoundments, wetlands or natural catch basins were observed at the Property during this investigation.

3.2.4 Flood Zone Information

A review of the Flood Insurance Rate Maps, published by the Federal Emergency Management Agency, was performed. According to Panel Number 1500010100C, the Property is located in the 500 year Flood Zone.

3.3 Historical Use Information

Based on the review of reasonable ascertainable historical information, from 1949 (or earlier) the area was used as a quarry operation. A large warehouse structure is noted to

be present on the site from 1949 through the 1990's. The surrounding area began urban development in the 1970's. It appears the quarry operations halted in the 1970's and the area was used a commercially as a vehicle service center through the 1990's. The structure was removed from the site in the mid to late 1990's and has remained non developed since that time.

3.3.1 Aerial Photographs

Available aerial photographs dated 1949, 1970, 1977, 1988, 1982, 1992, and 2000 from R.M. Towill Corporation were reviewed for this ESA. The photographs are discussed below:

Date: 1949
Scale: 7200'
Photo I.D. No.: R.M. Towill 83-3
Description: The 1949 aerial photograph depicts the Property as what appears to be a quarry operation. A large warehouse structure is located on the northeast side of the site. The surrounding areas are undeveloped.

Date: 1970
Scale: 8,500'
Photo ID: R.M. Towill 5346-2
Description: The 1970 aerial photograph depicts the Property as above. Several dirt roads are noted running across the site in various directions. Housing developments to the north are apparent.

Date: 1977
Scale: 12,200'
Photo ID: R.M. Towill 7320-5
Description: The 1977 aerial photograph depicts the Property as above. The surrounding area appears to be developed with the City Mill Building and the Waianae Mall. The structures along the sites access roadway now used by the restaurant and Leeward Community College are present.

Date: 1988
Scale: 6,100'
Photo ID: R.M. Towill 8528-49
Description: The 1988 aerial photograph depicts the Property as above. Several vehicles appear to be parked on the vacant area south of the warehouse. Housing development is apparent to then east of the site.

Date: 1992
Scale: 6,400"
Photo ID: R.M. Towill 8835-75
Description: The 1992 aerial photograph depicts the Property and surrounding area with conditions representative of those observed in the 1988 aerial photograph.

Date: 2000
Scale: 8,200'
Photo ID: R.M. Towill 9097-42

Description: The 2000 aerial photograph depicts the Property as undeveloped. The warehouse structure is gone and the area appears to be overgrown with vegetation. The Waianae Mall has several new buildings located on its site location. The surrounding area has conditions representative of those observed in the 1992 aerial photograph.

No recognized environmental conditions are evident on the Property in the photographs reviewed.

3.3.2 Fire Insurance Maps

EDR has no Sanborn Fire Insurance map coverage for this area. A copy of the no coverage letter is found in the appendix.

3.3.3 City Directories

Historical City directories were not available for the site.

3.3.4 Chain of Title

A 50-year chain-of-title was not provided for this study. Historical use of the Property was researched using other standard historical sources.

3.3.5 Additional Environmental Record Sources

A previous report, Phase 1 Environmental Site Assessment Waianae Mall Property, February 15, 2005, written by Clayton Group Services for the site and surrounding areas indicated the potential for soil contamination based upon visual observations and historical usage as a vehicular service center. They recommended that soil testing be performed to determine if subsurface structures exist in this area or if soil contamination is present.

During our site reconnaissance, no signs of subsurface structures (other than the former building footprint) or surface contamination were present. During site operations involving subsurface infrastructure installation, grading, or foundation construction, it is recommended that the soils be monitored for buried structures and/or for signs of contamination.

3.3.6 Historical Use Information on Adjoining Properties

By review of the standard historical sources referenced above, the historical uses of the adjoining properties are summarized below:

North: North of the Property appears to have been undeveloped up to or around the mid 1950's when residential housing appears to began development. No indications of recognized environmental conditions were noted.

South: South of the Property appears to have been undeveloped up to or around the mid 1970's when the mall structures began appearing. No indications of recognized environmental conditions were noted.

East: East of the Property has been used as quarry land from 1949 (or earlier) until the 1980's. In the 1980's the area was developed for residential housing. No indications of recognized environmental conditions were noted.

West: Historically, west of the Property appears to have been undeveloped up to or around the mid 1970's when the commercial structures appear to have began development. An automobile filling station also shows up in this area in the 1970"s. This area is down gradient and at a substantial distance from the Property. No indications of recognized environmental conditions were noted.

4.0 SITE RECONNAISSANCE

The Property was inspected by Michael Polkinghorn on April 17, 2006. The weather at the time of the site visit was clear and sunny. The site was open and readily accessed.

4.1 General Site Characteristics

4.1.1 Solid Waste Disposal

There is currently no waste disposal service operating at the site at this time. There were no large amounts of trash or debris on the site and no indication of hazardous material disposal was noted during MPI's reconnaissance.

4.1.2 Surface Water Drainage

Surface water appears to drain in a west southwestward direction across the site. Storm drains are located in various locations along curbs and in landscaped areas on the adjacent parcels, which discharge to the municipal stormwater management system.

4.1.3 Wells and Cisterns

No aboveground evidence of wells or cisterns was observed during the site reconnaissance.

4.1.4 Wastewater

No indications of industrial wastewater disposal or treatment facilities were observed during the on-site reconnaissance.

4.1.5 Additional Site Observations

The footprint of the former warehouse on the northeast side of the property is apparent. No signs of subsurface structures were noted at the time of inspection. Bedrock outcrops are present at the northeast corner of the site. It is recommended that during any grading or subsurface infrastructure installation the area be monitored for subsurface structures or signs of soil contamination. Additionally the southwest area has remnants of and asphalt parking lot or asphalt remnants have been dumped there. This material may require removal depending upon the specific site usage.

4.2 Potential Environmental Conditions

4.2.1 Hazardous Materials and Petroleum Products Used or Stored at the Site

No evidence of the use of hazardous materials or wastes was observed on the Property.

4.2.1.1 Unlabeled Containers and Drums

No unlabeled containers or drums were observed during the site reconnaissance.

4.2.1.2 Disposal Locations of Regulated/ Hazardous Waste

No obvious indications of hazardous waste generation, storage or disposal were observed on the Property or were indicated during interviews.

4.2.2 Evidence of Releases

No obvious indications of hazardous materials or petroleum product releases, such as stained areas or stressed vegetation, were observed during the site reconnaissance. During interviews with Peter Yanagawa (current owner site contact) he was unaware of any existing environmental conditions at the site.

4.2.3 Polychlorinated Biphenyls (PCBs)

Older transformers and other electrical equipment could contain polychlorinated biphenyls (PCBs) at a level that subjects them to regulation by the U.S. EPA. PCBs in electrical equipment are controlled by United States Environmental Protection Agency regulations 40 CFR, Part 761. Under the regulations, there are three categories into which electrical equipment can be classified:

- Less than 50 parts per million (PPM) of PCBs -- "Non-PCB" transformer
- 50 ppm-500 ppm – "PCB-Contaminated" electrical equipment
- Greater than 500 ppm – "PCB" transformer

According to Hawaiian Electric Company (owner of the transformers servicing the area) no PCB containing transformers are in the area.

4.2.4 Landfills

No evidence of on-site landfilling was observed or reported during the site reconnaissance.

4.2.5 Pits, Ponds, Lagoons, Sumps, and Catch Basins

No evidence of pits, ponds, lagoons, sumps or catch basins, other than used for stormwater removal, was observed or reported during the site reconnaissance.

4.2.6 On-Site ASTs and USTs

No evidence of aboveground or underground storage tanks was observed during the site reconnaissance or reported during interviews.

4.2.7 Radiological Hazards

No radiological substances or equipment was observed or reported stored on the Property.

4.2.8 Drinking Water

The Property is connected to the city water supply provided by City and County of Honolulu Board of Water Supply. According to Safe Drinking Water Branch representative, the drinking water supplied to the site is within state and Federal standards, including lead and copper.

4.2.9 Additional Hazard Observations

No additional hazards were observed on the Property.

4.2.10 Asbestos-Containing Materials (ACM)

Not applicable.

4.2.11 Radon

The US EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building

codes. The map divides the country into three Radon Zones; Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action limit of 4.0 PicoCuries per Liter (pCi/L). It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones implies the Property in Zone 3, where average predicted radon levels are less than 2.0 pCi/L.

4.2.12 Lead-Based Paint

Not applicable.

5.0 INTERVIEWS

Instructions as to the location of the property, an explanation of the property, and access to the site were provided by Mr. Gary Furuta. Interviews were conducted with persons as noted in the following table. Pertinent information reported by the interviewed parties is discussed in appropriate sections of the report. Interviews were conducted with the following individuals.

NAME	FUNCTION	EMPLOYER	DATE	CONTACT
Gary Furuta	Site Representative	GSF, Inc. and Central Pacific Bank	4-17-06	(808) 429-7815
Findings: Mr. Furuta explained the previous use of the site and provided access. He also informed us of the intended future development.				
Peter Yanagawa	Owner Contact	PY Inc.	5-14-06	(808) 330-6895
Findings: Informed us that Gentry Pacific Corporation formerly owned the site. He further stated he did not know of any outstanding environmental issues and that the site had recently been cleared and grubbed by the owner.				
Edgar Gamiao	Aerial photography contact	RM Towill Corporation	5-3-06	In person
Findings: See section 3.3.1				
Receptionist	DOH HEER Office	DOH HEER Office	5-3-06	(808) 586-4249
Findings: No records available for the site.				
Kenneth Silva	Fire Dept. Chief	CCH Fire Department	4-21-06	Letter
Findings: Pending.				
Andrew Keith	PCB Transformer Status	Hawaiian Electric, Company	4-19-06	Letter
Findings: Transformers in the area are non PCB containing.				

6.0 FINDINGS AND CONCLUSIONS

6.1 Findings

6.1.1 On-Site Environmental Conditions

No on-site environmental conditions were identified that were considered likely to impact the Property.

6.1.2 Off-Site Environmental Conditions

No off-site environmental conditions were identified that were considered likely to impact the Property.

6.1.3 Previously Resolved Environmental Conditions

No historical recognized environmental conditions were identified in connection with the Property during the course of this assessment.

6.1.4 *De Minimis* Environmental Conditions

No *de minimis* environmental conditions were identified in connection with the Property during the course of this assessment.

6.2 Opinion

No on site, off site, previous resolved environmental conditions, or *de minimis* environmental conditions were identified in connection with the Property during the course of this assessment.

6.3 Conclusions

MPI has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-05 of the future Hale Wai Vista Site. Any exceptions to or deletions from this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Property.

6.4 Recommendations

Based on the findings of this ESA, MPI recommends that any grading or subsurface infrastructure installation work be monitored to determine if any subsurface structures or signs of contamination are present in the area of the former warehouse building. If signs of structures or contamination are present, call MPI to evaluate. No obvious signs of contamination or subsurface structures were present at the time of the inspection.

6.5 Deviations

This Phase I ESA substantially complies with the scope of services and ASTM 1527-05, as amended, except for exceptions and/or limiting conditions as discussed in Section 1.3.

7.0 REFERENCES

Reports, Plans and Other Documents Reviewed:

EDR Radius database report

Radon information EPA website

Historical and Description - www.honolulupropertytax.com

USGS - 7.5 Minute Topographic Quadrangle of Waianae, HI, 1998.

Volcanoes in the Sea, MacDonald, Abbott, Peterson, University of Hawaii Press, 2nd Edition 1986

Technical Report Number 179 "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii" prepared by the Water Resources Research Center, University of Hawaii 1990.

R.M. Towill Corporation – Aerial Photo Review, Edgar Gamiao (808) 843-1122

Phase 1 Environmental Site Assessment, Waianae Mall Property, Clayton Group Services, February 15, 2005.

Agencies Contacted:

State of Hawaii Department of Health, Solids and Hazardous Waste Branch, RCRA, LUST, and UST files.

State of Hawaii Department of Health, Hazard Evaluation and Emergency Response Office.

City and County of Honolulu Real Property Tax Office.

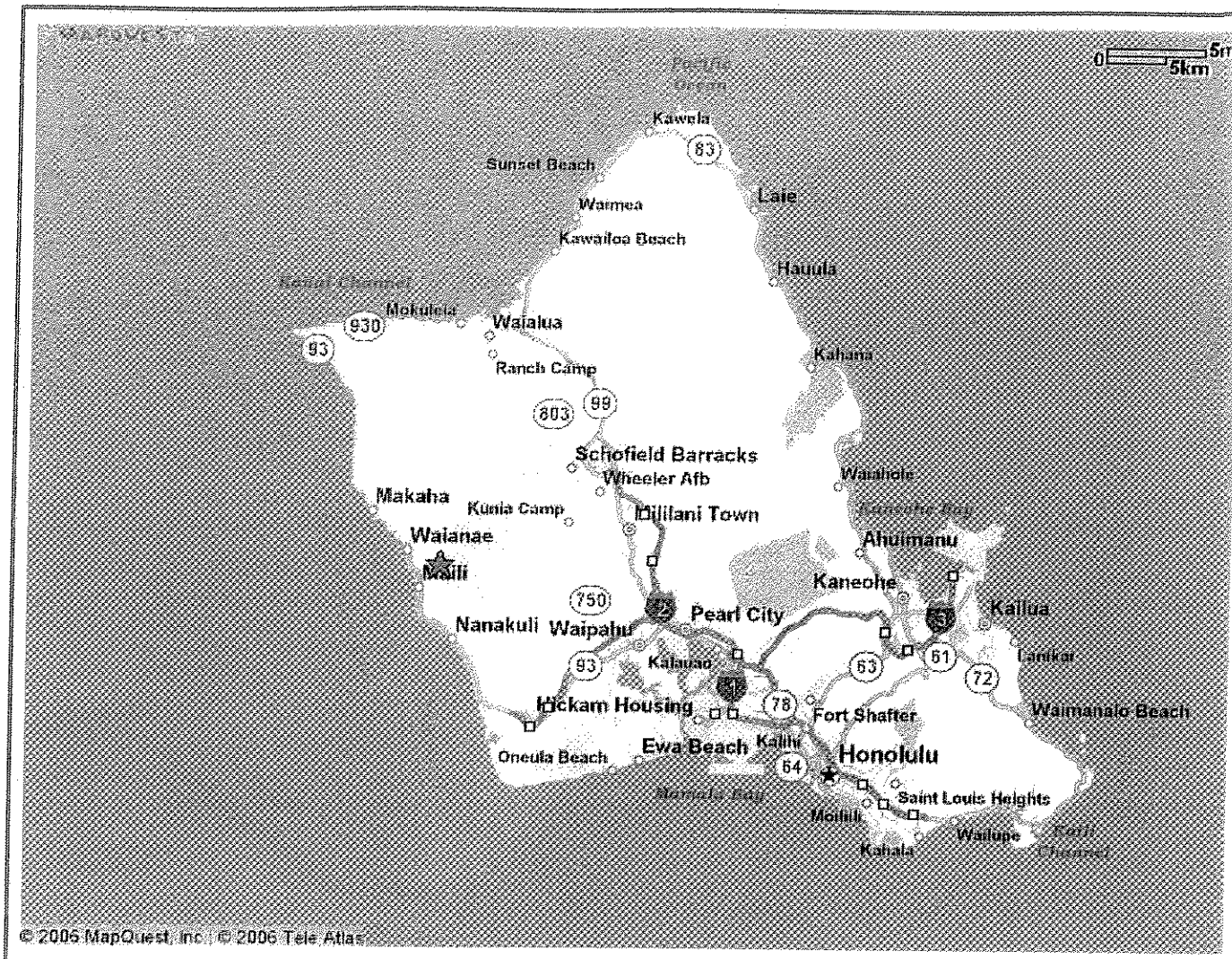
City and County of Honolulu Building Department

City and County of Honolulu Fire Department

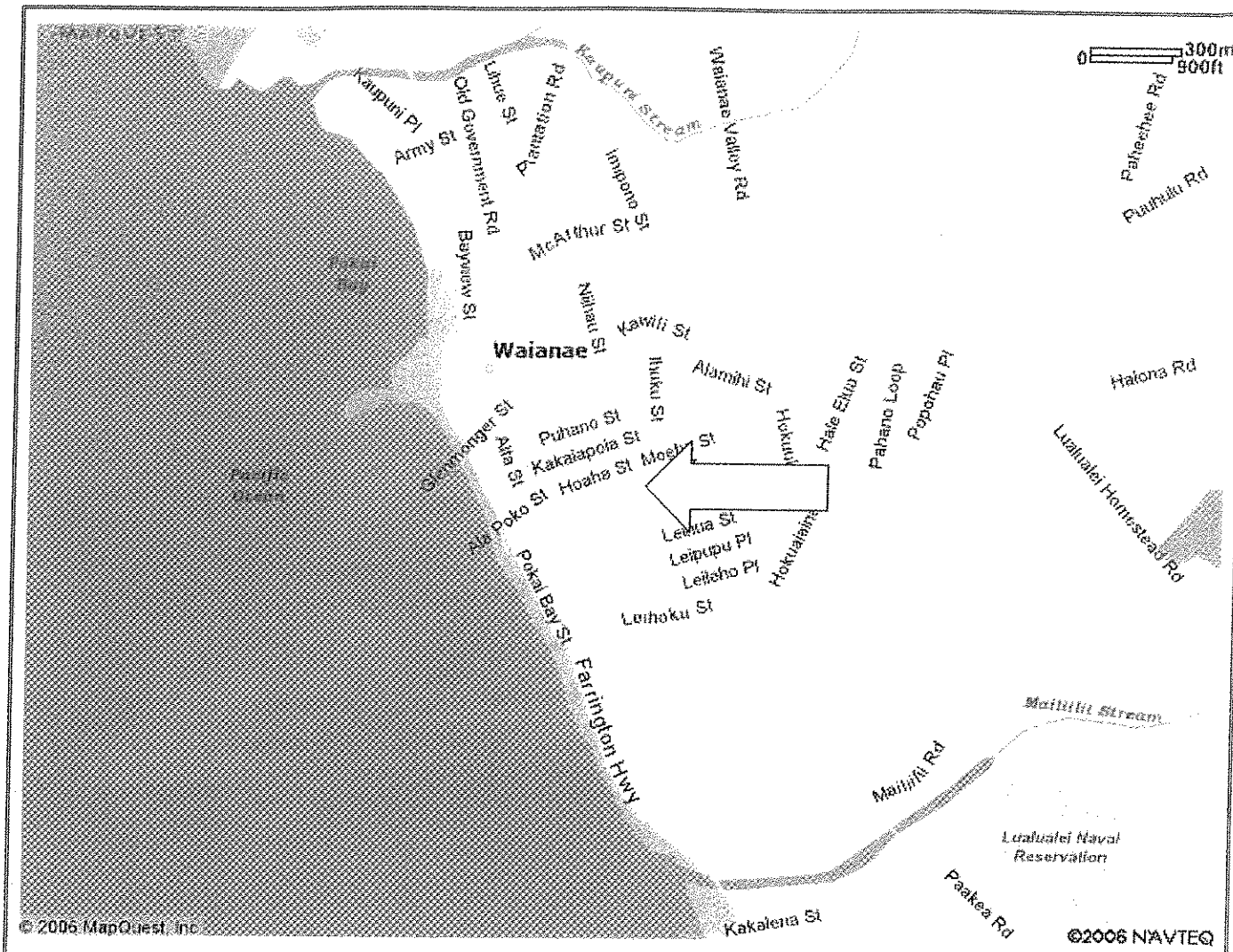
Hawaiian Electric Company

APPENDIX A

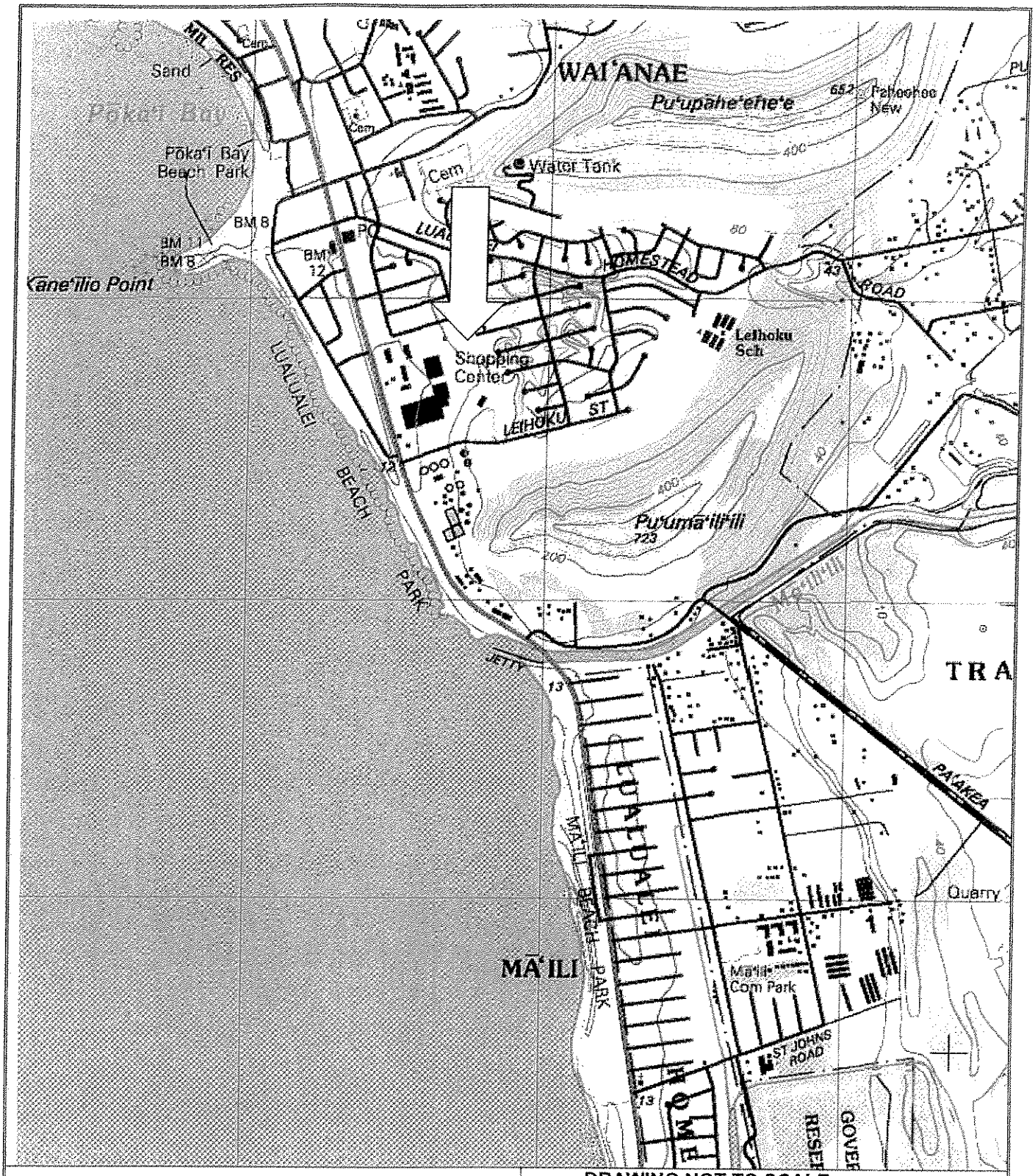
SITE VICINITY MAP
SITE PLAN
SITE TOPOGRAPHIC MAP



VICINITY MAP 1	DRAWING NOT TO SCALE Source: Mapquest **N↑**
mpi Environmental	**Site Name:** 86-78 Farrington Highway Waianae, Hawaii 96792 **Project Number:** 6E004



VICINITY MAP 2	**DRAWING NOT TO SCALE** N↑ Source: Mapquest
mpi Environmental	**Site Name:** 86-78 Farrington Highway Waianae, Hawaii 96792 **Project Number:** 6E004



TOPOGRAPHIC MAP

DRAWING NOT TO SCALE

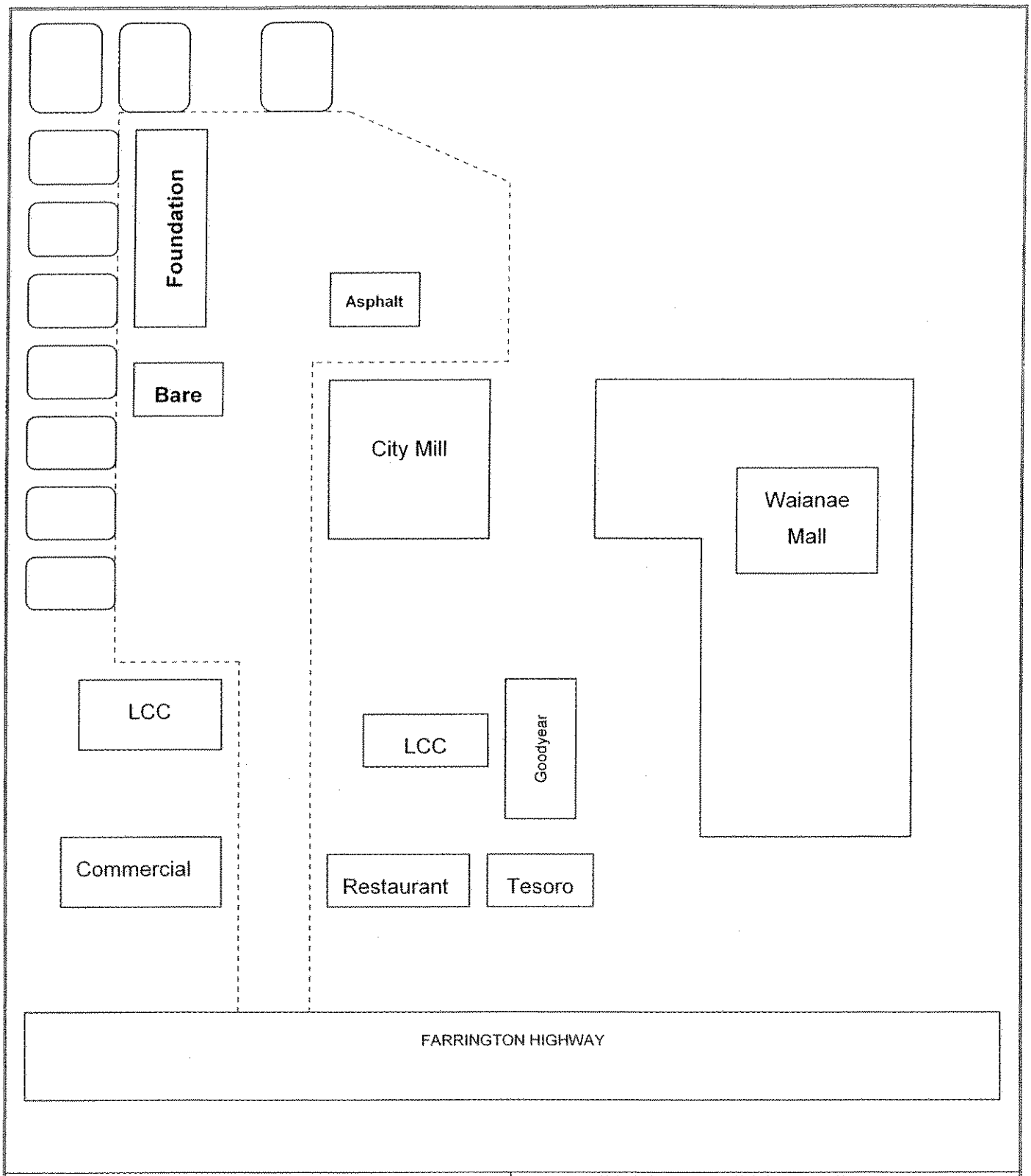
Source: USGS 7.5 Minute Topographic Map
Waianae, Hawaii Quadrangle 1998

N↑

mpi Environmental

Site Name: 86-78 Farrington Highway
Waianae, Hawaii 96792

Project Number: 6E004



SITE PLAN

DRAWING NOT TO SCALE

N

mpi Environmental

Site Name:	**86-78 Farrington Highway Waianae, Hawaii 96792**
Project Number:	**6E004**

APPENDIX B

FIRE INSURANCE MAPS

EDR® Environmental Data Resources Inc

"Linking Technology with Tradition"®

Sanborn® Map Report

Ship To: Michael Polkinghorn
MPI, LLC
P.O. Box 3673
Honolulu, HI 96811

Order Date: 4/28/2006 **Completion Date:** 4/28/2006
Inquiry #: 1664477.8
P.O. #: 6E004
Site Name: Hale Wai Vista
Address: Farrington Highway
City/State: Waianae, HI 96792
Cross Streets:

Customer Project: Hale Wai Vista
013167BRU 808-536-3038

This document reports that the largest and most complete collection of Sanborn fire insurance maps has been reviewed based on client supplied information, and fire insurance maps depicting the target property at the specified address were not identified.

NO COVERAGE

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT MITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA ESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF AMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts garding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide formation regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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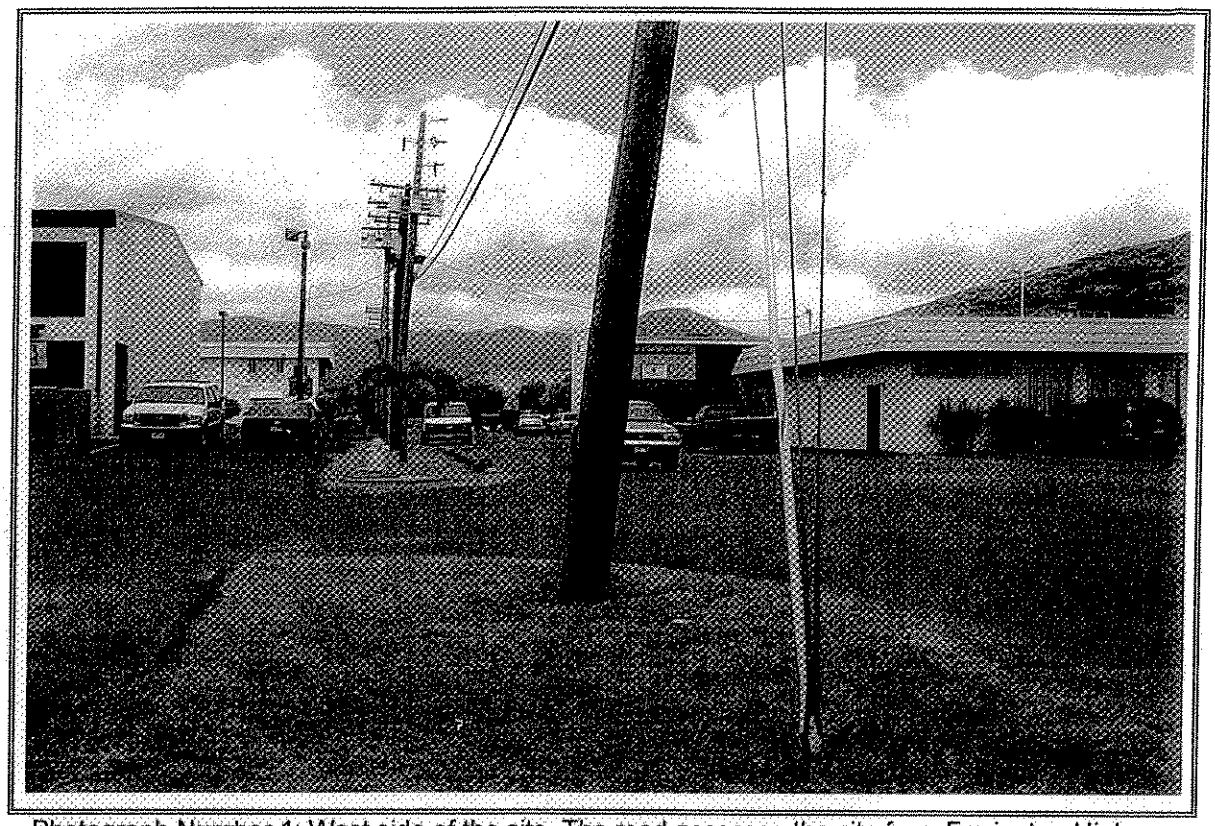
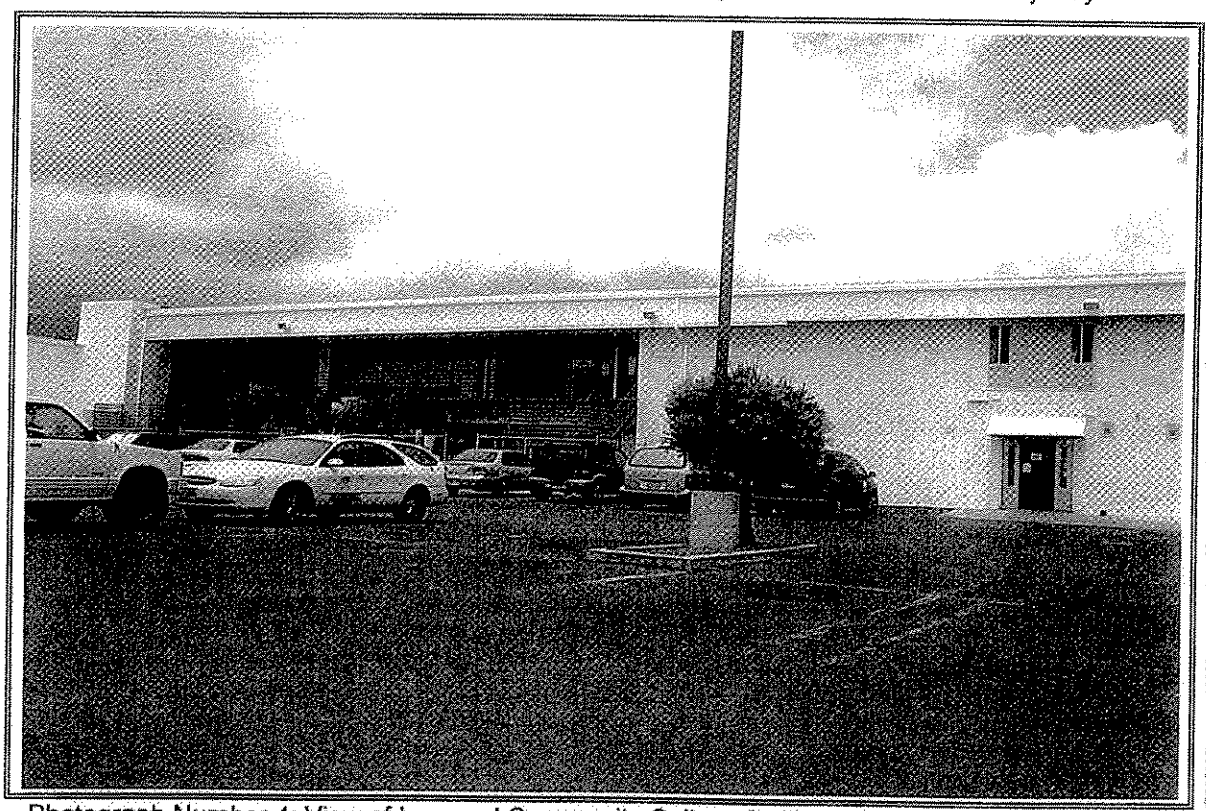
APPENDIX C
SITE PHOTOGRAPHS



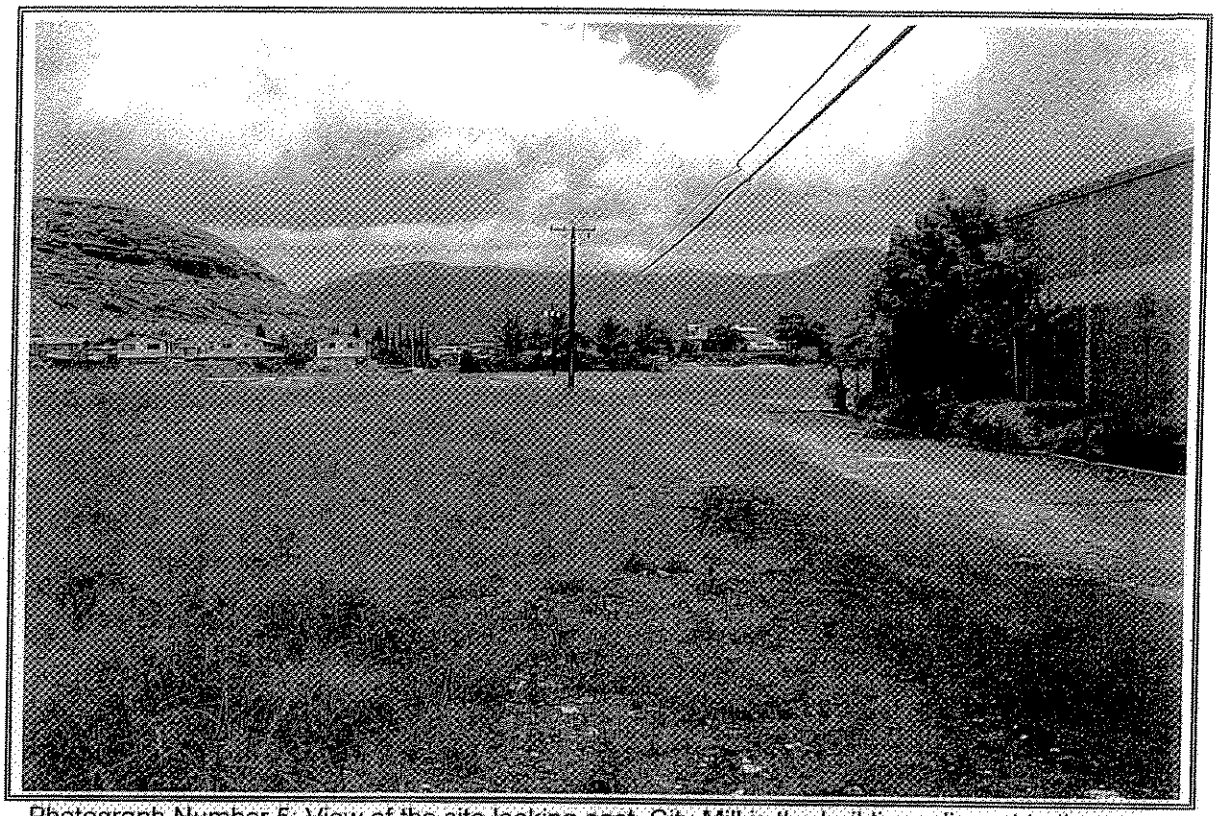
Photograph Number 1: West side of the site. The road accesses the site from Farrington Highway yard. View from Farrington Highway looking east.

Photograph Number 2: View of the small commercial center at the entrance to the site. View looking north.

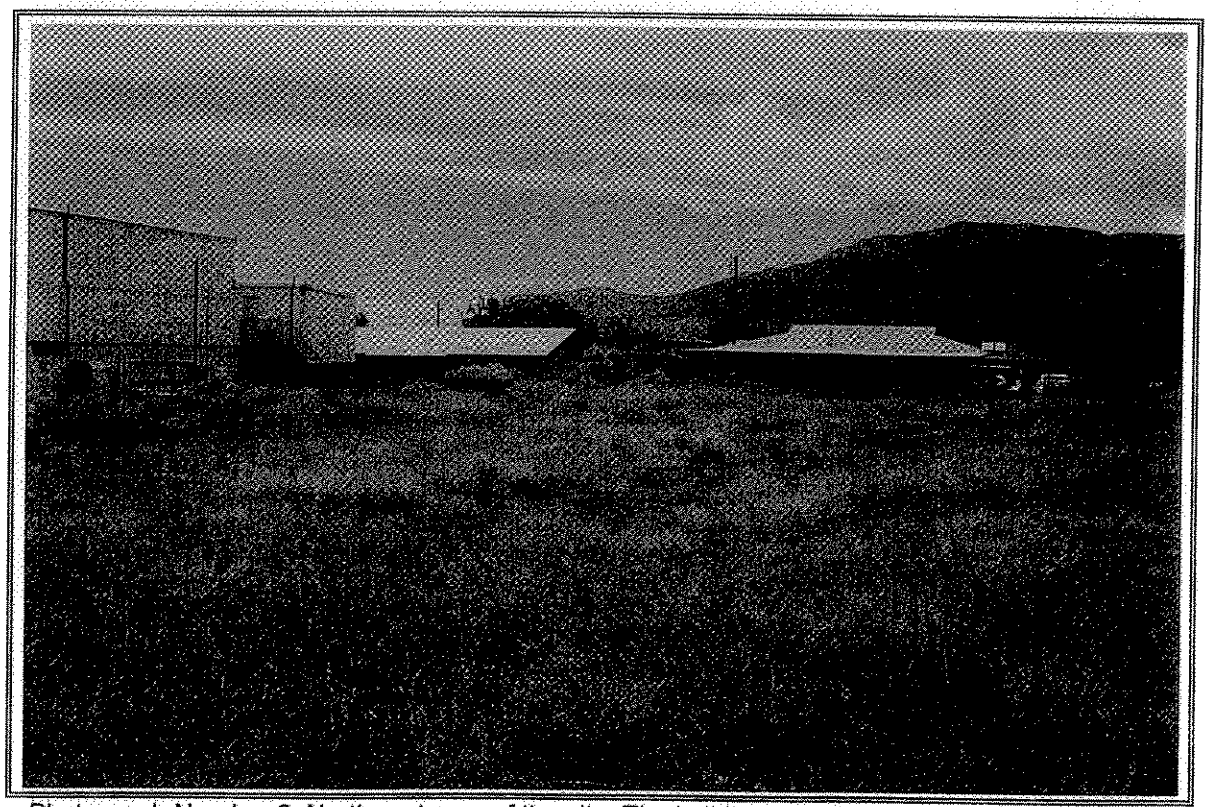
Photograph Number 3: Leeward Community College along the south side of the entry way.



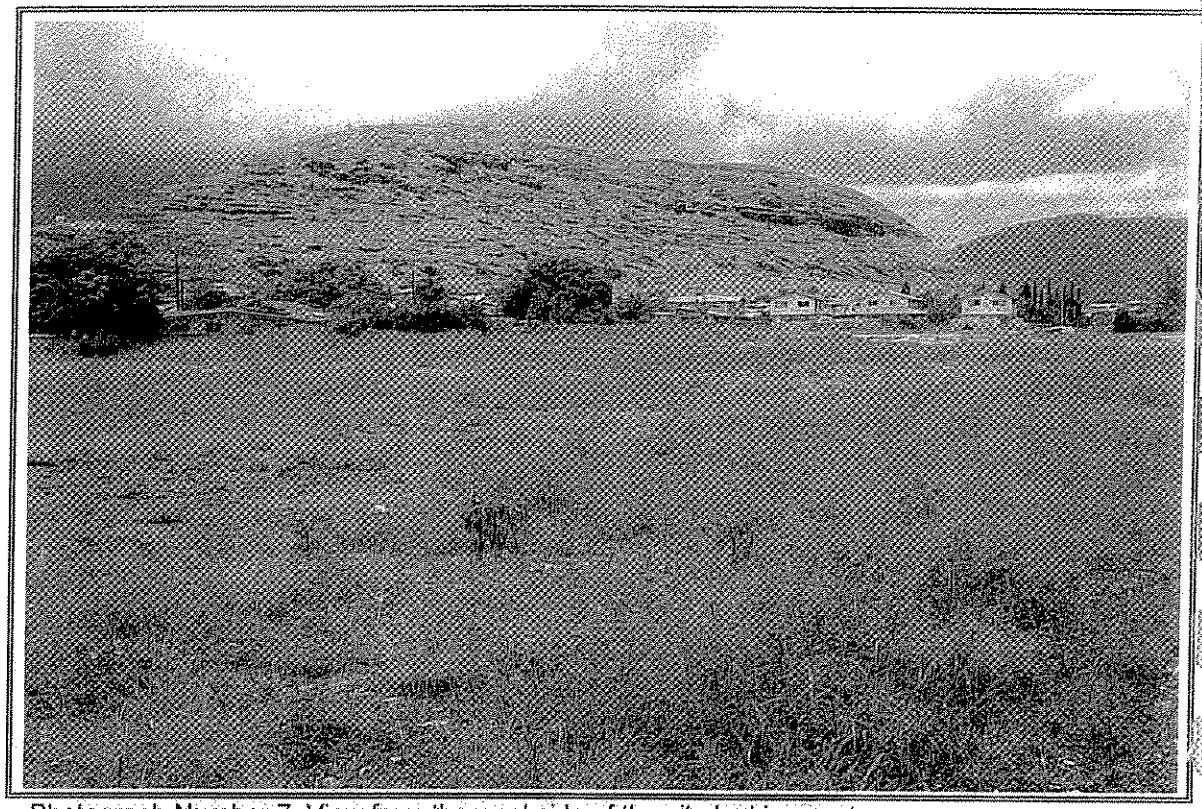
Photograph Number 4: View of Leeward Community College facility along the north side of the entryway.



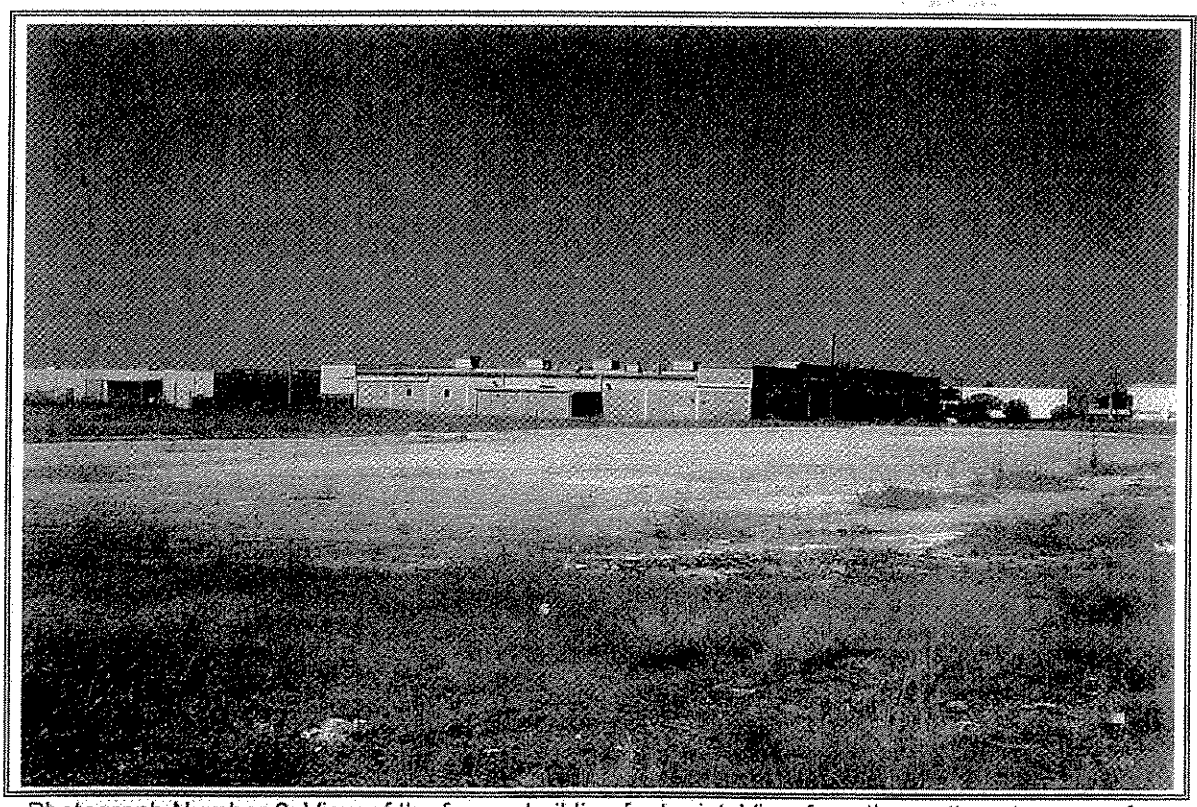
Photograph Number 5: View of the site looking east. City Mill is the building adjacent to the entryway on the right.



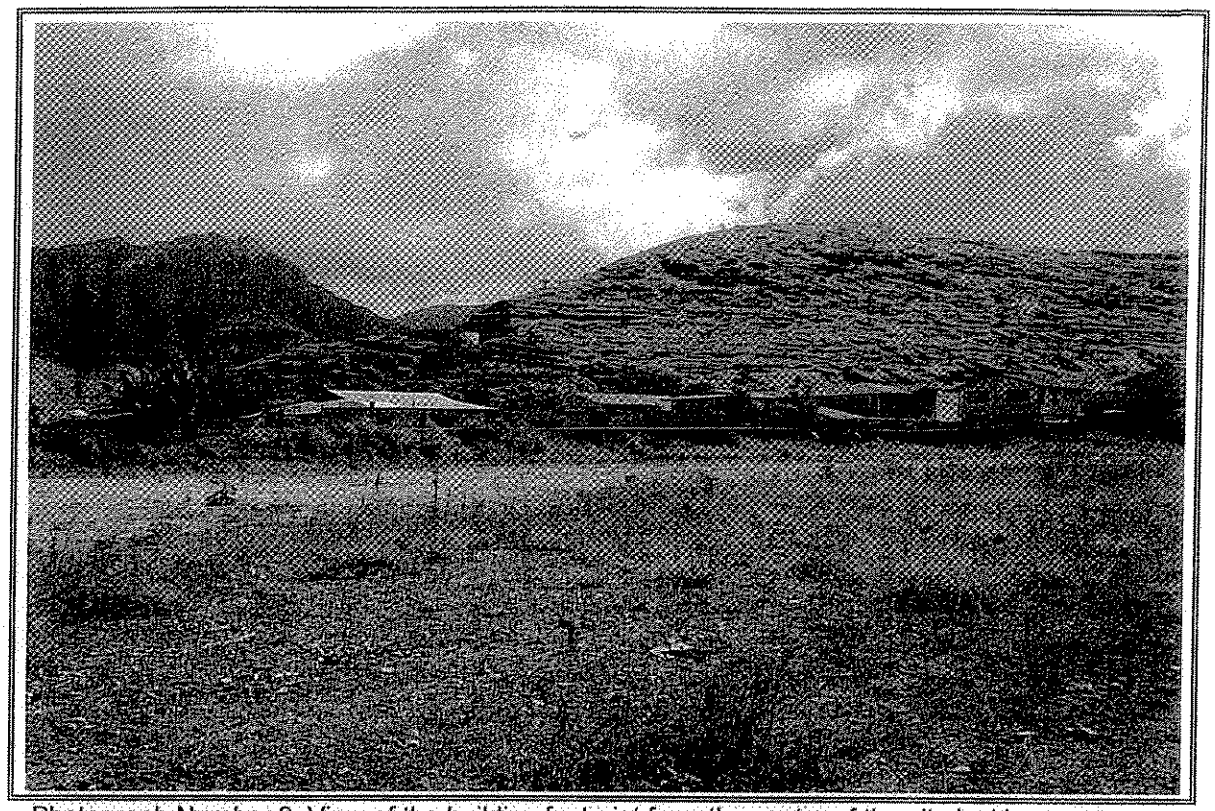
Photograph Number 6: Northwest area of the site. The buildings are the back of the LCC building.



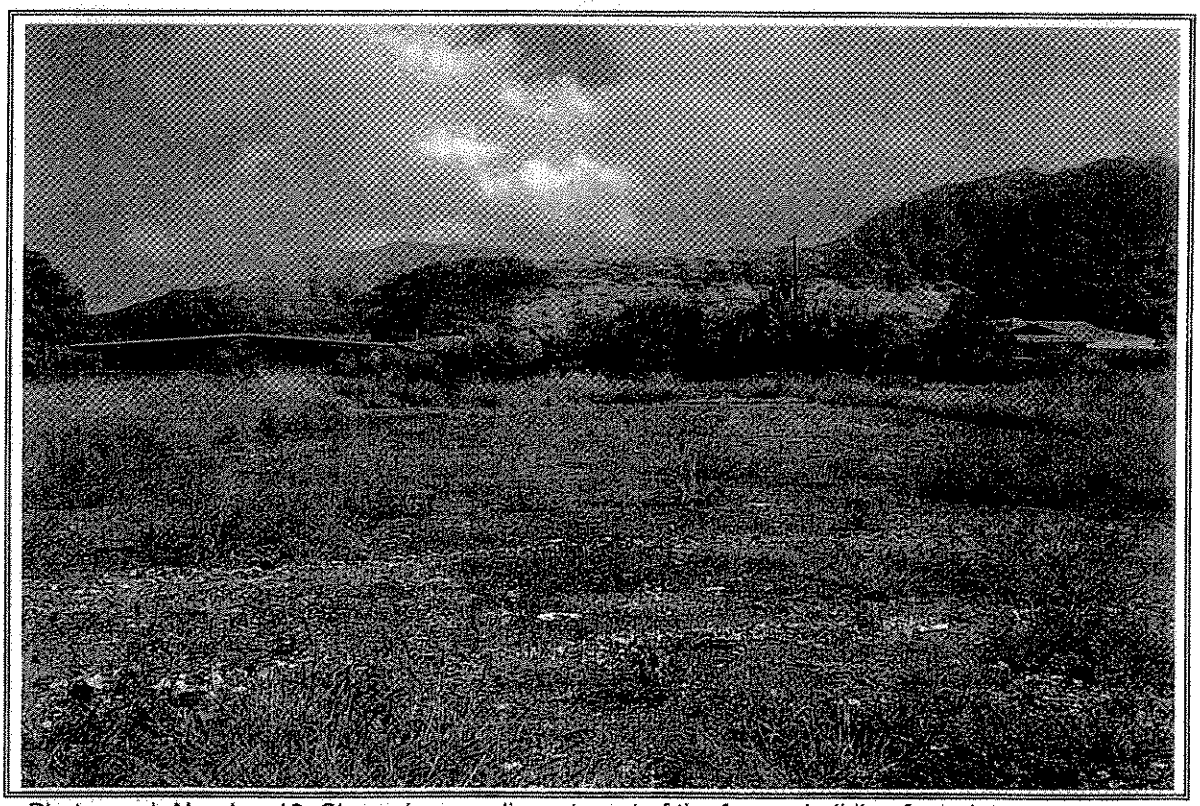
Photograph Number 7: View from the west side of the site looking east.



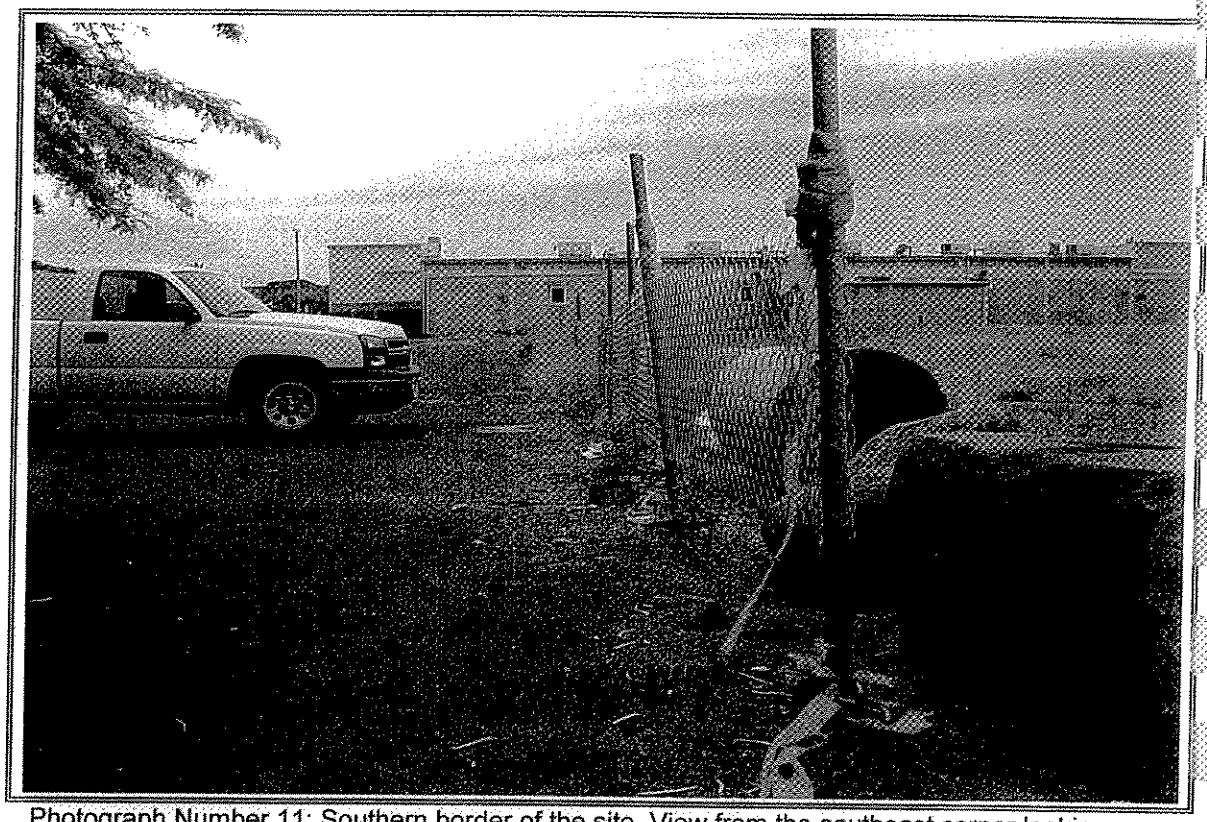
Photograph Number 8: View of the former building foot print. View from the northeast corner of the site looking southwest.



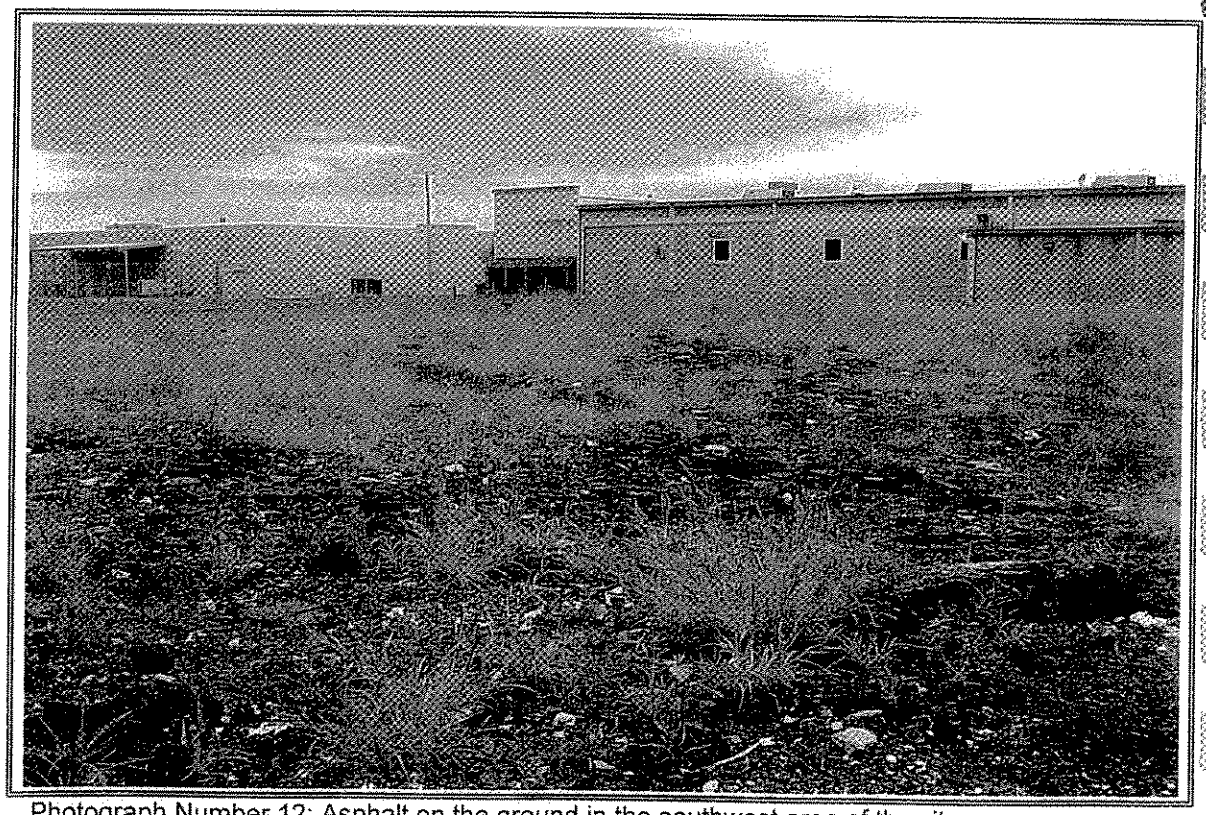
Photograph Number 9: View of the building footprint from the center of the site looking west.



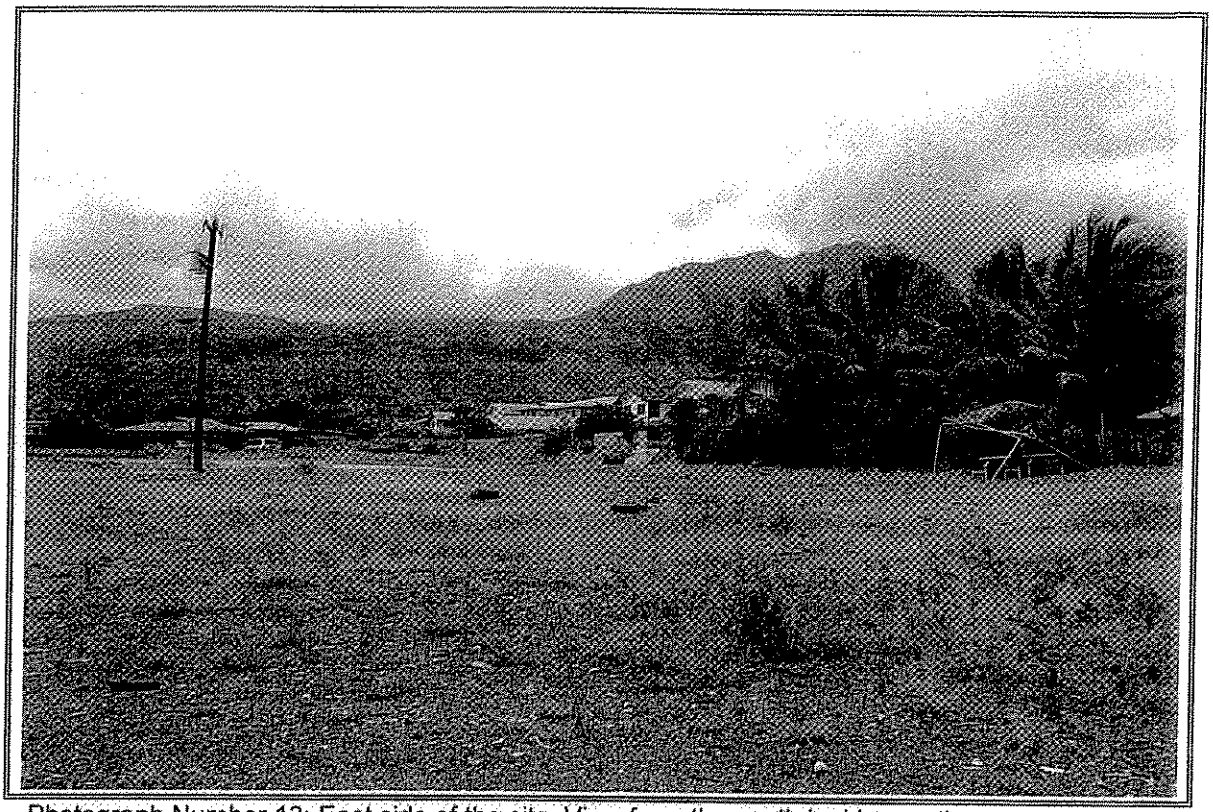
Photograph Number 10: Cleared area adjacent west of the former building footprint.



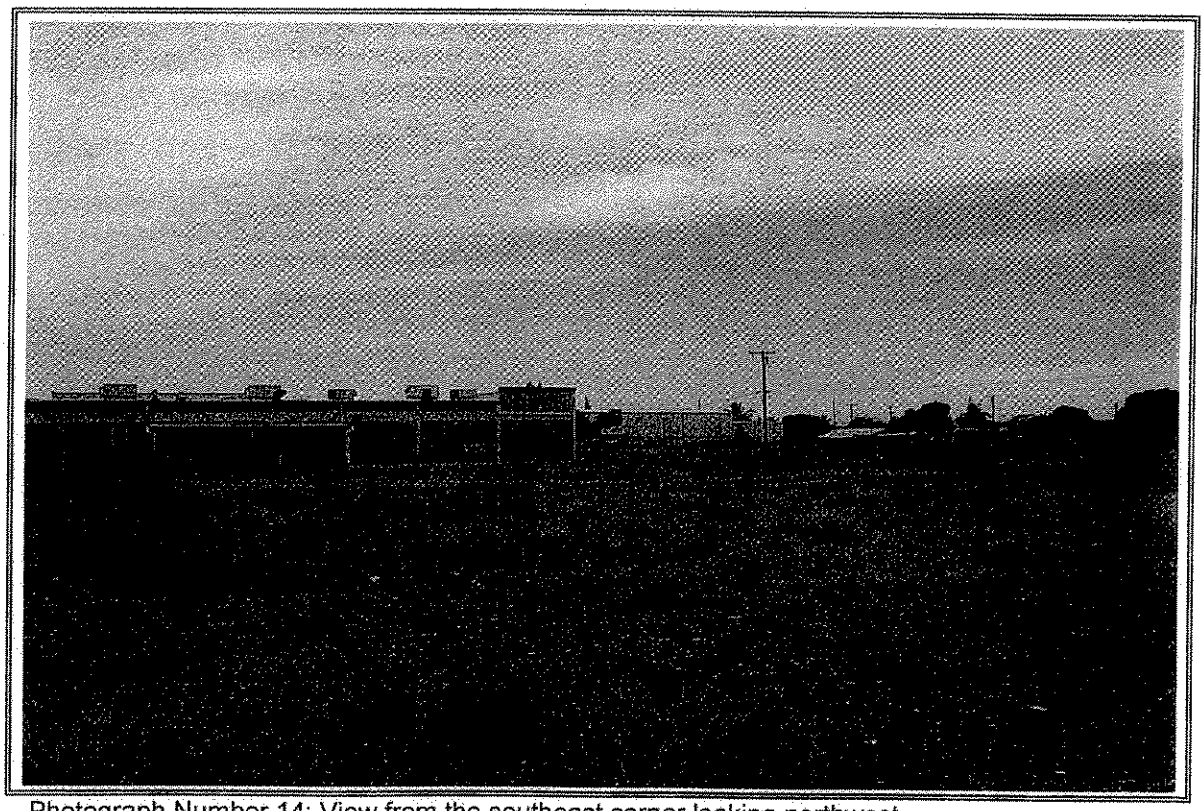
Photograph Number 11: Southern border of the site. View from the southeast corner looking west. City Mill is in the background.



Photograph Number 12: Asphalt on the ground in the southwest area of the site.

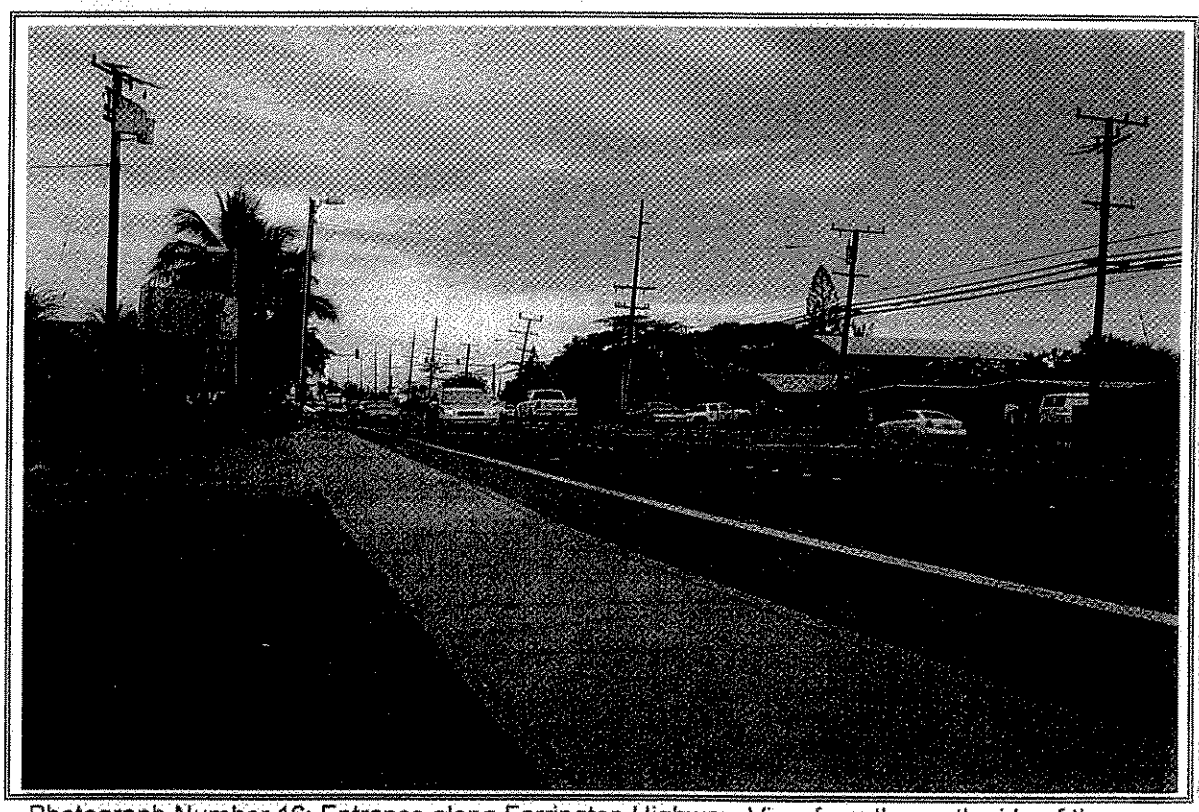


Photograph Number 13: East side of the site. View from the south looking north.



Photograph Number 14: View from the southeast corner looking northwest.

Photograph Number 15: View of the subdivision adjacent on the east side.



Photograph Number 16: Entrance along Farrington Highway. View from the north side of the entrance looking south down the Highway.

APPENDIX D

REGULATORY RECORDS DOCUMENTATION

EDR® Environmental
Data Resources Inc

The EDR Radius Map
with GeoCheck®

Hale Wai Vista
Farrington Highway
Waianae, HI 96792

Inquiry Number: 1664477.7s

April 28, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

FARRINGTON HIGHWAY
WAIANAE, HI 96792

COORDINATES

Latitude (North):	21.438200 - 21° 26' 17.5"
Longitude (West):	158.182600 - 158° 10' 57.4"
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	584704.4
UTM Y (Meters):	2370727.0
Elevation:	23 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	21158-D2 WAIANAE, HI
Most Recent Revision:	Not reported

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL RECOVERY	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System

EXECUTIVE SUMMARY

HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

SWF/LF	Permitted Landfills in the State of Hawaii
SPILLS	Release Notifications
INST CONTROL	Sites with Institutional Controls
VCP	Voluntary Response Program Sites
BROWNFIELDS	Brownfields Sites

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations	EDR Proprietary Historic Gas Stations
EDR Historical Cleaners	EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL RECORDS

CERCLIS-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 02/01/2006 has revealed that there is 1 CERC-NFRAP site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
JAYMER INC	*86-363 HALE ELUA ST*	*1/4 - 1/2 ENE*	*5*	*9*

RCRAInfo: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System(RCRIS). The database includes selective information on sites which generate, transport, store , treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month Large quantity generators generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-SQG list, as provided by EDR, and dated 02/24/2006 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
LONGS DRUG STORE NUMBER 385	*86-120 FARRINGTON HIGHW*	*0 - 1/8 SW*	*A2*	*6*

Federal Lands: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2004 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LUALUALEI NAVAL RADIO STATION		1/2 - 1 SE	0	6

STATE AND LOCAL RECORDS

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state

funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health.

A review of the SHWS list, as provided by EDR, and dated 08/24/2005 has revealed that there are 3 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
JAYMER INC	***86-363 HALE ELUA ST***	***1/4 - 1/2 ENE***	***5***	***9***
TOLEDO TWIN PINE DAIRY INC	***85-443 WAIANAE VALLEY R***	***1/2 - 1 N***	***6***	***10***
Lower Elevation	**Address**	**Dist / Dir**	**Map ID**	**Page**
UNOCAL SERVICE STATION, FORMER	84-1114 FARRINGTON HWY	0 - 1/8 SW	A1	6

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health's Active Leaking Underground Storage Tank Log Listing.

A review of the LUST list, as provided by EDR, and dated 02/01/2006 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
LARRY'S CHEVRON	***86-038 FARRINGTON HWY***	***1/8 - 1/4 WNW***	***3***	***7***
Facility Status: Site Cleanup Completed				
WAIANAE SHELL	***86-003 FARRINGTON HWY***	***1/4 - 1/2 NW***	***4***	***8***
Facility Status: LUST Cleanup Initiated: Petroleum				
Facility Status: LUST Cleanup Initiated: Petroleum				

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health's Listing of Underground Storage Tanks.

A review of the UST list, as provided by EDR, and dated 02/01/2006 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

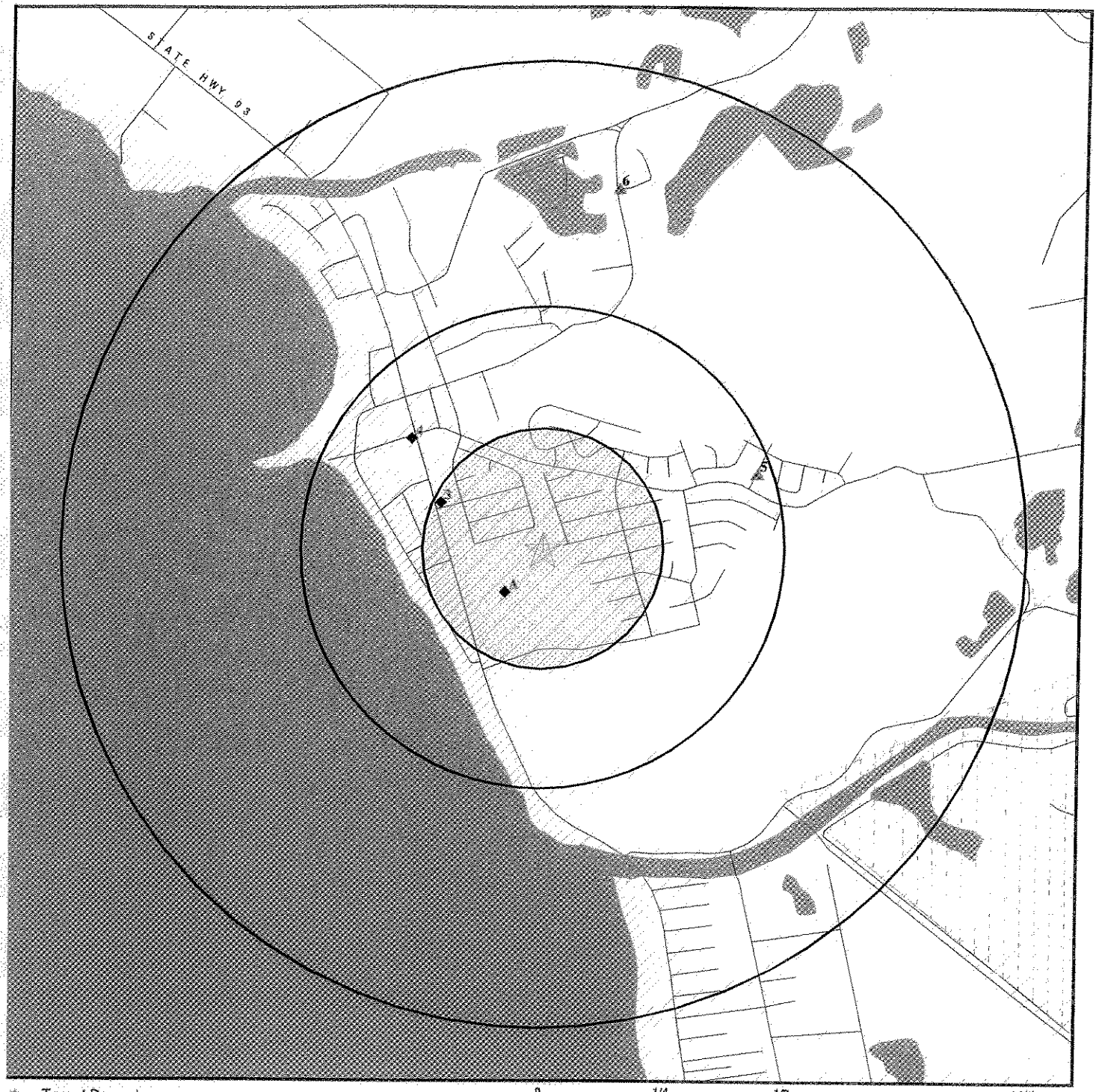
Lower Elevation	Address	Dist / Dir	Map ID	Page
LARRY'S CHEVRON	***86-038 FARRINGTON HWY***	***1/8 - 1/4 WNW***	***3***	***7***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
USARMY MAKUA MILITARY RESERVATION	CERCLIS, RCRA-SQG, FINDS, RCRA-TSDF, CORRACTS
ARCO AM/PM #82115 (TEXACO 61-100-0093)	SHWS, SPILLS
HAKIMO ROAD, MAILE	SHWS, SPILLS
KAISER CEMENT CORP WAIANAE POINT	SHWS
LARRY'S CHEVRON SERVICE	SHWS, SPILLS
WAIANAE CORPORATION YARD	SHWS, FINDS, LUST, SPILLS
P & S SANITARY HAULING INC	SHWS, FINDS
HAKIMO ROAD OPEN DUMP	SHWS
MAILI KAI EMERGENCY ACCESS ROAD	SHWS, FINDS, SPILLS, INST CONTROL
NANAKULI GROUNDWATER CONTAMINATION	SHWS
INDUSTRIAL TECHNOLOGY TIRE PILE	SHWS
HENRY'S EQUIPMENT	SHWS
PVT LANDFILL, INC	SHWS, SPILLS
HECO SUBSTATION: MIKILUA SUBSTATION	SHWS
NCTAMSPAC RADIO TRANSMITTER FACILITY LUALUALEI	SHWS, FINDS
87-1641 ULEHAWA ROAD, ABANDONED PIG PEN	SHWS, SPILLS
WAIANAE LANDFILL	SHWS, FINDS
MAILI KAI EMERGENCY ACCESS ROAD SITE	CERCLIS, FINDS
TOLEDO DAIRY	CERC-NFRAP
KAISER CEMENT CORP WAIANAE PLT	CERC-NFRAP
KAENA PT SAT TRACKING STA	CERC-NFRAP
NANAKULI GROUNDWATER CONTAMINATION	CERC-NFRAP
WAIANAE LDFL	CERC-NFRAP
KMCAS LANDFILL	SWF/LF
TESORO GAS EXPRESS #47	LUST, UST
LENAKONA DEVELOPMENT, LTD	FINDS, LUST
LEEWARD PETROLEUM	UST
WAIANAE SEWAGE TREATMENT PLANT	UST
NANAKULI CENTRAL OFFICE	UST
LENAKONA DEVELOPMENT, LTD	UST
SHELL SERVICE STATION	RCRA-SQG, FINDS
TRANS VAC ENVIR ASSOC INC	RCRA-SQG, FINDS
A T AND T MAKAHA CABLE STATION	FINDS, RCRA-LQG
86-913 HALE EKAHI DRIVE AUTOMOBILE SPILL	SPILLS
86-905 HALE EKAHI STREET, MERCURY SPILL	SPILLS

OVERVIEW MAP - 1664477.7s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hale Wai Vista	CLIENT: MPI, LLC
ADDRESS: Farrington Highway Waianae HI 96792	CONTACT: Michael Polkinghorn
LAT/LONG: 21.4382 / 158.1826	INQUIRY #: 1664477.7s DATE: April 28, 2006

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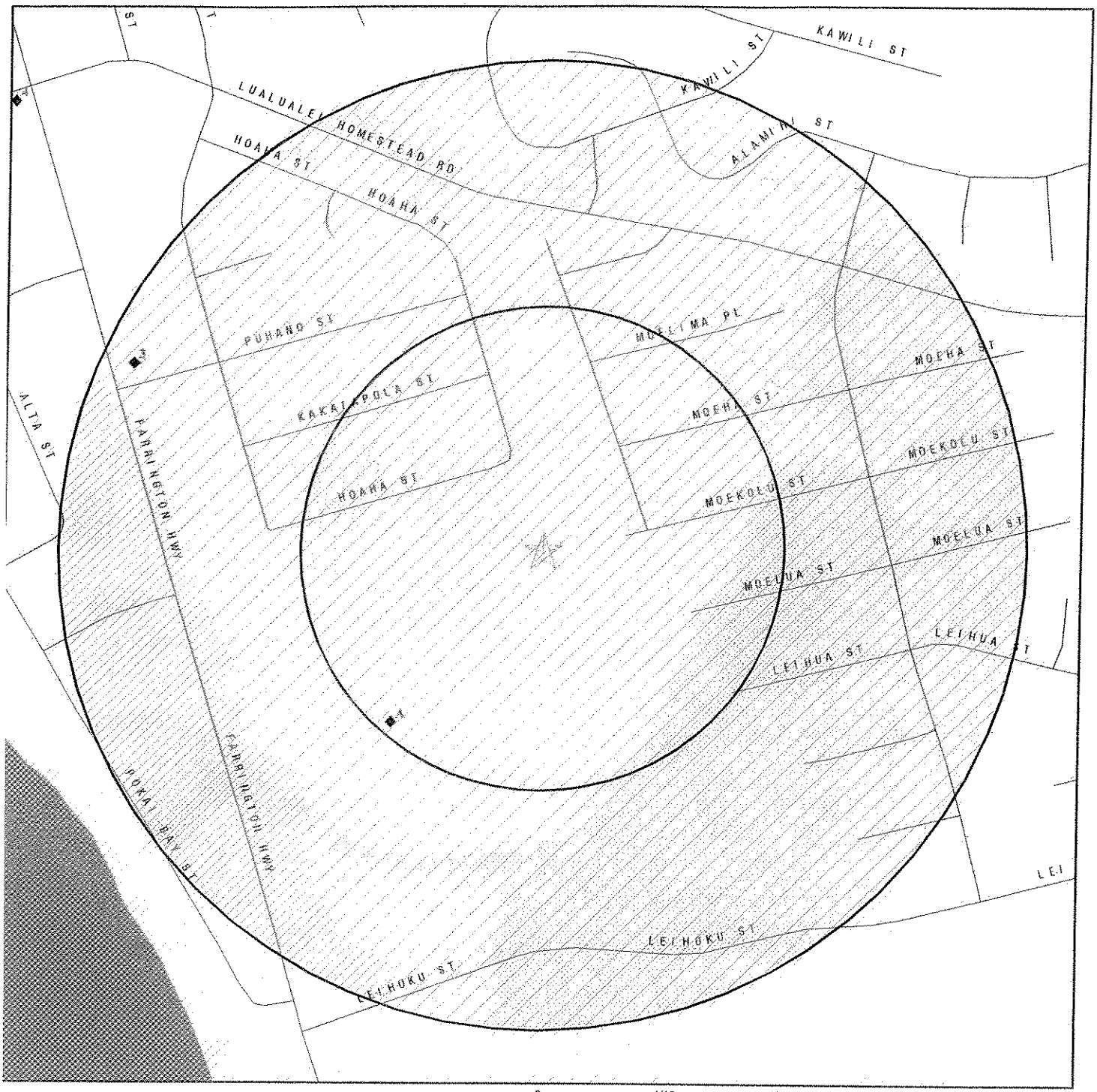
DETAIL MAP - 1664477.7s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	1	NR	NR	1
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	1	0	NR	NR	NR	1
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	1	NR	1
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
SHWS		1.000	1	0	1	1	NR	3
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	1	1	NR	NR	2
UST		0.250	0	1	NR	NR	NR	1
SPILLS		TP	NR	NR	NR	NR	NR	0
INST CONTROL		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Historical Auto Stations		0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners		0.250	0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
DOD **Region SE** **1/2-1** **3733 ft.**	**LUALUALEI NAVAL RADIO STATION** **LUALUALEI NAVAL RADIO STA (County), HI** FEDERAL LANDS: Feature 1: Navy DOD Feature 2: Not reported Feature 3: Not reported Agency: DOD URL: Not reported Name 1: Lualualei Naval Radio Station Name 2: Not reported Name 3: Not reported State: HI	**DOD**	**CUSA047679** **N/A**
A1 **SW** **< 1/8** **625 ft.** **Relative: Lower** **Actual: 10 ft.**	**UNOCAL SERVICE STATION, FORMER #5245** **84-1114 FARRINGTON HWY** **MAKAHA, HI 96792** **Site 1 of 2 in cluster A** SHWS: Supplement : Not reported Restricted Use : Not reported Fed Id : Not reported Funding : Not reported Agreement/program : Not reported Activity Type : Risk Assessment Assignment Date : 1993-06-30 00:00:00 Activity Lead : Barbara Brooks Assignment End Date : 1994-03-21 00:00:00 End fill : 1994-03-21 00:00:00 Result fill : Complete Overall Status : SDAR NFA File Under : TOSCO Corporation Restricted Use Comm : Not reported Ic Relied On In Remedy : Not reported Unit : Unocal Service Station, Former #5245 Sitelist Name : Unocal Service Station, Former #5245	**SHWS**	**S104657527** **N/A**
A2 **SW** **< 1/8** **625 ft.** **Relative: Lower** **Actual: 10 ft.**	**LONGS DRUG STORE NUMBER 385** **86-120 FARRINGTON HIGHWAY** **WAIANAE, HI 96792** **Site 2 of 2 in cluster A**	**RCRA-SQG** **FINDS**	**1000906785** **HI0000880591**

LONGS DRUG STORE NUMBER 385 (Continued) **1000906785**

RCRAInfo:
Owner: LONGS DRUG STORES CALIF INC
(925) 937-1170
EPA ID: HI0000880591
Contact: Not reported
Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

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3 **LARRY'S CHEVRON** **LUST U003222024**
WNW **86-038 FARRINGTON HWY** **UST N/A**
1/8-1/4 **WAIANAE, HI 96792**
1232 ft.

Relative:
Lower

Actual:
13 ft.

LUST:
Facility ID: 9-201242
Release ID: 010034
Facility Status Date: 2001-09-05 00:00:00
Facility Status: Site Cleanup Completed
Project Officer: Ruiz

UST:
Facility ID: 9-201242
Tank Status: Permanently Out of Use
Tank Capacity: 1000
Date Closed: 7/30/2001
Owner: CHEVRON PRODUCTS COMPANY
91-480 MALAKOLE ST.
Waianae, HI 96792
Tank ID: R-I-4
Installed: 8/1/1986
Substance: Used Oil

Facility ID: 9-201242
Tank Status: Permanently Out of Use
Tank Capacity: 10000
Date Closed: 4/30/2001
Owner: CHEVRON PRODUCTS COMPANY
91-480 MALAKOLE ST.
Waianae, HI 96792
Tank ID: R-I-1
Installed: 8/1/1983
Substance: Gasoline

Facility ID: 9-201242
Tank Status: Permanently Out of Use
Tank Capacity: 10000
Date Closed: 4/30/2001
Owner: CHEVRON PRODUCTS COMPANY
91-480 MALAKOLE ST.
Waianae, HI 96792
Tank ID: R-I-2
Installed: 8/1/1983
Substance: Gasoline

Facility ID: 9-201242
Tank Status: Permanently Out of Use
Tank Capacity: 10000
Date Closed: 4/30/2001
Owner: CHEVRON PRODUCTS COMPANY
91-480 MALAKOLE ST.
Waianae, HI 96792
Tank ID: R-I-3
Installed: 8/1/1983
Substance: Gasoline

4
NW
1/4-1/2
1892 ft.

WAIANAE SHELL
86-003 FARRINGTON HWY
WAIANAE, HI 96792

LUST **U003222005**
UST **N/A**

Relative:
Lower

Actual:
13 ft.

LUST:

Facility ID:	9-201014
Release ID:	880011
Facility Status Date:	1988-07-01 00:00:00
Facility Status:	**LUST Cleanup Initiated: Petroleum**
Project Officer:	Li

Facility ID:	9-201014
Release ID:	020032
Facility Status Date:	2002-06-24 00:00:00
Facility Status:	**LUST Cleanup Initiated: Petroleum**
Project Officer:	Li

UST:

Facility ID:	9-201014	Tank ID:	R-4
Tank Status:	Permanently Out of Use		
Tank Capacity:	6000	Installed:	4/23/1971
Date Closed:	12/30/1983	Substance:	Gasoline
Owner:	EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US 2555 13TH AVE, SW Waianae, HI 96792		

Facility ID:	9-201014	Tank ID:	R-3
Tank Status:	Permanently Out of Use		
Tank Capacity:	2000	Installed:	4/23/1971
Date Closed:	12/30/1983	Substance:	Gasoline
Owner:	EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US 2555 13TH AVE, SW Waianae, HI 96792		

Facility ID:	9-201014	Tank ID:	R-5
Tank Status:	Permanently Out of Use		
Tank Capacity:	6000	Installed:	4/23/1971
Date Closed:	12/30/1983	Substance:	Gasoline
Owner:	EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US 2555 13TH AVE, SW Waianae, HI 96792		

Facility ID:	9-201014	Tank ID:	R-1
Tank Status:	Permanently Out of Use		
Tank Capacity:	3000	Installed:	4/23/1971
Date Closed:	12/30/1983	Substance:	Gasoline
Owner:	EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US 2555 13TH AVE, SW Waianae, HI 96792		

Facility ID:	9-201014	Tank ID:	R-2
Tank Status:	Permanently Out of Use		
Tank Capacity:	4000	Installed:	4/23/1971
Date Closed:	12/30/1983	Substance:	Gasoline
Owner:	EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US 2555 13TH AVE, SW Waianae, HI 96792		

Facility ID:	9-201014	Tank ID:	R-6

WAIANAE SHELL (Continued) **U003222005**

Tank Status: Permanently Out of Use
Tank Capacity: 550 Installed: 4/23/1971
Date Closed: 12/30/1983 Substance: Used Oil
Owner: EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US
2555 13TH AVE, SW
Waianae, HI 96792

Facility ID: 9-201014 Tank ID: R-I-3
Tank Status: Permanently Out of Use
Tank Capacity: 10000 Installed: 12/30/1988
Date Closed: 9/20/2002 Substance: Gasoline
Owner: EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US
2555 13TH AVE, SW
Waianae, HI 96792

Facility ID: 9-201014 Tank ID: R-I-2
Tank Status: Permanently Out of Use
Tank Capacity: 10000 Installed: 12/30/1988
Date Closed: 9/20/2002 Substance: Gasoline
Owner: EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US
2555 13TH AVE, SW
Waianae, HI 96792

Facility ID: 9-201014 Tank ID: R-I-1
Tank Status: Permanently Out of Use
Tank Capacity: 12000 Installed: 12/30/1988
Date Closed: 9/20/2002 Substance: Gasoline
Owner: EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US
2555 13TH AVE, SW
Waianae, HI 96792

Facility ID: 9-201014 Tank ID: R-I-4
Tank Status: Permanently Out of Use
Tank Capacity: 550 Installed: 12/30/1988
Date Closed: 4/25/2002 Substance: Used Oil
Owner: EQUILON ENTERPRISES, LLC DBA SHELL OIL PRODUCTS US
2555 13TH AVE, SW
Waianae, HI 96792

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5 **JAYMER INC** **RCRA-SQG** **1000297901**
ENE **86-363 HALE ELUA ST** **SHWS** **HID091797647**
1/4-1/2 **WAIANAE, HI 96792** **FINDS**
2470 ft. **CERC-NFRAP**

Relative:
Higher

Actual:
71 ft.

CERCLIS-NFRAP Classification Data:
Federal Facility: Not a Federal Facility
Non NPL Code: NFRAP
NPL Status: Not on the NPL
CERCLIS-NFRAP Assessment History:
Assessment: DISCOVERY Completed: 02/01/1980
Assessment: PRELIMINARY ASSESSMENT Completed: 09/01/1984
Assessment: ARCHIVE SITE Completed: 09/01/1984

JAYMER INC (Continued) **1000297901**

RCRAInfo:
Owner: JASON & MERCY SPAIN
(415) 555-1212
EPA ID: HID091797647
Contact: ENVIRONMENTAL MANAGER
(808) 696-9646
Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAWAII ENGINE CONTROL SYSTEM
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

SHWS:

Supplement :	Not reported
Restricted Use :	Not reported
Fed Id :	HID091797647
Funding :	Not reported
Agreement/program :	Not reported
Activity Type :	ISST
Assignment Date :	1995-12-28 00:00:00
Activity Lead :	Unknown
Assignment End Date :	1996-01-12 00:00:00
End fill :	1996-01-12 00:00:00
Result fill :	NFA
Overall Status :	SDAR NFA
File Under :	Jaymer Inc
Restricted Use Comm :	Not reported
Ic Relied On In Remedy :	Not reported
Unit :	Jaymer Inc
Sitelist Name :	Jaymer Inc

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6 **TOLEDO TWIN PINE DAIRY INC** **SHWS 1006819606**
North **85-443 WAIANAE VALLEY RD** **FINDS 110013774371**
1/2-1 **WAIANAE, HI 96792** **SPILLS**
3984 ft.

Relative:
Higher

Actual:
26 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAWAII ENGINE CONTROL SYSTEM
PERMIT COMPLIANCE SYSTEM

SHWS:

Supplement :	Not reported
Restricted Use :	Not reported
Fed Id :	HID984466029
Funding :	Not reported
Agreement/program :	Not reported
Activity Type :	ISST
Assignment Date :	1996-04-01 00:00:00
Activity Lead :	Unknown
Assignment End Date :	1996-04-04 00:00:00
End fill :	1996-04-04 00:00:00
Result fill :	NFA
Overall Status :	SDAR NFA

TOLEDO TWIN PINE DAIRY INC (Continued) **1006819606**

File Under : Toledo Twin Pine Dairy Inc
Restricted Use Comm : Not reported
Ic Relied On In Remedy : Not reported
Unit : Toledo Twin Pine Dairy
Sitelist Name : Toledo Twin Pine Dairy

HI SPILLS:
Case Number: 11
Island: Oahu
Numerical Quantity: Not reported
Less Or Greater Than : Not reported
Units : Not reported
Activity Type : Response
Assignment Date : Not reported
Activity Lead : Not reported
Assignment End Date : Not reported
Result : 8
Supplemental Loc. Text: Not reported
Unit: TOLEDO TWIN PINE DAIRY INC., WAIANAE VALLEY RD. 85-443A
Substances: SEE INCIDENT DESCRIPTION
Incident : The south wall of the animal waste retention pond upturned causing large sewagae spill.
REPORT OF HAWAII ELECTRIC TRUCK DISPOSING OF SOMETHING.
EPCRA, REVOLVING FUND COST TRACKING
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.
Initial : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.
Report : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
OSC diverted flow to dry storm canal. Two days later there was a tipalpia kill at the stream mouth.

Case Number: 19920302-4
Island: Oahu
Numerical Quantity: 10000
Less Or Greater Than : Not reported
Units : Gallons
Activity Type : Response
Assignment Date : Not reported
Activity Lead : Not reported
Assignment End Date : Not reported
Result : 8
Supplemental Loc. Text: Not reported
Unit: Toledo Dairy, Waianae Valley Road, Kapuni Stream, Waianae, Oahu

TOLEDO TWIN PINE DAIRY INC (Continued) **1006819606**

Substances: Sewage Spill
Incident : The south wall of the animal waste retention pond upturned causing large sewagae spill.
REPORT OF HAWAII ELECTRIC TRUCK DISPOSING OF SOMETHING.
EPCRA, REVOLVING FUND COST TRACKING
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.
Initial : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.
Report : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
OSC diverted flow to dry storm canal. Two days later there was a tipalpia kill at the stream mouth.

Case Number: 19910000-2
Island: Oahu
Numerical Quantity: Not reported
Less Or Greater Than : Not reported
Units : Not reported
Activity Type : Response
Assignment Date : Not reported
Activity Lead : Not reported
Assignment End Date : Not reported
Result : 8
Supplemental Loc. Text: Not reported
Unit: TOLEDO TWIN PINE DAIRY
Substances: WATER
Incident : The south wall of the animal waste retention pond upturned causing large sewagae spill.
REPORT OF HAWAII ELECTRIC TRUCK DISPOSING OF SOMETHING.
EPCRA, REVOLVING FUND COST TRACKING
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.
Initial : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.
Report : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni

TOLEDO TWIN PINE DAIRY INC (Continued) **1006819606**

Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
OSC diverted flow to dry storm canal. Two days later there was a tipalpia kill at the stream mouth.

Case Number:	19960901-1646
Island:	Oahu
Numerical Quantity:	Not reported
Less Or Greater Than :	Not reported
Units :	Not reported
Activity Type :	Response
Assignment Date :	1996-09-01 00:00:00
Activity Lead :	Bill Perry
Assignment End Date :	Not reported
Result :	8
Supplemental Loc. Text:	Not reported
Unit:	Toledo Dairy Runoff
Substances:	Oil, Waste

Incident : The south wall of the animal waste retention pond upturned causing large sewagae spill.
REPORT OF HAWAII ELECTRIC TRUCK DISPOSING OF SOMETHING.
EPCRA, REVOLVING FUND COST TRACKING
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.

Initial : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
A lot of soil has been dumped on the road going to the dairy because of rains. Oil is coming from the dairy driveway and going into the storm drain and a neighbor's property as well as mixing with the soil.

Report : C & C Sewage Dept (Waianae) - thier heavy equipment secured rupture. Vacuum Truck recovered spilled product from roads, & run off was directed into Kapuni Stream to prevent flooding of local residences. After all these actions , case w
EPCRA, REVOLVING FUND COST TRACKING
TURNED OUT TO BE WATER
OSC diverted flow to dry storm canal. Two days later there was a tipalpia kill at the stream mouth.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HONOLULU COUNTY	S103763651	KMCAS LANDFILL	KANEOHE BAY		SWF/LF
MAILI OAHU	1003879443	TOLEDO DAIRY	85-443A WAIANAE ROAD	96792	CERC-NFRAP
NANAKULI	S106816267	ARCO AM/PM #82115 (TEXACO 61-100-0093)	87-1942 FARRINGTON HWY	96792	SHWS, SPILLS
NANAKULI	S106817253	HAKIMO ROAD, MAILE	HAKIMO RD	96792	SHWS, SPILLS
NANAKULI	1003879109	KAISER CEMENT CORP WAIANAE PLT	LUALAULEI ACC RD E OF FARR HWY	96792	CERC-NFRAP
NANAKULI	S106818059	KAISER CEMENT CORP WAIANAE POINT	LUALUALEI ACCESS RD	96792	SHWS
WAIANAE	U003402874	TESORO GAS EXPRESS #47	86-090 FARRINGTON HWY	96792	LUST, UST
WAIANAE	U003222118	LEEWARD PETROLEUM	87-166 FARRINGTON HWY	96792	UST
WAIANAE	U003222039	WAIANAE SEWAGE TREATMENT PLANT	86-100 FARRINGTON HWY	96792	UST
WAIANAE	U003221978	NANAKULI CENTRAL OFFICE	89-210 FARRINGTON HWY	96792	UST
WAIANAE	U001237428	LENAKONA DEVELOPMENT, LTD	86-140 FARRINGTON HWY	96792	UST
WAIANAE	S106818738	LARRY'S CHEVRON SERVICE	86-038 FARRINGTON HWY	96792	SHWS, SPILLS
WAIANAE	1006842211	LENAKONA DEVELOPMENT, LTD	86-140 FARRINGTON HWY	96792	FINDS, LUST
WAIANAE	1006819704	WAIANAE CORPORATION YARD	86-220 FARRINGTON HWY	96792	SHWS, FINDS, LUST, SPILLS
WAIANAE	1006819047	P & S SANITARY HAULING INC	87-746 FARRINGTON HWY	96792	SHWS, FINDS
WAIANAE	1005443249	SHELL SERVICE STATION	86 003 FARRINGTON HWY	96792	RCRA-SQG, FINDS
WAIANAE	1001487357	A T AND T MAKAHA CABLE STATION	84 250 FARRINGTON HWY	96792	FINDS, RCRA-LQG
WAIANAE	1000473229	TRANS VAC ENVIR ASSOC INC	872102 FARRINGTON HWY UNIT B	96792	RCRA-SQG, FINDS
WAIANAE	1000423973	USARMY MAKUA MILITARY RESERVATION	FARRINGTON HWY	96792	CERCLIS, RCRA-SQG, FINDS, RCRA-TSDF, CORRACTS
WAIANAE	S107022556	HAKIMO ROAD OPEN DUMP	87-1107 HAKIMO RD	96792	SHWS
WAIANAE	1006819275	MAILI KAI EMERGENCY ACCESS ROAD	HAKIMO RD	96792	SHWS, FINDS, SPILLS, INST CONTROL
WAIANAE	S106815742	86-913 HALE EKAHI DRIVE AUTOMOBILE SPILL	86-913 HALE EKAHI DR	96792	SPILLS
WAIANAE	S106815741	86-905 HALE EKAHI STREET, MERCURY SPILL	86-905 HALE EKAHI ST	96792	SPILLS
WAIANAE	S107022559	NANAKULI GROUNDWATER CONTAMINATION	LUALUALEI NAVAL RD / PAAKEA RD	96792	SHWS
WAIANAE	S107022553	INDUSTRIAL TECHNOLOGY TIRE PILE	86-477 LUALUALEI HOMESTEAD RD	96792	SHWS
WAIANAE	S107022552	HENRY'S EQUIPMENT	86-412D LUALUALEI HOMESTEAD RD	96792	SHWS
WAIANAE	S106820176	PVT LANDFILL, INC	LUALUALEI HOMESTEAD RD	96792	SHWS, SPILLS
WAIANAE	1001475695	MAILI KAI EMERGENCY ACCESS ROAD SITE	MAILI KAI EMERGENCY RD	96792	CERCLIS, FINDS
WAIANAE	1003879150	KAENA PT SAT TRACKING STA	33MI NW OF HONOLULU ON RTE 930	96792	CERC-NFRAP
WAIANAE	S107022550	HECO SUBSTATION: MIKILUA SUBSTATION	87-575 PAAKEA RD	96792	SHWS
WAIANAE	1004654730	NANAKULI GROUNDWATER CONTAMINATION	PAAKEA ROAD & LUALUALEI ACCESS ROAD	96792	CERC-NFRAP
WAIANAE	1006819089	NCTAMSPAC RADIO TRANSMITTER FACILITY LUALUALEI	TOWER DR	96792	SHWS, FINDS
WAIANAE	S106815753	87-1641 ULEHAWA ROAD, ABANDONED PIG PEN	87-1641 ULEHAWA RD	96792	SHWS, SPILLS
WAIANAE	1006819659	WAIANAE LANDFILL	572 WAIANAE VALLEY RD	96792	SHWS, FINDS
WAIANAE	1003879135	WAIANAE LDFL	WAIANAE VALLEY RD	96792	CERC-NFRAP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: N/A
Last EDR Contact: 03/01/2006
Next Scheduled EDR Contact: 05/01/2006
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: N/A
Last EDR Contact: 03/01/2006
Next Scheduled EDR Contact: 05/01/2006
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: N/A
Last EDR Contact: 03/01/2006
Next Scheduled EDR Contact: 05/01/2006
Data Release Frequency: Quarterly

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/21/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/27/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/16/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 36

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/14/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/02/2005
Date Data Arrived at EDR: 08/12/2005
Date Made Active in Reports: 10/06/2005
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 03/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/2005
Date Data Arrived at EDR: 02/11/2005
Date Made Active in Reports: 04/06/2005
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 03/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 02/06/2006
Next Scheduled EDR Contact: 05/08/2006
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 01/19/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 33

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 11/29/2005
Date Data Arrived at EDR: 12/05/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/07/2005
Date Data Arrived at EDR: 01/06/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 46

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 07/13/2005
Date Made Active in Reports: 08/17/2005
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/27/2004
Date Made Active in Reports: 05/21/2004
Number of Days to Update: 24

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/17/2006
Date Data Arrived at EDR: 01/24/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 34

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 01/17/2006
Date Data Arrived at EDR: 01/24/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 01/03/2005
Date Made Active in Reports: 01/25/2005
Number of Days to Update: 22

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/27/2005
Date Data Arrived at EDR: 02/08/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 19

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 02/08/2006
Next Scheduled EDR Contact: 05/08/2006
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 02/10/2006
Date Data Arrived at EDR: 02/16/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/08/2005
Date Data Arrived at EDR: 12/27/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 34

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/29/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/09/2006
Date Data Arrived at EDR: 01/16/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 36

Source: EPA
Telephone: N/A
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE AND LOCAL RECORDS

SHWS: Sites List
Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).

Date of Government Version: 08/24/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 09/28/2005
Number of Days to Update: 30

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 03/24/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Semi-Annually

SWF/LF: Permitted Landfills in the State of Hawaii
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/19/2004
Date Data Arrived at EDR: 05/20/2004
Date Made Active in Reports: 06/22/2004
Number of Days to Update: 33

Source: Department of Health
Telephone: 808-586-4245
Last EDR Contact: 01/26/2006
Next Scheduled EDR Contact: 04/24/2006
Data Release Frequency: Varies

LUST: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 02/20/2006
Date Made Active in Reports: 03/20/2006
Number of Days to Update: 28

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 03/30/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Semi-Annually

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 02/20/2006
Date Made Active in Reports: 03/24/2006
Number of Days to Update: 32

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Semi-Annually

SPILLS: Release Notifications
Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.

Date of Government Version: 08/24/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 09/28/2005
Number of Days to Update: 30

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 03/24/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

INST CONTROL: Sites with Institutional Controls
Voluntary Remediation Program and Brownfields sites with institutional controls in place.

Date of Government Version: 08/24/2005
Date Data Arrived at EDR: 10/12/2005
Date Made Active in Reports: 10/26/2005
Number of Days to Update: 14

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 03/24/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

VCP: Voluntary Response Program Sites

Date of Government Version: 08/24/2005
Date Data Arrived at EDR: 10/31/2005
Date Made Active in Reports: 12/14/2005
Number of Days to Update: 44

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 03/24/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

BROWNFIELDS: Brownfields Sites

Date of Government Version: 08/24/2005
Date Data Arrived at EDR: 10/12/2005
Date Made Active in Reports: 10/26/2005
Number of Days to Update: 14

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 03/24/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 02/06/2006
Next Scheduled EDR Contact: 05/08/2006
Data Release Frequency: Semi-Annually

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HALE WAI VISTA
FARRINGTON HIGHWAY
WAIANAE, HI 96792

TARGET PROPERTY COORDINATES

Latitude (North):	21.43820 - 21° 26' 17.5"
Longitude (West):	158.1826 - 158° 10' 57.4"
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	584704.4
UTM Y (Meters):	2370727.0
Elevation:	23 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	21158-D2 WAIANAE, HI
Most Recent Revision:	Not reported

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

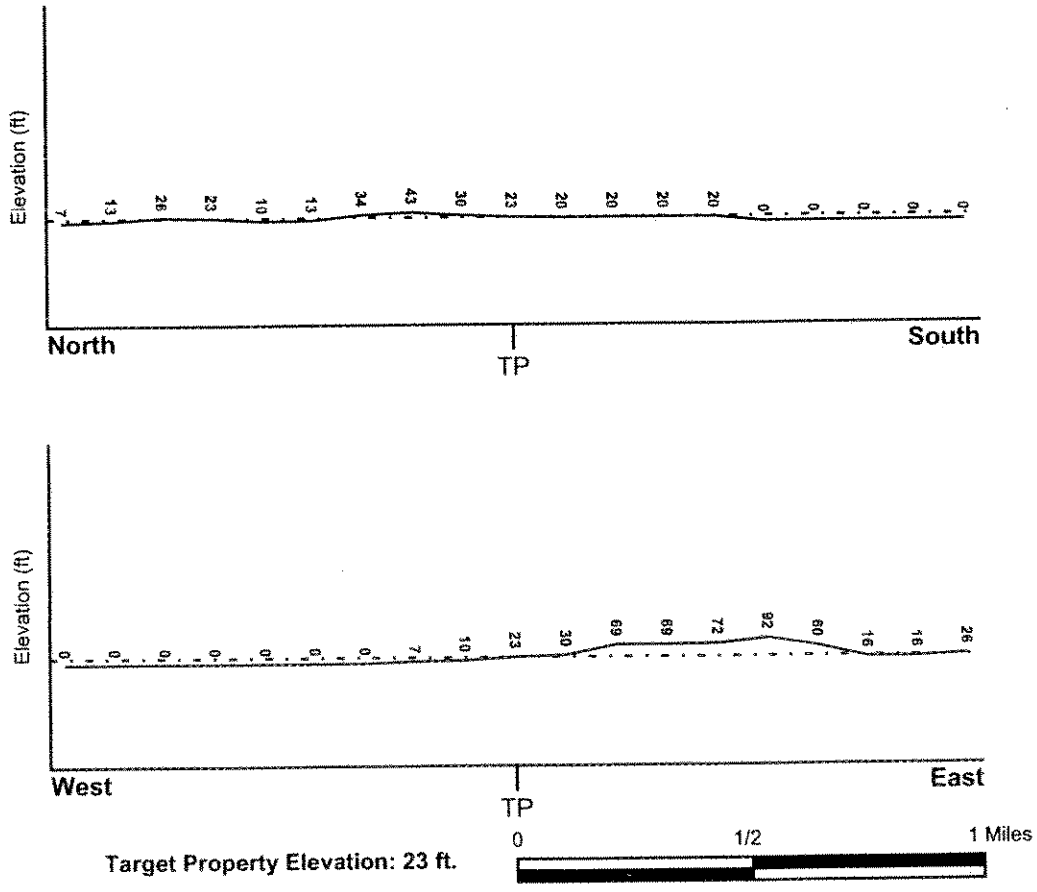
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
HONOLULU, HI	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 1500010100C

Additional Panels in search area: 1500010070A

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
WAIANAE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

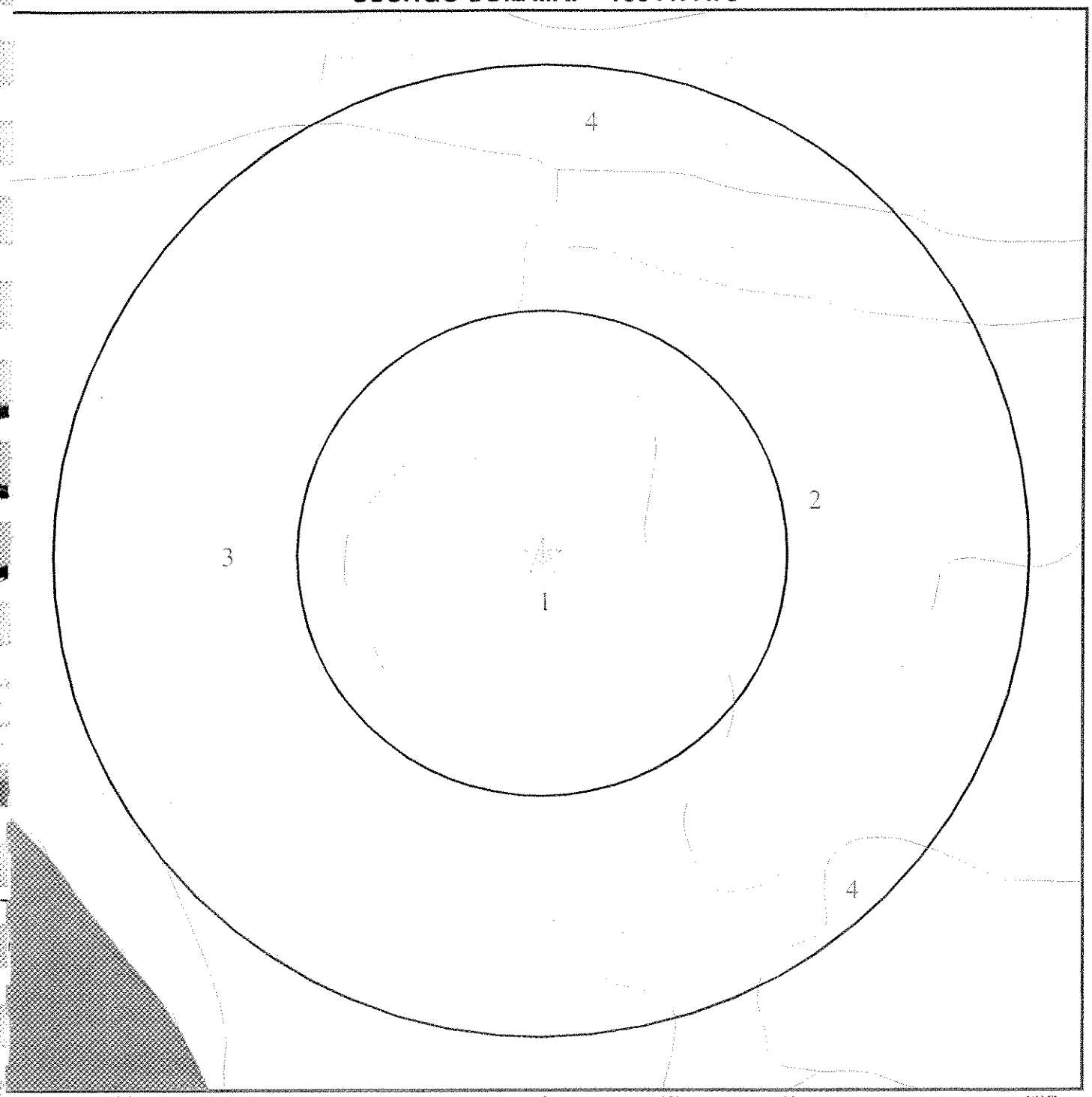
Era:	-
System:	-
Series:	-
Code:	N/A *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 1664477.7s



Target Property
SSURGO Soil
Water

SITE NAME:	Hale Wai Vista	CLIENT:	MPI, LLC
ADDRESS:	Farrington Highway Waianae HI 96792	CONTACT:	Michael Polkinghorn
LAT/LONG:	21.4382 / 158.1826	INQUIRY #:	1664477.7s
		DATE:	April 28, 2006

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: MAMALA

Soil Surface Texture: stony - silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 8 inches

Depth to Bedrock Max: > 20 inches

Soil Layer Information

	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	8 inches	stony - silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Kaolinitic suffix for CL.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.60
2	8 inches	19 inches	stony - silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Kaolinitic suffix for CL.	Max: 2.00 Min: 0.60	Max: 7.80 Min: 7.40
3	19 inches	29 inches	unweathered bedrock	Not reported	Not reported	Max: 6.00 Min: 0.10	Max: 0.00 Min: 0.00

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name:	QUARRY
Soil Surface Texture:	Not reported
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil has not been ranked with a hydric criteria.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name:	MOKULEIA
Soil Surface Texture:	clay
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	16 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.10 Min: 0.00	Max: 7.30 Min: 6.60
2	16 inches	50 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.90

Soil Map ID: 4

Soil Component Name: LUALUALEI

Soil Surface Texture: extremely stony - clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	10 inches	extremely stony - clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.10 Min: 0.00	Max: 7.30 Min: 6.60

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
2	10 inches	60 inches	extremely stony - clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.10 Min: 0.00	Max: 7.30 Min: 5.60

Soil Map ID: 5

Soil Component Name: EWA

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 20 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	8 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Kaolinitic suffix for CL.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.60
2	8 inches	29 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Kaolinitic suffix for CL.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.60

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
3	29 inches	39 inches	unweathered bedrock	Not reported	Not reported	Max: 6.00 Min: 0.10	Max: 0.00 Min: 0.00

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

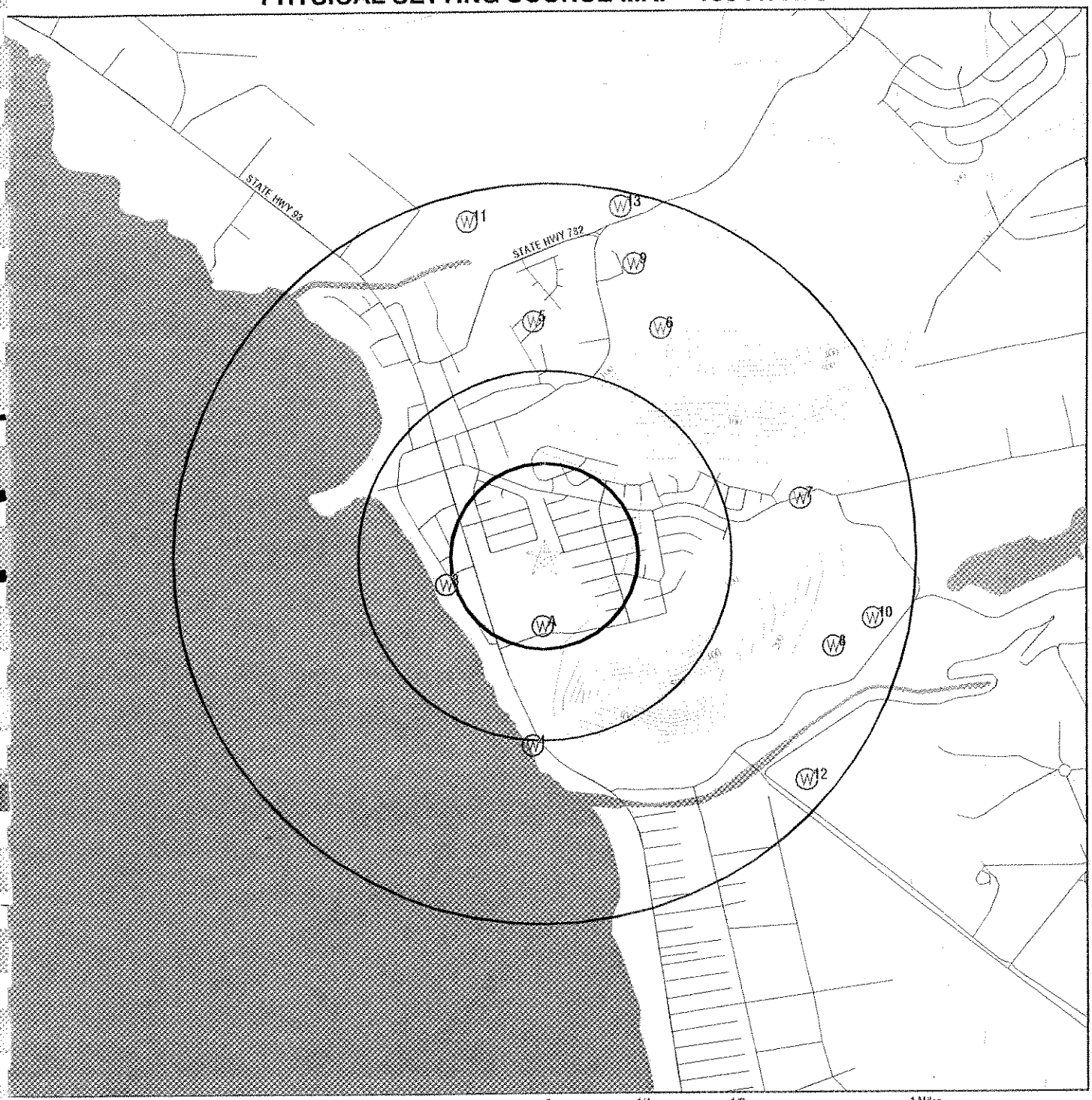
MAP ID	WELL ID	LOCATION FROM TP
A1	3-2611-004	1/8 - 1/4 Mile South
A2	3-2611-003	1/8 - 1/4 Mile South
3	3-2611-002	1/4 - 1/2 Mile WSW
4	3-2611-001	1/2 - 1 Mile South
5	3-2711-010	1/2 - 1 Mile North

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
6	3-2710-005	1/2 - 1 Mile NNE
7	3-2610-006	1/2 - 1 Mile ENE
8	3-2610-002	1/2 - 1 Mile ESE
9	3-2710-003	1/2 - 1 Mile NNE
10	3-2610-001	1/2 - 1 Mile East
11	3-2711-002	1/2 - 1 Mile NNW
12	3-2510-005	1/2 - 1 Mile SE
13	3-2710-007	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 1664477.7s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location

SITE NAME: Hale Wai Vista	CLIENT: MPI, LLC
ADDRESS: Farrington Highway Waianae HI 96792	CONTACT: Michael Polkinghorn INQUIRY #: 1664477.7s
LAT/LONG: 21.4382 / 158.1826	DATE: April 28, 2006

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A1 **South** **1/8 - 1/4 Mile** **Higher**	**HI WELLS**	**3-2611-004**

Wid:	3-2611-004	Island Code:	3
Island Name:	Oahu	Well no:	2611-04
Well name:	Waianae	Old name:	Not Reported
Yr drilled:	1962	Driller:	PACIFIC DRLG
Quad_map:	02	Latitude:	212620
Longitude:	1581107	UTM:	Y
Gps:	N	Owner/user:	U S G S
Old number:	T224-	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	Not Reported
Ground Elev:	20	Well depth:	40
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	Not Reported	Use Desc:	Not Reported
Use year:	Not Reported	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	-20	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-001:004	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1962 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

	Database	EDR ID Number
A2 **South** **1/8 - 1/4 Mile** **Higher**	**HI WELLS**	**3-2611-003**

Wid:	3-2611-003	Island Code:	3
Island Name:	Oahu	Well no:	2611-03
Well name:	Waianae	Old name:	Not Reported
Yr drilled:	1962	Driller:	PACIFIC DRLG
Quad_map:	02	Latitude:	212618
Longitude:	1581108	UTM:	Y
Gps:	N	Owner/user:	U S G S
Old number:	T223-	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	Not Reported
Ground Elev:	20	Well depth:	40

Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	Not Reported	Use Desc:	Not Reported
Use year:	Not Reported	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	Not Reported
Min chlorides:	Not Reported	Min Cl year:	Not Reported
Bot_hole depth:	-20	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-001:004	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1962 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

3
WSW
1/4 - 1/2 Mile
Lower

HI WELLS **3-2611-002**

Wid:	3-2611-002	Island Code:	3
Island Name:	Oahu	Well no:	2611-02
Well name:	Waianae	Old name:	Not Reported
Yr drilled:	1962	Driller:	PACIFIC DRLG
Quad_map:	02	Latitude:	212625
Longitude:	1581122	UTM:	Y
Gps:	N	Owner/user:	U S G S
Old number:	T222-	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	Not Reported
Ground Elev:	5	Well depth:	40
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	Not Reported	Use Desc:	Not Reported
Use year:	Not Reported	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	-35	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-001:007	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1962 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
4 **South** **1/2 - 1 Mile** **Lower**	**HI WELLS**	**3-2611-001**

Wid:	3-2611-001	Island Code:	3
Island Name:	Oahu	Well no:	2611-01
Well name:	Waianae	Old name:	Not Reported
Yr drilled:	1962	Driller:	PACIFIC DRLG
Quad_map:	02	Latitude:	212602
Longitude:	1581109	UTM:	Y
Gps:	N	Owner/user:	U S G S
Old number:	T214-	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	Not Reported
Ground Elev:	10	Well depth:	50
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	Not Reported	Use Desc:	Not Reported
Use year:	Not Reported	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	-40	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-001:007	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1962 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

	Database	EDR ID Number
5 **North** **1/2 - 1 Mile** **Lower**	**HI WELLS**	**3-2711-010**

Wid:	3-2711-010	Island Code:	3
Island Name:	Oahu	Well no:	2711-10
Well name:	Gamulo	Old name:	Not Reported
Yr drilled:	1954	Driller:	BILLS CRANE
Quad_map:	02	Latitude:	212702
Longitude:	1581109	UTM:	Y
Gps:	N	Owner/user:	Gamulo Pg
Old number:	Not Reported	Well_type:	DUG
Type:	Dug Well	Casing dia:	36
Ground Elev:	Not Reported	Well depth:	50

Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	IRR	Use Desc:	Irrigation
Use year:	92	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	Not Reported	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-5-003:023	Aquifer code:	30303
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1954 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

6
NNE
1/2 - 1 Mile
Higher

HI WELLS **3-2710-005**

Wid:	3-2710-005	Island Code:	3
Island Name:	Oahu	Well no:	2710-05
Well name:	Toledo Dairy	Old name:	Not Reported
Yr drilled:	1946	Driller:	WAIANAE DEV
Quad_map:	02	Latitude:	212701
Longitude:	1581050	UTM:	Y
Gps:	N	Owner/user:	Toledo Dairy
Old number:	Not Reported	Well_type:	DUG
Type:	Dug Well	Casing dia:	72
Ground Elev:	Not Reported	Well depth:	Not Reported
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	DOM	Use Desc:	Domestic
Use year:	92	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	150
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	Not Reported	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	.216	Draft (mgd):	Not Reported
Tax map key:	8-5-019:006	Aquifer code:	30303
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1946 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
HI WELLS	3-2610-006

7
ENE
1/2 - 1 Mile
Higher

Wid:	3-2610-006	Island Code:	3
Island Name:	Oahu	Well no:	2610-06
Well name:	Lualualei	Old name:	Not Reported
Yr drilled:	1952	Driller:	AGENA
Quad_map:	02	Latitude:	212637
Longitude:	1581029	UTM:	Y
Gps:	N	Owner/user:	Agena Y
Old number:	277-59	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	6
Ground Elev:	51	Well depth:	63
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	UNU	Use Desc:	Unused
Use year:	74	Water Top Elev:	2.2
Chloride value:	1080	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	Not Reported
Min chlorides:	Not Reported	Min Cl year:	Not Reported
Bot_hole depth:	-12	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	Not Reported	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1952 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

Database	EDR ID Number
HI WELLS	3-2610-002

8
ESE
1/2 - 1 Mile
Lower

Wid:	3-2610-002	Island Code:	3
Island Name:	Oahu	Well no:	2610-02
Well name:	Lualualei	Old name:	Not Reported
Yr drilled:	1944	Driller:	MULLIN
Quad_map:	02	Latitude:	212616
Longitude:	1581024	UTM:	Y
Gps:	N	Owner/user:	Takabayashi M
Old number:	277-15	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	6
Ground Elev:	10	Well depth:	65

Solid casing Depth:	21	Perf casing Depth:	63
Use:	UNU	Use Desc:	Unused
Use year:	74	Water Top Elev:	2.4
Chloride value:	1030	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	Not Reported
Min chlorides:	Not Reported	Min Cl year:	Not Reported
Bot_hole depth:	-55	bot_solid depth:	-11
Bot_perf depth:	-53	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-013:005	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1944 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

9
NNE
1/2 - 1 Mile
Higher

HI WELLS **3-2710-003**

Wid:	3-2710-003	Island Code:	3
Island Name:	Oahu	Well no:	2710-03
Well name:	Waianae	Old name:	Not Reported
Yr drilled:	Not Reported	Driller:	Not Reported
Quad_map:	02	Latitude:	212710
Longitude:	1581054	UTM:	Y
Gps:	N	Owner/user:	Teruya Farm
Old number:	Not Reported	Well_type:	DUG
Type:	Dug Well	Casing dia:	48
Ground Elev:	Not Reported	Well depth:	49
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	UNU	Use Desc:	Unused
Use year:	90	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	300
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	Not Reported	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	.432	Draft (mgd):	Not Reported
Tax map key:	8-5-021:004	Aquifer code:	30303
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	Not Reported
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
10 **East** **1/2 - 1 Mile** **Lower**	**HI WELLS**	**3-2610-001**

Wid:	3-2610-001	Island Code:	3
Island Name:	Oahu	Well no:	2610-01
Well name:	Lualualei	Old name:	Not Reported
Yr drilled:	1939	Driller:	MULLIN
Quad_map:	02	Latitude:	212620
Longitude:	1581018	UTM:	Y
Gps:	N	Owner/user:	Frane G
Old number:	277-4	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	6
Ground Elev:	11	Well depth:	55
Solid casing Depth:	33	Perf casing Depth:	Not Reported
Use:	UNU	Use Desc:	Unused
Use year:	74	Water Top Elev:	3.3
Chloride value:	377	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	-44	bot_solid depth:	-22
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-013:004	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1939 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

---

11 **NNW** **1/2 - 1 Mile** **Higher**	**HI WELLS**	**3-2711-002**

Wid:	3-2711-002	Island Code:	3
Island Name:	Oahu	Well no:	2711-02
Well name:	Waianae	Old name:	Not Reported
Yr drilled:	1950	Driller:	AGENA
Quad_map:	02	Latitude:	212716
Longitude:	1581119	UTM:	Y
Gps:	N	Owner/user:	Ho Chinn
Old number:	Not Reported	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	6
Ground Elev:	24	Well depth:	42

Solid casing Depth:	20	Perf casing Depth:	30
Use:	UNU	Use Desc:	Unused
Use year:	74	Water Top Elev:	1.5
Chloride value:	889	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	-18	bot_solid depth:	4
Bot_perf depth:	-6	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-5-003:001	Aquifer code:	30303
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1950 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

12
SE
1/2 - 1 Mile
Higher

HI WELLS **3-2510-005**

Wid:	3-2510-005	Island Code:	3
Island Name:	Oahu	Well no:	2510-05
Well name:	Maili	Old name:	Not Reported
Yr drilled:	1962	Driller:	PACIFIC DRLG
Quad_map:	02	Latitude:	212557
Longitude:	1581028	UTM:	Y
Gps:	N	Owner/user:	U S G S
Old number:	T227-	Well_type:	Not Reported
Type:	Not Reported	Casing dia:	Not Reported
Ground Elev:	10	Well depth:	100
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	Not Reported	Use Desc:	Not Reported
Use year:	Not Reported	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	0
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	0
Min chlorides:	Not Reported	Min Cl year:	0
Bot_hole depth:	-90	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	Not Reported	Draft (mgd):	Not Reported
Tax map key:	8-6-002:001	Aquifer code:	30302
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1962 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
HI WELLS	**3-2710-007**

13
NNE
1/2 - 1 Mile
Higher

Wid:	3-2710-007	Island Code:	3
Island Name:	Oahu	Well no:	2710-07
Well name:	Nitta	Old name:	Not Reported
Yr drilled:	1955	Driller:	Not Reported
Quad_map:	02	Latitude:	212718
Longitude:	1581056	UTM:	Y
Gps:	N	Owner/user:	Nitta Jy
Old number:	Not Reported	Well_type:	DUG
Type:	Dug Well	Casing dia:	48
Ground Elev:	Not Reported	Well depth:	54
Solid casing Depth:	Not Reported	Perf casing Depth:	Not Reported
Use:	IRR	Use Desc:	Irrigation
Use year:	92	Water Top Elev:	0
Chloride value:	0	Test date:	Not Reported
Pumping Test rate:	Not Reported	Drop in water Lvl:	Not Reported
Chloride Test:	Not Reported	Temperature:	Not Reported
Units:	Not Reported	Pump Capacity:	50
Annual Draft:	Not Reported	Static Water Lvl:	Not Reported
Geology:	Not Reported	Geology desc:	Not Reported
Installed:	Not Reported	Last Measured:	Not Reported
Max chlorides:	Not Reported	Max Cl year:	89
Min chlorides:	01/01/1989 00:00:00	Min Cl year:	Not Reported
Bot_hole depth:	Not Reported	bot_solid depth:	Not Reported
Bot_perf depth:	Not Reported	Well Capacity:	Not Reported
Pump Capacity:	.072	Draft (mgd):	Not Reported
Tax map key:	8-5-019:045	Aquifer code:	30303
Latest head mmt:	0	Cur head mmt:	Not Reported
Current Cl mmt:	Not Reported	Const. Date:	01/01/1955 00:00:00
Pump Inst. Date:	Not Reported	Surveyor:	Not Reported
Transmissivity:	0	Pump intake elev:	Not Reported
Pump depth:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for HONOLULU County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96792

Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.200 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Ground Water Wells
Source: Department of Land and Natural Resources
Telephone: 808-587-0242

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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APPENDIX E

LABORATORY REPORTS

(NOT USED)

APPENDIX F

CORRESPONDENCE

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

636 SOUTH STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 723-7139 • FAX: (808) 723-7111 • INTERNET: www.honolulufire.org

MUFI HANNEMANN
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ALVIN K. TOMITA
DEPUTY FIRE CHIEF

June 6, 2006

Mr. Michael Polkinghorn
Principal Manager
Mid Pacific Industries, LLC
P. O. Box 3673
Honolulu, Hawaii 96811

Dear Mr. Polkinghorn:

Subject: Request for Information
86-120 Farrington Highway
Waianae, Hawaii 96792
Tax Map Keys: 8-6-001: 035

In response to your request of May 5, 2006, Honolulu Fire Department incident records disclosed that there were 11 brush fires on this site from April 21, 2001, through July 4, 2003.

Our records also indicate that there are no outstanding fire code violations or environmental issues regarding this property.

In addition, please note that our new address is:

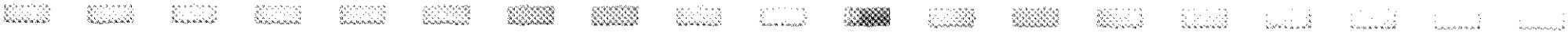
Honolulu Fire Department
636 South Street
Honolulu, Hawaii 96813-5007

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at (808) 723-7151.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS:bh



Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001

TSC 2.7.1 (HECO)
Due Diligence Inquiries

May 9, 2006

Mr. Michael Polkinghorn
Mid Pacific Industries, LLC
P.O. Box 3673
Honolulu, HI 96811-3673

Re: Transformer Information; Waianae Mall Area

Mr. Polkinghorn:

In response to your request for information regarding Hawaiian Electric (HECO) transformers that service the above subject addresses, we provide the following information:

Pole or Vault #	Transformer Number	Address	Date Purchased	Date Installed	PCB Status
V5003	Customer-Owned	86-120 Farrington Highway	Unknown	Unknown	Unknown
V5261	39137	86-120 Farrington Highway	09/01/81	11/02/81	PCB Free
V1755A	52281	86-130 Farrington Highway	06/01/88	07/18/88	PCB Free

The transformer in Vault 5003 is customer-owned. Consequently, we do not have information regarding oil content. In addition, we do not provide testing for non HECO-owned transformers.

Sincerely,

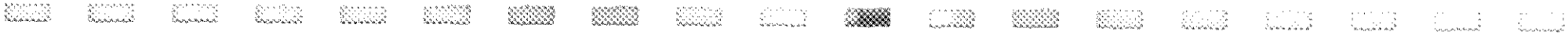
Andrew Keith

Andrew Keith
Senior Environmental Scientist

WINNER OF THE EDISON AWARD
FOR DISTINGUISHED INDUSTRY LEADERSHIP

APPENDIX G

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS



Michael W. Polkinghorn

Education

BS in Geology/Petroleum Engineering, 1981, Michigan State University

Certifications/Registrations/Technical Training

Environmental Professional – #103129PSI
Professional Geologist – PG3199 - Wyoming 1998
EPA AHERA Asbestos Inspector / Management Planner, HIASB-0184
EPA AHERA Asbestos Contractor Supervisor / Project Designer, HIASB-0184
OSHA 29 CFR 1910.120 HAZWOPER, Supervisor
AIHA IAQ/HVAC

Professional Experience

Mr. Polkinghorn, has supervised compliance for all Federal, State, and local environmental and industrial hygiene regulations for close to 20 years. He possesses extensive experience with Phase I/II/III Environmental Site Assessments, soil and groundwater remediation, and has a working knowledge of optical mineralogy and microscopy. He has supervised and performed numerous asbestos surveys, lead paint surveys, and overseen the clean-up operations. He has extensive experience with UST removal and site remediation. He also is in charge of the META Hawaii EPA/Hawaii Accredited Asbestos Training Program which includes numerous OSHA/HIOSH training program certifications such as confined space entry and HAZWOPER training.

Representative Environmental Services and Industrial Hygiene Projects

- Castle & Cooke Properties; Hawaii.
- City & County of Honolulu; Hawaii.
- County of Hawaii; Hawaii.
- County of Kauai; Hawaii.
- County of Maui; Hawaii.
- First Hawaiian Center Demolition, Hawaii
- Hickam AFB; Hawaii.
- Kamehameha Schools; Hawaii.
- NAS Barbers Point; Hawaii.
- Pearl Harbor; Hawaii.
- Punahou School; Hawaii.
- Schofield Barracks; Hawaii.
- Sheraton Hotels; Hawaii.
- State of Hawaii; Hawaii.
- Territory of Guam; Guam.
- Wilcox Memorial Hospital; Hawaii.
- Hilton Hawaiian Village, Hawaii

Years of experience: 24

Archaeological Assessment of the Proposed 5.0-Acre Hale Wai Vista Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu TMK: [1] 8-6-001:035

Prepared for
Hawai'i Housing Development Corporation

Prepared by
Todd Tulchin, B.S.,
Douglas Borthwick, B.A.,
and
Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawai'i, Inc.
Kailua, Hawai'i

(Job Code: LUALU 6)

July 2007

O'ahu Office
P.O. Box 1114
Kailua, Hawai'i 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

www.culturalsurveys.com

Maui Office
16 S. Market Street, Suite 2N
Wailuku, Hawai'i 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Management Summary

Reference	Archaeological Assessment of the Proposed Hale Wai Vista Project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu (TMK [1] 8-6-001:035) (Tulchin et al. 2007)
Date	July 2007
Project Number (s)	Cultural Surveys Hawai'i Inc. (CSH) Job Code: LUALU 6
Investigation Permit Number	The fieldwork component of the archaeological assessment investigation was carried out under archaeological permit number 07-19, issued by the Hawai'i State Historic Preservation Division / Department of Land and Natural Resources (SHPD/DLNR), per Hawai'i Administrative Rules (HAR) Chapter 13-282.
Project Location	The project area is located in coastal Lualualei, immediately *mauka* (inland) of Farrington Highway. The project area is bordered to the north and east by a residential subdivision and to the south and west by the Wai'anae Mall shopping center and commercial buildings. This area is depicted on the 1998 USGS 7.5-minute Series Topographic Map, Wai'anae Quadrangle.
Land Jurisdiction	Private; Hawai'i Housing Development Corporation
Agencies	State Historic Preservation Division / Department of Land and Natural Resources (SHPD/DLNR)
Project Description	The proposed project involves development of an affordable rental housing project. The planned housing complex includes 4 residential apartment buildings and 1 multi-purpose building. Minimally, land disturbing activities would include grubbing and grading, excavations for building foundations and subsurface utilities, and associated infrastructure improvements.
Project Acreage	5.0-acres
Area of Potential Effect (APE) and Survey Acreage	The APE is defined as the entire 5-acre project area. The project area's surrounding built environment includes residential subdivisions and a commercial shopping center. The proposed residential development poses no additional auditory, visual, or other environmental impacts to any surrounding potential historic properties. The survey area for the current archaeological assessment included the entire 5-acre APE.

Historic Preservation Regulatory Context	The proposed residential development constitutes a project requiring compliance with and review under State of Hawai'i historic preservation review legislation (Hawai'i Revised Statutes (HRS) Chapter 6E-42 and Hawai'i Administrative Rules (HAR) 13-284). At the request of the Hawai'i Housing Development Corporation, CSH completed an archaeological inventory survey investigation of the 5-acre project area, per the requirements of HAR Chapter 13-13-276. Because no historic properties were identified in the project area, this investigation is termed an archaeological assessment per HAR Chapter 13-13-284-5. This archaeological assessment report was prepared to support the proposed project's historic preservation review and any other project-related historic preservation consultation.
Fieldwork Effort	The fieldwork component of the archaeological assessment was conducted on May 23-25, 2007 and required 12 person-days to complete. The CSH field crew consisted of Douglas Borthwick, B.A., Todd Tulchin, B.S., Mana Hunkin, B.A., and Shawn Fehrenbach, B.A., under the general supervision of Hallett H. Hammatt, Ph.D.
Number of Historic Properties Identified	None
Effect Recommendation	No historic properties were identified within the 5-acre project area. The project area was determined to have previously undergone extensive land modification, including large-scale limestone quarrying operations. Based on the results of subsurface testing throughout the project area, including observations of heavy disturbance of the natural limestone shelf, it is doubtful that intact limestone sinkholes are present within the project area. Consequently, CSH's effect recommendation for the proposed residential development project is "no historic properties affected."
Mitigation Recommendation	No historic preservation mitigation measures are recommended for the proposed residential development project. However, if in the unlikely event that intact cultural resources, including but not limited to limestone sinkholes containing human remains or other significant cultural or paleoenvironmental deposits, are encountered during the course of development activities, all work in the immediate area should stop and the State Historic Preservation Division should be promptly notified.

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Section 1 Introduction

1.1 Project Background

At the request of the Hawai'i Housing Development Corporation, Cultural Surveys Hawai'i Inc. (CSH) completed an archaeological assessment of the proposed 5.0-acre Hale Wai Vista project, Lualualei Ahupua'a, Wai'anae District, Island of O'ahu (TMK [1] 8-6-001:035). The project area is located in coastal Lualualei, immediately *mauka* (inland) of Farrington Highway. The project area is bordered to the north and east by a residential subdivision and to the south and west by the Wai'anae Mall shopping center and commercial buildings (Figures 1-3). This area is depicted on the 1998 USGS 7.5-minute Series Topographic Map, Wai'anae Quadrangle.

The project area is privately owned by the Hawai'i Housing Development Corporation. The proposed project involves development of an affordable rental housing project. The planned housing complex includes 4 residential apartment buildings and 1 multi-purpose building. Minimally, land disturbing activities would include grubbing and grading, excavations for building foundations and subsurface utilities, and associated infrastructure improvements. The Area of Potential Effect (APE) is defined as the entire 5-acre project area. The project area's surrounding built environment includes residential subdivisions and a commercial shopping center. The proposed residential development poses no additional auditory, visual, or other environmental impacts to any surrounding potential historic properties. The survey area for the current archaeological assessment included the entire 5-acre APE.

The Hawai'i Housing Development Corporation's proposed residential housing development constitutes a project requiring compliance with and review under State of Hawai'i historic preservation review legislation (Hawai'i Revised Statutes (HRS) Chapter 6E-42 and Hawai'i Administrative Rules (HAR) 13-284). At the request of the Hawai'i Housing Development Corporation, CSH completed an archaeological inventory survey investigation of the 5.0-acre project area, per the requirements of HAR Chapter 13-13-276. Under Hawai'i State historic preservation legislation, archaeological inventory surveys are designed to identify, document, and provide significance and mitigation recommendations for historic properties. Under this legislation, historic properties are defined as any "building, structure, object, district, area, or site, including *heiau* and underwater site, which is over fifty years old." A project's effect and potential mitigation measures are evaluated based on the project's potential impact to "significant" historic properties (those historic properties determined eligible, based on established significance criteria, for inclusion in the Hawai'i Register of Historic Places [Hawai'i Register]). Determinations of eligibility to the Hawai'i Register result when a state agency official's historic property "significance assessment" is approved by the State Historic Preservation Division (SHPD), or when SHPD itself makes an eligibility determination for an historic property (HAR Chapter 13-284). Because no historic properties were identified in the project area, this investigation is termed an archaeological assessment per HAR Chapter 13-13-284-5. This archaeological assessment report was prepared to support the proposed subdivision's historic preservation review and any other project-related historic preservation consultation.

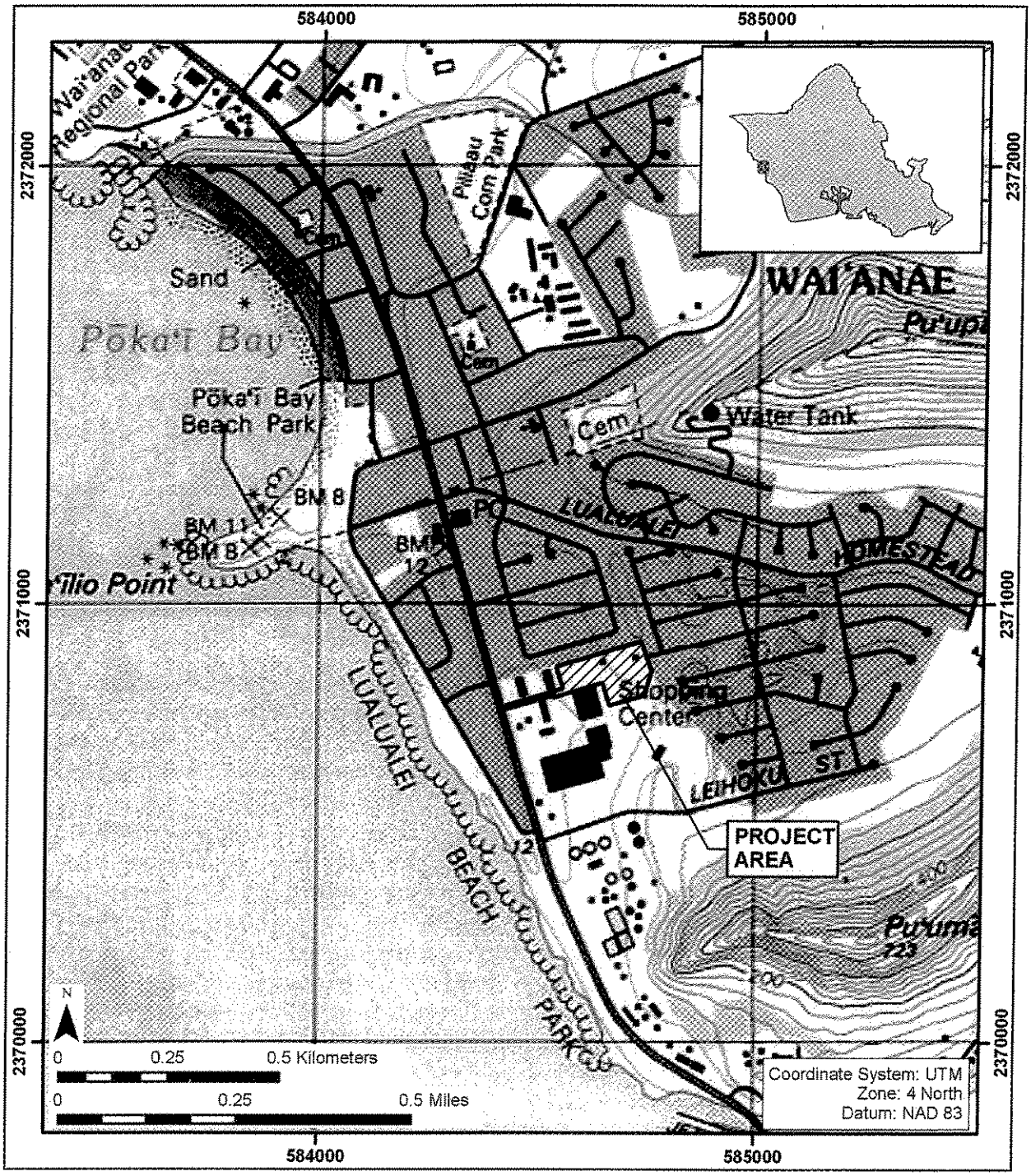


Figure 1. U.S. Geological Survey 7.5-Minute Series Topographic Map, Wai'anae Quadrangle (1998), showing the location of the project area

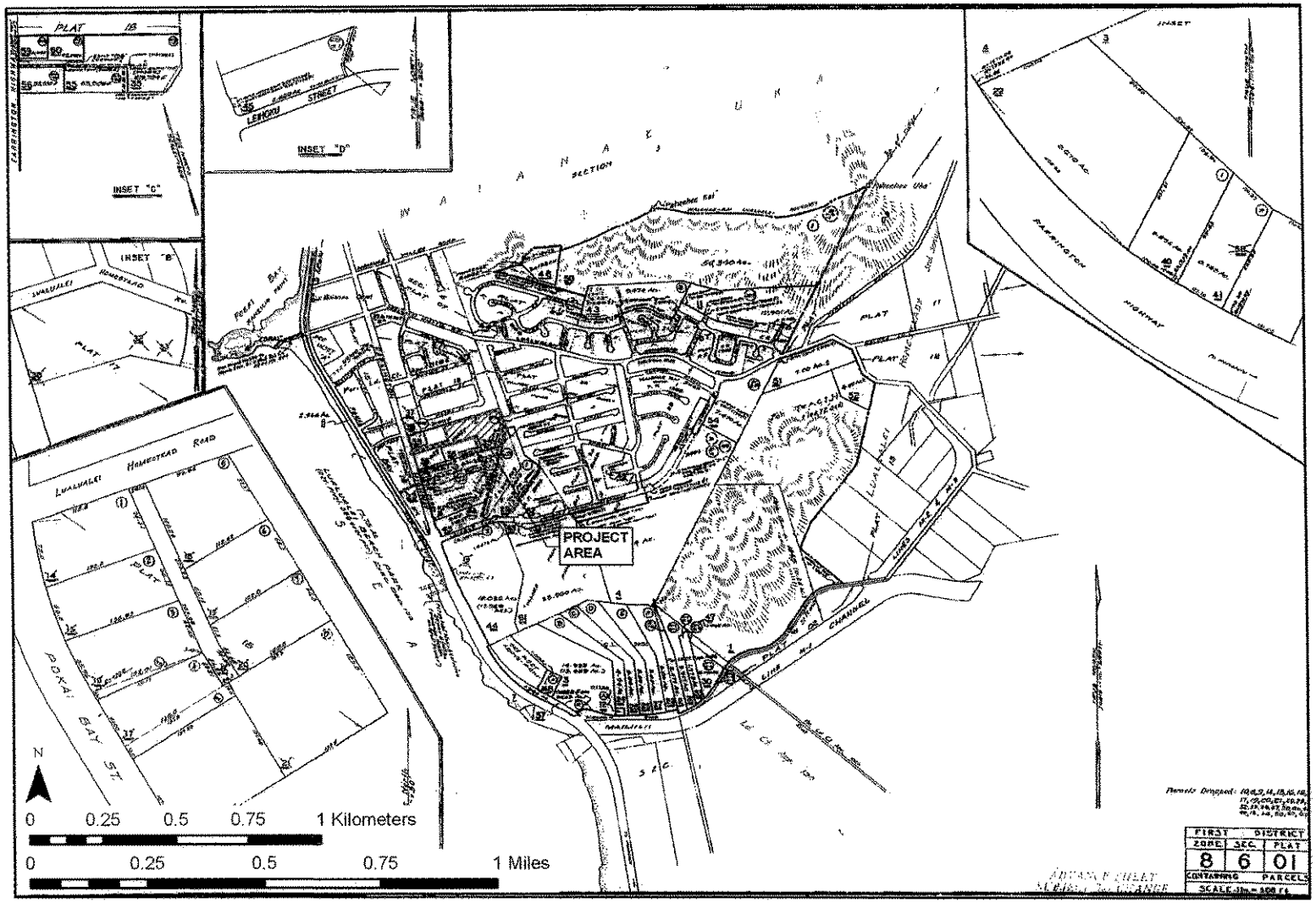


Figure 2. Tax Map Key [1] 8-6-01, showing the location of the project area

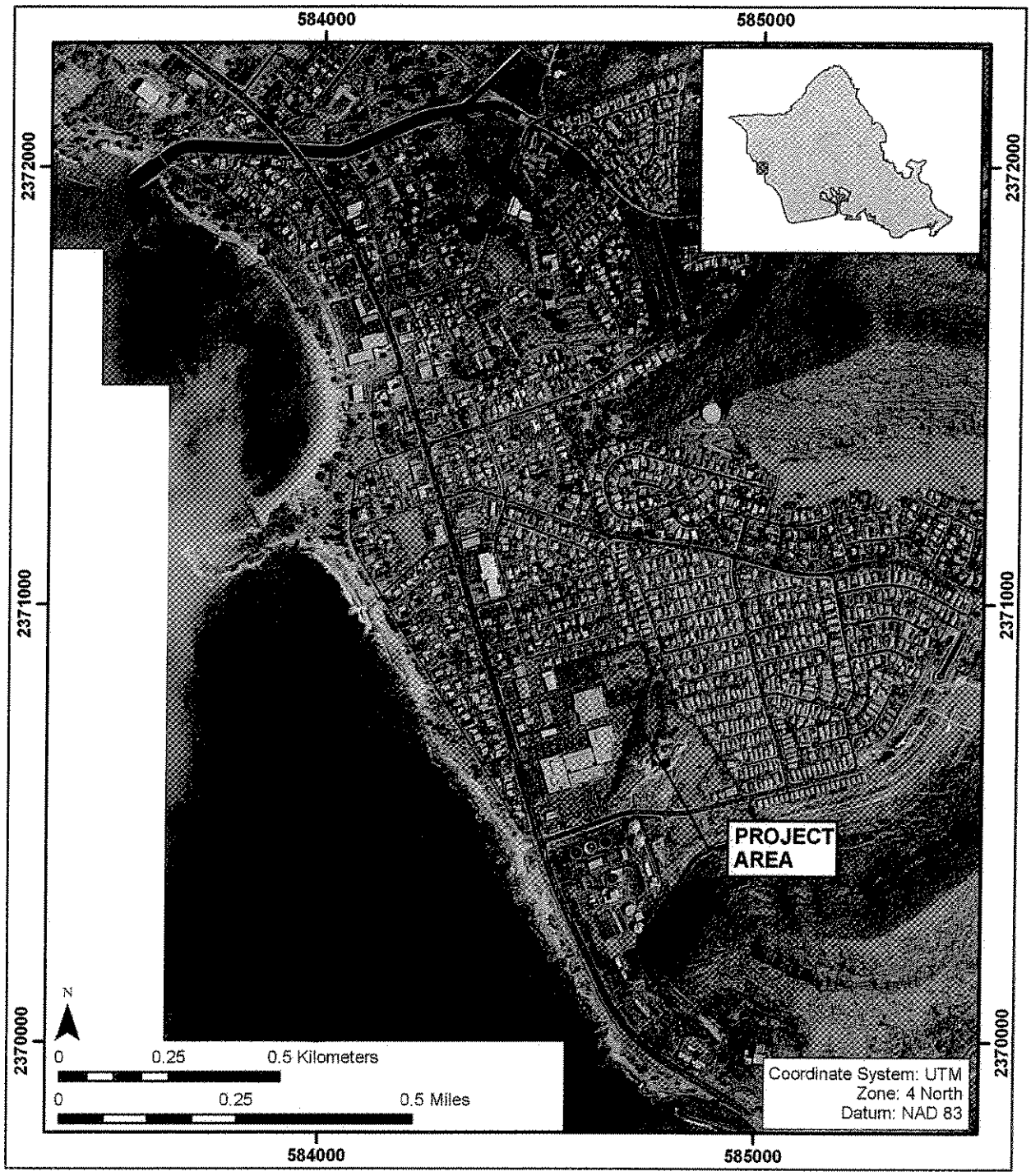


Figure 3. Aerial photograph, showing the location of the project area (source: USGS Orthoimagery 2005)

1.2 Scope of Work

The following scope of work satisfies State and County requirements for an archaeological inventory survey [per HAR 13-13-276]. The scope of work included:

1. Consultation with community members as part of the inventory survey process. This consultation required contacting knowledgeable members of the community and requesting information on historic and cultural issues related to the property.
2. A complete ground survey of the entire project area for the purpose of historic property identification and documentation. All historic properties would be located, described, and mapped with evaluation of function, interrelationships, and significance. Documentation would include photographs and scale drawings of selected historic properties. All historic properties would be assigned *Inventory of Historic Properties* numbers by the State. All historic properties would be located with Trimble GPS equipment with sub-meter accuracy.
3. Given the size and location of the parcel, subsurface testing with a backhoe was conducted as a component of the inventory survey investigation. Subsurface testing was conducted to determine if subsurface cultural deposits are located in the project area, and, if so, evaluate their significance.
4. Research on historic and archaeological background, including search of historic maps, written records, and Land Commission Award documents. This research focused on the specific project area, with general background on the *ahupua'a* and district, and emphasizes settlement patterns.
5. Preparation of this archaeological assessment report, including the following:
    a. A topographic map of the survey area showing all historic properties;
    b. Results of consultation with knowledgeable community members about the property and its historical and cultural issues.
    c. Description of all historic properties with selected photographs, scale drawings, and discussions of function;
    d. Historical and archaeological background sections summarizing prehistoric and historic land use as they relate to the project area;
    e. Recommendations based on all information generated that will specify what steps should be taken to mitigate impact of development on the project area's significant historic properties - such as data recovery (excavation) and preservation of specific areas. These recommendations were developed in consultation with the client and the State agencies.

This scope of work also included full coordination with the State Historic Preservation Division (SHPD), and City and County of Honolulu relating to archaeological matters. This coordination takes place after consent of the owner or representatives.

1.3 Environmental Setting

1.3.1 Natural Environment

The project area is located on the nearly-level coastal plain of Lualualei, in western O'ahu. Elevations within the project area range from 3-8 m (10-26 ft.) a.m.s.l. According to U.S. Department of Agriculture (USDA) soil survey data (Foote et al. 1972) the native sediments within the project area consist of Mokuleia Clay (Mtb) in the western portion of the project area and Mamala Stony Silty Clay Loam (MnC) in the eastern portion of the project area. Soils of the Mokuleia Series are described as "well-drained soils along the coastal plains...formed in recent alluvium deposited over coral sand. They are shallow and nearly level" (Foote et al. 1972). Soils of the Mamala Series are described as "shallow, well-drained soils along the coastal plains...formed in alluvium deposited over coral limestone and consolidated calcareous sand" (Foote et al. 1972). It is also noted that "stones, mostly coral rock fragments, are common in the surface layer and in the profile" of Mamala Stony Silty Clay Loam (MnC) (Foote et al. 1972).

Lying in the lee of the Wai'anae Mountain Range, the project area is located in one of the driest areas of O'ahu, receiving less than 600 mm (24 in.) of annual rainfall (Giambelluca et al. 1986). Vegetation within the project area was sparse, due to recent grubbing activities. Vegetation primarily consisted of various exotic grasses and weeds, with scrub *koa haole (Leucaena leucocephala), kiawe (Prosopis pallida),* and *klu (Acacia farnesiana),*

1.3.2 Built Environment

At present, no historic or modern structures are located within the project area. Concrete building foundations, an asphalt-paved area, and asphalt paved access road remain as evidence of previous development within the project area. Overhead power lines and subsurface utilities also exist within the project area. The surrounding area is largely developed, with single-family residential structures to the north and east of the project area, and the Wai'anae Mall shopping center and other low-rise commercial buildings to the south and west of the project area. The Wai'anae Wastewater Treatment Plant is also located approximately 300 m south of the project area.

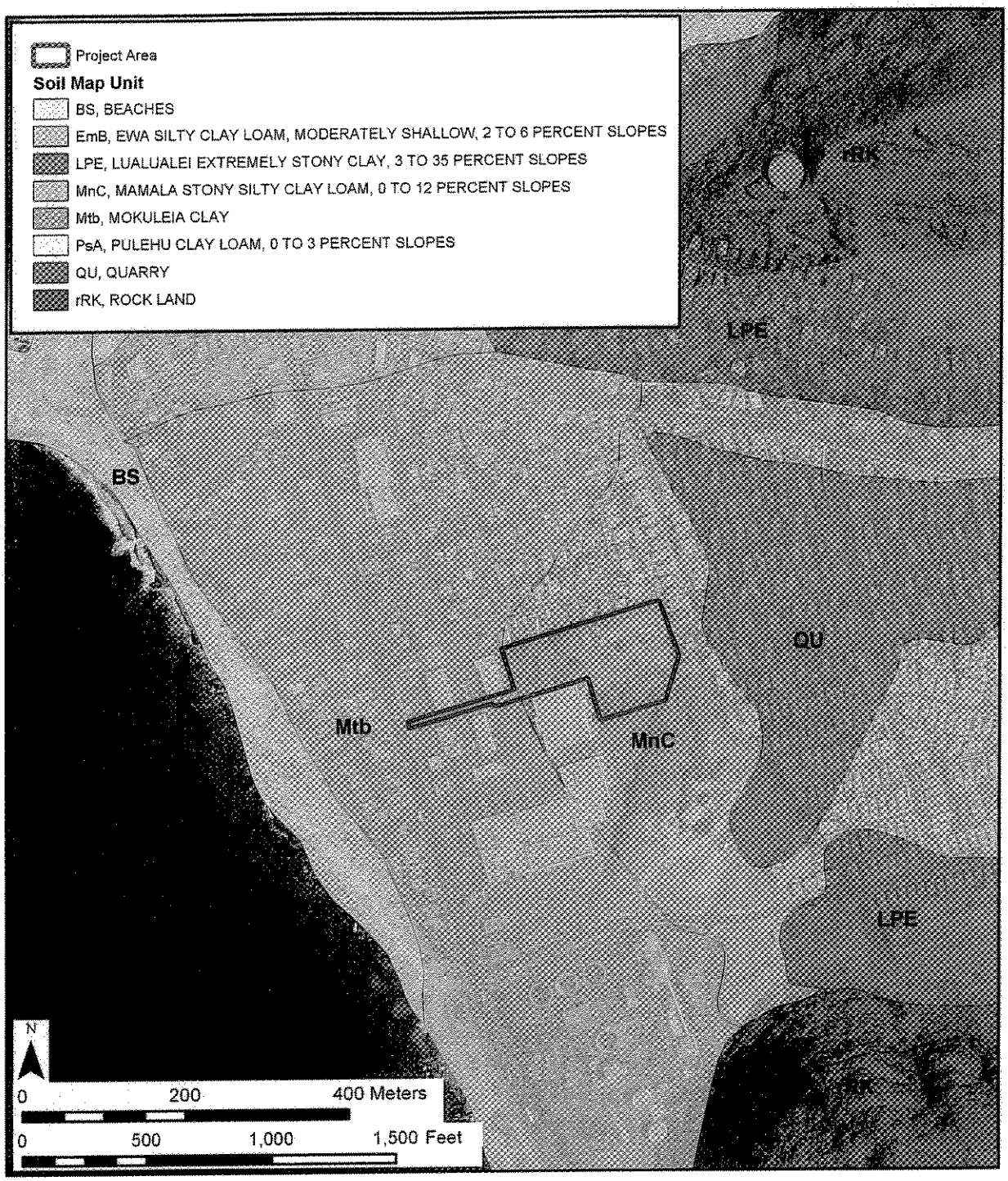


Figure 4. Overlay of the Soil Survey of the State of Hawai'i (Foote et al. 1972), indicating sediment types within the project area

Section 2 Methods

2.1 Field Methods

The fieldwork component of the archaeological assessment was conducted on May 23-25, 2007 and required 12 person-days to complete. The CSH field crew consisted of Douglas Borthwick, B.A., Todd Tulchin, B.S., Mana Hunkin, B.A., and Shawn Fehrenbach, B.A., under the general supervision of Hallett H. Hammatt, Ph.D. Fieldwork consisted of a complete pedestrian inspection of the 5.0-acre project area, as well as a program of subsurface testing. Pedestrian inspection of the project area was accomplished through systematic sweeps. Due to the heavily disturbed nature of the project area (i.e. previous development within the project area and recent grubbing activities), the interval between the archaeologists was generally 10-15 m.

Subsurface testing consisted of the excavation of 30 test trenches utilizing a backhoe. Initial test trenches were evenly distributed throughout the project area to determine the general stratigraphic characteristics exhibited within the project area. Further testing was then conducted in areas determined to have undergone less subsurface disturbance, and therefore higher likelihood of encountering intact cultural deposits. The test trenches generally measured 5-7 m in length, 0.8 m in width, and were excavated down to coral / limestone bedrock. Each test excavation was documented with a scale section profile, photographs, and sediment descriptions. Sediment descriptions included characterizations of Munsell color designations, compactness, texture, structure, inclusions, cultural material present, and boundary distinctness and topography.

2.2 Document Review

Historic and archival research included information obtained from the UH Hamilton Library, the State Historic Preservation Division Library, the Hawai'i State Archives, the State Land Survey Division, and the Archives of the Bishop Museum. Previous archaeological reports for the area were reviewed, as were historic maps and primary and secondary historical sources. Information on Land Commission Awards was accessed through Waihona Aina Corporation's Mahele Data Base (<www.waihona.com>).

2.3 Community Consultation

Per HAR Chapter 13-13-276, the community consultation effort for an archaeological inventory survey involves "notifying interested organizations and individuals that a project could affect historic properties of interest to them; seeking their views on the identification, significance evaluations, and mitigation treatment of these properties; and considering their views in a good faith and appropriate manner during the review process." An in-depth community consultation effort was undertaken by CSH for an associated Cultural Impact Assessment for the proposed Hale Wai Vista project (Golin et al. 2007). The State Historic Preservation Division (SHPD), Office of Hawaiian Affairs (OHA), O'ahu Island Burial Council (OIBC), and members of other community organizations were contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the project area and the surrounding vicinity.

The following summary of the results of the cultural impact assessment (Golin et al. 2007:72) are provided below:

> The community contacts queried for this Cultural Impact Assessment for the proposed Hale Wai Vista Affordable Family Rental Project did not identify any specific ongoing cultural practices such as plant gathering within the current project area. Community contacts identified the following key cultural and other community concerns related to future development of the project area:
>
> 1. If the height of any of the buildings for the apartment complex is above 2 stories (as in the current design) the mauka-makai view plane will be obstructed. A number of culturally significant features of the landscape associated with mo'olelo (legends) of Lualualei and Wai'anae (e.g., Pu'u Mā'ili'ili, Pu'u Pāhe'ehe'e, Mauna Kūwale, Pu'u Makali'i) may be blocked. Additionally, landmarks still used for teaching navigation to youth groups, as well as identifying fishing locations, may no longer be visible from the reefs to the ridge-tops.
>
> 2. The low-income apartment may be (eventually) converted to private properties or condominiums and not serve the purpose for which it was originally intended.
>
> 3. There are sinkholes in the project area that may contain human burials.

Section 3 Background Research

3.1 Traditional and Historical Background

The District of Wai'anae, on the west coast of O'ahu, extends from Nānākuli Ahupua'a in the south to Ka'ena Point in the north. The district once included nine *ahupua'a* (traditional land divisions), including Lualualei. In ancient times, the District of Wai'anae was known for its multitude of fish, and especially for deep-sea fishing off Ka'ena, where the ocean currents meet. The meaning of Wai'anae (mullet water) also implies an abundance of fish — *'anae* is the full-grown mullet (*Mugil cephalus*) (Pukui et al. 1974). In 1840, Wilkes made the following comment: "The natives are much occupied in catching and drying fish, which is made a profitable business, by taking them to Oahu, where they command a ready sale" (Wilkes 1845:81-82). Handy and Handy (1972) attribute the naming of Wai'anae to a large fresh-water pond used for growing mullet called Pueha [sic] (Puehu). The chief Kewalo distinguished himself as a fisherman in Wai'anae, and the legendary hero Māui, also a great fisherman, is also associated with the area (Handy and Handy 1972). Today, the Wai'anae Coast is still considered one of the best fishing grounds on O'ahu.

3.1.1 Mythological and Traditional Accounts

There are two traditional meanings given to the name Lualualei. One meaning, "flexible wreath", is attributed to a battle formation used by Mā'ilikūkahi against four invading armies in the battle of Kīpapa in the early 15th century (Sterling and Summers 1978:68). A second and perhaps more recent meaning, offered by John Papa 'Ī'ī (1959), is "beloved one spared". This meaning relates to a story of a relative who was suspected of wearing the king's *malo* (loincloth). The punishment was death by fire. 'Ī'ī writes:

> Near the end of that year, it was suspected that the son of Papa, named Kalakua, had worn the loin cloth of the king. Kalakua fetched and carried the king's possessions, such as his kahili, mat, or spittoon wherever he went in the court or any place.... In going together constantly the loin cloths they wore had a similar pattern. When they returned to the king's house, Kalakua was taken at once and kept in solitude.
>
> At the same time the king, chiefs and members of the court left Honolulu and sailed by canoe to Waianae. The heir of the kingdom went overland with Papa and others...and spent the night at Kumelewai in Ewa...
>
> The coming of this retinue was announced in Waianae and it was told that the family, parents and children included, would be set on fire for the wrong committed by Kalakua.... Only one committed the deed but the whole family was held guilty.
>
> The company, somewhat in the nature of prisoners spent a night at Lualualei. There was a fish pond there on the plain and that was where the night was spent.

> ....After several days had passed, the proclamation from the king was given by Kula'inamoku, that there was no death and that Kalakua did not wear the king's loin cloth. Thus was the family of Luluku spared a cruel death. For that reason, a child born in the family later was named Lualualei. ('Ī'ī 1959:23)

Mary Pukui believed the first meaning, "flexible wreath" to be the more appropriate one for Lualualei (Sterling & Summers 1978:63). According to Kelley (1991:317), the fish pond on the plain is Puehu fish pond, which is actually located just over the border in Wai'anae. The fish pond no longer exists today and was probably destroyed during the sugar plantation era. Perhaps a third association to the name Lualualei is an older reference to one of Māui's sisters, who went by the same name.

Numerous Hawaiian legends, in addition to archaeological evidence, reveal the Wai'anae coast and *mauka* (towards the mountains) interior to be an important center of Hawaiian history. It is here, in Wai'anae, that the famous exploits of Māuiakalana (Māui) are said to have originated. Traditional accounts of Lualualei focus on the mischievous adventures of the demi-god Māui. It was here that Māui learned the secret of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui's adzes were made, of the magic fishhook, Mānaiakalani and the snare for catching the sun, and of his kite-flying expedition. Pu'u Heleakalā is the ridge that separates Nānākuli from Lualualei. It was at Pu'u Heleakalā where Hina, Māui's mother, lived in a cave and made her *kapa* (bark cloth) (Sterling and Summers 1978:62).

Samuel Kamakau tells us that Māui's genealogy can be traced from the 'Ulu line thru Nana'ie:

> Wawena lived with Hina-mahuia, and Akalana, a male, was born; Akalana lived with Hina-kawea, and Maui-mua, Maui-waena, Maui-ki'iki'i, and Maui-akalana, all males, were born.
>
> Ulehawa and Kaolae, on the south side of Waianae, Oahu, was their birthplace. There may be seen the things left by Maui-akalana and other famous things: the tapa-beating cave of Hina, the fishhook called Manai-a-kalani, the snare for catching the sun, and the places where Maui's adzes were made and where he did his deeds. However, Maui-akalana went to Kahiki after the birth of his children in Hawai'i. (Kamakau 1991:135)

It was from atop Pōhākea summit in Wai'anae that Hi'iaka (the patron goddess of hula and Pele's younger sister) saw the fire and smoke clouds of her beloved *'ōhi'a lehua* groves on Hawai'i burned by Pele in a jealous rage. Pele, convinced that Hi'iaka had betrayed her trust and stolen her lover Lohi'au, sent a flood of lava through Hi'iaka's hula-dancing forest, entombing her dear friend Hōpoe in lava in the process. Hi'iaka, determined to avenge Pele's act of volcanic wrath, put temptation before Lohi'au in the form of the young woman Wahine-oma'o. From her perch on Pōhākea, she watched the two sail off together in a canoe and sang this *mele* (song, chant) that also mentions the "plains of Lualualei":

Hanai alualu i ke kula Miki-kala,	I stand ahigh on Poha-kea;
I ke kula o Puha-malo	The dog of storm strips off his robe;
Hakaka, kipikipi o Kai-a-ulu me ke kanaka;	A zephyr fans you heated plain of
Ua ku' i-ku'i wale a ha' ini na ihu;	Miki-kala and Puha-malo: —
Ua ka i ka u me ka waimaka,	Wild strife 'tween the man and the Sea breeze:
I ke kula o Lualua-lei e!	I see noses flattened, broken,
Ku' u le aloha no olua no, e!	Fountains become of water and tears!
	On the plains of Lualualei
	This is my garland of love to you two!

(Emerson 1915:165, sixth line about Lualualei is not in Emerson's English translation and is translated here by Auli'i Mitchell)

3.1.2 Early Historic Period

In January of 1778, Captain James Cook sighted Wai'anae from a distance, but chose to continue his journey and landed off Waimea, Kaua'i instead. Fifteen years later, Captain George Vancouver approached the coast of Wai'anae from Pu'uloa and wrote in his log:

> The few inhabitants who visited us [in canoes] from the village earnestly entreated our anchoring…And [they] told us that, if we would stay until morning, their chief would be on board with a number of hogs, and a great quantity of vegetables; but that he could not visit us then because the day was *taboo poory* (a day of kapu when nobody was allowed on the beach or in the water). The face of the country did not however promise an abundant supply [of water]; the situation was exposed. (Vancouver 1793 quoted in McGrath et al. 1973:17)

Vancouver also wrote in his log that the entire Wai'anae coast was "composed of one barren, rocky, waste nearly destitute of verdure, cultivation or inhabitants" (Vancouver 1967, Vol. 2:217)

Vancouver did not anchor at Wai'anae. But had he done so, he would have been pleasantly surprised, at least by portions of the coastline. Even though the dry, arid coast seemed dismal, the ocean provided an abundant supply of fish (McGrath et al. 1973:17). The lowlands provided *'uala* (sweet potato; *Ipomoea batatas*) and *niu* (coconut; *Cocos nucifera*), and the inland valley areas were planted in *kalo* (taro; *Colocasia esculenta*) and *wauke* (paper mulberry; *Broussonetia papyrifera*). The upland forest regions provided various woods needed for weapons and canoes.

By 1811, sandalwood merchants began actively exploiting the Hawai'i market, and huge amounts of sandalwood were exported to China. Traditionally, Hawaiians used *'iliahi* (sandalwood; *Santalum* spp.) as a scent to perfume their *kapa,* the tapa cloth made from *wauke* or *māmaki* (*Pipturus* spp.) bark (Abbott 1992), and in healing rituals (Gutmanis 1995). Kamehameha I and a few other chiefs controlled the bulk of the sandalwood trade. Kamakau

(1992:204) writes, "The chiefs also were ordered to send out their men to cut sandalwood. The chief immediately declared all sandalwood to be the property of the government."

The sandalwood trade greatly impacted Hawaiian culture, and the traditional lifestyle Hawaiians had always pursued was altered drastically. In an effort to acquire western goods, ships, guns and ammunition, the chiefs had acquired massive debts to the American merchants ('Ī'ī 1983:155). These debts were paid off in shiploads of sandalwood. When Kamehameha found out how valuable the sandalwood trees were, he ordered the people not to let the felled trees fall on the young saplings, to ensure their protection for future trade (Kamakau 1992:209-210). According to Samuel Kamakau:

> The debts were met by the sale of sandalwood. The chiefs, old and young, went into the mountains with their retainers, accompanied by the king and his officials, to take charge of the cutting, and some of the commoners cut while others carried the wood to the ships at the various landings; none was allowed to remain behind. Many of them suffered for food...and many died and were buried there. The land was denuded of sandalwood by this means. (Kamakau 1992:252)

Kamakau comments about the plight of the common people and the general state of the land during this time:

> This rush of labor to the mountains brought about a scarcity of cultivated food throughout the whole group. The people were forced to eat herbs and tree ferns, hence the famine called Hīlaulele, Hāhāpilau, Laulele, Pualele, 'Ama'u, or Hāpu'u, from the wild plants resorted to. (Kamakau 1992:204)

In 1816, Boki Kama'ule'ule was made governor of O'ahu (and chief of the Wai'anae district) and served in that capacity until 1829, when he sailed to New Hebrides in search of sandalwood. 'Ī'ī writes:

> It was Boki's privilege to assign work, for he had been governor of the island of O'ahu from the time Kamehameha I ordered all the chiefs to O'ahu in 1816 to expel the Russians. ('Ī'ī 1983: 145)

The sandalwood era was short-lived and by 1829, the majority of the sandalwood trees had been harvested, and the bottom fell out of the trade business. It is unclear how extensive Lualaulei's sandalwood resources were. However, the effects of the sandalwood gathering, the population shifts and disruption of traditional lifestyles and subsistence patterns, would undoubtedly have affected the population of Lualualei.

The Reverend William Ellis visited the Hawaiian Islands in 1823. At that time, he estimated the population on the island of O'ahu to be about 20,000 (Ellis 1974:19). The missionaries were the first to gather systematic figures regarding population statistics throughout the various districts on each island. The first census figures were gathered from 1831-1832 and 1835-1836. Population figures for Lualualei were not given, however population numbers given for all of Wai'anae were 1,868 and 1,654 respectively (Schmitt 1973:9). Figure 5 below presents a picture drawn by Hiram Bingham (1789 - 1869), a member of the first group of missionaries to

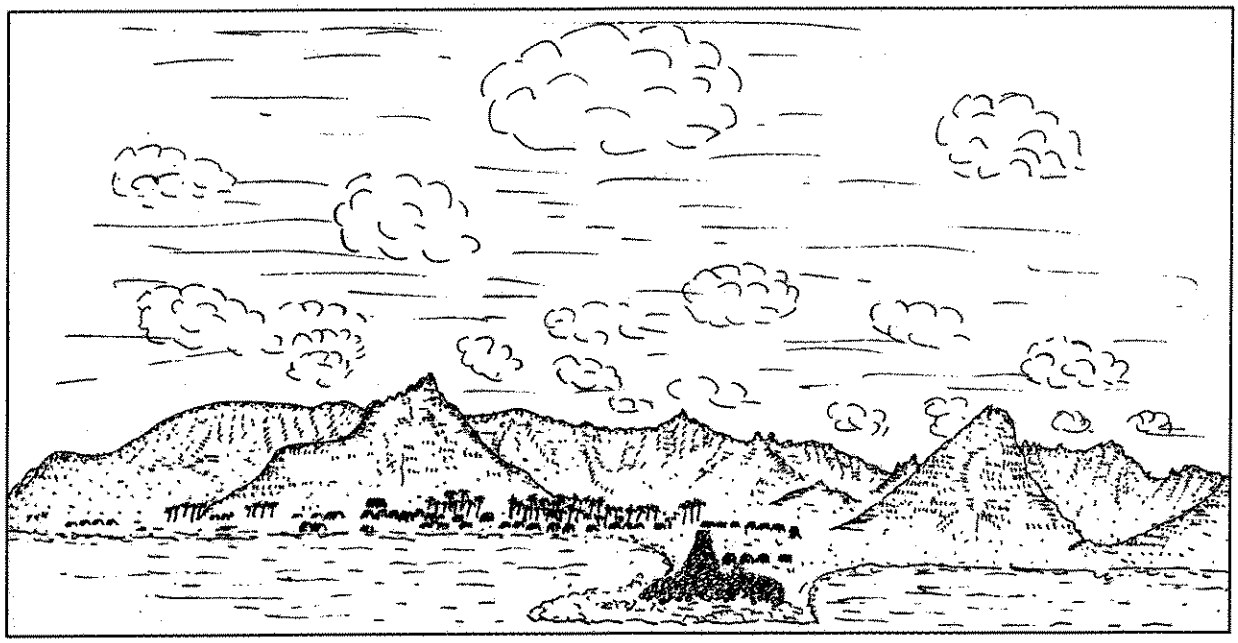


Figure 5. Sketch of village at Pōka'ī Bay made by Hiram Bingham during an 1826 visit; Kū'īlioloa Heiau on Kāne'īlio Point in central foreground

introduce Christianity to the Hawaiian Islands, indicating a village along the shore of Pōka'ī Bay, approximately 0.7 km (0.4 mi.) northwest of the current project area.

Following the western encroachment into the Wai'anae Coast, a swift decline in population occurred due to disease and a "tendency to move to the city where there was more excitement" (McGrath et al. 1973:25). The *'ōku'u* (possibly cholera) epidemic of 1804 undoubtedly had a major effect on the native population, not only in Wai'anae, but throughout Hawaiian Islands. John Papa 'Ī'ī (1983:16) relates that the *'ōku'u* "broke out, decimating the armies of Kamehameha I" [on O'ahu]. Other diseases also took their toll. As noted above, an 1835-1836 missionary census listed 1,654 residents on the Wai'anae Coast. The Wai'anae population was decimated by a smallpox epidemic in late 1853. In 1855, the Wai'anae tax collector recorded 183 taxpayers on the leeward coast, which is thought to represent a total population of about 800 people. This catastrophic depopulation facilitated the passing of large tracts of land into the hands of a few landholders, and led to the decline of the traditional economy that once supported the region (Hammatt et al. 1993:10-11).

3.1.3 Mid-1800s: Land Commission Awards (LCA)

The Organic Acts of 1845 and 1846 initiated the process of the Māhele - the division of Hawaiian lands - that introduced private property into Hawaiian society. In 1848, the crown and the *ali'i* (royalty) received their land titles. *Kuleana* awards to commoners for individual parcels within the *ahupua'a* were subsequently granted in 1850. During the Māhele, the *ahupua'a* of Wai'anae, Lualualei, and Nānākuli were designated as Crown Lands by Kamehameha III. The

crown lands were considered the private lands of the monarch, and many lands were sold or mortgaged during the reigns of Kamehameha III and IV to settle debts to foreigners (Chinen 1958:27). To end this practice, in 1865 the Crown lands were made inalienable, and their dispensation was regulated by a Board of Commissioners of Crown Lands, which effectively put them under the administrative control of foreign-born residents (Kame'eleihiwa 1992:310).

In 1850, the Privy Council passed resolutions that would affirm the rights of the commoners or native tenants. To apply for fee-simple title to their lands, native tenants were required to file their claim with the Land Commission within the specified time period of February 1846 and February 14, 1848. The *Kuleana* Act of 1850 confirmed and protected the rights of native tenants. Under this act, the claimant was required to have two witnesses who could testify they knew the claimant and the boundaries of the land, knew that the claimant had lived on the land for a minimum of two years, and knew that no one had challenged the claim. The land also had to be surveyed.

Not everyone who was eligible to apply for *kuleana* lands did so, and likewise, not all claims were awarded. Some claimants failed to follow through and come before the Land Commission to testify, some did not produce two witnesses, and some did not get their land surveyed. For whatever reason, out of the potential 2,500,000 acres of Crown and Government lands "less than 30,000 acres of land were awarded to the native tenants" (Chinen 1958:31).

A total of thirteen land claims were made in Lualualei, however only seven were actually awarded. Six of the awards were located upland in the *'ili* (land section, usually a subdivision of an *ahupua'a*) of Pūhāwai, far south and *mauka* of the current project area. No quiet land titles were claimed near the coast. From the claims, it can be determined that at least eight families were living in Pūhāwai at the time of the Māhele in 1848. The numerous *lo'i* (irrigated terraces) mentioned in the claims indicate the land was ideal for growing wetland taro and that this livelihood was actively pursued by the awardees. In addition, dryland crops were grown in *kula* (dryland field or pasture), *wauke* – paper mulberry (used for making *tapa/kapa* cloth) was being cultivated, and one claimant was making salt (www.waihona.com). Table 1 lists the land commission awards granted in Lualualei.

Information on the occupation at Lualualei at the time of the Māhele, aside from the historical accounts of scattered coastal hamlets, is from archival records indicating there were nine taxpayers at Mā'ili near the coast and 11 taxpayers at Pūhāwai in the upper valley (Cordy et al. 1998:36). Based on these numbers, Cordy estimates a population of 90 people for coastal Lualualei and 55 people for the upper valley in 1855 (Cordy et al. 1998:36). Regardless of the population estimate, the existence of 20 taxpaying adults in Lualualei indicates that the area was being inhabited and worked. In this case, the Māhele documents are only a partial reflection of the population and actual land use during the time.

Table 1. Land Commission Awards (LCAs) in Lualualei

LCA #	Claimant	*'Ili*	Land Use	Awarded
7334	Kulepe	Lehanoiki, Mo'omuku	7 *lo'i*; 1 *kula*	2 *'āpana*; 4.877 Acres
7436	Kahi	Pūhāwai	100 *lo'i*; 1 *kula*; valley of *wauke*	2 *'āpana*; 24.856 Acres
7451	Kailianu	Pūhāwai, Waianae, Mo'omuku	25 *lo'i*; 3 *wauke*;1 house lot; pigpen	3 *'āpana*; 2.75 Acres
7452	Kaahia	Pūhāwai	36 *lo'i*; 1 *kula*; 2 *wauke*	2 *'āpana*; 2.08 Acres
7454	Kanahele	Pūhāwai	11 *lo'i*; 1 *kula*; 1 salt lands	2 *'āpana*; 1.154 Acres
7456	Kailaa	Pūhāwai	60 *lo'i*; 1 *kula*; *wauke*;1 house lot	2 *'āpana*; 6.74 Acres
8005	Apiki	Keaweloa, Pūhāwai	46 *lo'i*; 1 *kula*	2 *'āpana*; 19.06 Acres

3.1.4 1850 – 1900

3.1.4.1 Ranching in Lualualei

The first longhorn cattle were brought to O'ahu from Hawai'i Island in 1809 by John Young and Kamehameha I, and more were later imported to the islands by Don Francisco de Paula Marin (Kamakau 1992:268), a Spaniard who settled on the islands around 1791 (Lee 2002:26). One of the first areas to be utilized for ranching on the Wai'anae coast was Lualualei. In 1851, William Jarrett leased approximately 17,000 acres of Crown Lands from Kamehameha III for 30 years at a fee of $700 per year (Bureau of Conveyances [B.C.], Department of Land and Natural Resources, Liber 4:616-618.). He established Lualualei Ranch and used the leased land for cattle pasture. Jarrett sold Paul F. Marin, son of Don Francisco de Paula Marin, one-half of his interest in the ranch. Marin lived on the ranch and managed it until 1864, when a dispute arose over the profits of the ranch. Apparently, Marin had never turned over any ranch profits to Jarrett during the time he managed it. After the dispute was settled, Jarrett took on George Galbraith as a new partner (B. C. Liber 18:31).

In 1869, Jarrett sold the remaining portion of his son's interest in Lualualei Ranch to James Dowsett (B. C. Liber 29:16-18). Samuel Dowsett, the father of James Dowsett, was a sea captain who settled down in Hawai'i in 1828 with his wife and daughter. Soon the couple had a second child, the first Anglo-Saxon child born in the islands whose parents were not missionaries. The family was close to the monarchy; Dowsett was a childhood playmate of Kamehameha IV, Kamehameha V, and Lunalilo (Day 1984:37). Dowsett was an entrepreneur of sorts and dabbled in many different business ventures, such as:

> ...a whaling fleet, a dairy, a salt works, an extensive trade in *awa* (a Hawaiian narcotic drink) and numerous land holdings...He also ran cattle at different times in Nānākuli, Mikilua and Lualualei. (McGrath et al. 1973:32)

In 1880, George Bowser traveled through Wai'anae and wrote about Lualualei in his journal:

> Leaving Wai'anae, a ride of about two miles brought me to the Lualualei Valley, another romantic place opening to the sea and surrounded in every direction by high mountains. This valley is occupied as a grazing farm by Messrs. Dowsett & Galbraith, who lease some sixteen thousand acres from the Crown. Its dimensions do not differ materially from those of the Wai'anae Valley, except that it is broader – say, two miles in width by a length of six or seven miles. The hills which enclose it, however, are not so precipitous as those at Wai'anae, and have, therefore, more grazing land on their lower slopes, a circumstance which adds greatly to the value of the property as a stock farm. Although only occupied for grazing purposes at present, there is nothing in the nature of the soil to prevent the cultivation of the sugar cane, Indian corn, etc. Arrangements for irrigation, however, will be a necessary preliminary to cultivation. (Bowser 1880:493-494)

Bowser's comments imply that though water was still a problem, Lualualei seemed to have some potential for development.

James McCandless, who had been an oil-well driller in West Virginia, moved to Hawai'i in 1880 to use his experience to drill artesian wells for the water much needed by the newly established sugar plantations. Two of his brothers, John and Lincoln, joined him in 1883, and together they formed the firm of McCandless Brothers. This company drilled over 600 wells in the islands and invested in other business, including establishing a stock ranch in 'Ewa (Day 1984:90).

In 1894, Link McCandless entered the ranching scene:

> By the 1890s, Hawaii's well drilling boom had begun to peter out. So Link McCandless, a big man of generous enthusiasm and energy, went into ranching. In 1894, he and a man named Tom King chartered the brigantine Oakland in Seattle, filled her hole [*sic*] with cattle and the cabins with feed, and sailed for Hawai'i. By the turn of the century, McCandless' ranching empire covered much of the Wai'anae Coast, including land at Nānākuli, 4,000 acres at Lualualei, San Andrews' property in Mākua and pastures toward Ka'ena Point. (McGrath et al. 1973:68)

3.1.4.2 Sugar Plantations

In 1878, Dowsett leased some of his land in Wai'anae to Herman Widemann, J.L. Richardson, George Wilcox, and Albert Wilcox, who established the Waianae Co. sugar plantation in 1880 (Dorrance 1998: 190-191).

Captain Heinrich Hackfield, born in Oldenberg, Germany established the merchant firm of Hackfield and Co. in Honolulu in 1849. His company would prove very successful over the years as it expanded into other endeavors, including becoming a "factor," or business agent, for the

large sugar plantations. In 1918, the firm's name changed to American Factors, later shortened to Amfac, Inc. (Schweizer 1982:94-104). John Dominis, son of another sea captain, introduced him to other German businessmen in the islands and they encouraged Hackfield to base his operations in Honolulu. One of these Germans was Herman A. Widemann, who had originally come to the islands on a whaling ship. Widemann also proved to be an astute businessman, and became one of the largest sugar plantation owners in the islands (Schweizer 1982:109).

Many of these German immigrants were also involved in Hawaiian politics. At one time, Dominis was the secretary and chamberlain to King Kamehameha IV, who later married Lydia Liliu'okalani, the last monarch of Hawai'i. (Day 1984:36). Widemann was a justice of the Supreme Court, the Kingdom's Minister of Interior, and a member of the privy council (Schweizer 1982:108). Both were friends of the monarchy, and supported David Kalākaua in his candidacy for the throne.

With strong financial backing from his friend King Kalākaua, Widemann started the Waianae Sugar Plantation in 1879. The plantation covered 6,132 acres in the Mākaha, Wai'anae, and Lualualei Valleys. Over two-thirds of the land was too rocky and not suitable for sugar cane cultivation, so the plantation actually consisted of three non-contiguous, irregularly-shaped parcels, one in each valley (Condé and Best 1973:356; Chiddix and Simpson 2004:120). In addition to the cultivated lands, railroad tracks, irrigation ditches and flumes, reservoirs, and plantation housing were constructed to support the sugar industry. An 1884 map of the Wai'anae area indicates the major settlement in the area behind Pōka'ī Bay, with lands cultivated in sugar *mauka* (inland) of the settlement (Figure 6). The map also indicates a lack of development in the immediate vicinity of the project area. The project area is also shown to be at the *makai* (seaward) edge of an extensive "sandstone plain."

An 1894 description of Lualualei by the Commissioner of Crown Lands described the land as

> ...one of the best and most valuable of the Crown lands on the Island of O'ahu. Without exception it surpasses any of the other lands for richness and great fertility of the soil. The lower portion about 500 acres is under cultivation of cane by the Waianae Sugar co., where the yield is said to be enormous...For ranching purposes, this land excels any other as it is known to be the best fattening land on the Island. (Commissioner of Crown Lands 1894:36)

In the early years of the plantation, all of the sugar was transported to Honolulu by ship, loaded on to schooners lying off-shore of Wai'anae Landing (Yardley 1981:130). Sugar from the cane fields was transported to the coastal wharf on their private rail system, originally by steam locomotive running on a narrow 30-inch gauge rails (Condé and Best 1973:356). In 1889, the O'ahu Railway and Land Company (O.R. & L. Co.) extended their tracks to Wai'anae, roughly along the present-day alignment of Farrington Highway, allowing for efficient transport of sugar cane related products to Honolulu by rail.

3.1.5 Early 1900s to Present

By 1901, the Waianae Sugar Company had obtained a five-year lease on 3,332 acres of land at Lualualei to be used for raising cane as well as for ranching (Commissioner of Crown Lands 1902). Sugar and ranching continued to dominate the Lualualei landscape during the early years

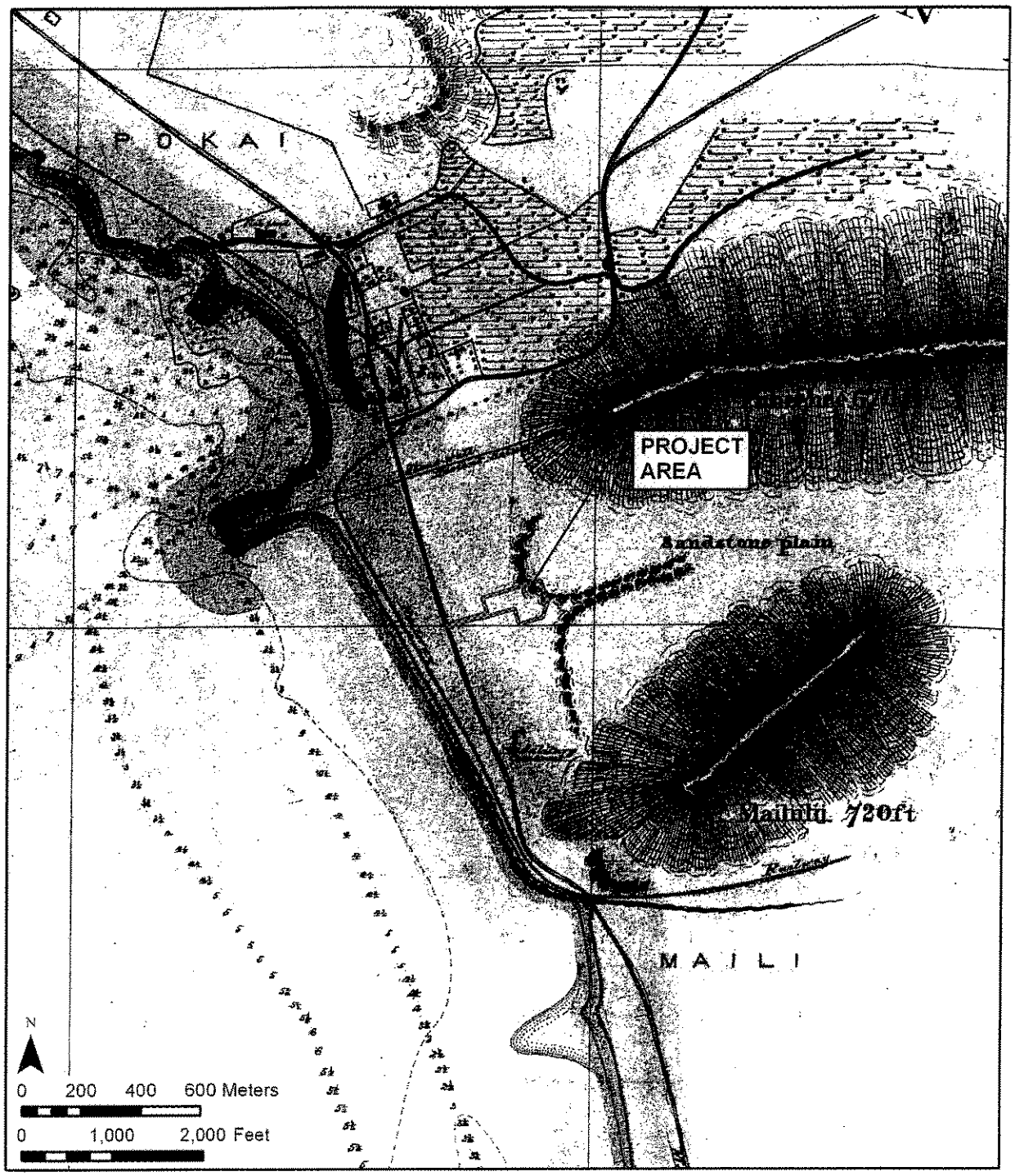


Figure 6. 1884 Hawaiian Government Survey Map of Waianae and Adjacent Coast, George Jackson Surveyor, RM 1348, showing the location of the project area

of the 20th century. The determining factor in the success of Lualualei for sugar production was always the water.

Widemann sold his interest in the Wai'anae Plantation to his son-in-law, James M. Dowsett in 1897 (Condé and Best 1973:357). The J. M. Dowsett Estate, established for the heirs of Dowsett after his death, sold the plantation to American Factors (now Amfac/JMB-Hawai'i) in 1931.

Throughout the first half of the twentieth century, the Waianae Sugar Company continued cultivating their sugar lands in Lualualei. By the 1940s, Waianae Sugar Company could no longer compete with foreign labor. This, in addition to drought problems, labor unions and land battles, caused the undermining of Waianae Sugar Company. In 1946, the Company was liquidated, and the land was sold (Dorrance 1998:192).

3.1.5.1 Homesteading

After the overthrow of the Hawaiian monarchy in 1893, the Crown Lands and the Government Lands were combined to become Public Lands. The Crown Lands were no longer indistinguishable and inalienable. In 1895, the Republic of Hawai'i decided to open up lands for homesteading in the hopes of attracting a "desirable class of immigrants" — Americans and those of Caucasian decent (Kuykendall and Day 1961:204). In anticipation of the Dowsett-Galbraith lease expiring in 1901, the Government intended to auction off these lands to the highest bidder.

In 1902, the government ran advertisements in the local newspapers, stating its intent to open up land in Lualualei for homesteads (Kelly 1991:328). Due to the lack of water, the lots were classified as second-class pastoral land, rather than agricultural land. The homesteads were sold in three series between the years 1903 and 1912. In Lualualei, the first series was for nine *mauka* lots, most of which were purchased by Lincoln McCandless. He leased some of the land to the Sandwich Island Honey Co., which placed apiaries on the land. The remaining portion was cattle pasture for his ranch until 1929, when the U.S. Navy acquired the land for the Naval Ammunition Depot, later renamed the Lualualei Naval Magazine.

The second and third series were for lots in the lower valley and along the coast, *mauka* of the government road. By the early 1920's, about forty families had settled on homestead lots in Lualualei (Kelly 1991:331-332). The well-known families that obtained homestead lots at this time were Von Holt, McCandless, and Dowsett. Figure 7 shows the location of homestead lots in relation to the project area. The 1902 map also indicates the project area to be located on government reserve lands, adjacent to a "limestone lot."

Despite promises by the government to supply water, there was very little, and what little there was, was not enough to go around. Competition between the Waianae plantation and the homesteaders for water caused friction within the community. The lack of water placed a hardship on the homesteaders. Water had to be carried in by hand, and many lost their crops. The Waianae Sugar Company had a lease with the government to take 2.5 million gallons of water daily from government lands, but even after their lease had expired, the plantation continued to take the water. In 1924, the government made an agreement with the plantation to release 112,000 gallons of water daily for the homesteaders (McGrath et al. 1973:84-88).

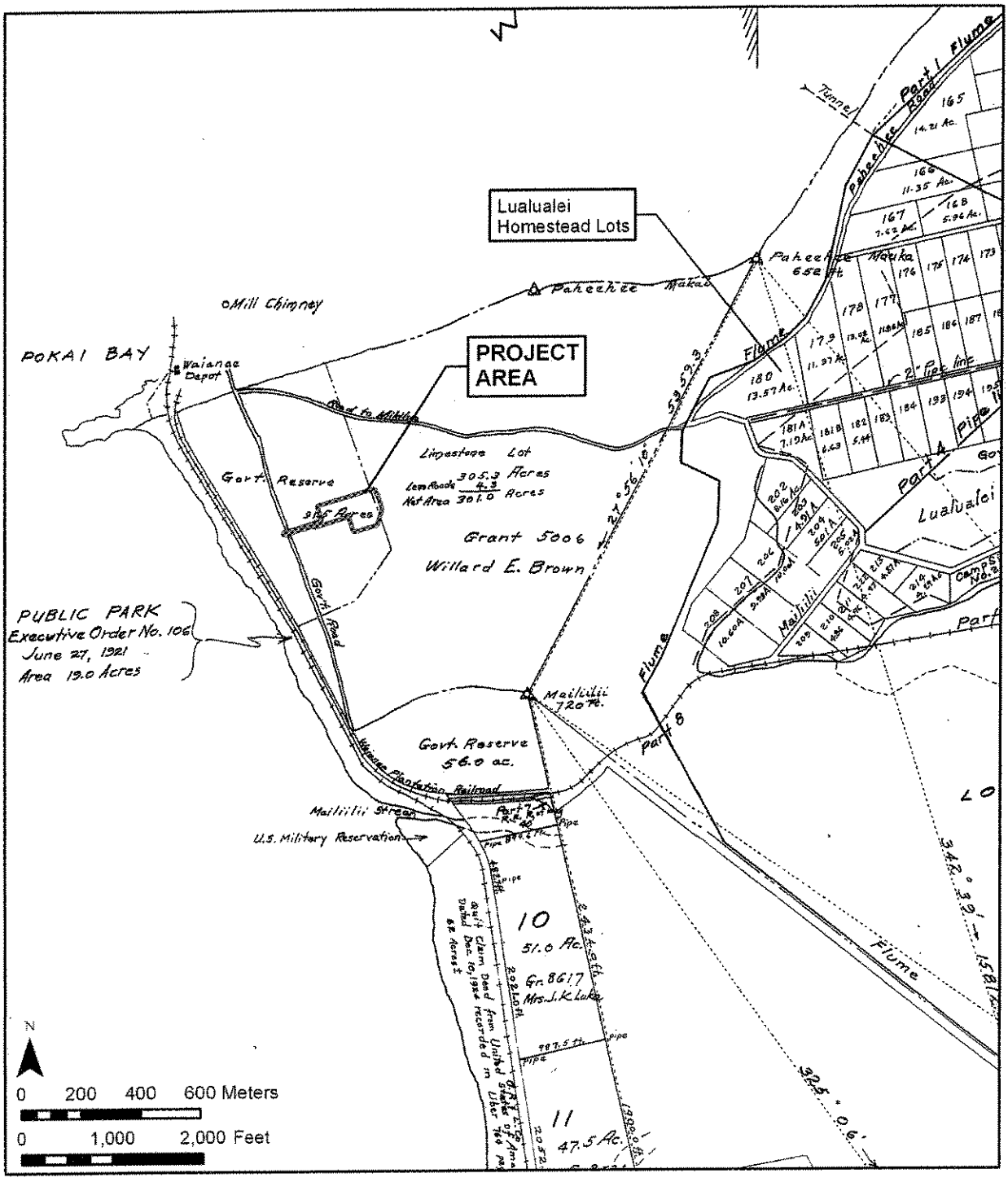


Figure 7. 1902 Hawaii Territorial Survey Map of Lualualei Homesteads, Emerson and Harvey Surveyors, RM 2165, showing the location of the project area

3.1.5.2 Other Commercial Enterprises

A 1937 Land Court Application (LCAp 1102) (Figure 8) map from the Hawai'i Department of Land and Natural Resources, illustrates the project area was owned by the Mahaka Coffee Co. in the early twentieth century. Coffee was first planted in Makaha Valley about 1890 by James Robins Holt, and others hopeful investors soon followed. The coffee farms were, however, largely unsuccessful, as the original investment needs were high and there were always shortages of laborers to pick the beans. Large landowners found that the same lands used to grow coffee could also be used to grow sugar cane, and with a greater profit. Eventually, the lands owned by the Makaha Coffee Co. became sugar lands, rather than coffee tree groves (Barrère 1970:11). The Makaha Coffee Co. parcel in Lualualei is too near the coast to have been used for coffee tree planting, so it was probably an office, or storage area for the beans, conveniently located close to the Poka'i Bay wharf and the OR&L railway line.

The 1937 map also indicates the parcel adjacent to the eastern portion of the current project area is owned by the "Waianae Lime Co." The Wai'anae Lime Company is understood to have used the parcel for limestone quarrying and cement production facilities. Photographs of the Wai'anae Lime Company quarry show the large scale of the cement production facility and depth of the quarry pit (Figure 9). In the photograph, the base of the quarry pit appears to be appears to be approximately 6 m (20 ft.) below the natural land surface. The precise locations shown in the photographs are unclear, but do attest to the scale of the quarry operations. In addition to the quarry pit and cement production infrastructure, a residential "camp" was constructed for Wai'anae Lime Company employees (Figure 10).

3.1.5.3 Military

During the first half of the 20th century another major influence in Lualualei was the U.S. military. In the early late 1920s and early 1930s, over 8,184 acres of the McCandless Cattle Ranch had been condemned and purchased by the U.S. Navy for the construction of a Naval Ammunition Depot for the ships of Pearl Harbor Naval Base. About 1,700 acres at Lualualei was taken from the Hawaiian Home Lands under federal executive orders when Hawai'i was a territory and turned over to the Navy. The acreage represented about one-fifth of Hawaiian Home Lands on O'ahu (Kakesako 1998). The construction of Naval Magazine Lualualei (LLL) and Radio Transmission Facility (RTF) took place in Lualualei between 1930 and 1935 (Kelly 1991:339-341). Today, two antennas of the Navy's communication systems at Lualualei stand 1,500 feet over the Leeward Coast as the state's highest structure (Kakesako 1998).

The number of troops stationed and trained on the Wai'anae Coast during World War II at times reached 15,000 to 20,000 (McGrath et al. 1973:136). The beaches were fortified with barbed wire and concrete bunkers, many of which are still visible today. Martial law severely curtailed the movements of the local population.

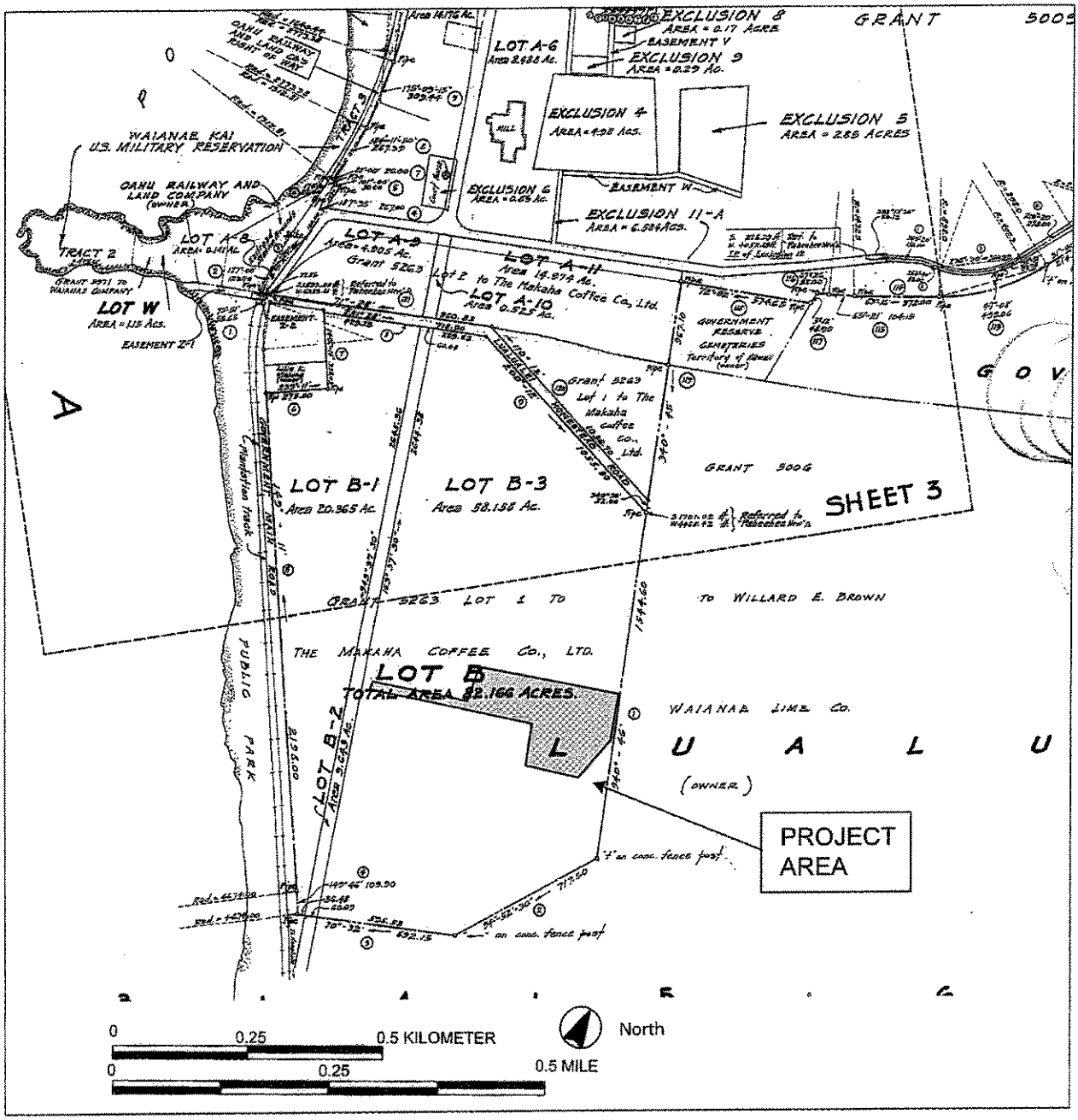


Figure 8. Land Court Application (LCAp) #1102 (1937), Department of Land and Natural Resources, showing project area owned by the Makaha Coffee Co., Ltd; *mauka* lot owned by the Waianae Lime Co.

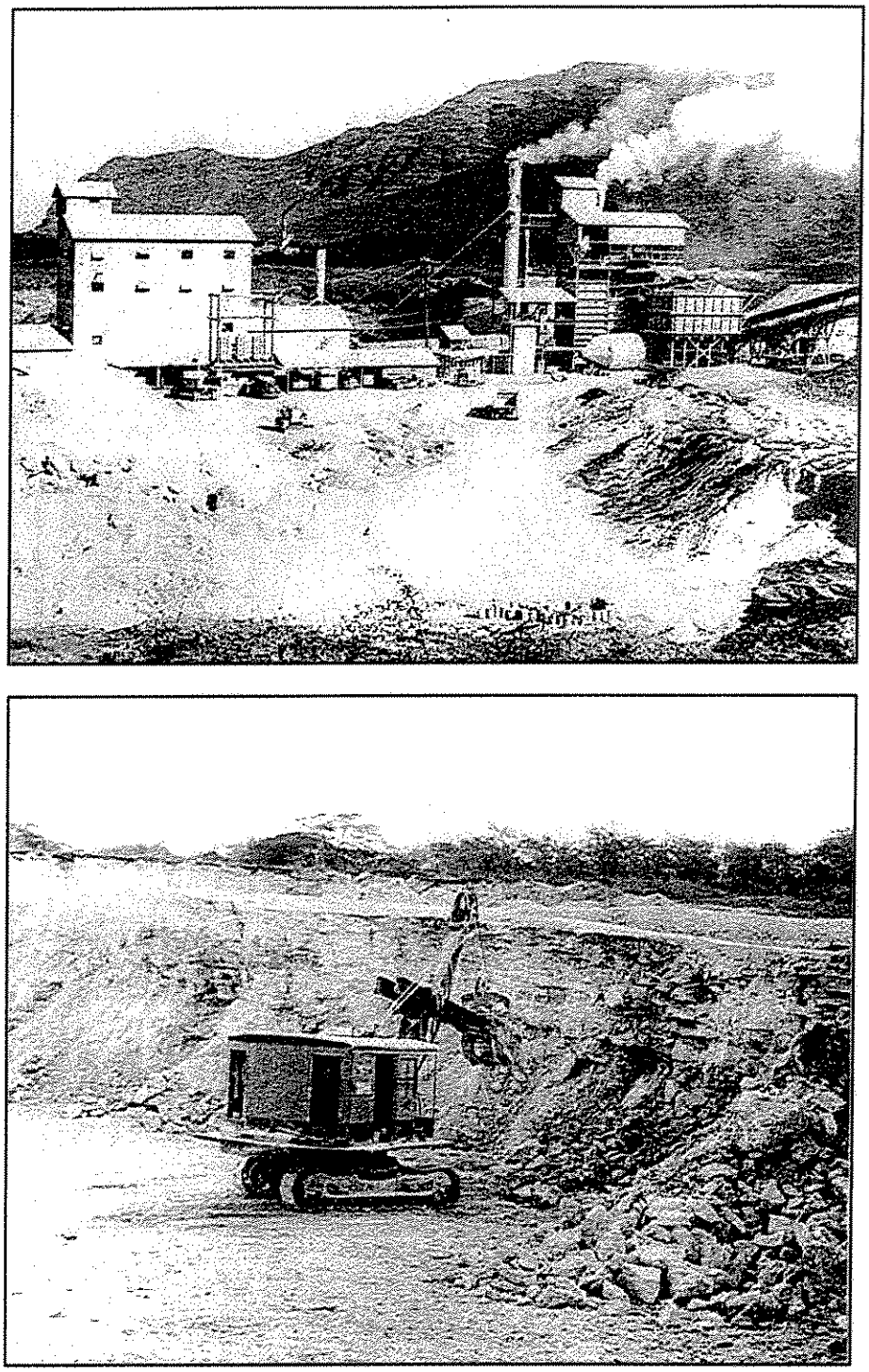


Figure 9. Photographs of Waianae Lime Co. quarry operations, showing cement production facility (above) and mechanized quarrying activities (below). Note depth of quarry pit below the natural land surface. Photographs courtesy Josiah Ho'ohuli, community contact for the associated Cultural Impact Assessment for the proposed Hale Wai Vista project (Golin et al. 2007)

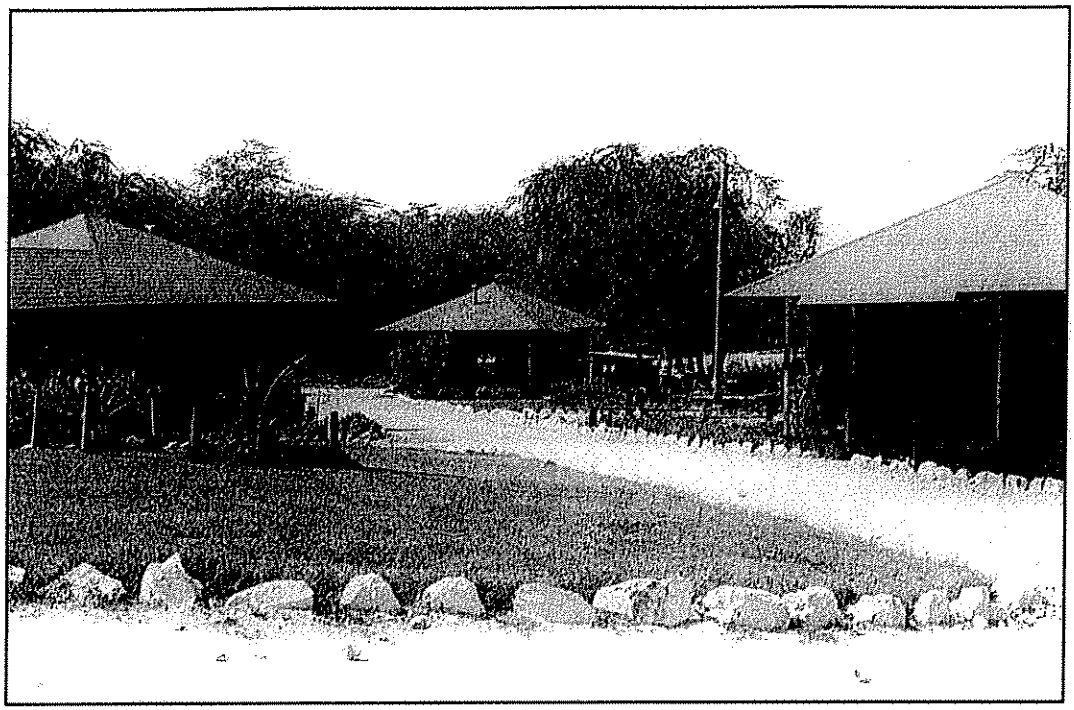


Figure 10. Photograph of residential "camp" for Wai'anae Lime Co. employees. Photograph courtesy Josiah Ho'ohuli, community contact for the associated Cultural Impact Assessment for the proposed Hale Wai Vista project (Golin et al. 2007)

3.1.6 Modern Land Use

A 1956 topographic map (Figure 11) indicates continuing limestone quarrying activities immediately east and southeast of the current project area. The project area remains undeveloped, with the primary settlement in the coastal area fronting Pōka'ī Bay and Kāne'īlio Point.

In 1971, the Navy began sub-leasing some of its lands for agricultural uses, mainly for grazing and bee keeping. The presence of the military boosted the economy of Lualualei by providing jobs to residents over the years. A 1977-78 aerial photograph (Figure 12) shows the extent of limestone quarrying activities in the late 1970s. The quarry-related activity appears to have extended into much of the eastern portion of the project area. Also at this time, residential development has extended to the area adjacent to the northern portion of the project area, and the Wai'anae Mall commercial development has occurred south of the project area. Former quarry areas also appear to be incrementally replaced with residential development.

The modern topographic map (see Figure 1) indicates two structures located within the project area in the late 1990s. These are understood to be related to a commercial auto repair business formerly located in the project area.

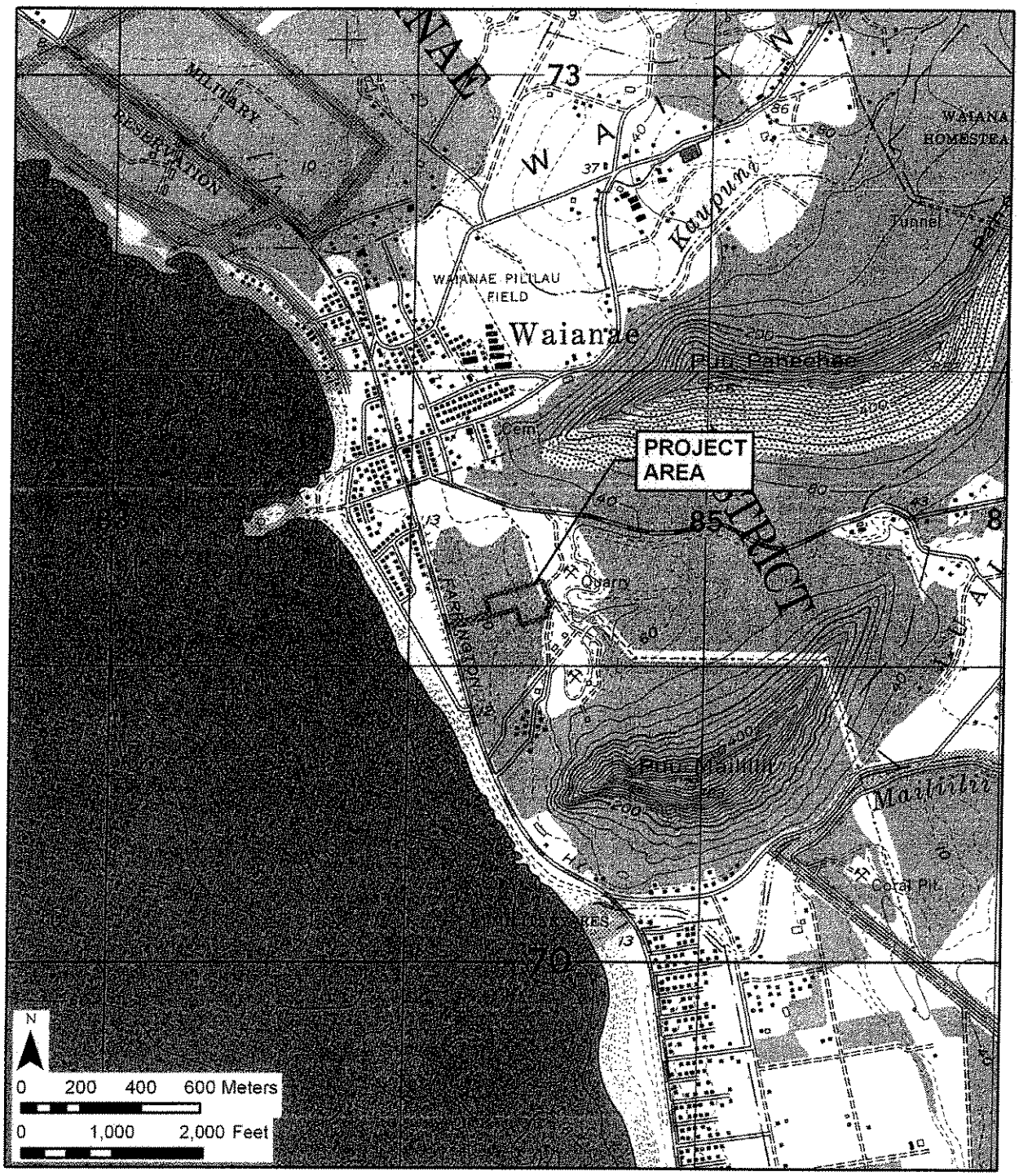


Figure 11. 1956 Army Map Service 1:25000 Scale Topographic Map, Wai'anae Quad., showing the location of the project area

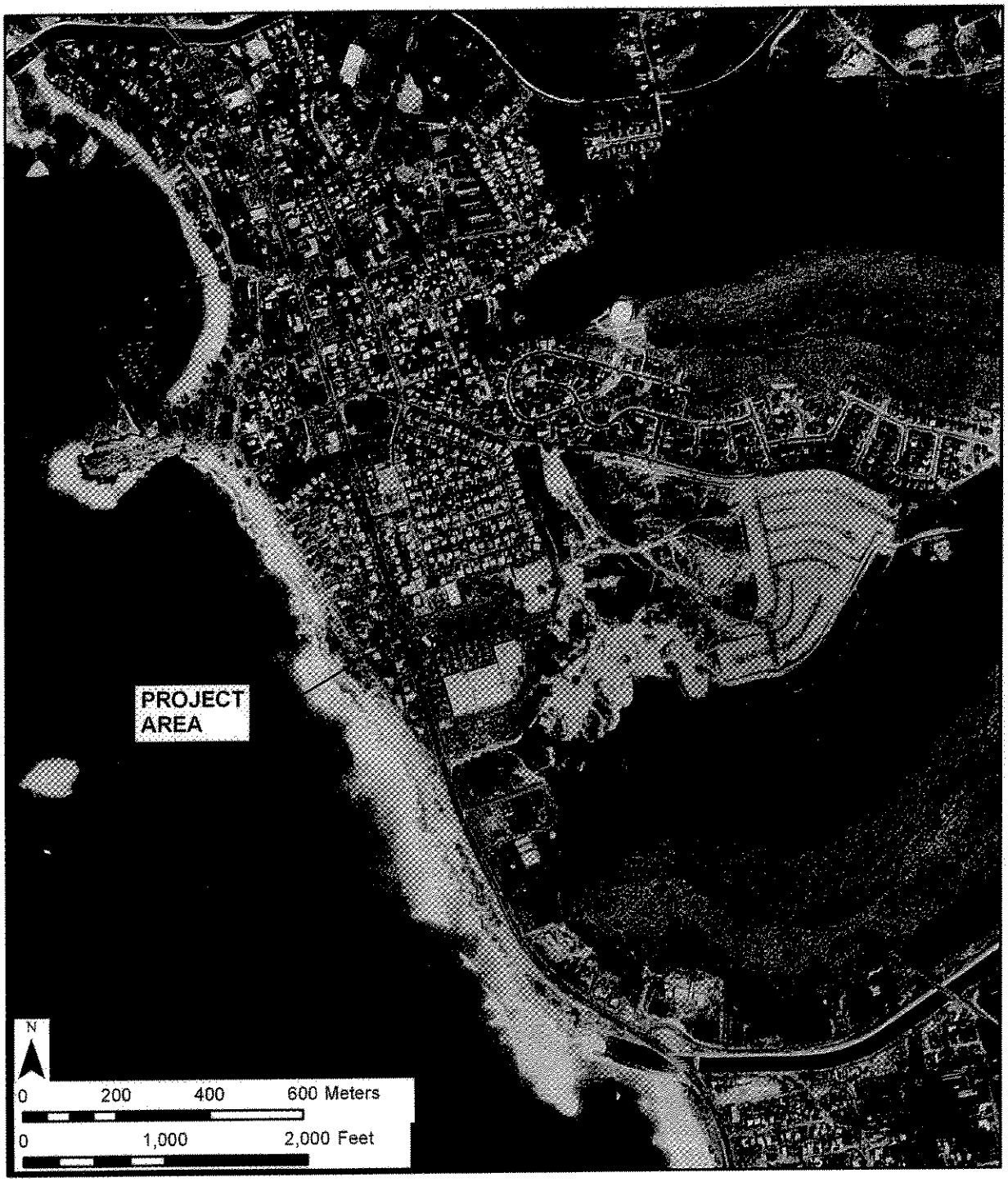


Figure 12. 1977-78 USGS 7.5-Minute Series Orthophotoquad, Wai'anae Quad., showing the location of the project area

3.2 Previous Archaeological Research

3.2.1 Archaeological Studies in Lualualei

Figure 13 and Table 2 summarize the archaeological studies conducted in Lualualei. The earliest attempt to record archaeological sites in the nearby regions of Lualualei was in the 1930s by J. Gilbert McAllister. McAllister recorded four sites in Lualualei, one site on the border between Lualualei and Nānākuli Ahupua'a, and three sites on the border of Lualualei and Wai'anae Ahupua'a. The site on the border with Nānākuli, far south of the present project area was 'Ilihune Heiau. McAllister provides a small amount of information on 'Ilihune Heiau..

> Site 147. Approximate site of 'Ilihune Heiau, Nanakuli, of which nothing remains. Thrum notes: "A small walled heiau of *pō'okanaka* class; used about 1860 by Frank Manini as a cattle pen, for which natives prophesized his poverty and death." (McAllister 1933:110)
>
> Site 148. Large rock said to be named Maui, about 1.1 mile from Nanakuli station toward Pu'u o Hulu
>
> Northeast of the road on the property of E.P. Fogarty is a rock said to be named after the Hawaiian hero, Maui, who is said to have landed here when he first came to the Hawaiians islands from the south. This stone at the time was surrounded by water, and it was here that Maui reposed and sunned himself. In the bluff just northeast of the rock is a shelter in which he lived, and in the vicinity was a spring where he obtained water. The large rock is now split in half and adorned with many small, oddly-shaped rocks. It is said to be bad fortune to build one's house across a line drawn directly from the rock to the shore. (McAllister 1933: 110)

McAllister recorded three sites in the *mauka* portion of Lualualei. Site 149 was Nioiula Heiau, on Hālona Ridge, said to be of the *pō'okanaka* class. Some of the stones were used for a cattle pen on the McCandless property. Site 150 consisted of house sites or *heiau* at the foot of the cliffs in Pāhoa. Cattle destroyed much of the walls and terraces. Site 151 was Kakaio Heiau, located at Pūhāwai. It had a sacred spring where the sound of drums and conches could be heard on the nights of Kāne (McAllister 1933:110).

McAllister recorded three sites near the boundary of Lualualei and Wai'anae, just north of the project area. Site 152, Pu'u Pāhe'ehe'e Heiau, consisted of a walled *heiau* on the slopes of Pāhe'ehe'e Ridge. In ancient times, the slopes were covered with slippery grass for the purpose of staging sledding contests (McAllister 1933:112). This site was completely destroyed with the enlargement of the adjacent Oriental Cemetery. At the tip of Kāne'īlio Point was Site 153, Kū'īlioloa Heiau. This *heiau* was surrounded by water on three sides and consisted of three platforms with evidence of terracing (McAllister 1933:112). Site 162 was a burial cave at Mauna Kūwale. It contained fragments of skeletal material (McAllister 1933:116).

Table 2: Archaeological Investigations in Lualualei Ahupua'a.

Reference	Location	Description and Results
McAllister 1933	Lualualei Ahupua'a	Island-wide Survey; McAllister recorded eight sites in or near Lualualei: Site 147. 'Ilihune Heiau; Site 148, rock called Māui; Site 149, Nioiula Heiau on Hālona ridge; Site 150, House sites or heiau at Pahoa cliffs; Site 151, Kakioe Heiau at Pūhāwai; Site 152 Pu'u Pāhe'ehe'e Heiau; Site 153, Kū'īlioloa Heiau; and, Site 162, Mauna Kūwale burial cave.
Bordner 1977	Lualualei Ahupua'a TMK 8-7-9	Reconnaissance Survey: Performed on the proposed site for the Nānākuli landfill. The area included land on both sides of Lualualei Naval Road, continuing up the slope to Pu'u Heleakalā. No archaeological sites were found.
Sinoto & Pantaleo 1990	Lualualei Ahupua'a TMK 8-6-01: 04	Archaeological survey for the Village Pokai Bay subdivision. No sites identified. Area disturbed by modern activities.
Haun 1991	Naval Magazine and Naval Communications Area Transmission Facility TMK 8-6; 8-7; 8-8-01	Archaeological Reconnaissance Survey: Included a 8,184-acre parcel, and a 700-acre parcel encompassing the entire inland portion of Lualualei Valley. A total of 131 sites and 1,004 features were identified. The features included "alignments, C-shapes, L-shapes, U-shapes, walls, terraces, enclosures, mounds, platforms, walled terraces and paved terraces" (Haun 1991; vii). The features are related to habitation, rituals, ceremonies, agriculture, the procurement of lithic material, and the manufacture of stone tools. Historical and recent structures associated with cattle ranching and military use was also identified.
Chiogioji & Hammatt 1993	Lualualei Ahupua'a TMK 8-7-21:17	Archaeological Survey and Testing: (Revised from the 1992 'Archaeological Investigations' report). This five acre parcel, formerly a basil farm, was situated between Pu'u o Hulu to the southwest and Ulehawa Stream to the southeast. The results of the survey found an absence of intact archaeological remains.
Hammatt et al. 1993	Lualualei Ahupua'a Lualualei Golf Course TMK 8-7-9:2; 8-7-10:6&10; 8-7-19:1	Archaeological Inventory Survey: Identified eight sites within the project area, two traditional Hawaiian sites that included one habitation complex and the remnants of one wall, and six historic sites that included a cattle wall, a furnace, wells, a house lot, and cement foundation structure. (These findings have also been included in the Final Environmental Impact Statement produced by Hida, Okamoto, & Associates, April 1991)

Reference	Location	Description and Results
Flood & Dixon 1994	Lualualei Ahupua'a TMK 8-6-01	Archaeological reconnaissance of the Wai'anae Coast Comprehensive Health Center. No sites identified.
Kolb et al. 1995	Lualualei Ahupua'a TMK 8-6-03: Por. 25 and 8-4-04: Por. 52	Archaeological survey and excavations conducted on the Lualualei side of the slopes of Pahe'ehe'e Ridge. No pre A.D. 1900 habitation or farming activities occurred with the project area. Two enclosures interpreted as ritual shrines were located and were confirmed to date after A.D. 1400. It was recommended that both Sites 4432 and 4433 be preserved.
Ogden Environ-mental and Energy Services Co., Inc. 1997	Lualualei Ahupua'a Lualualei Navel Magazine	Cultural Resource Review Survey: This survey reviewed existing information on sites in the previously listed locations. Sites reviewed within NAVMAG-LLL included 197 sites with 1020 recorded features and also an additional 400 sites that had been reported but not recorded; in NAVMAG-Waikele five sites with 11 features; in NAVMAG-West Loch two sites; and Kolekole Rock was located near NAVMAG-LLL. Three sites listed in the National Register of Historic Places (NRHP) were located in the project area. They include the Nioiula Heiau, NAVMAG-LLL; 'Oki'okiolepe Fishpond, NAVMAG-West Loch; and the Pearl Harbor National Historic Landmark, NRHP site 50-80-13-9992
Ogden Environ-mental and Energy Services 1998	Lualualei Ahupua'a Radio Transmission Facility	Phase I Archaeology Reconnaissance Survey: This survey was conducted to locate archaeological sites and incorporate them into a Cultural Resource Management Plan. Three sites were located on a 260-acre parcel. Site 5591 is composed of features associated with the sugarcane industry of the 19th and 20th centuries. Sites 1886 and 5592 are considered traditional Hawaiian sites; they include a permanent habitation site and a rock mound.
Elmore & Kennedy 2001	Lualualei Ahupua'a	Archaeological inventory survey for possible Wai'anae Emergency Access Road corridors in Wai'anae, Lualualei, and Nānākuli ahupua'a. No sites identified in Lualualei.
Perzinski et al. 2002	Lualualei Ahupua'a, TMK 8-6-1: 29	Archaeological assessment for proposed Wai'anae Community Transit Center. No sites identified. Area disturbed by modern activities.

Reference	Location	Description and Results
Tulchin et al. 2003	Lualualei Ahupua'a, Pu'u Mā'ili'ili	Archaeological Inventory Survey: Cultural Surveys Hawai'i conducted an inventory survey of the proposed Wai'anae 242 Reservoir and Access Road project area, on the northeast ridge of Pu'u Mā'ili'ili. Two possible field shelters and a cave were investigated, but there was little evidence that these were traditional Hawaiian sites.
Jones & Hammatt 2004	Lualualei Ahupua'a	Archaeological monitoring along sections of La'ikū, Wai'olu and Princess Kahanu Streets. No cultural material observed.
O'Leary & McDermott 2006	Lualualei Ahupua'a, TMK: [1] 8-7-09: por. 1	Archaeological inventory survey along western slopes of Pu'u Heleakalā. Two sites identified, SIHP # 50-80-08-6699, a prehistoric rock shelter, and SIHP # 50-80-08-6681, a World War II-era concrete bunker.

Table 3: Archaeological Investigations in Mā'ili, Lualualei Ahupua'a.

Reference	Location	Description and Results
Barrera 1975	Mā'ili, Kaiser Pacific Prop. Corp. Land	Archaeological Site Survey: Six sites were found; a religious structure; C-shaped feature; two house site features; a possible site; and a midden scatter.
Cordy 1975	Mā'ili, Kaiser Pacific Prop. Corp. land	Excavation of Site CH-0A-1: The religious structure in Barrera's (1975) report was excavated. This report found no evidence to confirm the site as being a religious structure, instead it was found to be a modern structure built no earlier than 1930 or 1940.
Kennedy 1983	Mā'ili, TMK 8-7-06:32	Reconnaissance Survey: No archaeological sites were found on or within 50 feet of the proposed Wai'anae Corporation Yard site.
Hammatt & Shideler 1990	Mā'ili, Liopolo Street Burial (Site 50-80–08-4244)	Archaeological Monitoring and Osteological Analysis: Seven burials were discovered during the installation of a Board of Water Supply 8-inch water main. The burials were found in calcareous beach sand. Five burials were removed, and two were left in situ.
Jimenez 1994	Mā'ili Kai TMK 8-7-10:2	Additional Inventory Survey: Conducted at four previously inventoried sites in the Mā'ili Kai project area. This inventory identified intact prehistoric and historic cultural deposits at two of the sites. Twenty-five of 26 sites had been considered significant for scientific information content and required no additional data collection, while the remaining site was considered significant and recommended for additional data collection.

Reference	Location	Description and Results
Mayberry & Rosendahl 1994	Mā'ili, TMK 8-7-10:2, 14	Reconnaissance Survey: Twenty-six sites were located. Twenty-four of these sites dated to the 20th century. Two of the 24 sites dated to the early to late 20th century, and the other 22 sites dated from 1930 to the present. The remaining two sites presented rock features, possibly pre-dating the 20th century.
McDermott & Hammatt 2000	Mā'ili, Ulehawa Beach Park, TMK 8-7-05:01, 03 and 05; 8-7-06:03; 8-7-08:01, 8-7-08:26; 8-7-08:26	Archaeological Inventory Survey: Two subsurface cultural layers, designated sites -5762 and 5763, were found during test excavations. Deposits consisted of midden (marine shell, fish bone, etc.) and both indigenous (fish hooks, volcanic and basalt flakes) and historic (glass, metal and concrete fragments) artifacts. Of particular interest was a nearly complete, barb-less pearl shell fish hook with an unusually deep v-bend reminiscent of Marquesan or Tahitian hooks and is atypical for Hawaiian hooks. Both layers appear to date to late pre-Contact or very early post-Contact times.

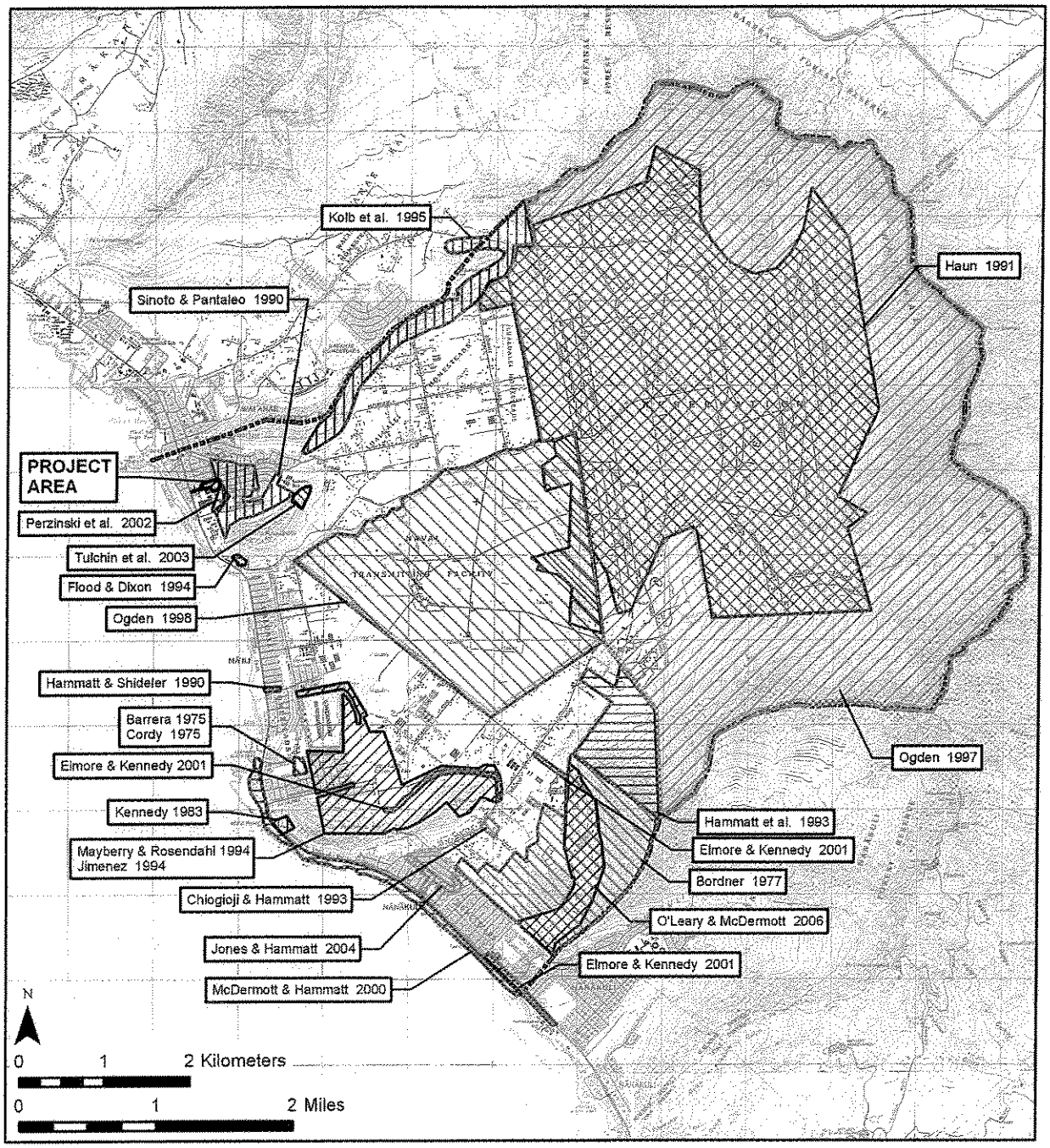


Figure 13. Previous archaeological studies in Lualualei Ahupua'a

A reconnaissance survey for a proposed landfill site, included land on both sides of Lualualei Naval Road, continuing up the western slope of Pu'u Heleakalā (Bordner 1977). No archaeological sites were recorded.

Sinoto and Pantaleo (1990) conducted an archaeological survey for the Village Pokai Bay subdivision, immediately east of the current project area. No archaeological sites were identified. The area was observed to have been heavily disturbed by modern activities, including limestone quarrying and bulldozing related to development in adjacent areas.

An archaeological reconnaissance survey of the "Naval Magazine, Lualualei (NAVMAG LLL) and Naval Communications Area Master Station Eastern Pacific Radio Transmitting Facility, Lualualei (RTF LLL)" was accomplished during the mid-1980s. The survey encompassed more than 9,000 acres, "the entire half of the large amphitheater-shaped valley, and approximately one-third of the coastal half" (Haun 1991:4). One hundred and thirty-one sites, consisting of 1,004 features, were identified during the survey. Indigenous Hawaiian feature types recorded include alignments, C-shapes, L-shapes, U-shapes, walls, terraces, enclosures, mounds, platforms, walled terraces and paved terraces. The features recorded relate to activities including habitation, rituals, ceremonies, agriculture, the procurement of lithic raw material, and the manufacture of stone tools. Historical and recent structures associated with cattle ranching and military use of the area were also identified. Fourteen shovel probes provided datable materials (charcoal and volcanic glass), as well as cultural materials (artifacts and midden). Radiocarbon dates range from A.D. 1420 to 1950. It is suggested that the interior of Lualualei Valley was initially occupied on a temporary basis by people cultivating the area. This may have begun as early as the mid 1400s, continuing up to the mid to late 1700s to early 1800s. Permanent habitation sites were occupied, and population of the valley evidently increased quite rapidly, based on the dense distribution of habitation and agricultural features (Haun 1991:vii).

An archaeological study was conducted on a five-acre parcel, formerly a basil farm, situated between Pu'u o Hulu and Ulehawa, south of the current project area (Chiogioji and Hammatt 1993). No archaeological remains were documented.

Flood and Dixon (1994) conducted an archaeological reconnaissance of the Wai'anae Coast Comprehensive Health Center. No sites were identified, due to heavy modern disturbance in the area.

An archaeological inventory survey of an approximately 170-acre parcel located southeast of the Naval Magazine was conducted by Cultural Surveys Hawai'i, Inc. (Hammatt et al. 1993). The parcel is described as comprising "vacant, unused lands. It is undeveloped and contains several remnant and abandoned historic structures" (Hammatt et al. 1993:7). Eight archaeological sites were identified, including "two traditional Hawaiian sites and six historic sites related to ranching and military activities" (Hammatt et al. 1993:i). The two traditional Hawaiian sites, SIHP # 50-80-08-4366 (a site complex) and SIHP # 50-80-08-4367 (a wall remnant), were interpreted as being attributable to traditional Hawaiian activity, with one site (SIHP # 50-80-08-4366) probably representing prehistoric, recurrent habitation at the foothills of Pu'u Heleakalā. This is primarily evidenced by the presence of a probable hearth feature within the site complex. SIHP # 50-80-08-4367 - a remnant wall section running adjacent to an intermittent streambed - suggests an agricultural usage, possibly constructed to retain or divert water. Given the weathered condition of the structure, this site may be prehistoric (Hammatt et

al. 1993:28). The paucity of Hawaiian sites within the study parcel - in comparison to the number located within the large Naval Magazine study area, located to the north and *mauka*, suggests that the parcel may represent, at most, the *makai*-most fringe of the inland settlement. The survey report concludes:

> The few traditional Hawaiian sites identified during the present study suggest that most of the project area was sparsely inhabited during prehistory and early history. This would be due primarily to the lack of fresh water resources in the vicinity...Although surface run-off and intermittent drainage present in the project area would allow some potential for seasonal agriculture, the attraction for settling in the wetter upland valleys would surely have been greater. (Hammatt et al. 1993:31)

An archaeological survey and test excavations were conducted along the eastern slopes of Pahe'ehe'e Ridge, northeast of the current project area (Kolb et al. 1995). Background research indicated the primary area of settlement to be in the "flat lands of the surrounding valleys" (Kolb et al. 1995:32). No evidence of habitation or agricultural use was observed within the project area. Two rectangular enclosures (Sites 4432 and 4433), were identified along the ridge and interpreted to be ritual shrines. Radiocarbon dating indicated the sites post-date A.D. 1400. Both Sites 4432 and 4433 were recommended for preservation.

A cultural resource review survey was conducted by Ogden Environmental and Energy Service Co., Inc. (1997). This survey reviewed existing information on sites in the previously listed locations. Sites reviewed within NAVMAG-LLL included 197 sites with 1020 recorded features and also an additional 400 sites that had been reported but not recorded; in NAVMAG-Waikele five sites with 11 features; in NAVMAG-West Loch two sites; and Kolekole Rock was located near NAVMAG-LLL. Three sites listed in the National Register of Historic Places (NRHP) were located in the project area. They include the Nioiula Heiau, NAVMAG-LLL; 'Oki'okiolepe Fishpond, NAVMAG-West Loch; and the Pearl Harbor National Historic Landmark, NRHP site 50-80-13-9992

An archaeological survey of 260 acres of the Lualualei Ahupua'a Radio Transmission Facility was carried out to locate archaeological sites and incorporate them into a Cultural Resource Management Plan (Ogden Environmental and Energy Services Co., Inc. 1998). Three sites were located, SIHP #s 50-80-08-5591, 50-80-08-5592 and 50-80-08-1886. SIHP # 50-80-08-5591 is composed of features that are associated with the sugarcane industry of the 19th and 20th centuries. SIHP # 50-80-08-5592, a permanent habitation site and SIHP # 50-80-08-1886, a rock mound are considered traditional Hawaiian sites. The report suggests that areas inland from the coast may once have been more heavily settled.

Elmore and Kennedy (2001) conducted an archaeological inventory survey for possible Wai'anae Emergency Access Road corridors in Wai'anae, Lualualei, and Nānākuli ahupua'a. No sites were identified in Lualualei.

Perzinski et al. (2002) conducted an archaeological assessment for the proposed Wai'anae Community Transit Center, located immediately southeast of the current project area. No archaeological sites were identified. The area was observed to have been heavily disturbed by

modern activities, including limestone quarrying and bulldozing related to development in adjacent areas.

Cultural Surveys Hawai'i (Tulchin et al. 2003) conducted an inventory survey of the proposed Wai'anae 242 Reservoir and Access Road project area, on the northeast ridge of Pu'u Mā'ili'ili. Two possible field shelters and a cave were investigated, but there was little evidence that these were traditional Hawaiian sites.

Jones and Hammatt (2004) completed a monitoring report for four a water main installation along sections of La'ikū, Wai'olu and Princess Kahanu Streets in Lualualei. No historic or prehistoric cultural materials were observed.

O'Leary and McDermott (2006) conducted an archaeological inventory survey along the lower western slope of Pu'u Heleakalā for a proposed landfill site. The project area included a portion of the Bordner (1977) study area. Two archaeological sites were identified, including SIHP # 50-80-08-6699, a prehistoric rock shelter, and SIHP # 50-80-08-6681, a World War II-era concrete bunker.

3.2.2 Archaeological Studies in Mā'ili

During the 1970s and 1980s, a series of studies was undertaken at Mā'ili on the northeast side of Pu'u o Hulu, south of the present project area. The area encompassed by these studies would ultimately comprise 415 acres. William Barrera (1975) conducted an archaeological site survey of approximately 80 acres at Mā'ili. The eighty acres were divided into two survey areas. Barrera recorded six sites: five stone configurations and a single midden scatter. Four of the stone structures were deemed by Barrera to be either of modern origin or too amorphous to assess. However, one site, Ch-Oa-1, was judged "quite probably an ancient religious structure" (Barrera 1975:9). In October of 1975, Ross Cordy conducted an archaeological excavation of Site Ch-Oa-1. Cordy's report on the excavation noted "no underlying cultural deposits were found" and Cordy concluded that the results of the excavation indicated the structure was not an ancient religious structure, but was rather a quite recent structure (probably built no earlier than 1930-1940) of unknown function (Cordy 1975).

Also in 1975, Cordy conducted an archaeological survey of an additional 130 acres at Mā'ili. Cordy identified nineteen sites including stone walls, mounds, enclosures, platforms, C-shapes, a trench with bridge, and a trail. Two rock platforms were recorded in what is now the proposed Pu'u o Hulu Community Park, Ch-Oa-28 (State Site No. -3757) and Ch-Oa-29 (State Site No. -3758). Site No. -3757 was described as a vertical-sided platform with a flat surface with dimensions of 6.2 m long by 4.9 m wide. Site No. -3758 was described as a rock platform with a C-shaped enclosure with dimensions of 6.0 m long, 5.5 m (meters) wide and 0.8-1.0 m high. In interpreting the platforms, Cordy suggests that the "vertical, high well-made walls are almost always characteristic of recent era sites" (Cordy 1976: 23). Cordy notes that much of the surveyed land had been recently impacted by bulldozing activity for quarrying purposes and concludes: "Most of the sites found in this survey are either walls, highly disturbed sites, or seemingly recent (ca. AD 1890-1970) sites" (Cordy 1976:21). His conclusions are largely based on associated historic or modern surface artifacts. He recommended archaeological test excavations of a C-shape enclosure, five platforms and a rock enclosure.

An archaeological reconnaissance survey for the proposed Wai'anae Corporation Yard was completed in 1983 (Kennedy 1983). No archaeological sites were found in the project area, which was on the coast along Mā'ili Point.

The areas surveyed by Barrera and Cordy in the 1970s were subsumed in a 415-acre "Mā'ili Kai Property project area" (TMK 8-7-10:2,14) that was the subject of an archaeological reconnaissance survey conducted by Paul H. Rosendahl, Inc. in December of 1987. The survey report (Mayberry and Rosendahl 1988) noted that "large scale ranching, land clearing, and quarrying from 1851 to the present have extensively altered" the project area (Mayberry and Rosendahl 1988:ii). The report also documented 12 new sites and the reinvestigation of 14 sites previously recorded by Barrera (1975) and Cordy (1976). The report summarizes:

> Land clearing and quarrying in particular have been destructive to the natural and cultural environments. One result of the destruction is that 24 of the 26 sites in the project area date to the 20th century. Two of the 24 sites date to the early to late 20th century and the other 22 sites date from 1930 to the present. Only two small sites, rock features without associated artifacts, may predate the 20th century. (Mayberry and Rosendahl 1988:ii)

Five sites were recommended for subsurface testing including SIHP # 50-80-08-3344, a platform located approximately 2500 ft north of Pu'u o Hulu Community Park, SIHP # 50-80-08-3750, a C-shape enclosure located approximately 2500 ft north of the Pu'u o Hulu Park, SIHP # 50-80-08-3755, a rock mound/platform located approximately 2000 ft north of Pu'u o Hulu Park, SIHP # 50-80-08-3335, a sinkwell and wall located approximately 2000 ft *makai* of the Pu'u o Hulu Park, SIHP # 50-80-08-3339, a stone enclosure and wall located on the northern base of Pu'u o Hulu Mauka. The two platforms (SIHP #s 50-80-08-3757 and 50-80-08-3758) recorded earlier by Cordy were relocated during the Rosendahl survey and were interpreted as sites related to land clearing and ranching of the early twentieth century. Mayberry and Rosendahl (1994:22) conclude:

> None of the ovoid or rectangular rock mounds and platforms in this group exhibit indications of internal structuring in the form of walls or raised platforms. They are thought to be the result of land clearing and rock-gathering operations...The research potential and cultural significance of this second group of sites is minimal. No further work was recommended for the rock platforms in the study area and these sites are thought to have been destroyed during the initial grading of the development.

Subsurface testing of the sites recommended for further testing during the Rosendahl study was carried out at the end of 1993 (Jimenez 1994). The sinkwell and wall (SIHP # 50-80-08-3335) had been destroyed during Phase I of the development, so no further archaeological testing could be done on that site. Of the remaining sites tested, only one produced evidence of pre-contact use, SIHP # 50-80-08-3750. This C-shaped enclosure yielded small amounts of lithics, midden, and charcoal. Radiocarbon dates suggest the site was used as a temporary habitation during the late prehistoric period. Further data collection was recommended for this site.

In 1990, several burials were inadvertently discovered during excavation work associated with improvements to the Mā'ili water system (Hammatt and Shideler 1990). In total, the water

main work uncovered seven burials found in calcareous beach sand. Five of the burials were removed and two were left *in situ*. The five sets of removed human remains were examined to determine ethnicity and all were found to be Polynesian. The report concludes that the concentration of burials suggests a "specific burial ground for one or more Hawaiian families of the Mā'ili area during prehistoric or early historic times" (Hammatt and Shideler 1990:23).

In 1999, PBR Hawaii completed a Final Environmental Assessment for the recent improvement of Ulehawa Beach Park. An extensive cultural horizon, 8 to 10 centimeters thick was recorded within a sand dune cut. The deposit included charcoal flecking and contained bird and fish bones (PBR Hawai'i 1999).

In 1999, McDermott and Hammatt (2000) conducted an inventory survey on a 57.65 acre parcel of Ulehawa Beach Park. Two subsurface cultural layers, designated SIHP #s 50-80-08-5762 and 50-80-08-5763, were found during test excavations that covered approximately 2% of the project area. The deposits consisted of midden (marine shell, fish bone, etc.) and both indigenous artifacts (fish hooks, volcanic and basalt flakes) and historic artifacts (glass, metal, and concrete fragments). Of particular interest was a nearly complete, barb-less pearl shell fishhook with an unusually deep v-bend reminiscent of Marquesan or Tahitian hooks. This type of fishhook is considered atypical for Hawaiian fishhooks. Both cultural layers appeared to date to late pre-contact or very early post-contact times. The scant midden and artifact assemblages found suggest little evidence of permanent or recurrent habitation along the coastal area and further enforces the consensus that traditional Hawaiian settlement was concentrated inland.

Also noted in this report is an area identified by a local community consultant to contain burials and cultural deposits (McDermott and Hammatt 2000:43). This area extends approximately from Ulehawa Stream northwest. Mr. Walter Kamanā's comments pertaining to the project area follow:

> The land from the bathrooms, just north of Ulehawa drainage, on around Mā'ili point is all *kapu* (taboo) ground. The night marchers are active at this place. There have been problems associated with that area, including violence and tragedy, including car wrecks. There were lost souls at that place in Hawaiian times. It is likely that you will find Hawaiian remains in the area. There are burials there on the *makai* side of Farrington Highway. A testing crew went in there to test the area, but Mr. Kamana did not know what for. Bones were found, but the public was not informed.
>
> Just beyond Hakimo Road, on the *makai* side of Farrington Highway, is a place called by the Japanese "Takamina", where the Japanese shrine stands today. [a "fishing marker" approximately 500 m north of Hakimo Road]. The Japanese shrine is not only important because of the Japanese culture and beliefs, but because of Hawaiian culture and beliefs as well. It was formerly a shrine area for the Hawaiians, but the shrine area has been largely forgotten by local Hawaiian residents. The shrine area should be respected at all times. Mr. Kamana mentions it as a "Point to Point (?) burial ground". That place must be respected. (McDermott and Hammatt 2000:43).

The presence of coastal cultural deposits to the south suggests that the area was significant in traditional times, and that the sandy shoreline seaward of Farrington Highway may contain additional, heretofore unidentified burials and cultural deposits (Dega 1998:3, McDermott and Hammatt 2000). A number of historic-era structures, such as concrete World War II bunkers, were also noted in the Ulehawa Beach Park studies (Dega, 1998:5; McDermott and Hammatt 2000:143-147). Two WWII concrete foundations were observed seaward of Farrington Highway.

3.3 Background Summary and Predictive Model

Cordy et al. (1998) has provided a synthesis of the settlement patterns and prehistory of the Wai'anae District, of which Lualualei is a portion. This study places the settlement of Wai'anae into the wider context of O'ahu settlement as a whole. The proximity of expansive forest resources and well-watered agricultural lands to abundant marine resources made the windward side of O'ahu most appealing to the early O'ahu settlers and their descendants. Foraging trips to the dryer areas of the island would have occurred and were most likely associated with recurrent, temporary habitation used during resource procurement. The rich marine resources of the Wai'anae District, particularly the fishing grounds off-shore, would have been a strong draw for early O'ahu inhabitants. As population in the windward areas increased, permanent settlement began to spill over into the well-watered regions of the leeward side. Eventually, with further population expansion, permanent settlement spread to the less watered regions of the leeward side, which included much of the Wai'anae District (Cordy et al. 1998:1-6). Settlement would most likely begin as temporary habitation along the coast in association with marine resource procurement. Later, permanent settlement would have developed in response to expanding populations in previously settled, better watered areas.

Prehistorically, land use in Lualualei was greatest at the sea, where marine resources were plentiful, and in the mountainous interior, where there was sufficient rainfall for agriculture and forest resources. The intervening lands between the sea and the mountains were a dry scrubland. Although potentially useful for dryland agriculture in the wet winter months, it is unlikely that this area would have been heavily utilized by Native Hawaiians. The settlement pattern prior to Western Contact for this region was likely dispersed residences concentrated at the sea and the mountains. Based on the season and the available resources, the resident population most likely used multiple residences, perhaps one at the seaside and another *mauka*, to reduce resource transport time. It is also possible, as is suggested by the account provided by Pukui (cited in McGrath et al. 1973:10), that there existed an informal exchange network where by coastal dwellers traded marine resources for the agricultural and forest resources of the inland dwellers.

Archaeological surveys of the upper portion of Lualualei Valley have located the remains of traditional-Hawaiian habitation, ceremonial, and agricultural structures. The extensive archaeological survey of the *mauka* portion of the valley is offset by a paucity of archaeological investigation in the coastal portion. However, based on context, information from long-time residents of the area, and traditional accounts, it is likely that the coastal areas of Lualualei contain cultural deposits related to habitation, including human burials.

Available radiocarbon dates indicate that by A.D. 600-800, there was at least temporary coastal habitation on the Wai'anae coast. This dated sample comes from the area fronting Pōka'ī Bay, one of the only areas along the Wai'anae Coast to have a perennial stream reach the coast,

and undoubtedly one of the more attractive areas for early temporary and, later, permanent settlement (Cordy et al. 1998:6). Radiocarbon dates from inland, apparently permanent habitation contexts, within Nānākuli indicate permanent settlement began by A.D. 1200-1400 (Cordy et al. 1997:9). Extensive archaeological survey of inland Lualualei has yielded radiocarbon dates from permanent habitation contexts dating to A.D. 1620, with earlier dates (mid 1400s) for apparently temporary habitation structures (Haun 1991:237).

The only coastal dates for Lualualei are those reported by McDermott and Hammatt (2000) from the two coastal habitation deposits (SIHP #s 50-80-08-5762 and -5763) found during the inventory survey of the Ulehawa Beach Park parcel. The three available dates from this project area span a broad temporal period, from 1460 to 1950. However, considering the early coastal date from Pōka'ī Bay and the *mauka* dates from Lualualei, it is certainly plausible that at least temporary coastal settlement took place within the first half of the 1460-1950 age range. However, if there is inland settlement and resource procurement by circa A.D. 1200-1400, it is likely that initial coastal temporary habitation, associated with marine resource procurement, predated this inland settlement.

The population along the Wai'anae coast may have been quite low. The immediate vicinity lacked water for cultivation and was proverbial for its poverty. Captain George Vancouver (in March of 1793) described the Wai'anae area as "one barren, rocky waste, nearly destitute of verdure, cultivation or inhabitants (Vancouver 1967, Vol. 2:217).

By the mid-1800s the traditional Native Hawaiian lifestyle in the valley of Lualualei was in decline. The sandalwood trade, which ended circa 1829, undoubtedly had a negative effect on the Native Hawaiian population. At this time, Lualualei began its cattle ranching period. The introduction of sugar plantations brought more foreigners and the OR&L railroad, which was linked to Wai'anae in 1895. Based on the paucity of LCA's claimed within the area and the early population figures, it appears that the Native Hawaiian population was quite low in the latter half of the 19th century.

In 1851, William Jarrett leased approximately 17,000 acres of Crown Lands from Kamehameha III for 30 years at a fee of $700 per year (Bureau of Conveyances [B.C.], Department of Land and Natural Resources, Liber 4:616-618.). He established Lualualei Ranch and used the leased land for cattle pasture.

Population numbers slowly increased when homesteading was instituted in the early 1900s. Military use of the land began in 1917. WWII greatly affected the landscape of the Wai'anae coast by placing bunkers, gun emplacements, and barbed wire along the waterfront. As noted by the local community consultants, tsunamis have also altered the landscape.

In summary, in contrast to the abundance of traditional Hawaiian sites and features encountered during the Bishop Museum survey of the *mauka* half of Lualualei, the surface sites recorded during the studies at Mā'ili were either post-contact or of equivocal origin. In the one instance where excavation was attempted at a structure originally judged "quite possibly a *heiau*" (Site Ch-Oa-1), the site was established as modern and no subsurface deposits were encountered. The lack of traditional Hawaiian sites in these areas may reflect not only the distortions of modern disturbances (including bulldozing, farming and ranching) but also a general disuse during pre-contact times. Population and activity in Lualualei may have been primarily focused

in a narrow band along the coast and farther inland in the *mauka* reaches of this large valley. The land in between the coastal and *mauka* zones is likely to be characterized by an ephemeral archaeological record pointing to the intermittent use of locations such as lithic scatters and temporary habitation sites.

Background research specific to the current project area indicated the project area was outside of the areas of intensive historic land use. From the late historic period into modern times, the immediate vicinity of the project area, including the central and eastern portions of the project area, was indicated to be heavily disturbed by large-scale commercial limestone quarrying activities. The intensive surface and subsurface land disturbance associated with quarry activities, as well as modern disturbance due to development within and in the immediate surroundings of the project area, likely disturbed or removed any potential historic properties. Previous archaeological studies in the immediate vicinity did not identify any historic properties, attributed to the modern land disturbance in the area. Based on background research, the probability of encountering surface or subsurface historic properties within the project area is anticipated to be low. However, limestone sinkholes possibly containing intact cultural deposits, may remain within non-quarried portions of the project area

Section 4 Results of Fieldwork

4.1 Survey Findings

The project area was observed to have been recently grubbed prior to the current archaeological assessment fieldwork (Figure 14). Extensive prior grading was also evident. No surface historic properties were identified within the project area.

4.2 Test Excavations Findings

Subsurface testing, with the use of a backhoe, was conducted to determine if significant cultural deposits were located within the project area. A total of thirty (30) test trenches were excavated throughout the project area (Figure 15). In general, much of the original land surface was observed to have been heavily disturbed by large-scale limestone quarrying activities.

The stratigraphic patterns observed through subsurface testing within the project area can be grouped into two general categories, corresponding to areas that had undergone limestone quarrying activities and areas that were not quarried. Major limestone quarrying was observed in Trenches 1, 2, 4-8, 10-12, 15, 20, 23-25, and 29, which includes much of the central portion of the project area (Figure 16). In these test trenches, the solid limestone/coral bedrock was encountered at depths in excess of 2-3 m below the present land surface. Figure 17 shows a representative example of the stratigraphic pattern observed in the quarried areas. Stratum I consisted of various layers of crushed coral fill, measuring 0.5-1.5 m thick. Stratum II consisted of a silty sand matrix, mottled with dark brown sandy clay loam sediments. The silty sand sediment matrix is interpreted to be a vestige of limestone quarrying activities, likely the unusable limestone which remained following the production of various limestone products. The sandy clay loam sediments are interpreted to be the natural alluvial sediments which were removed prior to quarrying activities, and subsequently mixed with other sediments and backfilled following the quarrying activities. Stratum III consisted of loose limestone gravel and cobbles in a limestone sand matrix, overlying limestone bedrock. This stratum is interpreted to be the disturbed base of the limestone quarrying activities.

Two areas within the project area were observed to have been largely spared from limestone quarrying activities. Limestone bedrock was encountered at depths less than 1 m in the vicinity of Trenches 13, 14, 16-19, 22, 30 and Trenches 9, 26, 27 (Figure 16). The limestone bedrock in these trenches is interpreted to be the natural, relatively undisturbed surface of the limestone/coral shelf. Figure 18 shows a representative example of the stratigraphic pattern observed in the non-quarried areas. Stratum I consisted of various imported fill layers generally measuring 50-80 cm thick. Stratum II consisted of yellowish brown silt sediments, interpreted to be the natural soil developed over limestone bedrock. Stratum III consisted of pale brown silt with limestone gravel and cobbles incorporated into the sediment matrix. This stratum is interpreted to be the natural transitional layer overlying solid limestone bedrock.

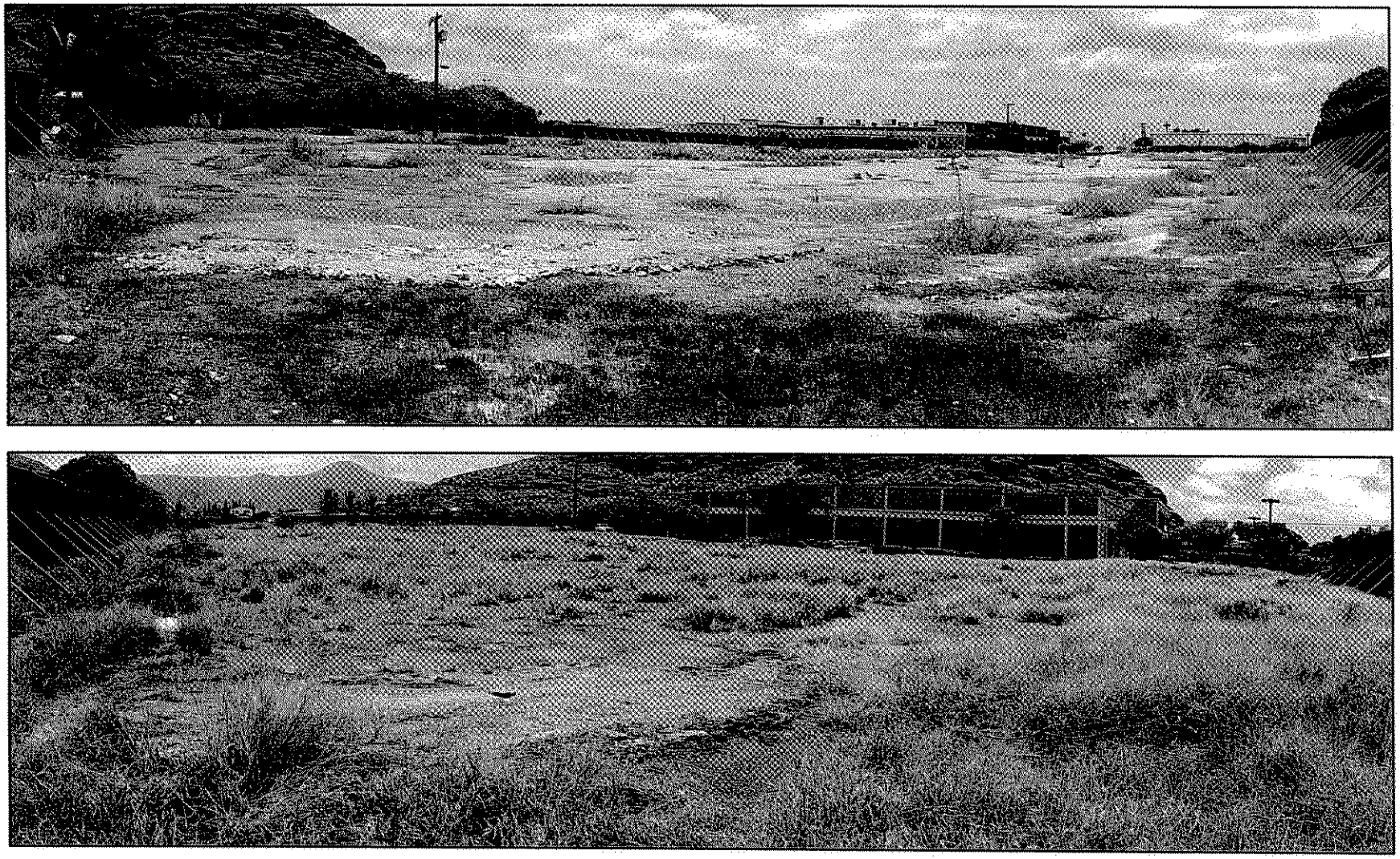


Figure 14. General views of the eastern (above, view to southwest) and western (below, view to southeast) portions of the project area

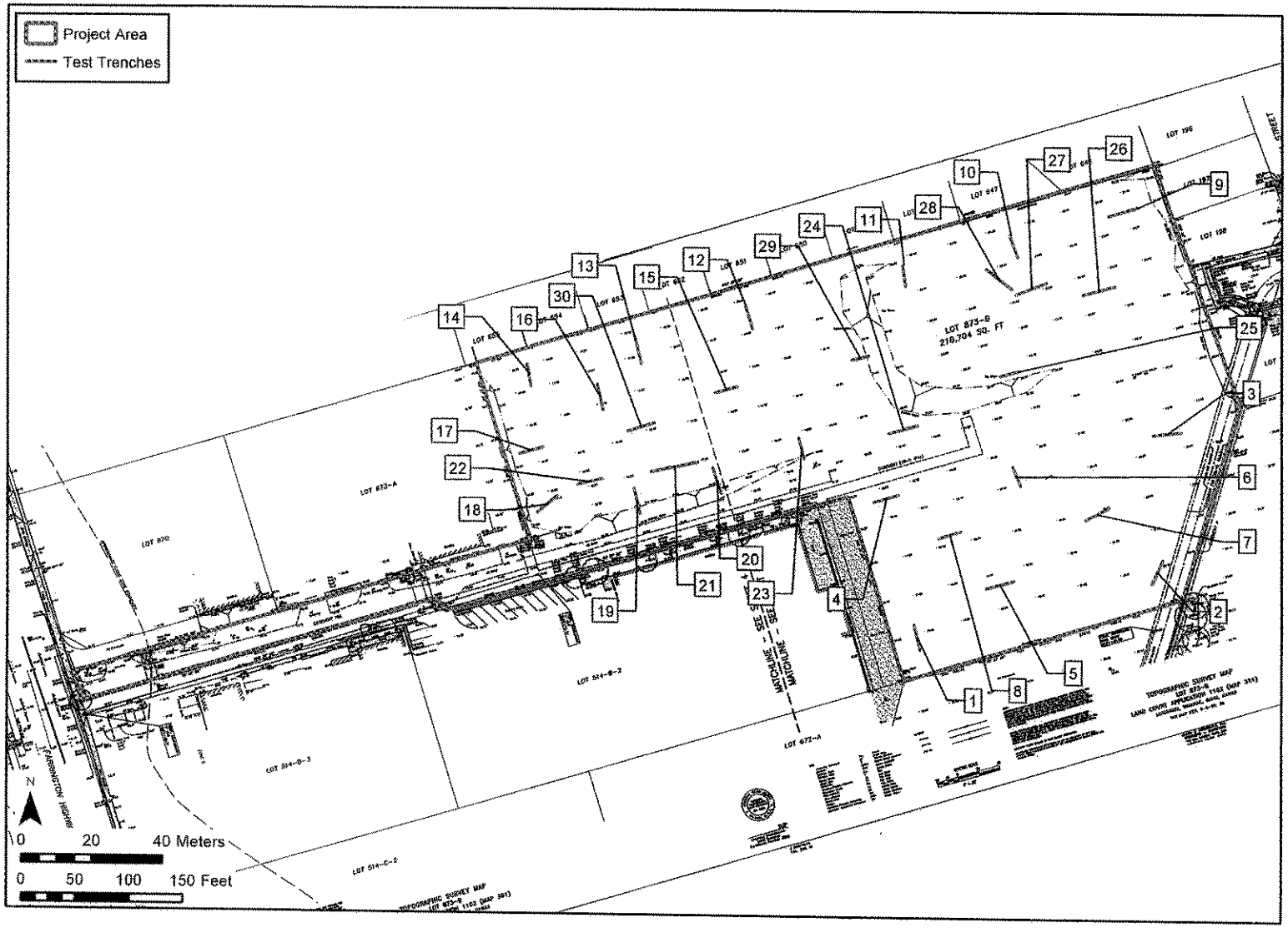
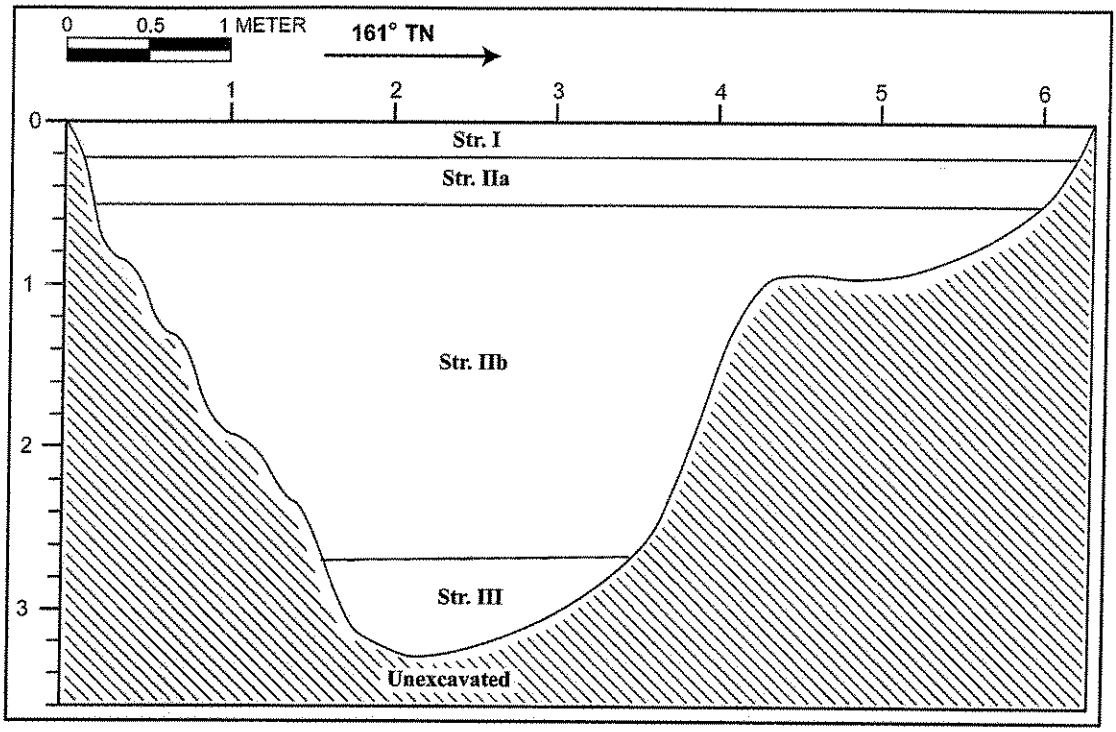


Figure 15. Topographic survey map showing the locations of archaeological test trenches within the project area

Figure 16. Aerial photograph (source: USGS Orthoimagery 2005) showing the locations of archaeological test trenches and the observed depth to coral/limestone bedrock, indicating areas disturbed by quarry activities



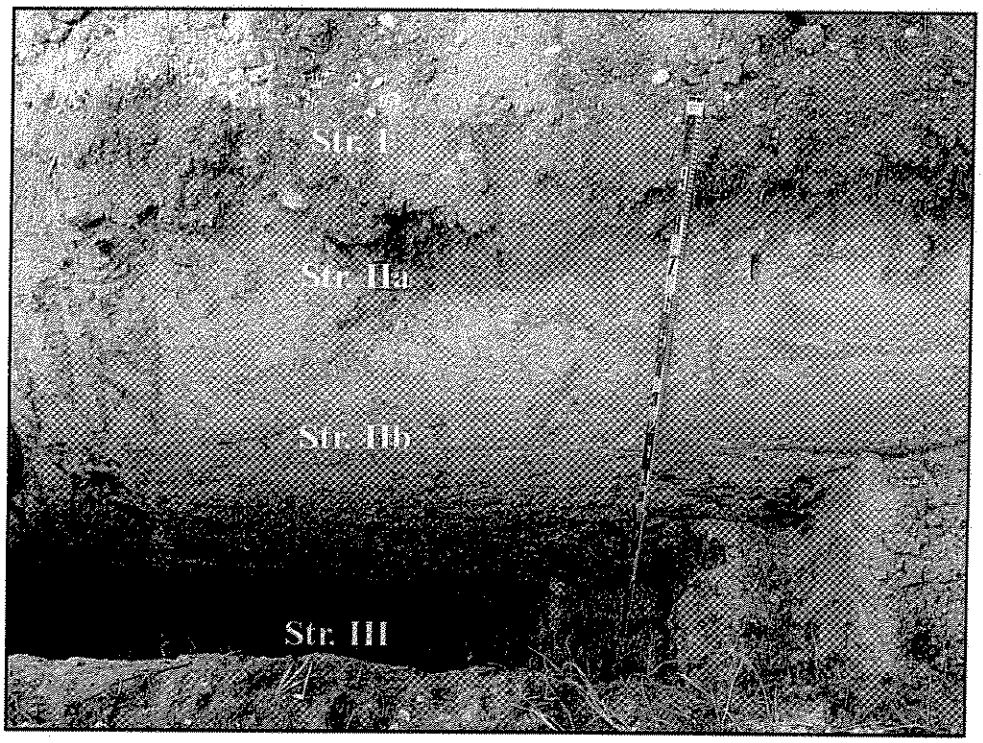
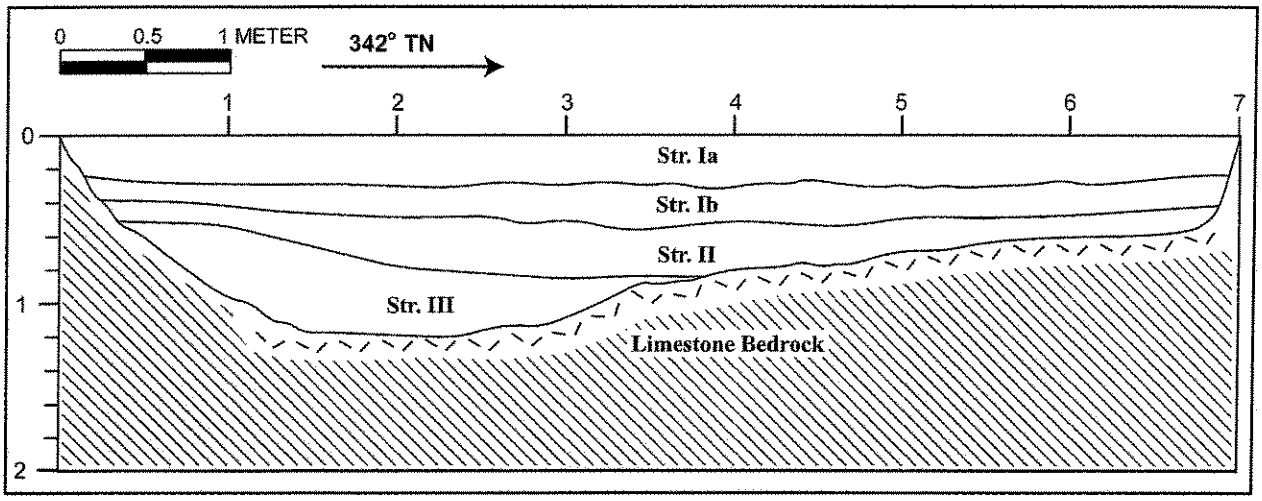


Figure 17. Representative example of stratigraphic pattern observed in areas that had undergone limestone quarrying. Test Trench 20 stratigraphic profile and photograph shown



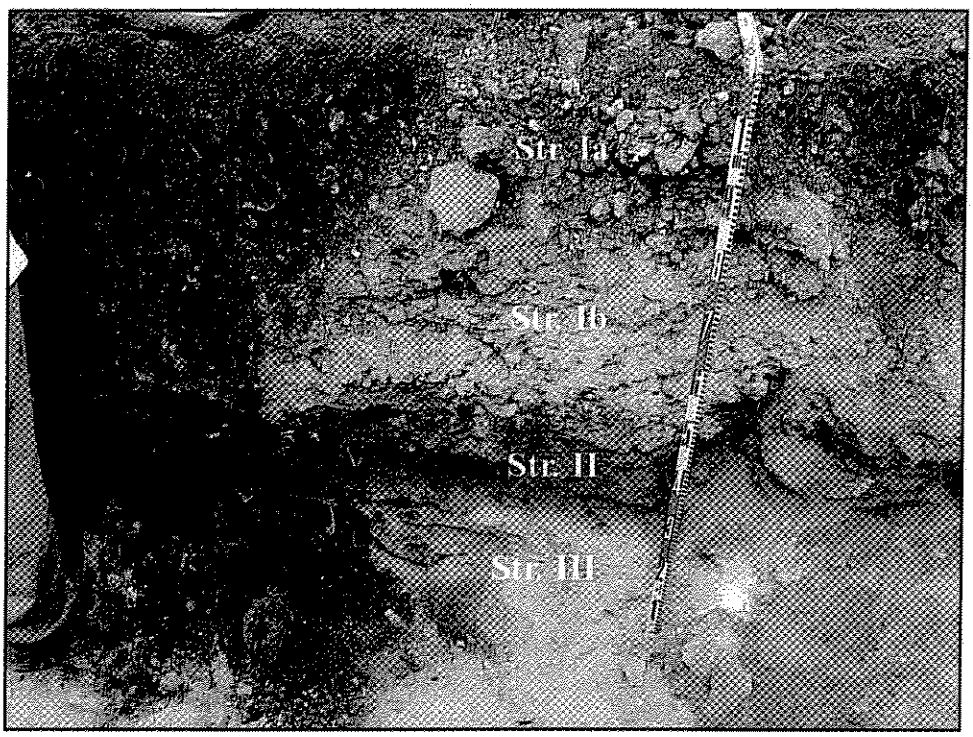


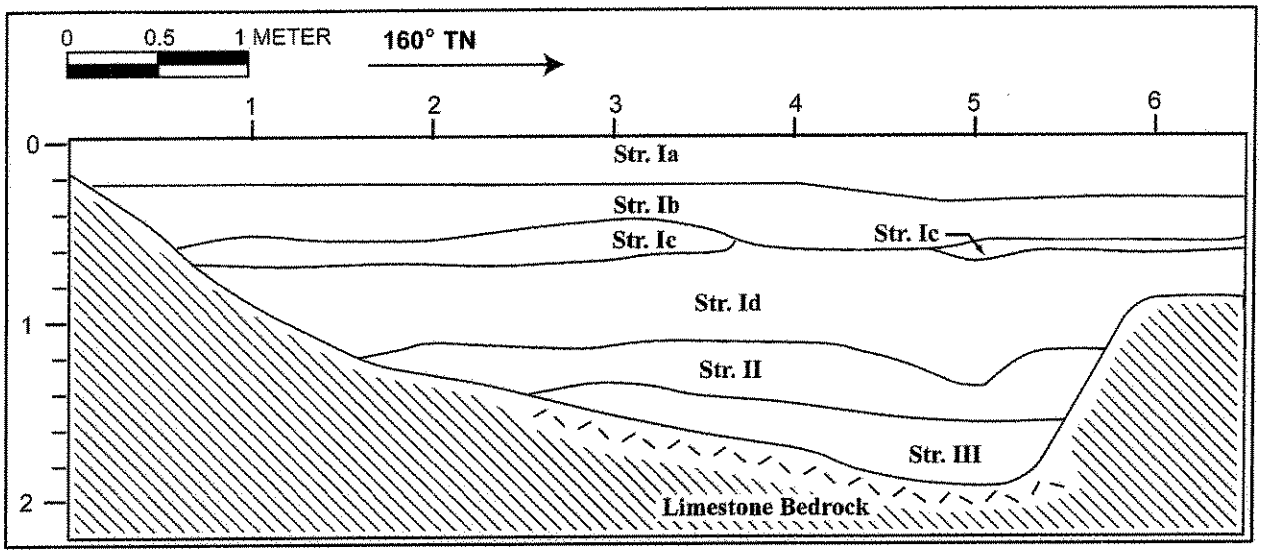
Figure 18. Representative example of stratigraphic pattern observed in areas that had not undergone limestone quarrying. Test Trench 13 stratigraphic profile and photograph shown

The perceived edges of quarrying activities were observed in Trenches 3, 21, and 28, where the shallow limestone/coral shelf abruptly dipped. No test trenches were excavated within the access road portion of the project area due to the likelihood of encountering subsurface utilities. No significant cultural deposits were encountered through the subsurface testing program. Detailed stratigraphic profiles and sediment descriptions for each test trench are provided below.

4.2.1 Test Trench 1

Orientation: 160° TN
Max. Length: 6.5 m
Max. Width: 0.8 m
Max. Depth: 1.9 m
(Figure 19)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 6/3 pale brown silty sand; weak, medium crumb structure; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 30-40% limestone gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-60	Fill; 10YR 4/3 brown sandy clay; moderate, medium granular structure; dry, slightly hard consistency; non-plastic; no cementation; mixed origin; contains 40-50% limestone gravel and modern garbage including burnt wood and plastic fragments; LB is abrupt, smooth.
Stratum Ic	50-70	Fill; 10YR 7/3 very pale brown sandy silt; weak, fine crumb structure; dry, loose consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, irregular.
Stratum Id	70-120	Fill; 10YR 3/3 dark brown sandy clay; moderate, medium blocky structure; dry, hard consistency; slightly plastic; no cementation; mixed origin; contains 10% limestone sand; no cultural material observed; LB is abrupt, smooth.
Stratum II	120-160	Fill; 2.5Y 8/3 pale yellow silty sand; structureless; dry, loose consistency; non-plastic; no cementation; contains 20-30% limestone gravel; no cultural material observed; LB is abrupt, smooth.
Stratum III	150-190	2.5Y 7/4 pale yellow gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



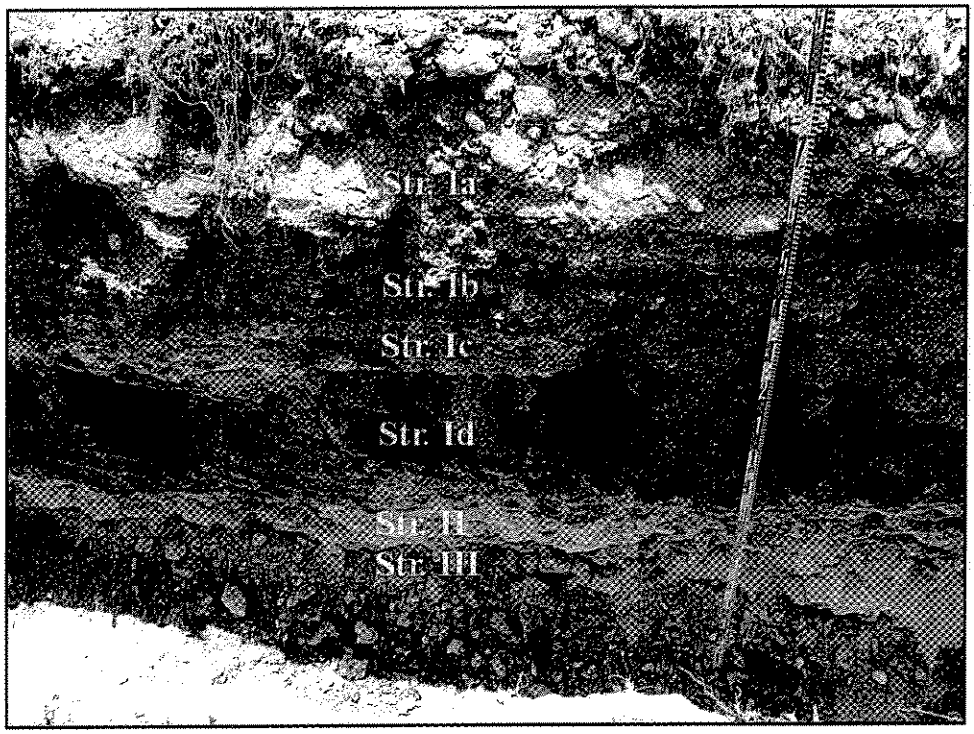
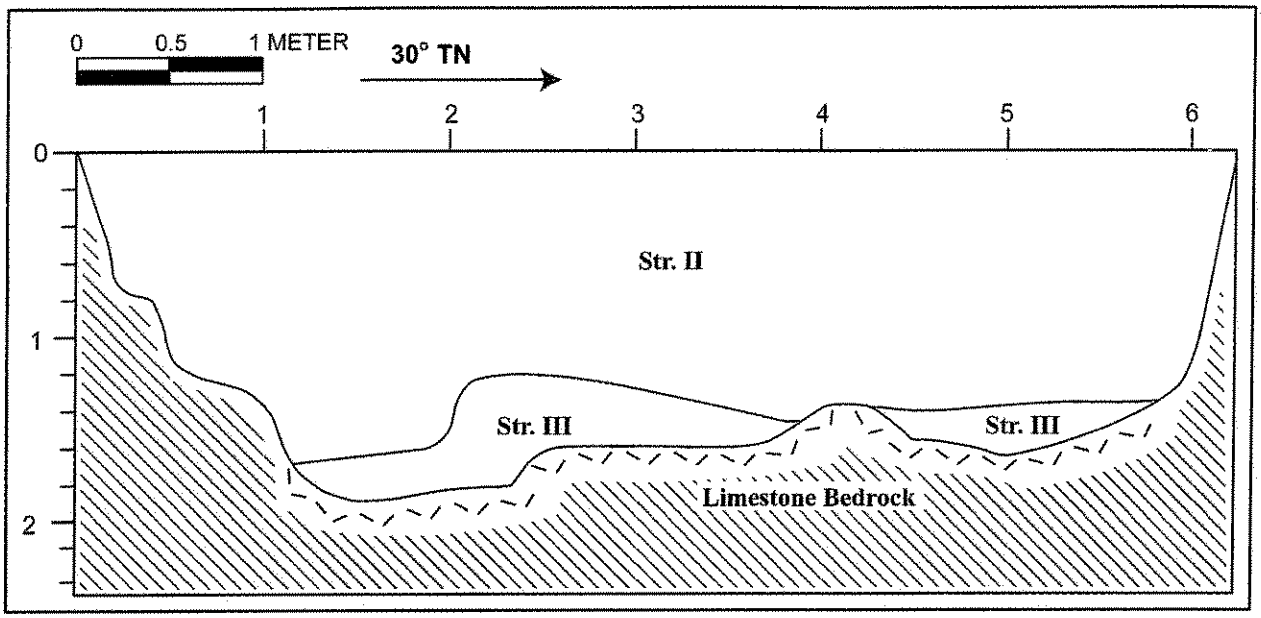


Figure 19. Test Trench 1 stratigraphic profile and photograph, east wall

4.2.2 Test Trench 2

Orientation: 030° TN
Max. Length: 6.2 m
Max. Width: 0.8 m
Max. Depth: 1.9 m
(Figure 20)

Strata	Depth (cmbs)	Description
Stratum II	0-120	Fill; 10YR 7/2 light gray silt loam; structureless; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 10% limestone gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, irregular.
Stratum III	120-170	Fill; 10YR 3/2 very dark grayish brown sandy clay loam; weak, fine granular structure; dry, slightly hard consistency; plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, irregular.



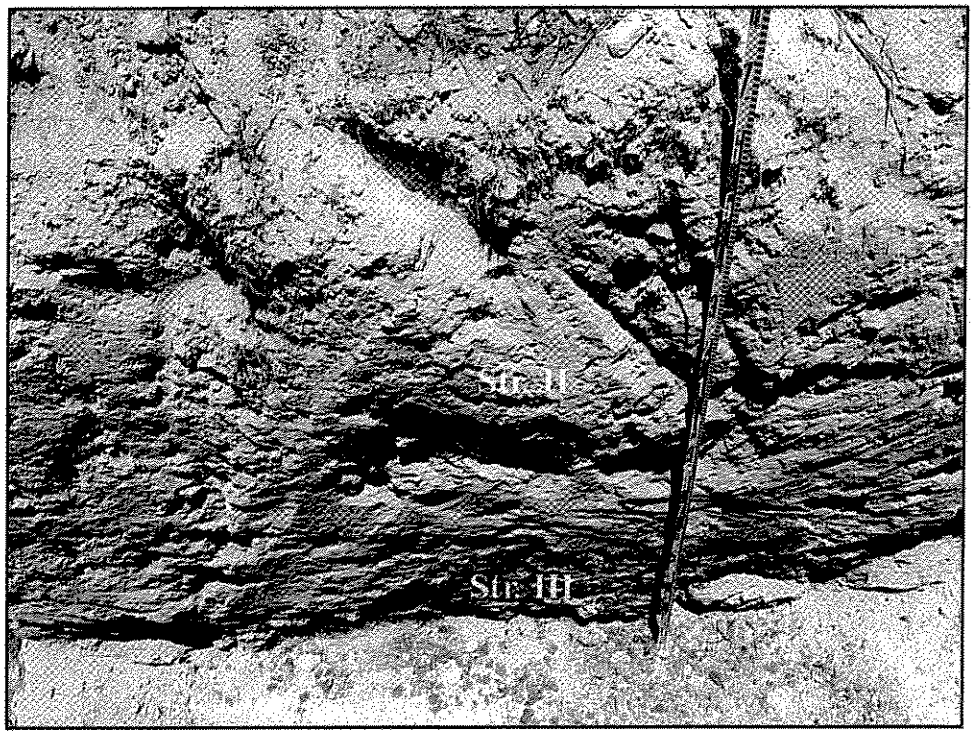
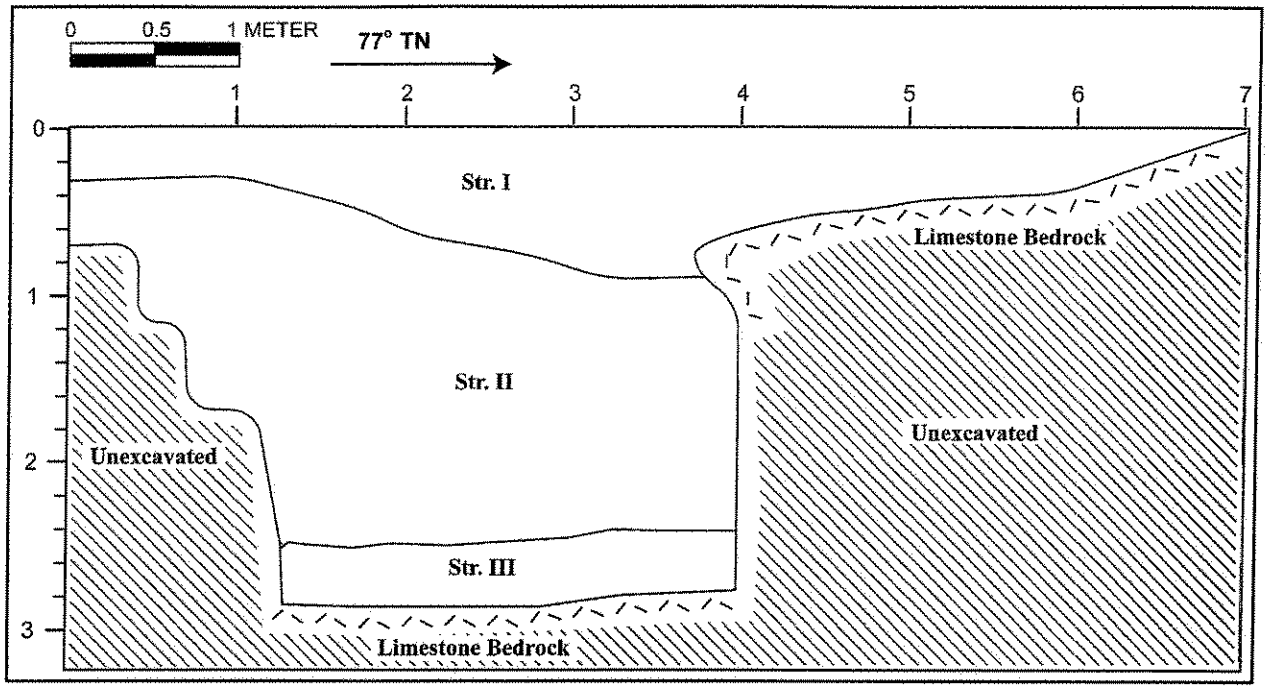


Figure 20. Test Trench 2 stratigraphic profile and photograph, west wall

4.2.3 Test Trench 3

Orientation: 077° TN
Max. Length: 7.0 m
Max. Width: 0.8 m
Max. Depth: 2.8 m
(Figure 21)

Strata	Depth (cmbs)	Description
Stratum I	0-50	Fill; 10YR 5/4 yellowish brown silty sand; moderate, medium granular structure; dry, slightly hard consistency; non-plastic; no cementation; mixed origin; contains 70-80% limestone gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum II	50-250	Fill; 10YR 3/2 very dark grayish brown silty sand; structureless; dry weakly coherent consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.
Stratum III	250-280	Fill; 10YR 8/2 very pale brown gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



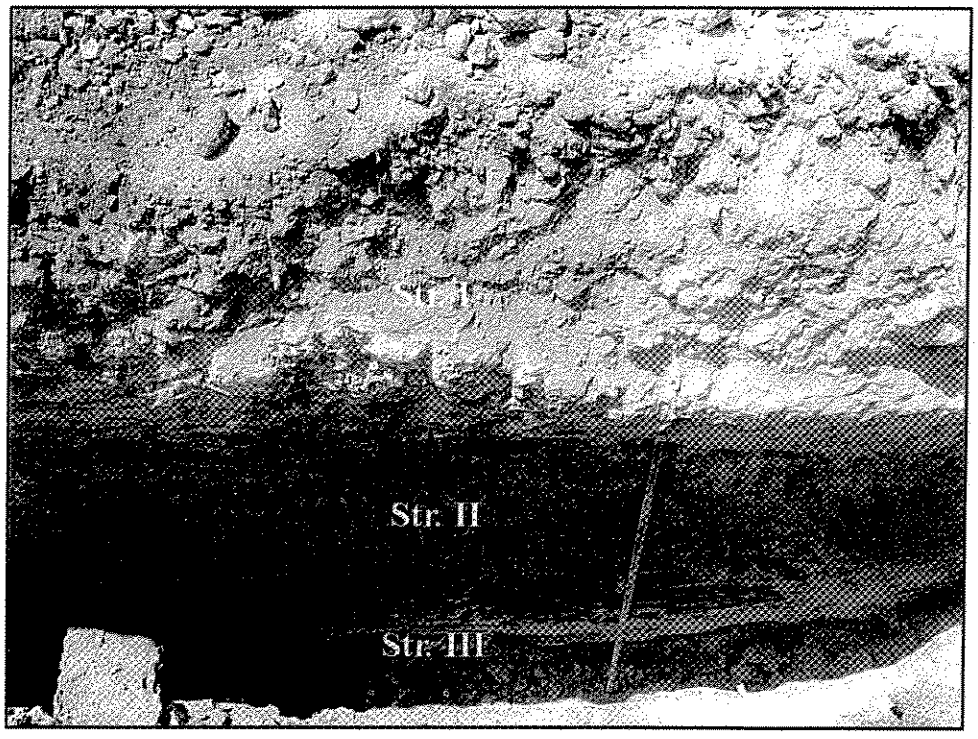
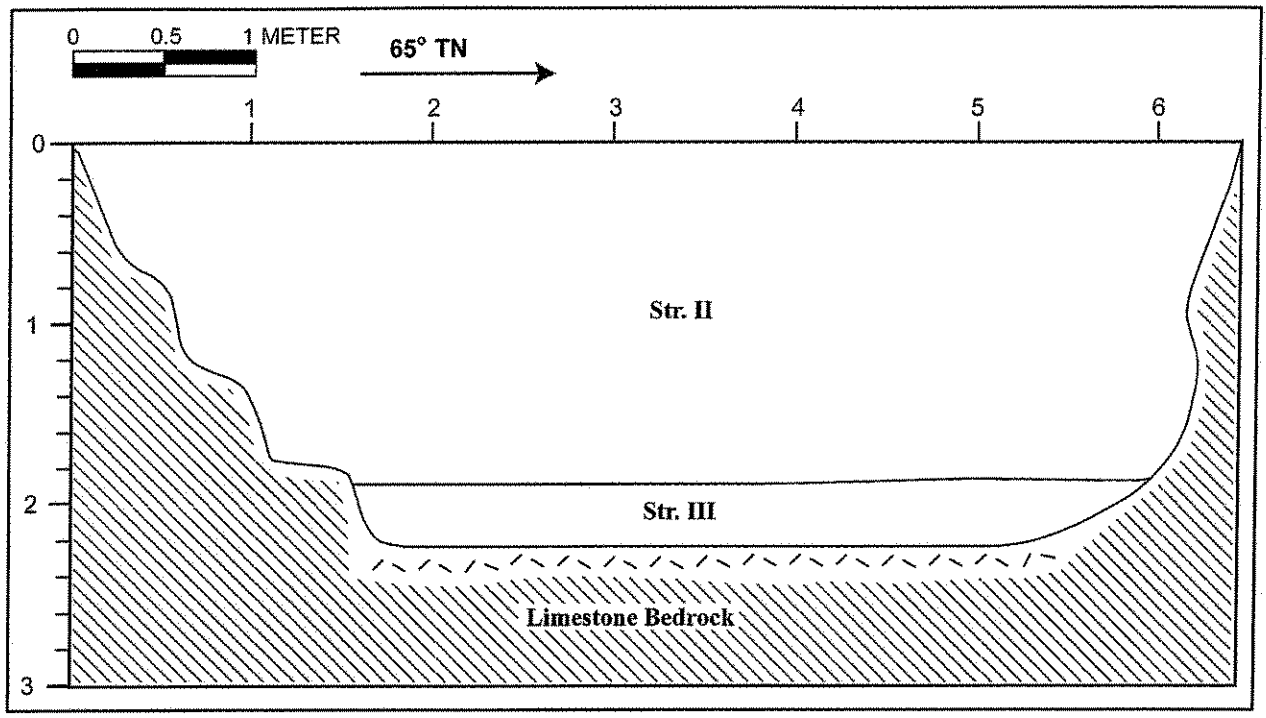


Figure 21. Test Trench 3 stratigraphic profile and photograph, north wall

4.2.4 Test Trench 4

Orientation: 065° TN
Max. Length: 6.4 m
Max. Width: 0.8 m
Max. Depth: 2.3 m
(Figure 22)

Strata	Depth (cmbs)	Description
Stratum II	0-190	Fill; 10YR 3/2 very dark grayish brown sandy clay loam; weak, fine granular structure; dry, slightly hard consistency; plastic; no cementation; terrestrial origin; contains modern garbage including glass fragments; Lower Boundary (LB) is abrupt, irregular.
Stratum III	190-225	Fill; 10YR 8/1white gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



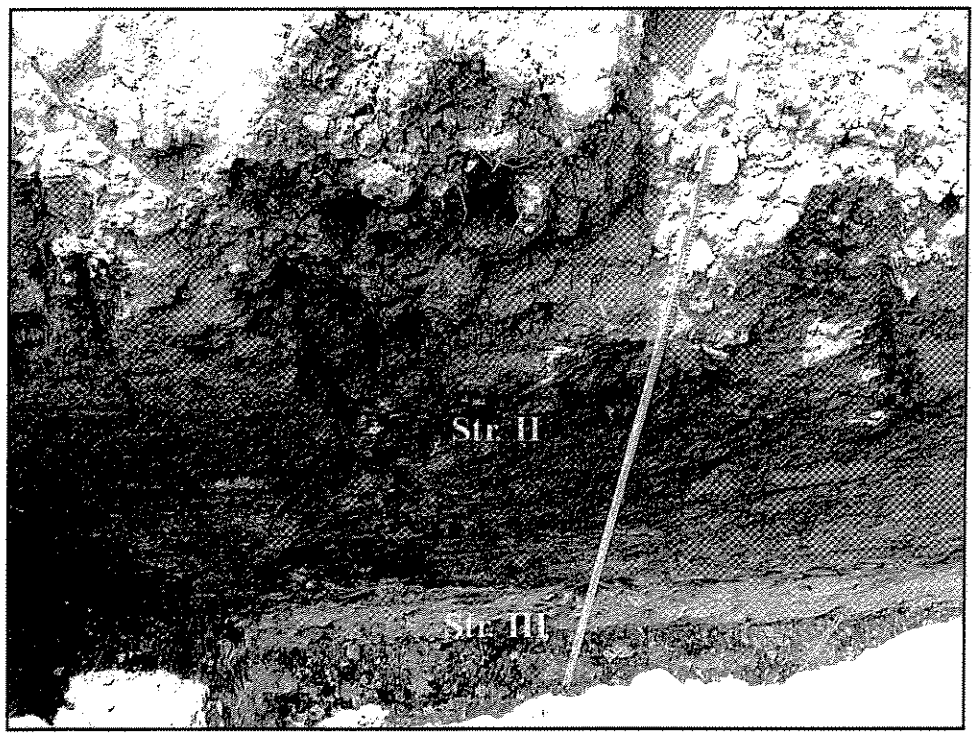
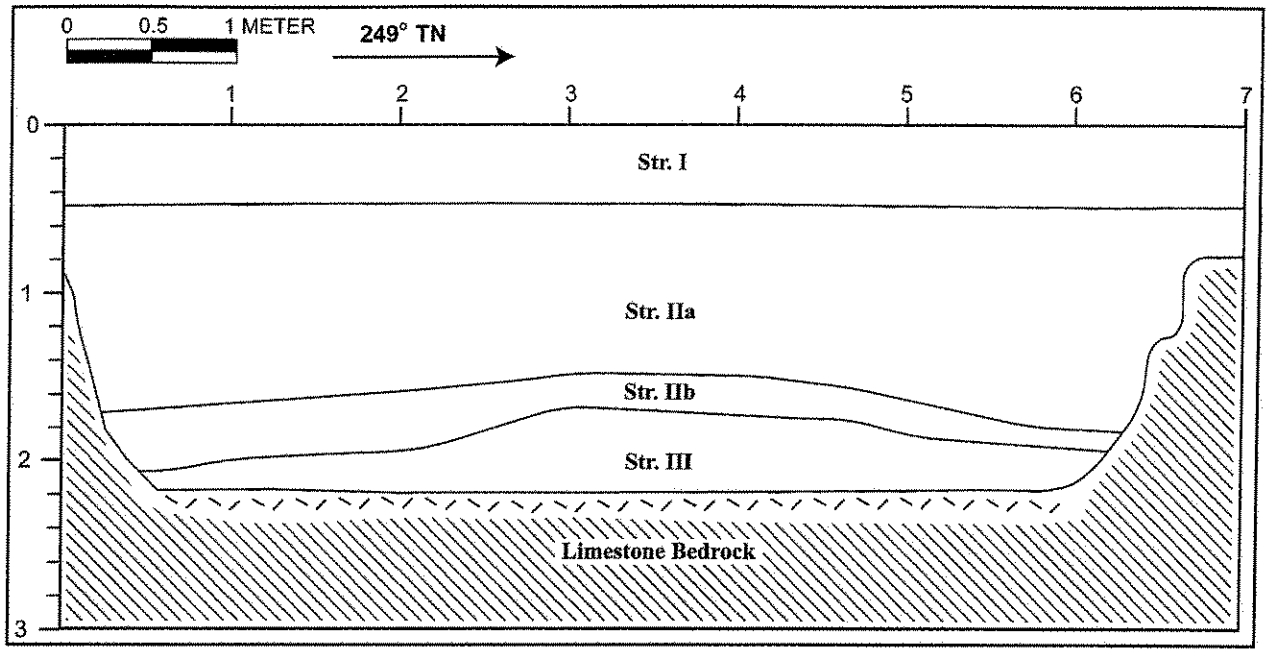


Figure 22. Test Trench 4 stratigraphic profile and photograph, north wall

4.2.5 Test Trench 5

Orientation: 249° TN
Max. Length: 7.0 m
Max. Width: 0.8 m
Max. Depth: 2.2 m
(Figure 23)

Strata	Depth (cmbs)	Description
Stratum I	0-50	Fill; 10YR 7/3 very pale brown sandy silt; structureless; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 30-40% limestone gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum IIa	50-150	Fill; 10YR 4/3 brown sandy clay; moderate, medium blocky structure; dry, slightly hard consistency; slightly plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.
Stratum IIb	150-170	Fill; 10YR 8/3 very pale brown silty sand; structureless; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.
Stratum III	170-220	Fill; 10YR 8/2 very pale brown gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



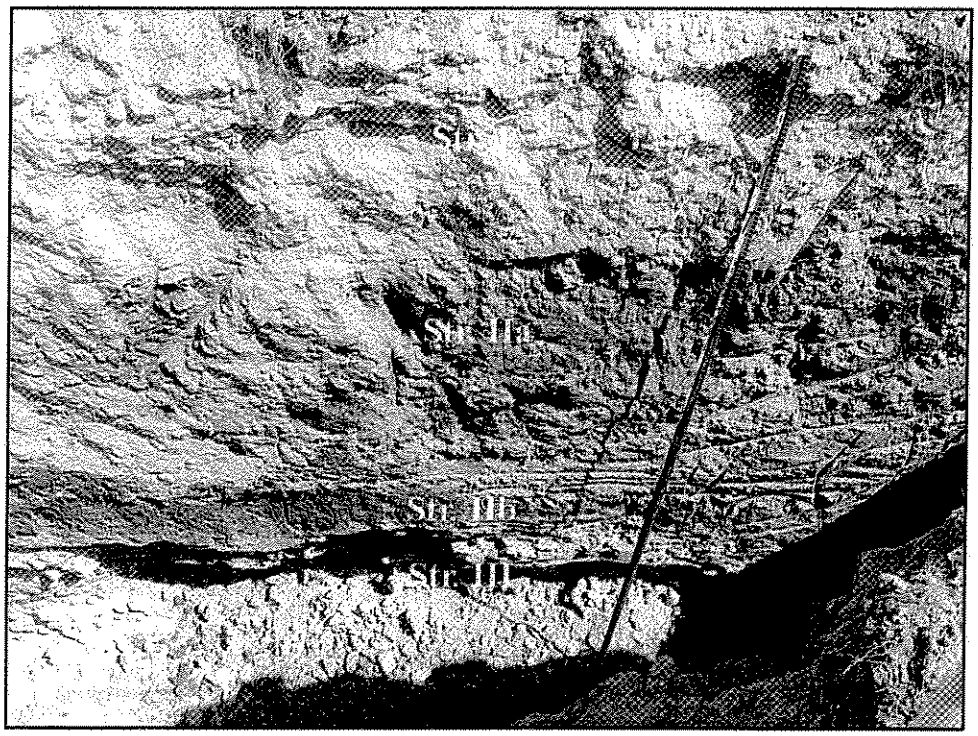
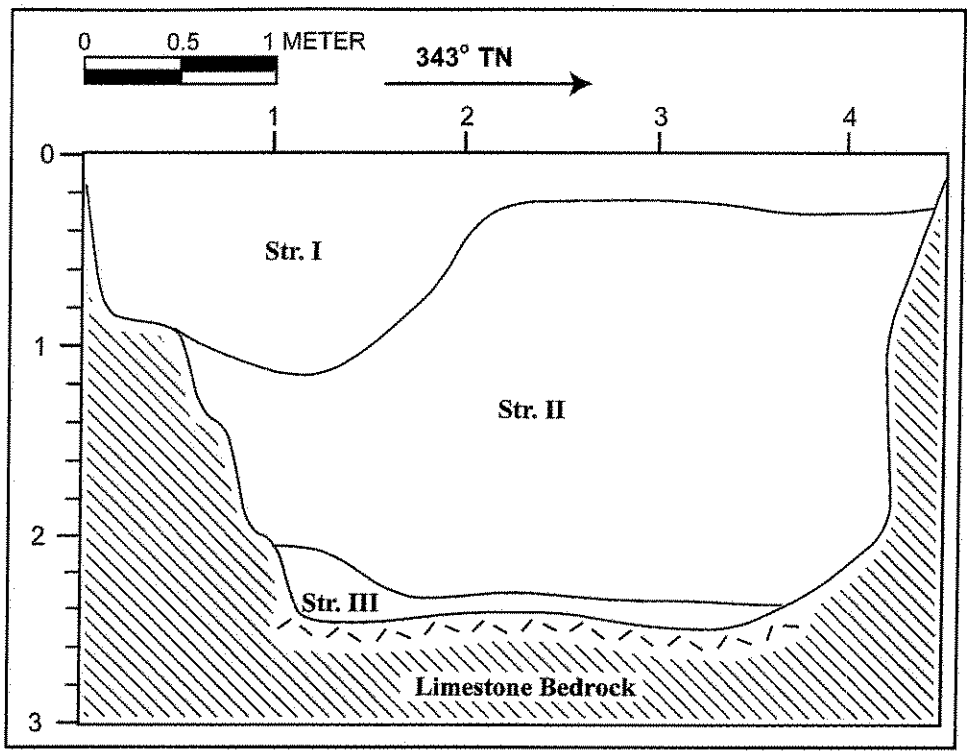


Figure 23. Test Trench 5 stratigraphic profile and photograph, south wall

4.2.6 Test Trench 6

Orientation: 343° TN
Max. Length: 4.5 m
Max. Width: 0.8 m
Max. Depth: 2.5 m
(Figure 24)

Strata	Depth (cmbs)	Description
Stratum I	0-120	Fill; 10YR 4/4 dark yellowish brown silt loam; weak, fine granular structure; dry, loose consistency; slightly plastic; no cementation; terrestrial origin; contains 10-20% limestone gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, wavy.
Stratum II	25-240	Fill; 10YR 7/1 light gray silty sand mottled with 10YR 3/2 very dark grayish brown sandy clay loam; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.
Stratum III	205-250	Fill; 10YR 8/1 white gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



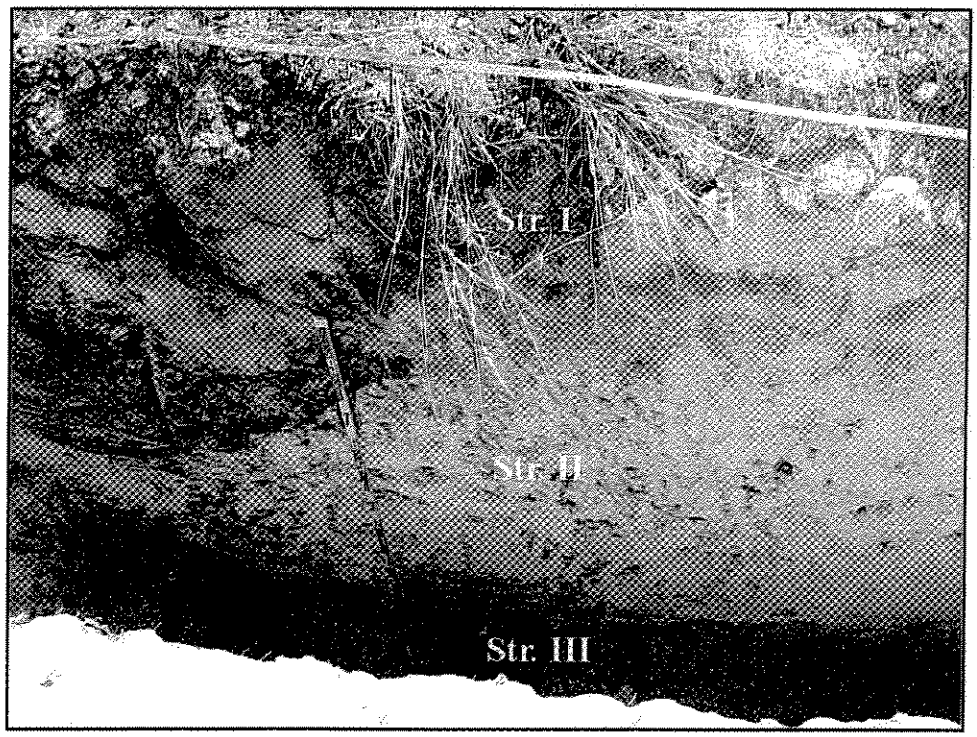
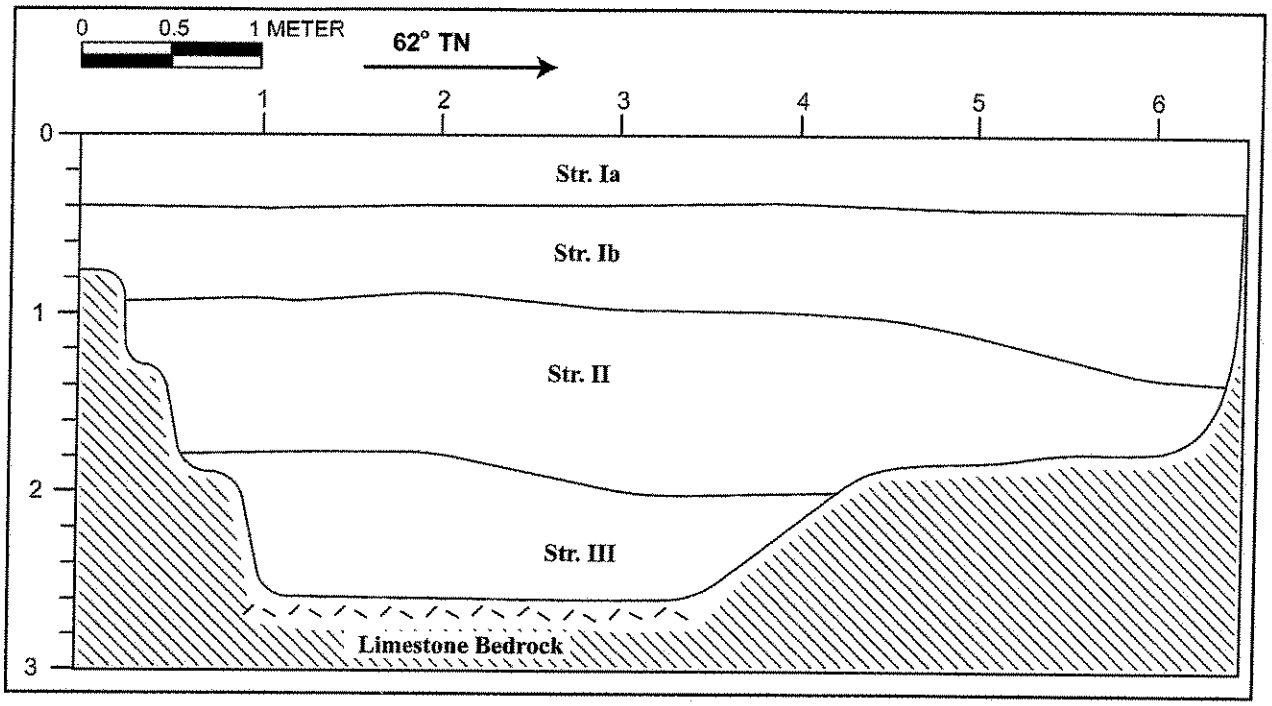


Figure 24. Test Trench 6 stratigraphic profile and photograph, west wall

4.2.7 Test Trench 7

Orientation: 062° TN
Max. Length: 6.5 m
Max. Width: 0.8 m
Max. Depth: 2.6 m
(Figure 25)

Strata	Depth (cmbs)	Description
Stratum Ia	0-40	Fill; 10YR 6/3 pale brown silty sand; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 60-70% limestone gravel and cobbles and modern garbage; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	40-100	Fill; 10YR 4/3 brown sandy clay; moderate, medium blocky structure; dry, weakly coherent consistency; slightly plastic; no cementation; mixed; no cultural material observed; LB is abrupt, smooth.
Stratum II	100-180	Fill; 10YR 8/2 very pale brown silty sand mottled with 10YR 3/2 very dark grayish brown sandy clay loam; weak, fine blocky structure; dry, slightly hard consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.
Stratum III	180-260	Fill; 10YR 8/1 white gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



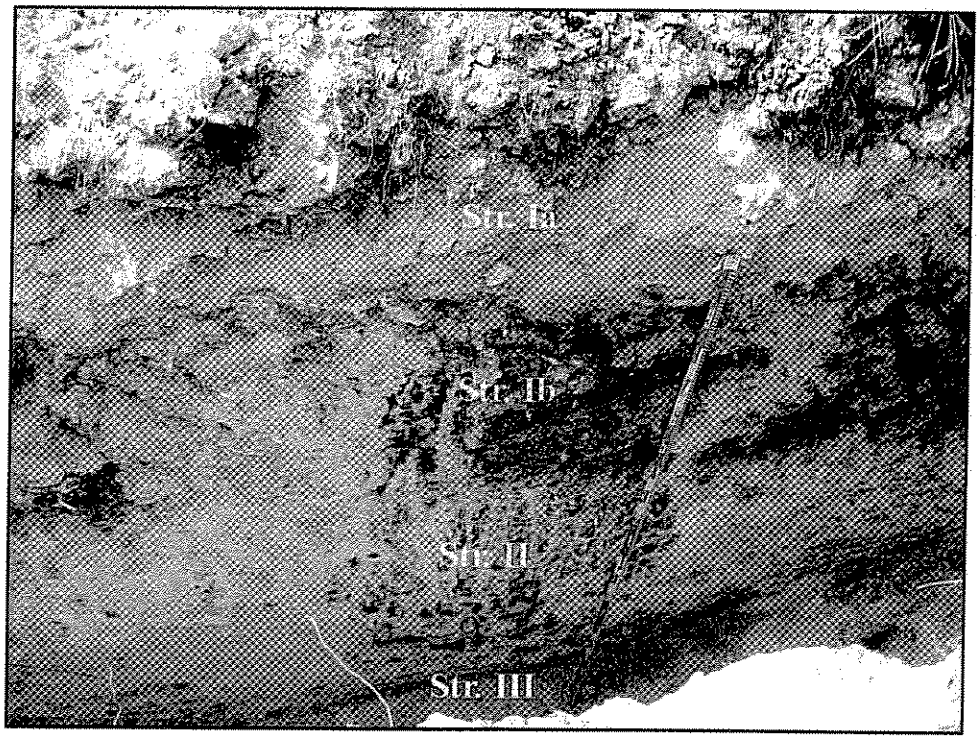
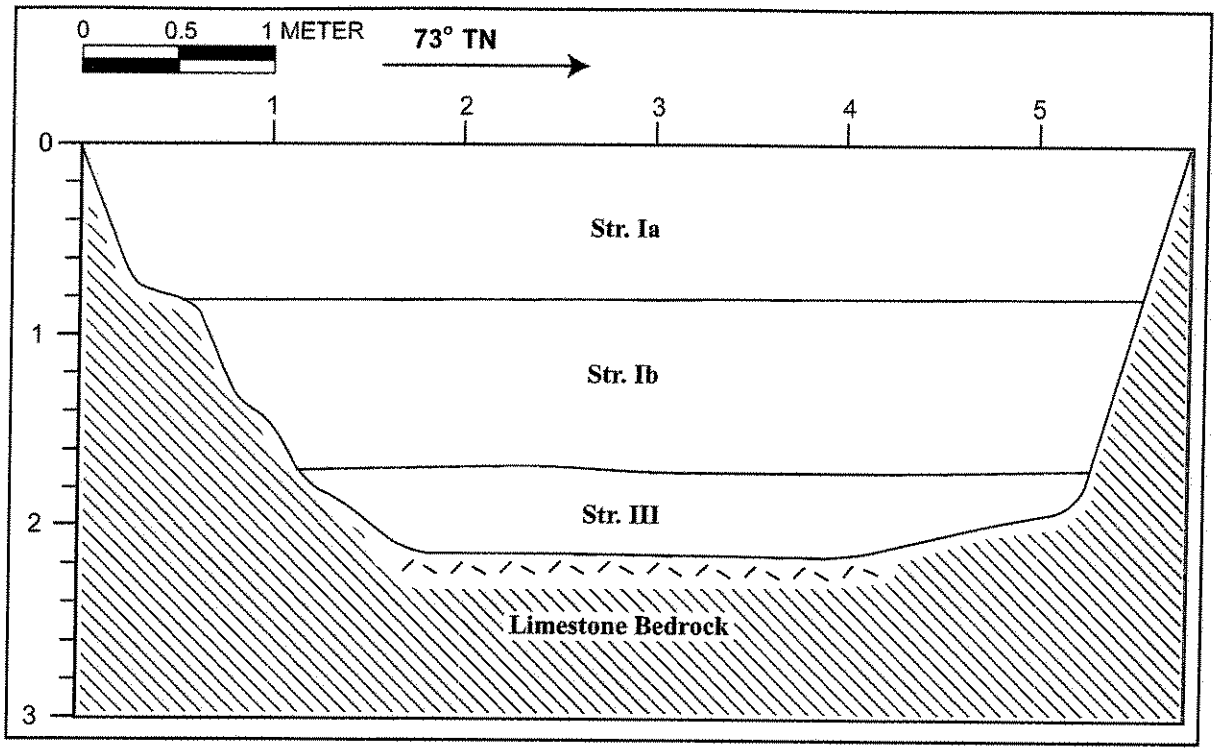


Figure 25. Test Trench 7 stratigraphic profile and photograph, north wall

4.2.8 Test Trench 8

Orientation: 073° TN
Max. Length: 5.8 m
Max. Width: 0.8 m
Max. Depth: 2.2 m
(Figure 26)

Strata	Depth (cmbs)	Description
Stratum Ia	0-85	Fill; 10YR 7/2 light gray silty sand mottled with 10YR 4/4 dark yellowish brown silty sand; structureless; dry, loose consistency; slightly plastic; no cementation; mixed origin; contains 30-40% limestone gravel and cobbles, and modern garbage including glass and metal fragments; Lower Boundary (LB) is clear, wavy.
Stratum Ib	75-170	Fill; 10YR 3/2 very dark grayish brown sandy clay loam; weak, fine granular structure; dry, slightly hard consistency; plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth.
Stratum III	170-215	Fill; 10YR 8/1 white gravel; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50% limestone cobbles and small boulders; no cultural material observed; LB is abrupt, smooth.



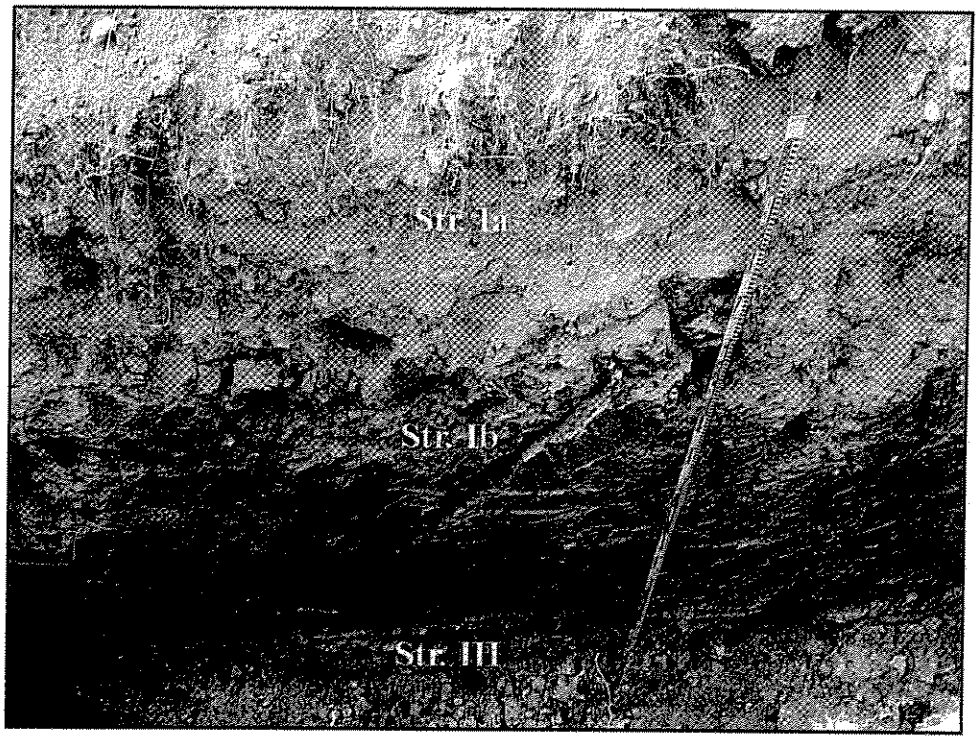


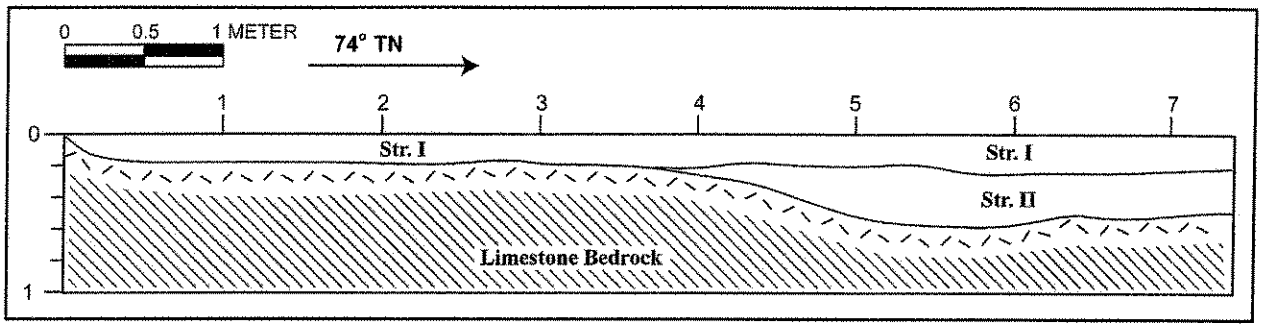
Figure 26. Test Trench 8 stratigraphic profile and photograph, north wall

4.2.9 Test Trench 9

Orientation: 074° TN
Max. Length: 7.4 m
Max. Width: 0.8 m
Max. Depth: 0.9 m
(Figure 27)

Strata	Depth (cmbs)	Description
Stratum I	0-30	Fill; 10YR 4/3 brown sandy loam; weak, fine crumb structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 50-60% construction-grade basalt gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum II	30-60	Fill; 10YR 8/3 very pale brown silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 60-70% limestone cobbles and gravel; no cultural material observed; LB is abrupt, wavy.

Trench 9 Summary



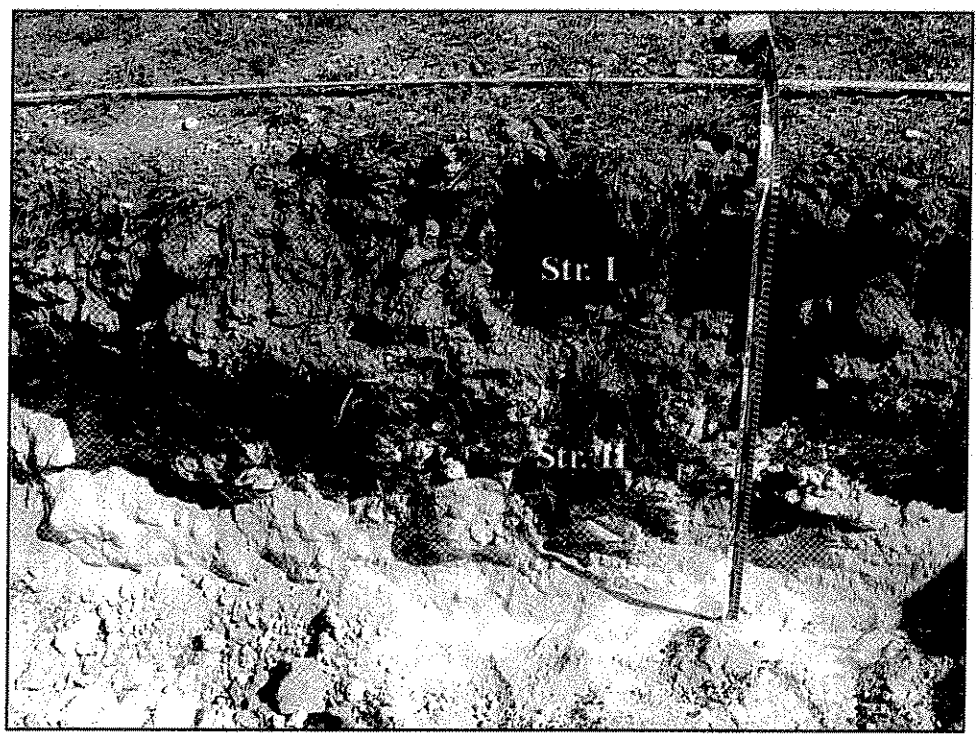


Figure 27. Test Trench 9 stratigraphic profile and photograph, north wall

4.2.10 Test Trench 10

Orientation: 163° TN
Max. Length: 5.4 m
Max. Width: 0.8 m
Max. Depth: 3.5 m
(Figure 28)

Strata	Depth (cmbs)	Description
Stratum I	0-35	Fill; 10YR 7/1 light gray silty sand; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 50-60% limestone cobbles and gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum IIa	15-290	Fill; 10YR 7/2 light gray silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is clear, smooth.
Stratum IIb	290-BOE	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, slightly hard consistency; slightly plastic; no cementation; mixed origin; no cultural material observed LB is below Base of Excavation.

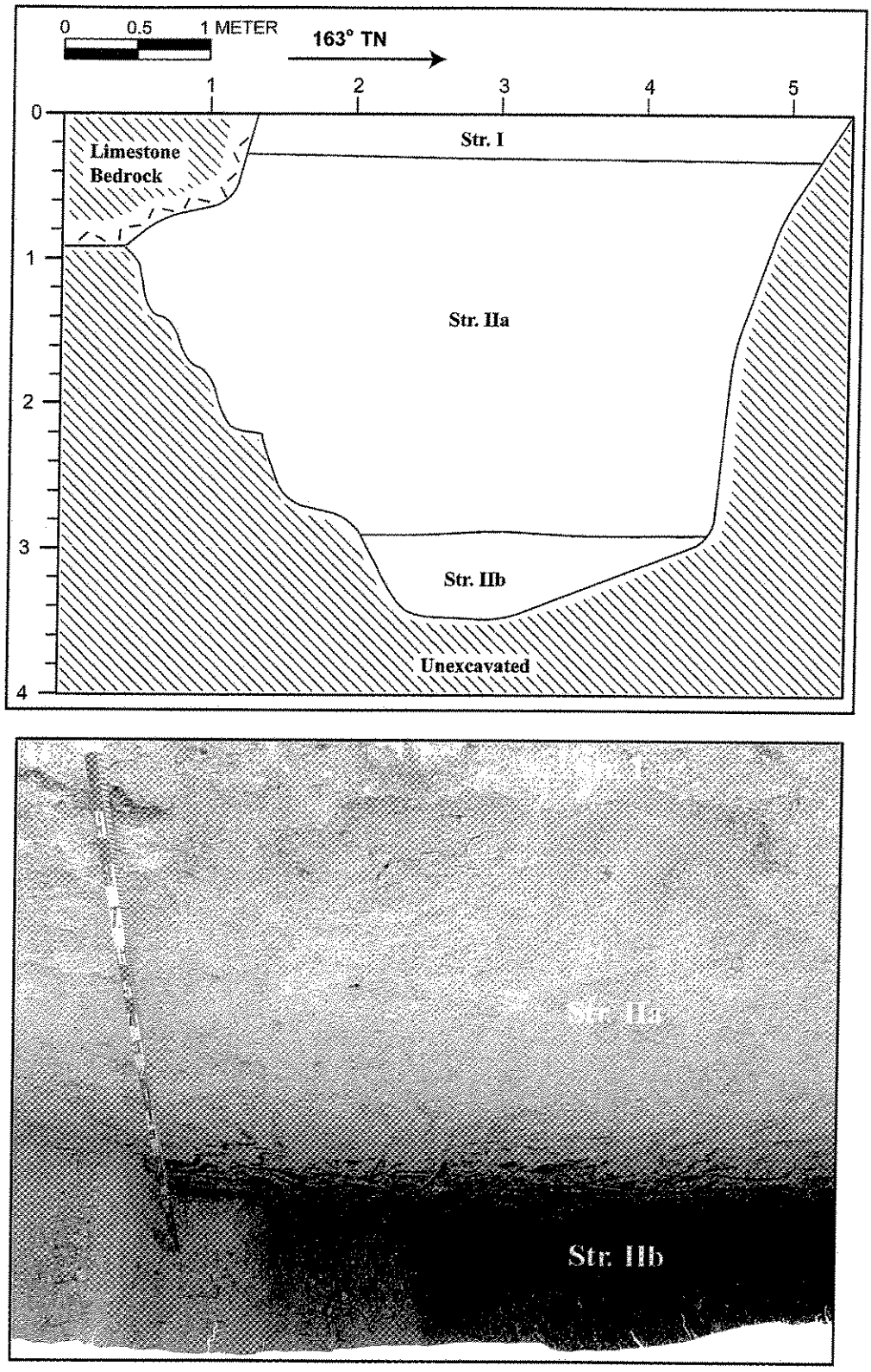


Figure 28. Test Trench 10 stratigraphic profile and photograph, east wall

4.2.11 Test Trench 11

Orientation: 166° TN
Max. Length: 4.9 m
Max. Width: 0.8 m
Max. Depth: 3.2 m
(Figure 29)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 7/3 very pale brown gravel; weak, medium crumb structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 40-50% limestone cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, irregular.
Stratum Ib	0-60	Fill; 10YR 4/4 dark yellowish brown silt loam; weak, medium crumb structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50-60% limestone gravel and cobbles; no cultural material observed; LB is abrupt, smooth.
Stratum Ic	60-80	Fill; 7.5YR 4/6 strong brown silt loam; moderate, medium blocky structure; dry, slightly hard consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth.
Stratum II	80-BOE	Fill; 10YR 8/3very pale brown sandy silt; weak, fine crumb structure; dry, slightly hard consistency; non-plastic; no cementation; mixed origin; contains 30-40% limestone gravel and cobbles; no cultural material observed; LB is below BOE.

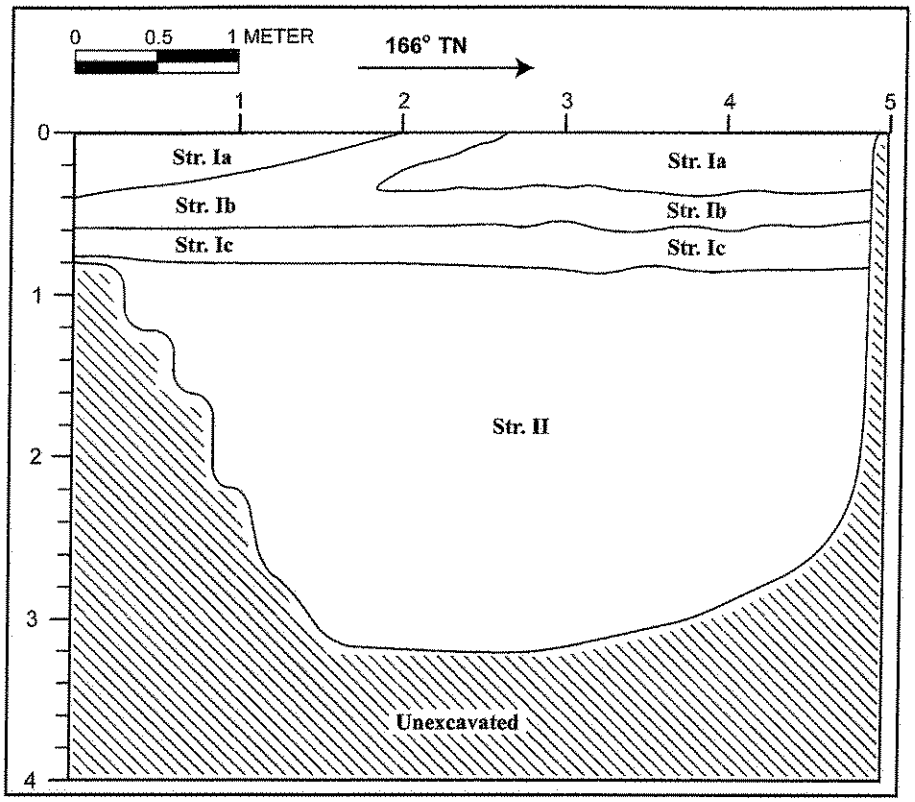
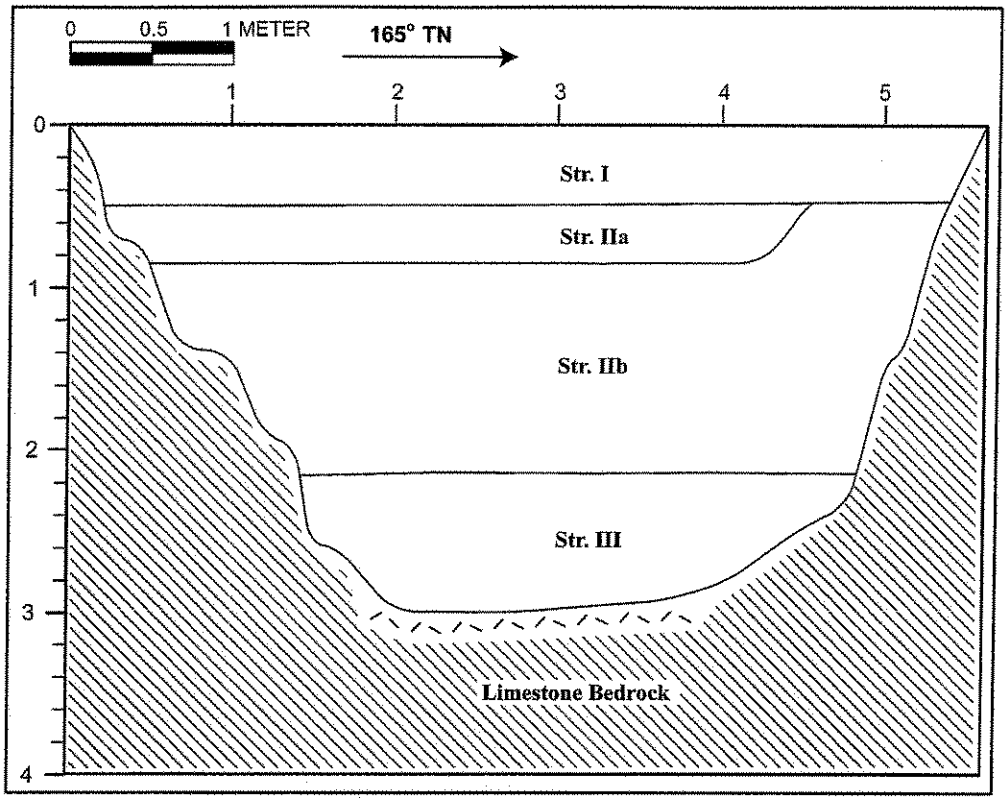


Figure 29. Test Trench 11 stratigraphic profile and photograph, east wall

4.2.12 Test Trench 12

Orientation: 165° TN
Max. Length: 5.6 m
Max. Width: 0.8 m
Max. Depth: 3.0 m
(Figure 30)

Strata	Depth (cmbs)	Description
Stratum I	0-50	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, weakly coherent consistency; plastic; no cementation; mixed origin; contains 50-60% limestone gravel and cobbles, and modern garbage including plastic, ceramic and glass fragments; Lower Boundary (LB) is abrupt, smooth.
Stratum IIa	50-85	Fill; 7.5YR 5/8 strong brown silty sand; structureless; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles; no cultural material observed; LB is clear, smooth.
Stratum IIb	50-215	Fill; 10YR 7/2 light gray silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is clear, smooth.
Stratum III	215-300	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, slightly hard consistency; slightly plastic; no cementation; mixed origin; no cultural material observed; LB is below Base of Excavation.



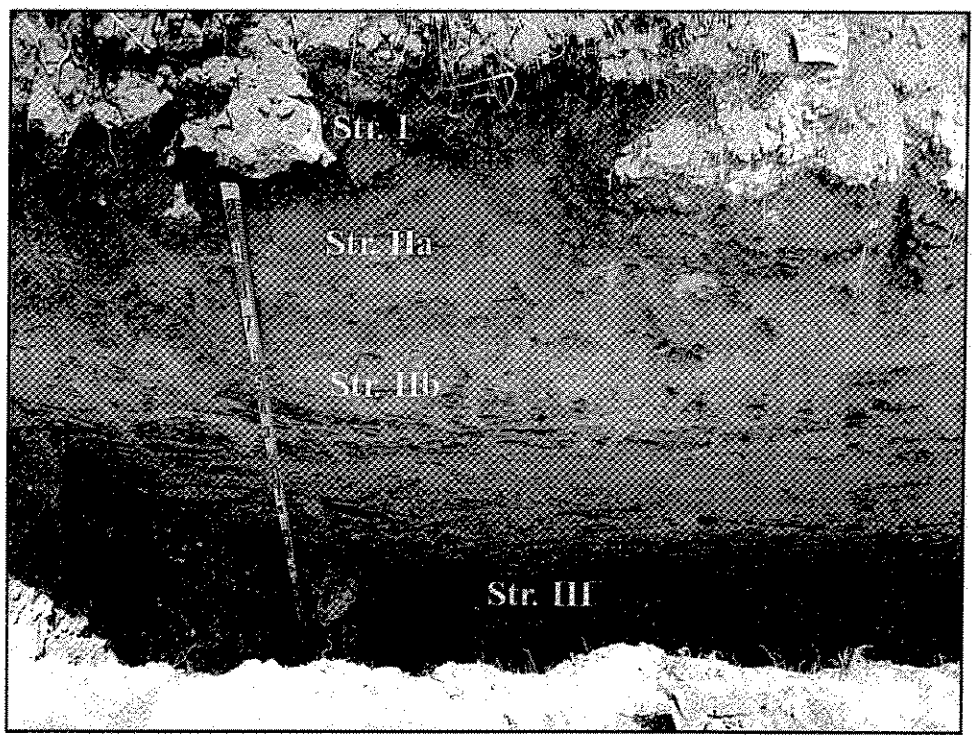
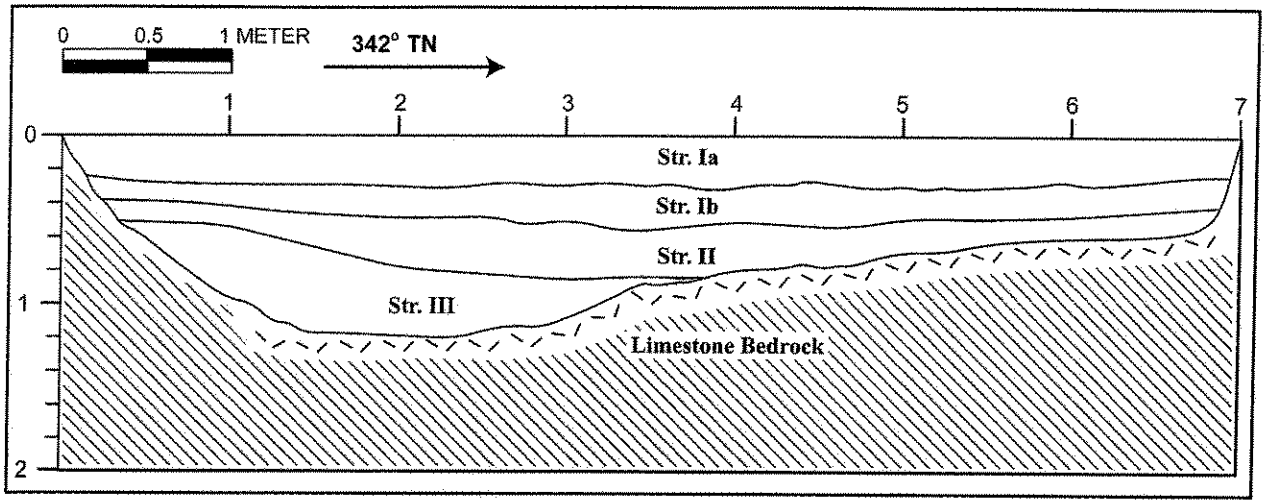


Figure 30. Test Trench 12 stratigraphic profile and photograph, east wall

4.2.13 Test Trench 13

Orientation: 342° TN
Max. Length: 7.0 m
Max. Width: 0.8 m
Max. Depth: 1.4 m
(Figure 31)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 3/3 dark brown silt loam; weak, fine blocky structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 30-40% limestone cobbles and gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-50	Fill; 10YR 4/2dark grayish brown silty sand; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 30-40% limestone gravel and modern garbage including metal and glass fragments; LB is abrupt, smooth.
Stratum II	50-80	7.5YR 4/6 strong brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is clear, smooth.
Stratum III	80-120	10YR 8/2 very pale brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone cobbles and pebbles; no cultural material observed; LB is abrupt, wavy.



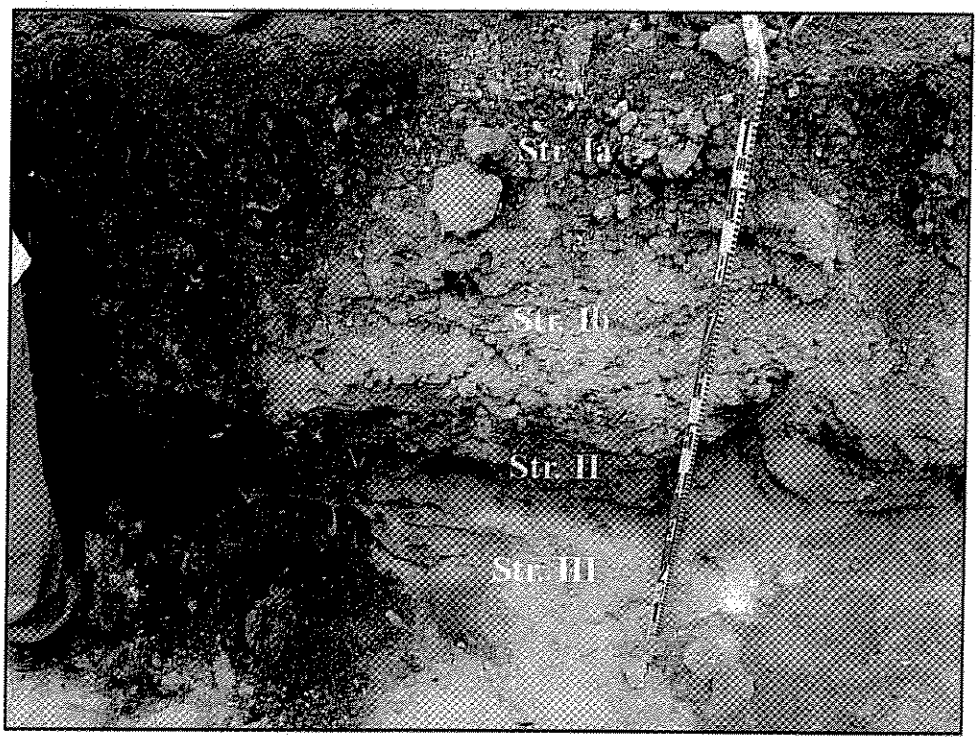
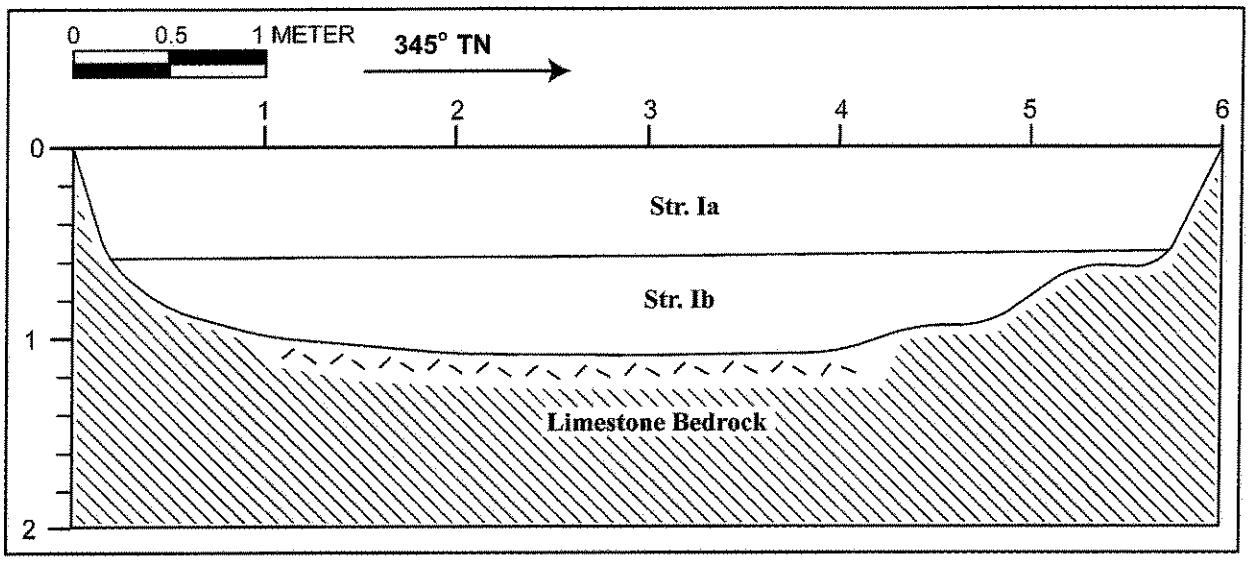


Figure 31. Test Trench 13 stratigraphic profile and photograph, west wall

4.2.14 Test Trench 14

Orientation: 345° TN
Max. Length: 6.0 m
Max. Width: 0.8 m
Max. Depth: 1.1 m
(Figure 32)

Strata	Depth (cmbs)	Description
Stratum I	0-60	Fill; 5YR 3/4 dark reddish brown sandy loam; moderate, medium blocky structure; dry, hard consistency; slightly plastic; no cementation; terrestrial origin; contains 20-30% limestone and basalt cobbles and gravel, and modern garbage including plastic and metal fragments; Lower Boundary (LB) is abrupt, smooth.
Stratum III	60-110	10YR 7/2 light gray silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10-20% limestone cobbles and pebbles; LB is abrupt, smooth.



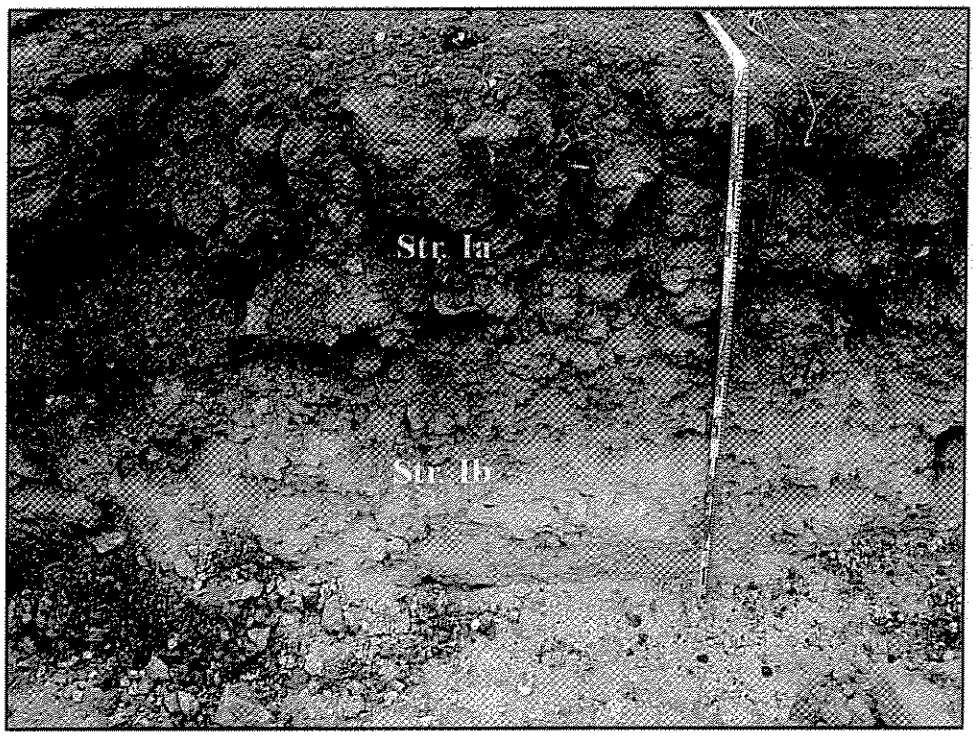
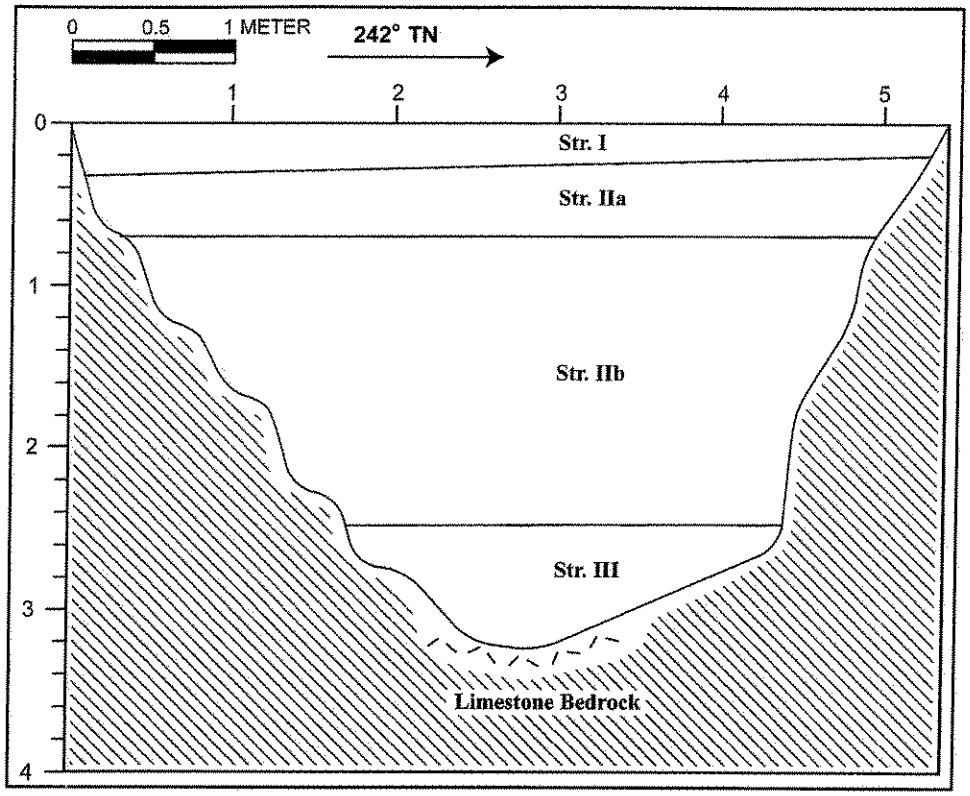


Figure 32. Test Trench 14 stratigraphic profile and photograph, west wall

4.2.15 Test Trench 15

Orientation: 242° TN
Max. Length: 5.4 m
Max. Width: 0.8 m
Max. Depth: 3.3 m
(Figure 33)

Strata	Depth (cmbs)	Description
Stratum I	0-35	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, weakly coherent consistency; plastic; no cementation; mixed origin; contains 50-60% limestone gravel and cobbles, and modern garbage including plastic, ceramic and glass fragments; Lower Boundary (LB) is abrupt, smooth.
Stratum IIa	20-70	Fill; 7.5YR 5/8 strong brown silty sand; structureless; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles; no cultural material observed; LB is clear, smooth.
Stratum IIb	70-250	Fill; 10YR 7/2 light gray silt loam; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is clear, smooth.
Stratum III	250-325	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, slightly hard consistency; slightly plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, wavy.



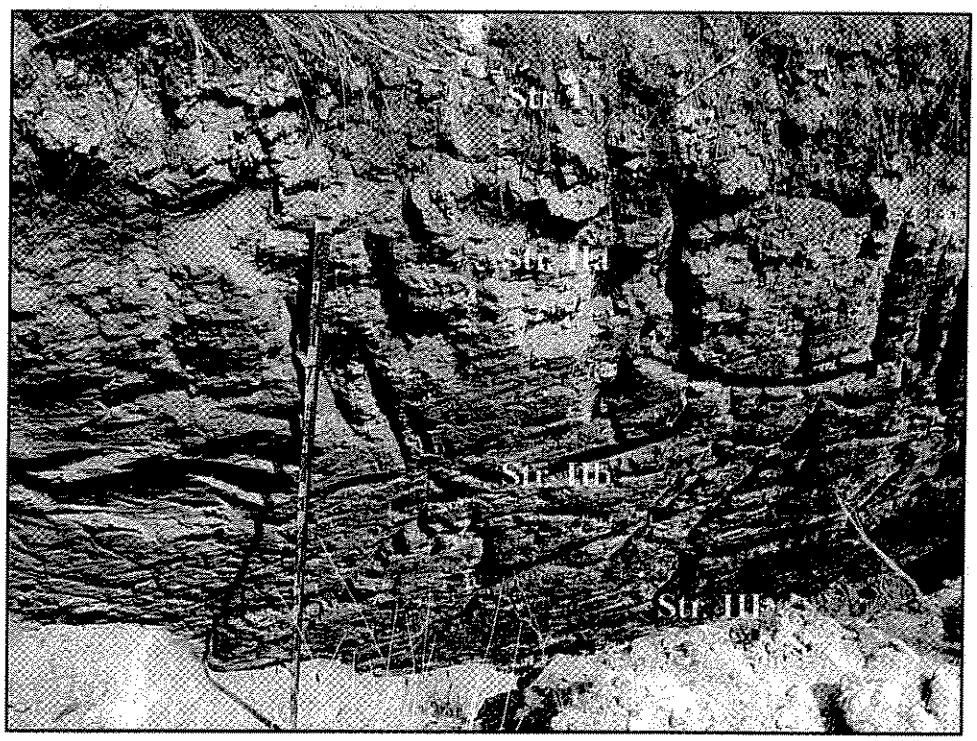
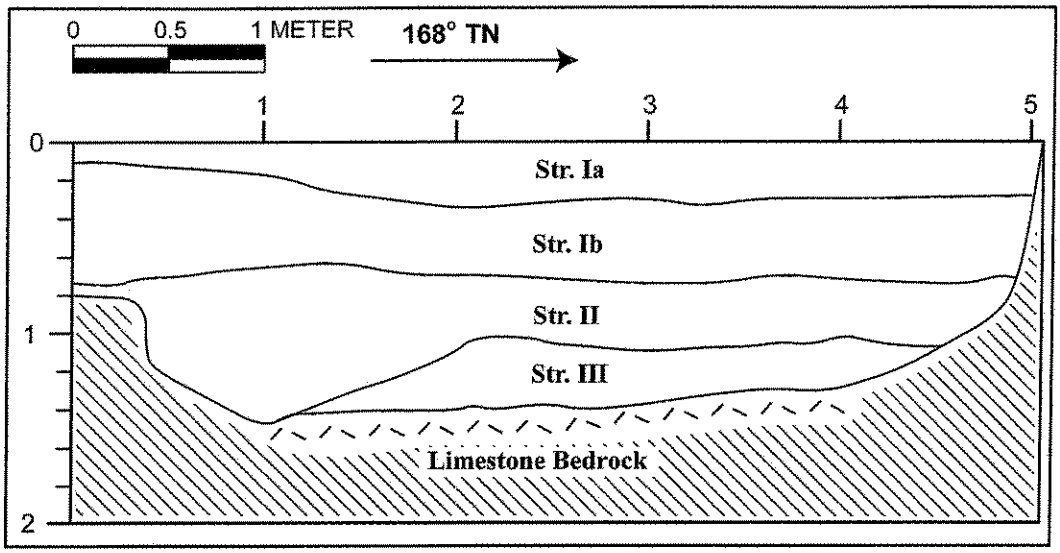


Figure 33. Test Trench 15 stratigraphic profile and photograph, south wall

4.2.16 Test Trench 16

Orientation: 168° TN
Max. Length: 5.0 m
Max. Width: 0.8 m
Max. Depth: 1.4 m
(Figure 34)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 3/3 dark brown silt loam; weak, fine blocky structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone cobbles and gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-70	Fill; 10YR 4/2dark grayish brown silty sand; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 10-20% limestone gravel; no cultural material observed; LB is abrupt, smooth.
Stratum II	70-100	7.5YR 4/6 strong brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth.
Stratum III	100-140	10YR 8/3 very pale brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone cobbles and pebbles; no cultural material observed; LB is abrupt, wavy.



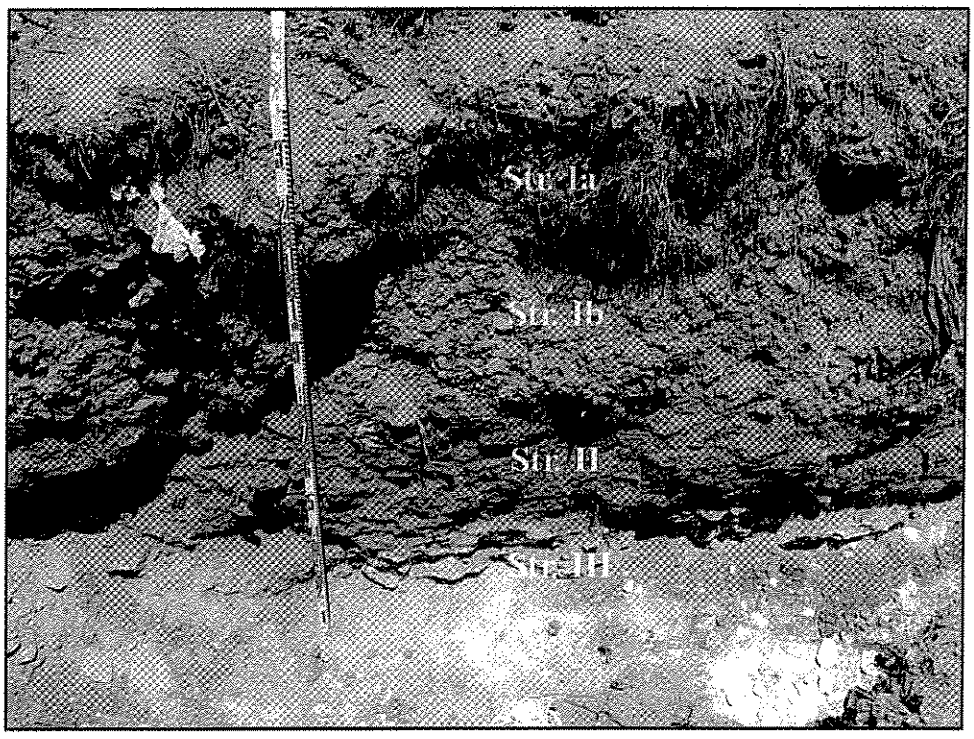
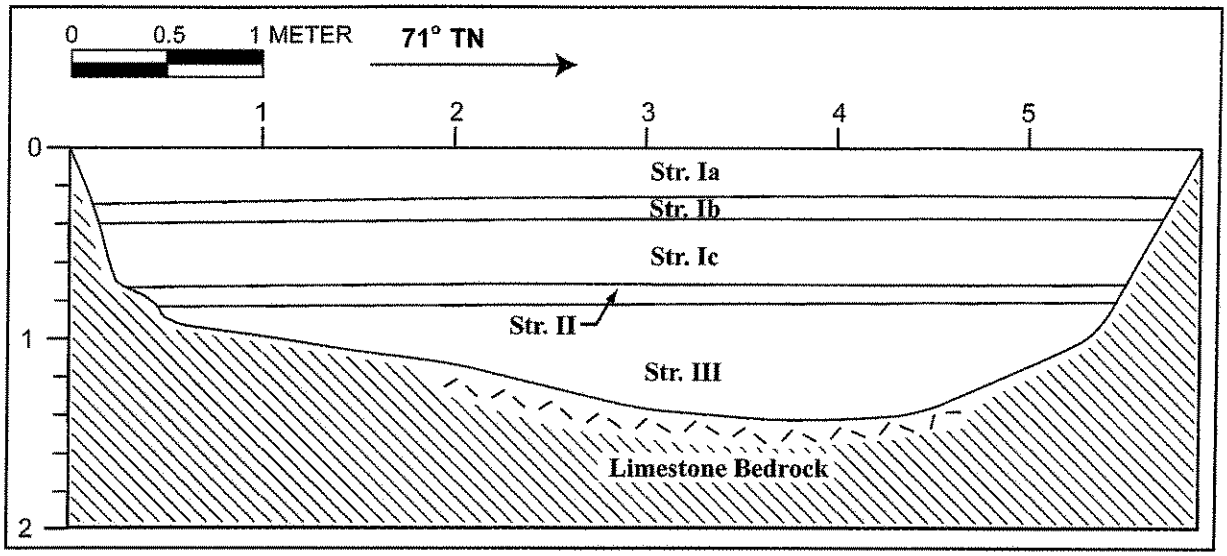


Figure 34. Test Trench 16 stratigraphic profile and photograph, east wall

4.2.17 Test Trench 17

Orientation: 071° TN
Max. Length: 5.9 m
Max. Width: 0.8 m
Max. Depth: 1.5 m
(Figure 35)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 4/3 brown sandy loam; weak, fine granular structure; dry, loose consistency; slightly plastic; no cementation; terrestrial origin; contains 30-40% limestone and basalt gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-40	Fill; 5YR 3/4 dark reddish brown sandy loam; moderate, medium blocky structure; dry, hard consistency; slightly plastic; no cementation; terrestrial origin; contains 20-30% limestone and basalt cobbles and gravel; no cultural material observed; LB is abrupt, smooth.
Stratum Ic	40-75	Fill; 10YR 3/2 very dark grayish brown sandy loam; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles, and modern garbage including wood and metal fragments; LB is abrupt, smooth.
Stratum II	75-85	10YR 5/6 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is clear, smooth.
Stratum III	85-145	10YR 8/3 very pale brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone cobbles and pebbles; no cultural material observed; LB is abrupt, wavy.



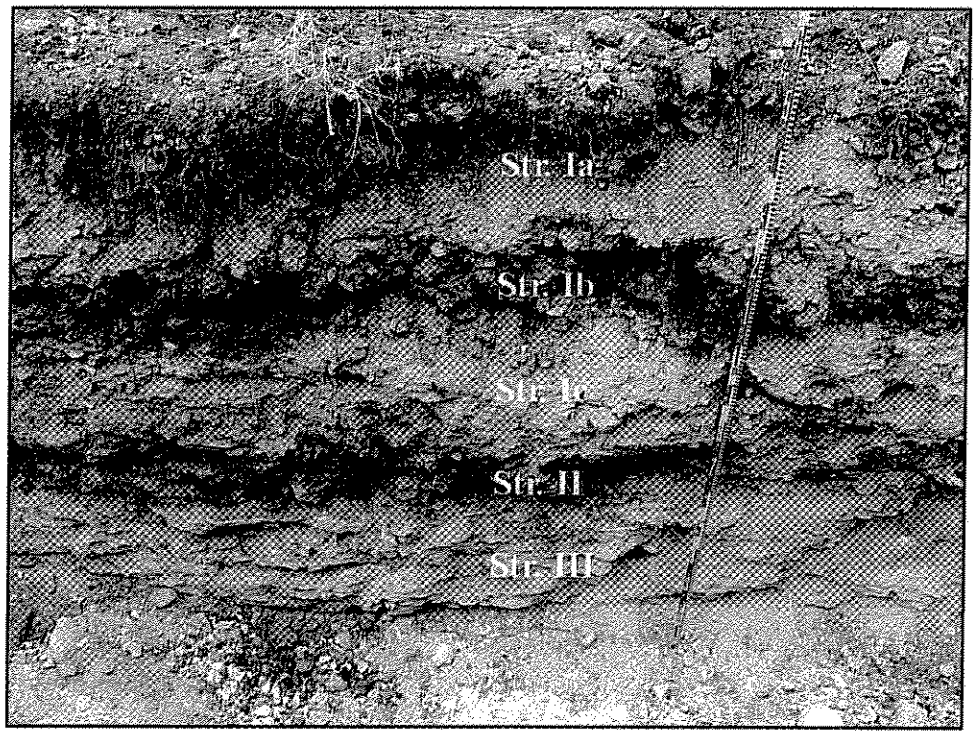
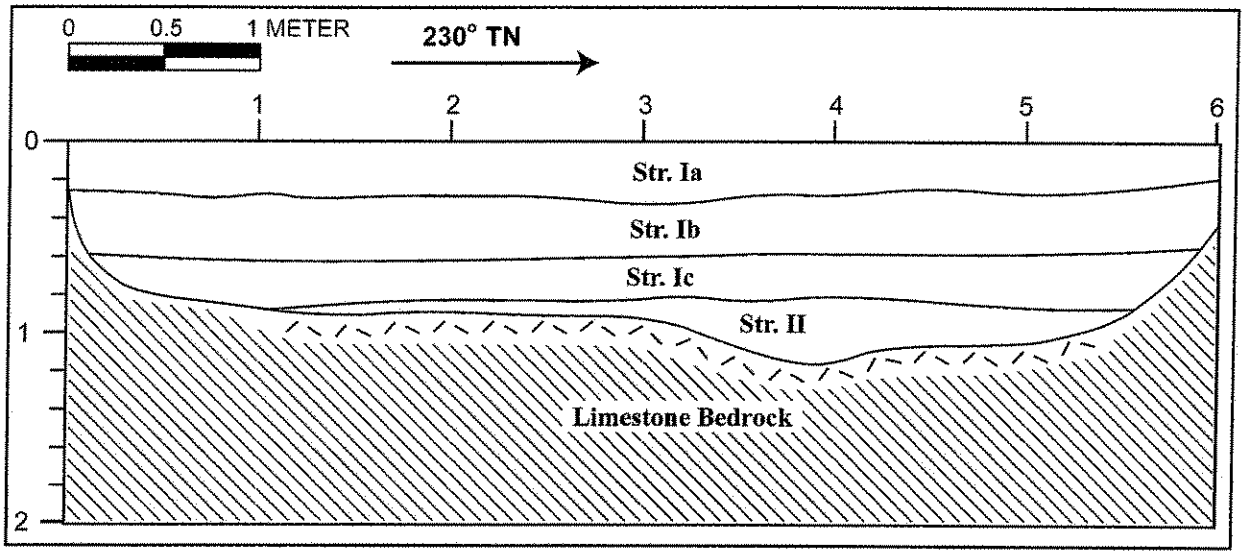


Figure 35. Test Trench 17 stratigraphic profile and photograph, north wall

4.2.18 Test Trench 18

Orientation: 230° TN
Max. Length: 6.0 m
Max. Width: 0.8 m
Max. Depth: 1.2 m
(Figure 36)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 3/3 dark brown silt loam; weak, fine blocky structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 10-20% limestone and basalt gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-60	Fill; 10YR 4/6 dark yellowish brown sandy loam; weak, fine crumb structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 30-40% limestone gravel; no cultural material observed; LB is abrupt, smooth.
Stratum Ic	60-80	Fill; 10YR 4/3 brown clay loam; moderate, medium crumb structure; dry, weakly coherent consistency; non-plastic; no cementation; terrestrial origin; contains 30-40% limestone gravel, and modern garbage including rubber and plastic fragments; LB is abrupt, smooth.
Stratum II	80-120	10YR 5/6 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is clear, smooth.



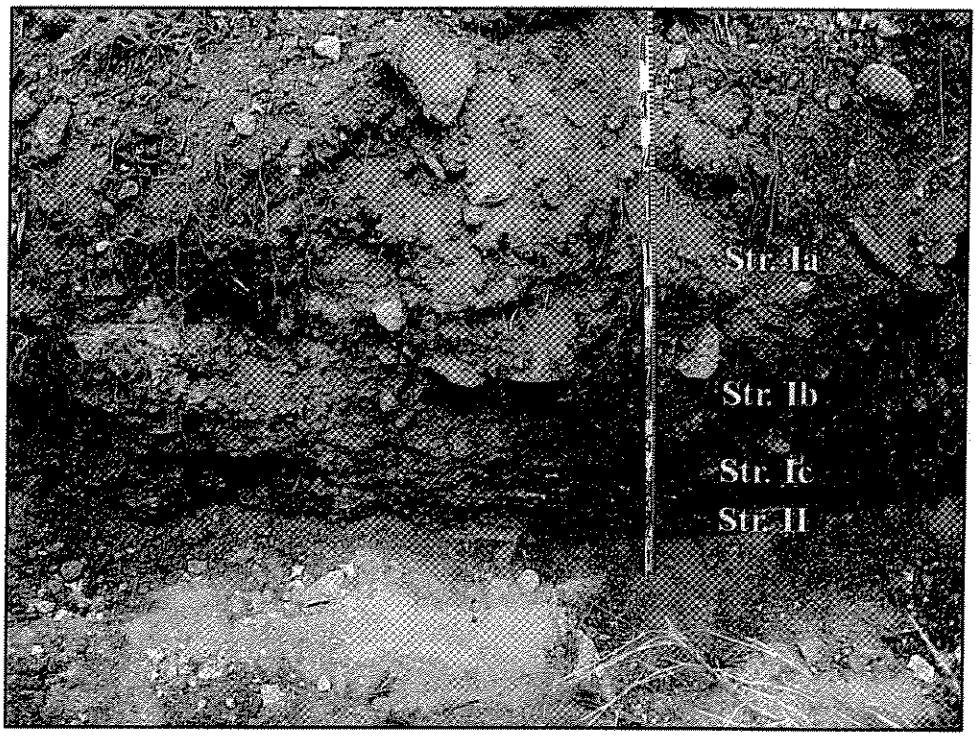
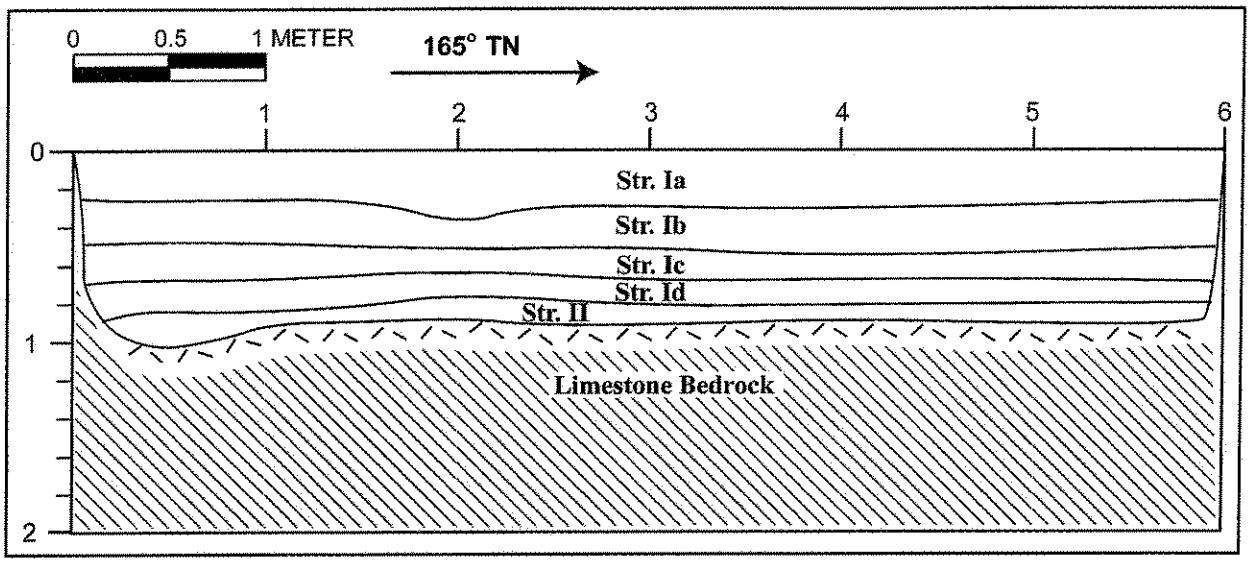


Figure 36. Test Trench 18 stratigraphic profile and photograph, north wall

4.2.19 Test Trench 19

Orientation: 165° TN
Max. Length: 6.0 m
Max. Width: 0.8 m
Max. Depth: 1.0 m
(Figure 37)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 4/3 brown silt loam; weak, fine crumb structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 10-20% limestone and basalt gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-50	Fill; 10YR 4/1 dark gray sandy loam; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 10-20% limestone and basalt gravel and cobbles; no cultural material observed; LB is abrupt, smooth.
Stratum Ic	50-70	Fill; 10YR 6/2 light brownish gray sandy silt; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 10-20% limestone gravel and modern garbage; LB is abrupt, wavy.
Stratum Id	70-80	Fill; 10YR 3/3 dark brown sandy clay loam; weak, fine crumb structure; dry, slightly hard consistency; non-plastic; no cementation; mixed origin; contains modern garbage; LB is abrupt, wavy.
Stratum II	80-100	10YR 5/6 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth.



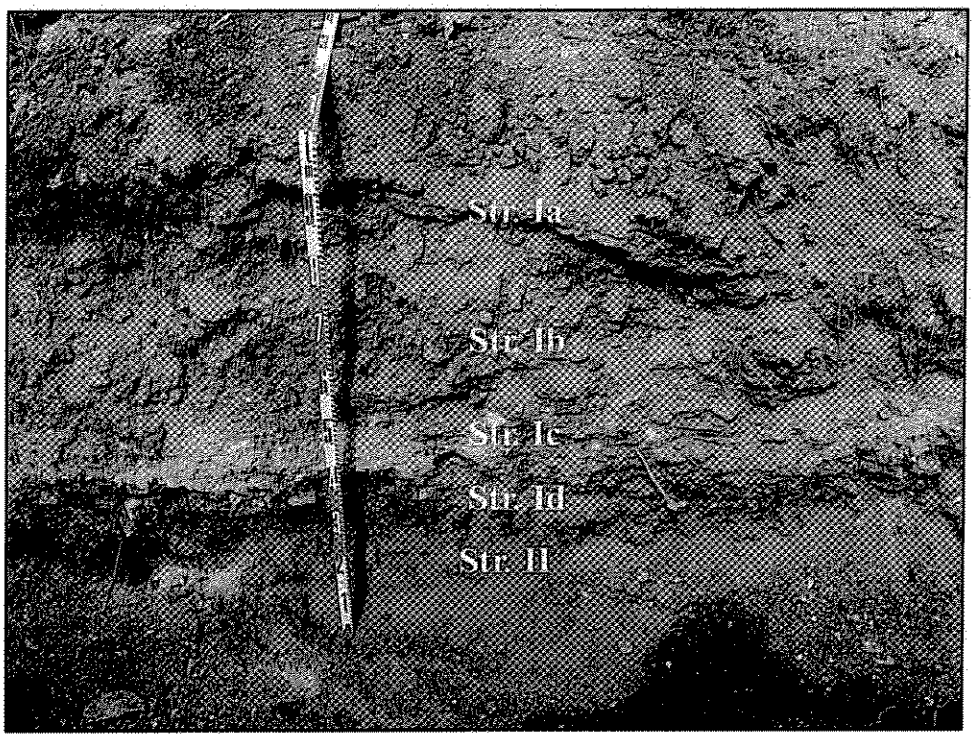
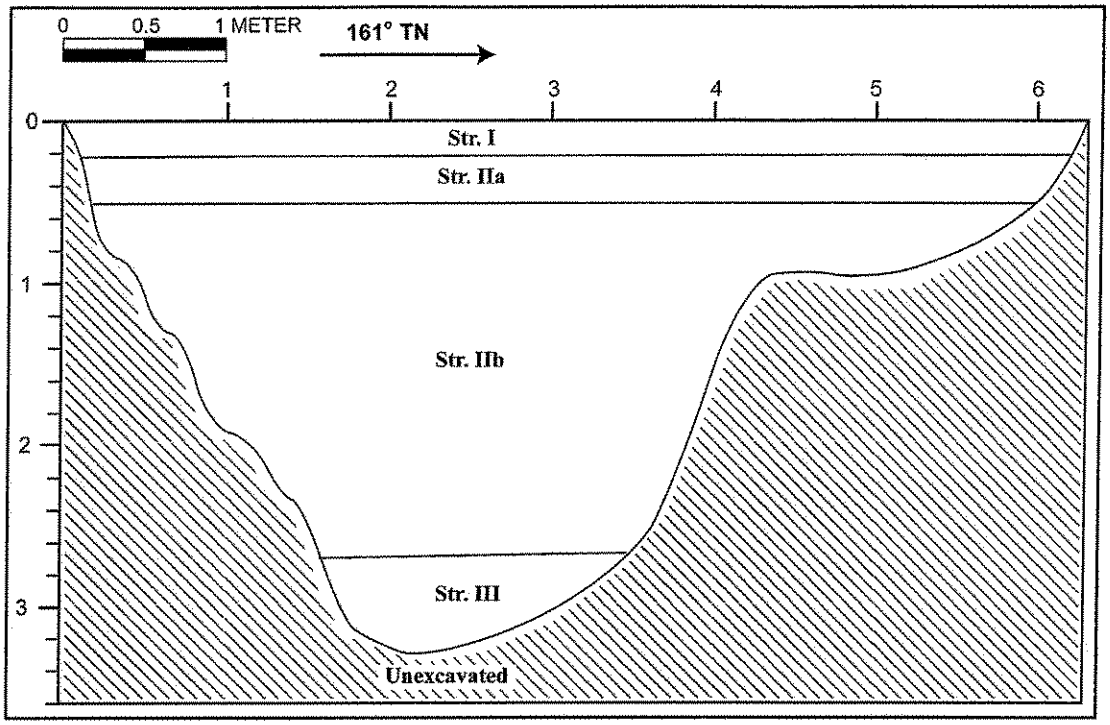


Figure 37. Test Trench 19 stratigraphic profile and photograph, east wall

4.2.20 Test Trench 20

Orientation: 161° TN
Max. Length: 6.3 m
Max. Width: 0.8 m
Max. Depth: 3.4 m
(Figure 38)

Strata	Depth (cmbs)	Description
Stratum I	0-20	Fill; 10YR 3/4 dark yellowish brown sandy loam; weak, fine granular structure; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 50-60% limestone gravel and cobbles, and modern garbage including plastic and glass fragments; Lower Boundary (LB) is abrupt, smooth.
Stratum IIa	20-50	Fill; 10YR 5/8 yellowish brown silty sand; structureless; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles; no cultural material observed; LB is clear, smooth.
Stratum IIb	50-270	Fill; 10YR 7/2 light gray silt loam; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is clear, smooth.
Stratum III	270-335	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, slightly hard consistency; slightly plastic; no cementation; mixed origin; no cultural material observed; LB is below Base of Excavation.



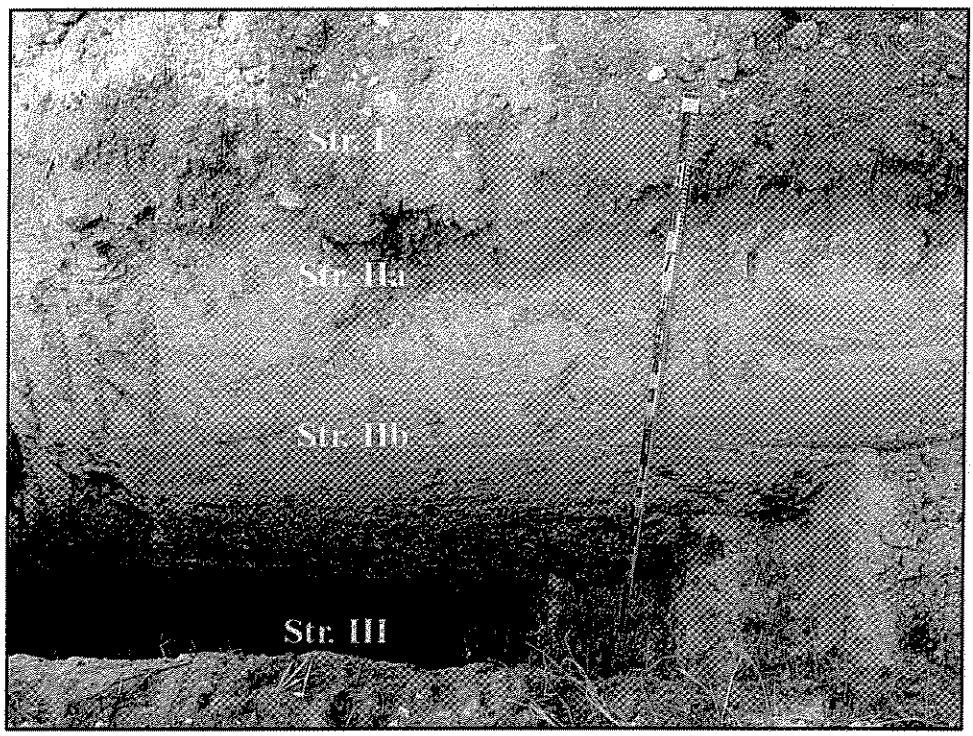


Figure 38. Test Trench 20 stratigraphic profile and photograph, east wall

4.2.21 Test Trench 21

Orientation: 078° TN
Max. Length: 12.5 m
Max. Width: 0.8 m
Max. Depth: 1.6 m
(Figure 39)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 3/3 dark brown sandy clay loam; moderate, fine granular structure; dry, loose consistency; plastic; no cementation; mixed origin; contains 5-10% limestone gravel and cobbles, and modern garbage including plastic and glass fragments; Lower Boundary (LB) is abrupt, wavy.
Stratum Ib	30-40	Fill; 10YR 3/1 very dark gray sandy silt; structureless; dry, loose consistency; non-plastic; no cementation; terrestrial origin contains modern ash deposit; LB is abrupt, broken.
Stratum IIa	30-60	10YR 5/6 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth.
Stratum IIb	30-50	10YR 5/6 yellowish brown silt; weak, fine granular structure; dry, weakly coherent consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles; no cultural material observed; LB is abrupt, smooth.
Stratum IIc	50-160	Fill; 10YR 7/3 very pale brown silty sand; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is abrupt, smooth.

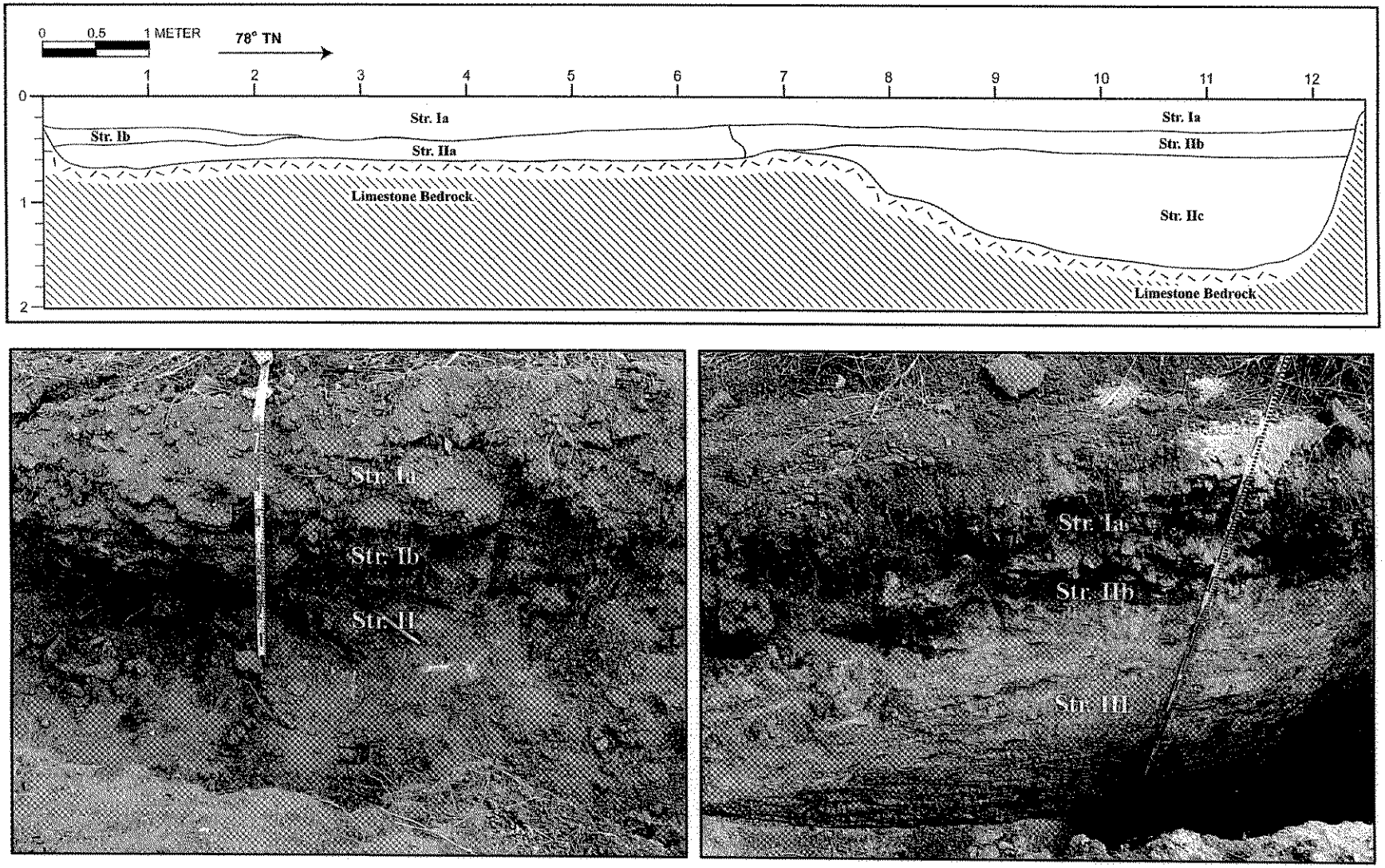
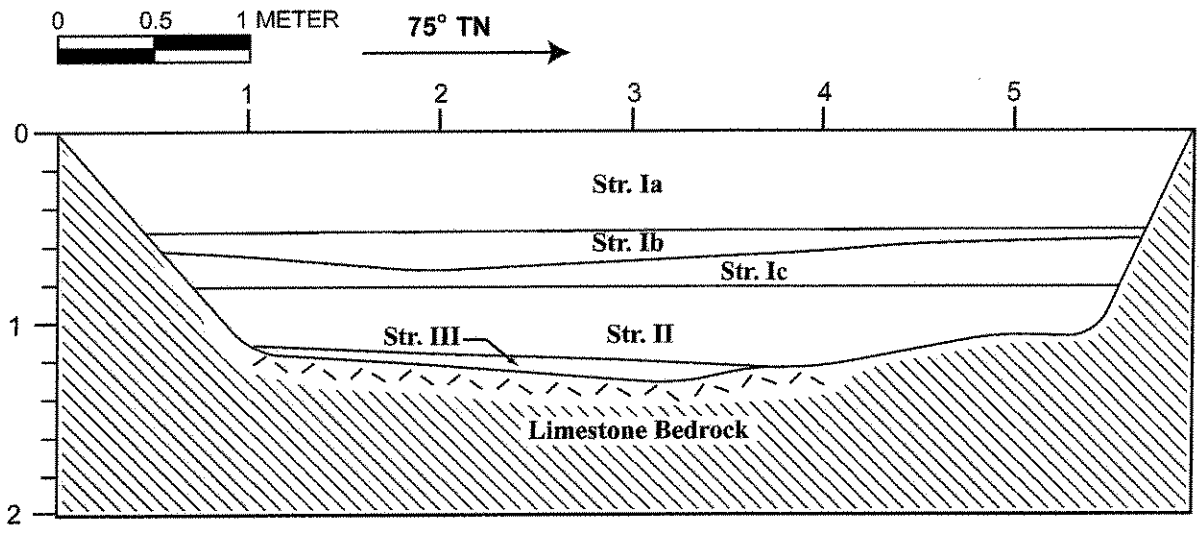


Figure 39. Test Trench 21 stratigraphic profile and photographs, north wall, showing the eastern and western portions of the trench

4.2.22 Test Trench 22

Orientation: 075° TN
Max. Length: 5.9 m
Max. Width: 0.8 m
Max. Depth: 1.3 m
(Figure 40)

Strata	Depth (cmbs)	Description
Stratum Ia	0-50	Fill; 10YR 4/3 brown sandy loam; weak, fine granular structure; dry, loose consistency; slightly plastic; no cementation; terrestrial origin; contains 30-40% limestone and basalt gravel and cobbles and modern garbage including plastic and metal fragments; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	50-70	Fill; 5YR 3/4 dark reddish brown sandy loam; moderate, medium blocky structure; dry, hard consistency; slightly plastic; no cementation; terrestrial origin; contains 20-30% limestone and basalt cobbles and gravel; no cultural material observed; LB is abrupt, wavy.
Stratum Ic	55-80	Fill; 10YR 3/2 very dark grayish brown sandy loam; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles, and modern garbage including wood and metal fragments; LB is abrupt, smooth.
Stratum II	80-120	10YR 5/6 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is clear, smooth.
Stratum III	110-130	10YR 8/3 very pale brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone cobbles and pebbles; no cultural material observed; LB is abrupt, wavy.



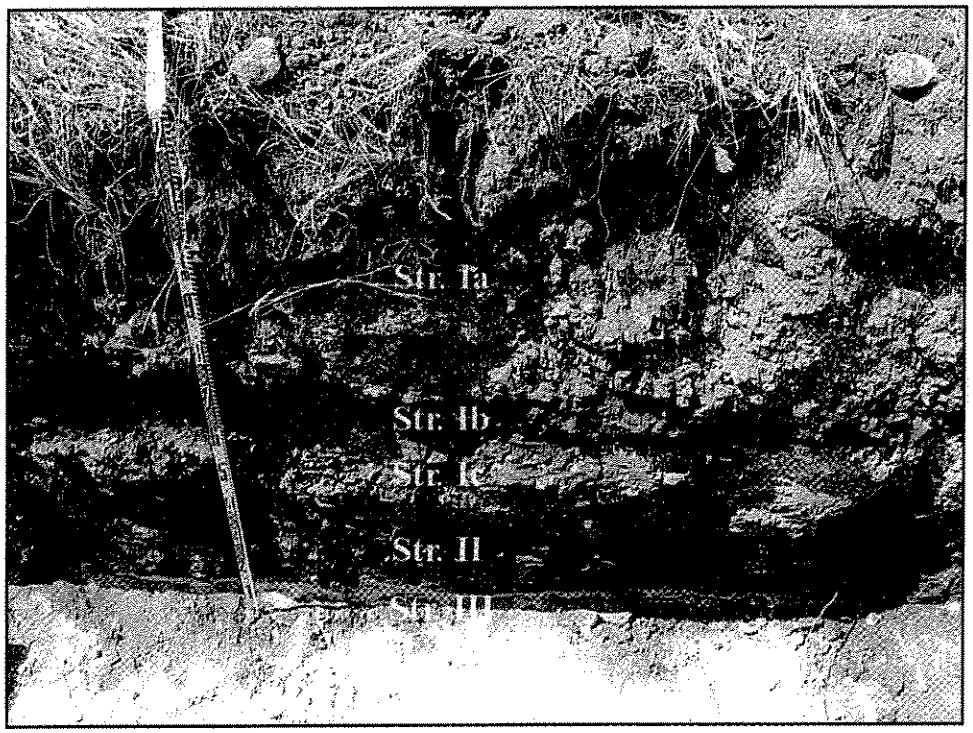
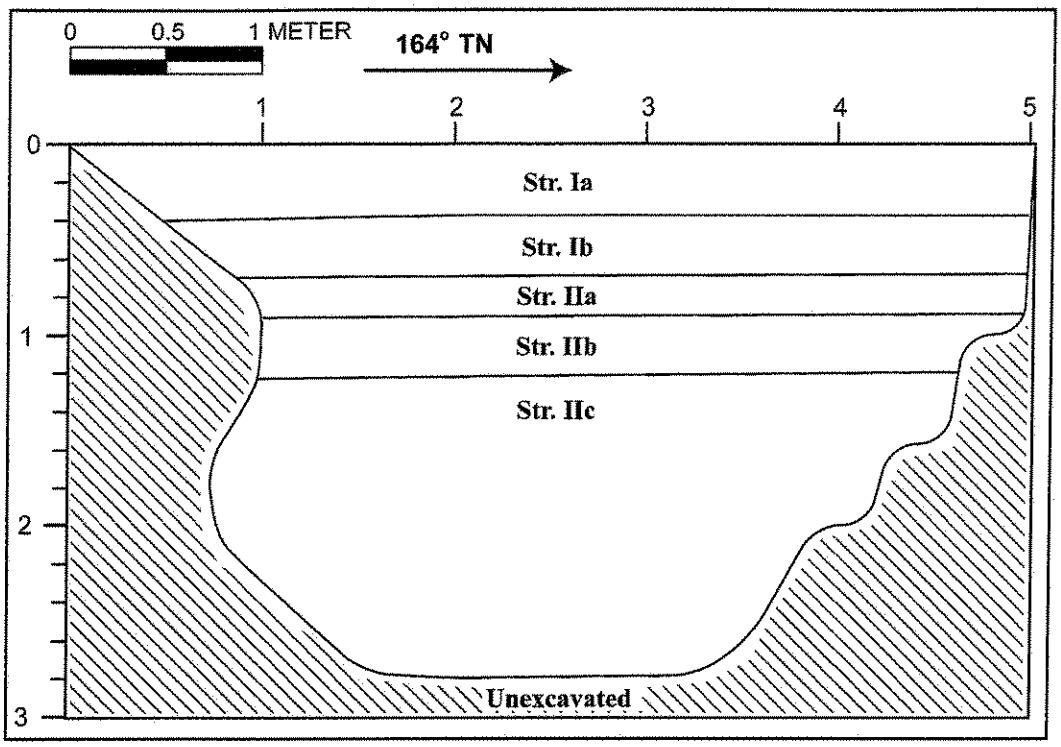


Figure 40. Test Trench 22 stratigraphic profile and photograph, south wall

4.2.23 Test Trench 23

Orientation: 164° TN
Max. Length: 5.0 m
Max. Width: 0.8 m
Max. Depth: 2.8 m
(Figure 41)

Strata	Depth (cmbs)	Description
Stratum Ia	0-40	Fill; 5YR 3/3dark reddish brown silt loam; weak, fine crumb structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 50-60% limestone gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	40-70	Fill; 5YR 3/4 dark reddish brown clay loam; weak, medium crumb structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles; no cultural material observed; LB is abrupt, smooth.
Stratum IIa	70-90	Fill; 5YR 5/8 yellowish red silt; structureless; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is clear, smooth.
Stratum IIb	90-120	Fill; 10YR 7/3 very pale brown silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.
Stratum IIc	120-280	Fill; 10YR 7/1 light grayvery pale brown silty sand mottled with 10YR 3/2 very dark grayish brown sandy clay loam; weak, fine blocky structure; dry, slightly hard consistency; non-plastic; no cementation; mixed origin; no cultural material observed; LB is abrupt, smooth.



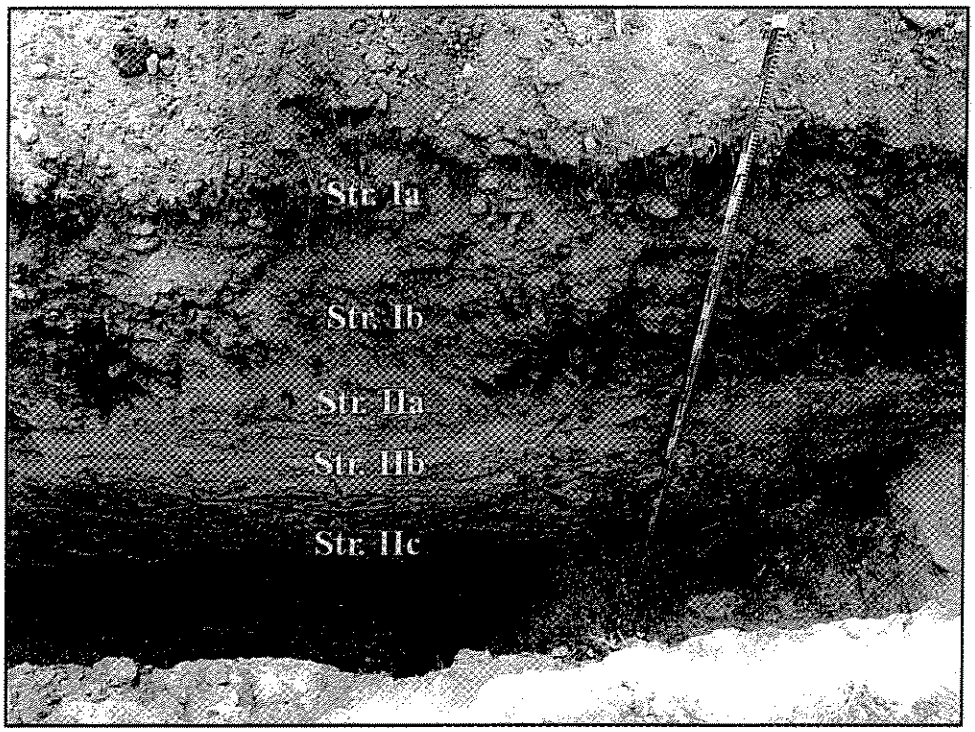
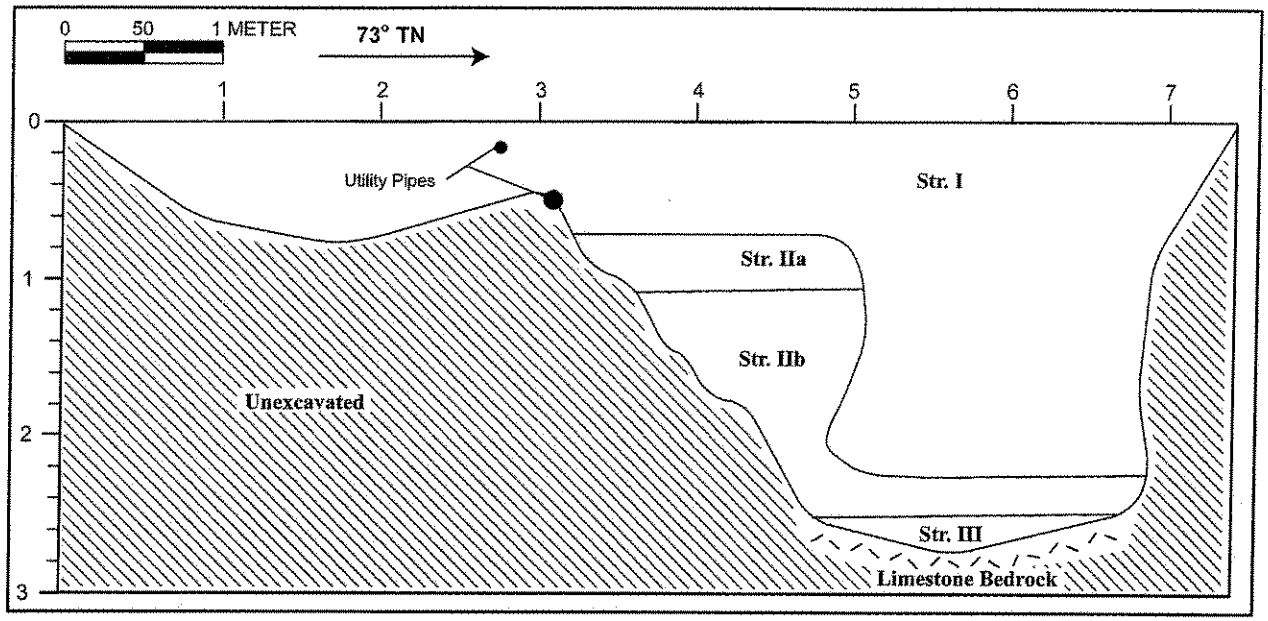


Figure 41. Test Trench 23 stratigraphic profile and photograph, east wall

4.2.24 Test Trench 24

Orientation: 073° TN
Max. Length: 7.5 m
Max. Width: 0.8 m
Max. Depth: 2.7 m
(Figure 42)

Strata	Depth (cmbs)	Description
Stratum I	0-225	Fill; 10YR 3/3 dark brown sandy loam; weak, fine granular structure; dry, weakly coherent consistency; plastic; no cementation; mixed origin; contains 50-60% limestone gravel and cobbles, and modern garbage including plastic, metal and glass fragments; Lower Boundary (LB) is abrupt, irregular.
Stratum IIa	70-105	Fill; 7.5YR 5/8 strong brown silty sand; structureless; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles; no cultural material observed; LB is clear, smooth.
Stratum IIb	105-250	Fill; 10YR 7/2 light gray silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is clear, smooth.
Stratum III	250-270	Fill; 10YR 7/1 light gray silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 40-50% limestone cobbles and gravel; LB is abrupt, smooth.



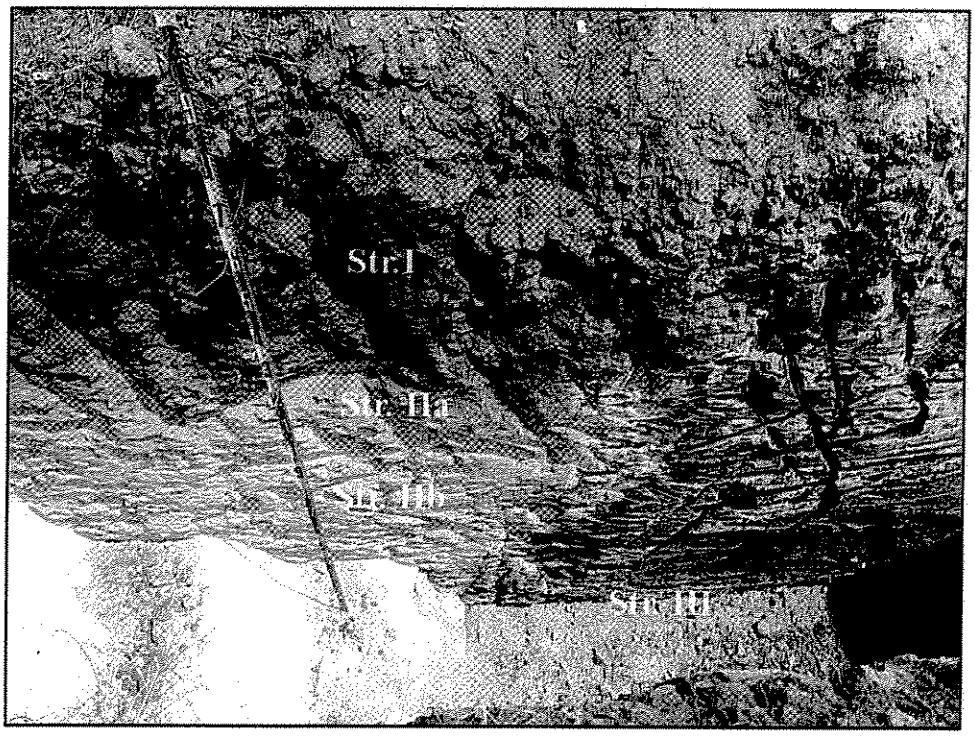
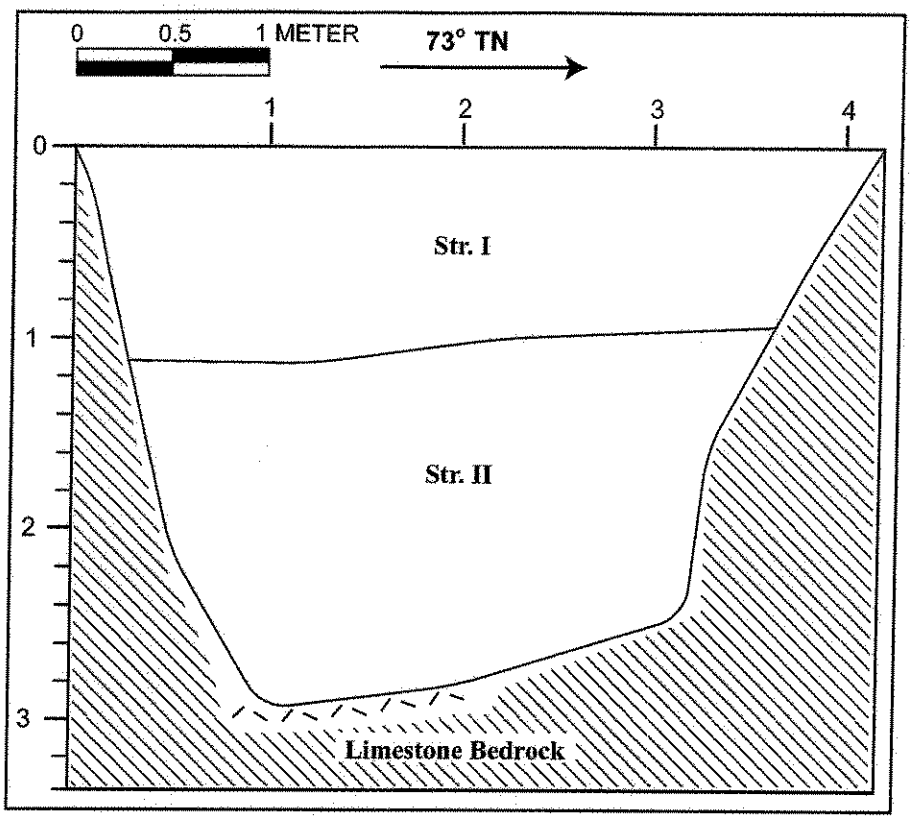


Figure 42. Test Trench 24 stratigraphic profile and photograph, north wall

4.2.25 Test Trench 25

Orientation: 073° TN
Max. Length: 4.2 m
Max. Width: 0.8 m
Max. Depth: 3.0 m
(Figure 43)

Strata	Depth (cmbs)	Description
Stratum I	0-115	Fill; 10YR 4/2 dark grayish brown silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone gravel and cobbles, and modern garbage including plastic, metal and glass fragments; Lower Boundary (LB) is abrupt, smooth.
Stratum II	95-295	Fill; 10YR 7/2 light gray silty sand mottled with 10YR 3/3 dark brown sandy clay loam; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 10% limestone cobbles and gravel; no cultural material observed; LB is abrupt, smooth.



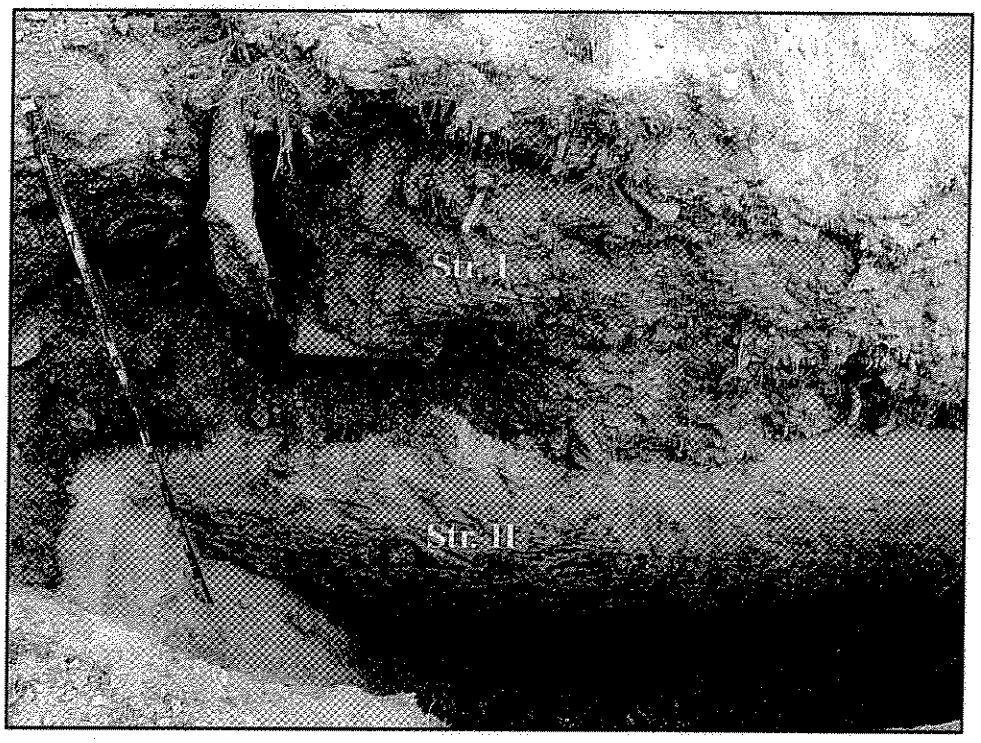


Figure 43. Test Trench 25 stratigraphic profile and photograph, north wall

4.2.26 Test Trench 26

Orientation: 071° TN
Max. Length: 8.0 m
Max. Width: 0.8 m
Max. Depth: 0.6 m
(Figure 44)

Strata	Depth (cmbs)	Description
Stratum I	0-30	Fill; 10YR 8/2 very pale brown silty sand; weak, fine granular structure; dry, loose consistency; non-plastic; weak cementation; mixed origin; contains 60-70% limestone gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum II	30-60	Fill; 10YR 5/8 yellowish brown silt; structureless; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 20-30% limestone cobbles and gravel; no cultural material observed; LB is abrupt, smooth.

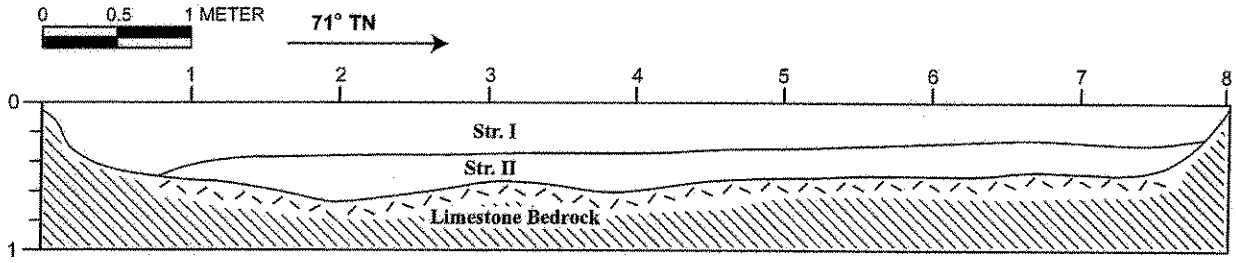


Figure 44. Test Trench 26 stratigraphic profile and photograph, north wall

4.2.27 Test Trench 27

Orientation: 068° TN
Max. Length: 8.0 m
Max. Width: 0.8 m
Max. Depth: 0.7 m
(Figure 45)

Strata	Depth (cmbs)	Description
Stratum I	0-30	Fill; 10YR 8/2 very pale brown silty sand; weak, fine granular structure; dry, loose consistency; non-plastic; weak cementation; mixed origin; contains 60-70% limestone gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum II	30-70	Fill; 10YR 5/8 yellowish brown silt; structureless; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 20-30% limestone cobbles and gravel; no cultural material observed; LB is abrupt, smooth.

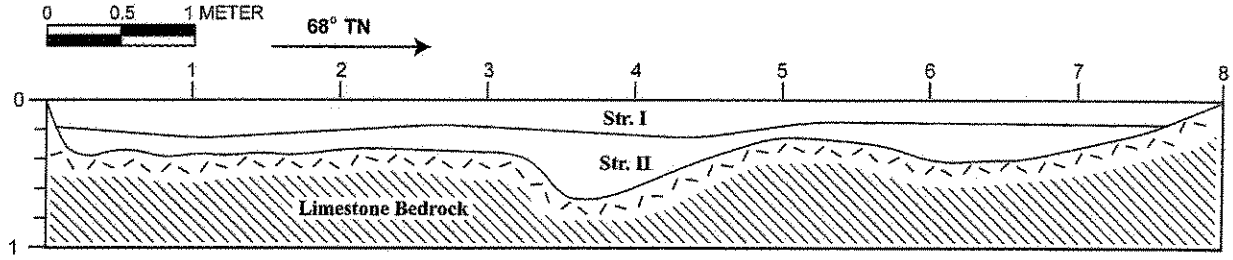


Figure 45. Test Trench 27 stratigraphic profile and photograph, north wall

4.2.28 Test Trench 28

Orientation: 305° TN
Max. Length: 8.0 m
Max. Width: 0.8 m
Max. Depth: 1.2 m
(Figure 46)

Strata	Depth (cmbs)	Description
Stratum Ia	0-30	Fill; 10YR 8/2 very pale brown silty sand; weak, fine granular structure; dry, loose consistency; non-plastic; weak cementation; mixed origin; contains 60-70% limestone gravel; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	30-50	Fill; 10YR 5/8 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; terrestrial origin; contains 20-30% limestone cobbles and gravel; no cultural material observed; LB is abrupt, smooth.
Stratum IIa	40-70	10YR 6/4 light yellowish brown silt; structureless; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, wavy.
Stratum IIb	40-120	Fill; 10YR 5/8 yellowish brown silt; weak, fine granular structure; dry, loose consistency; non-plastic; no cementation; mixed origin; contains 20-30% limestone cobbles and gravel; no cultural material observed; LB is abrupt, smooth.

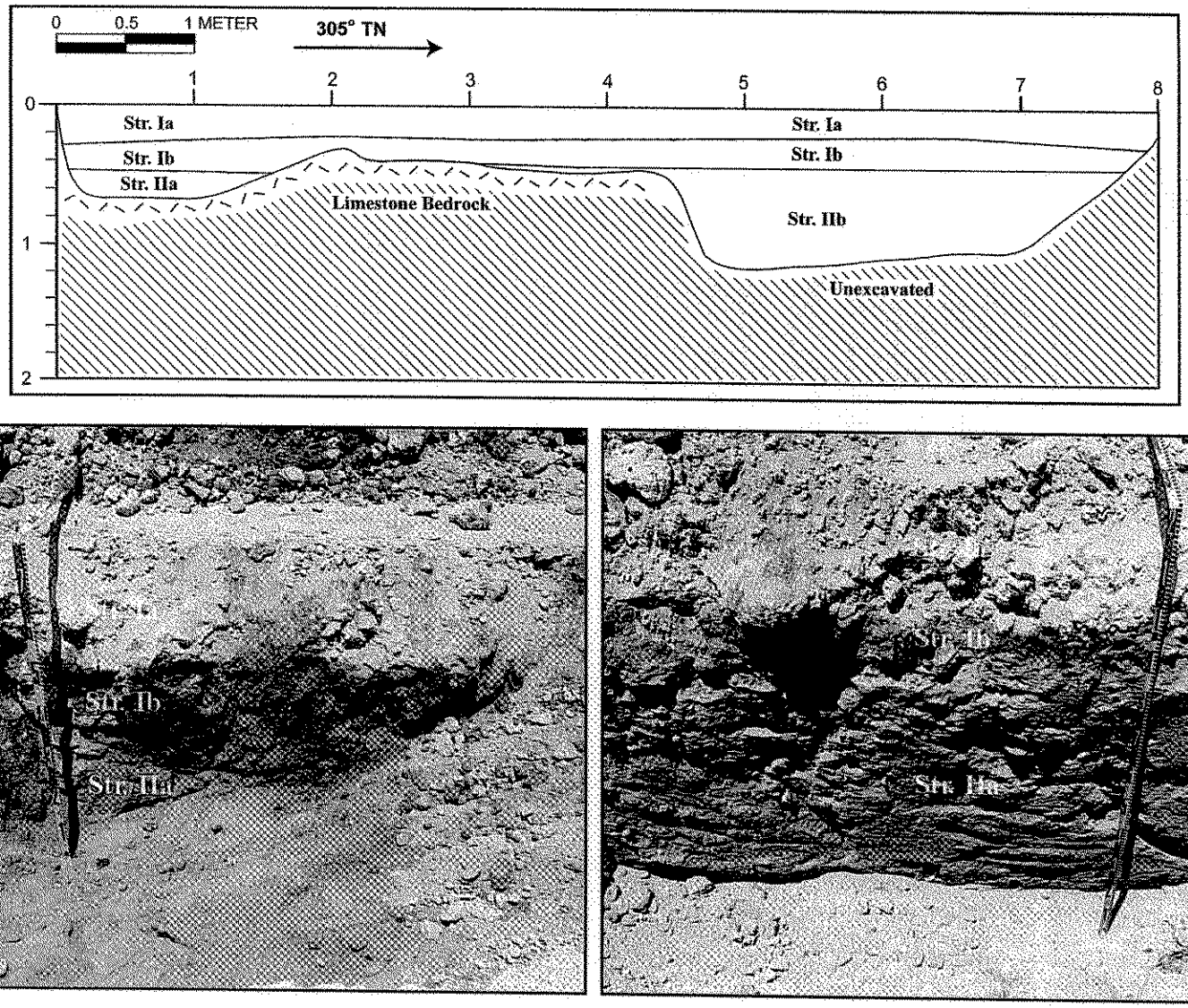
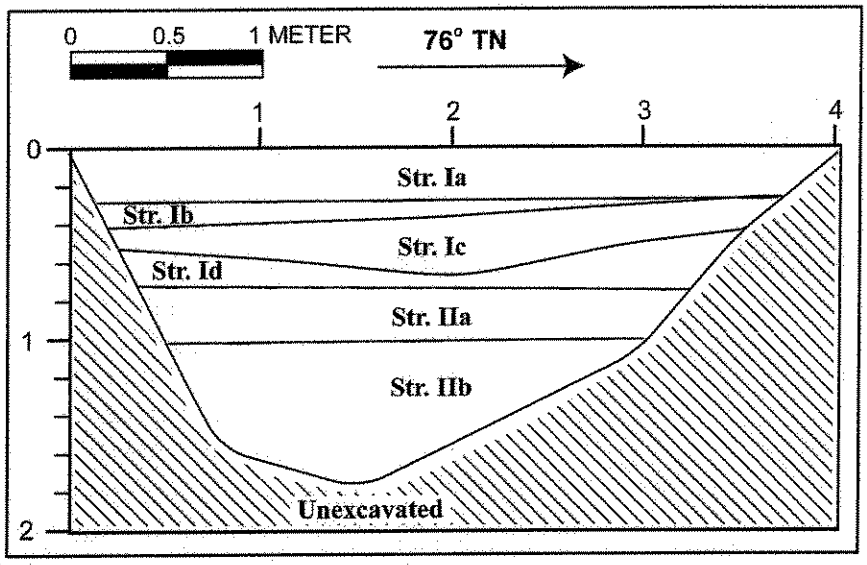


Figure 46. Test Trench 28 stratigraphic profile and photographs, west wall, showing the southern and northern portions of the trench

4.2.29 Test Trench 29

Orientation: 076° TN
Max. Length: 4.0 m
Max. Width: 0.8 m
Max. Depth: 1.8 m
(Figure 47)

Strata	Depth (cmbs)	Description
Stratum Ia	0-25	Fill; 10YR 4/3 brown sandy loam; weak, fine granular structure; dry, loose consistency; slightly plastic; no cementation; terrestrial origin; contains 30-40% limestone and basalt gravel and cobbles; no cultural material observed; Lower Boundary (LB) is abrupt, smooth.
Stratum Ib	25-40	Fill; 10YR 6/3 pale brown silt; structureless; dry, loose consistency; non-plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth
Stratum Ic	25-65	Fill; 10YR 3/6 dark yellowish brown sandy loam; moderate, medium blocky structure; dry, slightly hard consistency; slightly plastic; no cementation; terrestrial origin; no cultural material observed; LB is abrupt, smooth.
Stratum Id	45-70	Fill; 5YR 3/4 dark reddish brown sandy loam; moderate, medium blocky structure; dry, hard consistency; slightly plastic; no cementation; terrestrial origin; contains 20-30% limestone and basalt cobbles and gravel; no cultural material observed; LB is abrupt, smooth.
Stratum IIa	70-100	Fill; 7.5YR 5/8 strong browm silty sand; structureless; dry, weakly coherent consistency; slightly plastic; no cementation; mixed origin; contains 10-20% limestone gravel and cobbles; no cultural material observed; LB is clear, smooth.
Stratum IIb	100-175	Fill; 10YR 7/2 light gray silty sand; structureless; dry, loose consistency; non-plastic; no cementation; mixed origin; no cultural material observed.



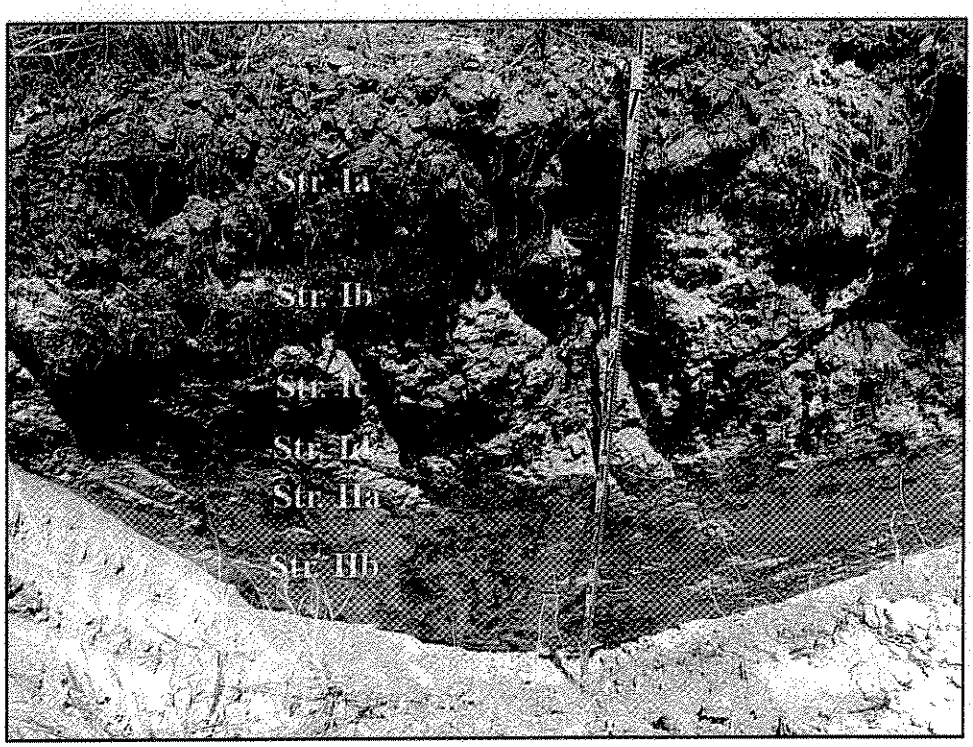


Figure 47. Test Trench 29 stratigraphic profile and photograph, north wall

4.2.30 Test Trench 30

Orientation: 254° TN
Max. Length: 7.0 m
Max. Width: 0.8 m
Max. Depth: 0.9 m
(Figure 48)

Strata	Depth (cmbs)	Description
Stratum I	0-80	Fill; 10YR 6/3 pale brown silt loam; weak, fine crumb structure; dry, loose consistency; non-plastic; no cementation; contains 10-20% limestone and basalt gravel and cobbles; no cultural material observed; Lower boundary (LB) is abrupt, smooth.
Stratum II	80-120	Fill; 10YR 3/6 dark yellowish brown; sandy loam; moderate, medium blocky structure; dry, weakly coherent consistency; slightly plastic; no cementation; contains 20-30% limestone gravel and cobbles; no cultural material observed; terrestrial origin; LB is abrupt, wavy.

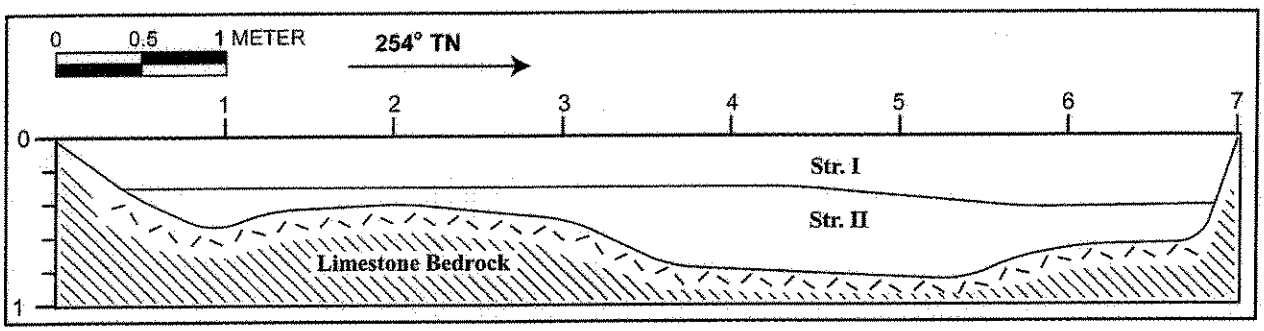


Figure 48. Test Trench 30 stratigraphic profile and photograph, south wall

Section 5 Summary and Interpretation

Background research indicated the pre-contact and early historic population and activity in Lualualei may have been primarily focused in a narrow band along the coast and farther inland in the *mauka* reaches of this large valley. The land in between the coastal and *mauka* zones, including the vicinity of the current project area, was likely sparsely populated, with intermittent use of specific locations for resource procurement.

From the late historic period into modern times, the immediate vicinity of the project area, including the central and eastern portions of the project area, was indicated to be heavily disturbed by large-scale commercial limestone quarrying activities. The intensive surface and subsurface land disturbance associated with quarry activities was confirmed by the current archaeological assessment investigation. Much of the central portion of the project area was observed to have been quarried to depths in excess of 3 m below the present land surface. Much of the non-quarried areas, where the limestone/coral shelf was observed to be less than 1 m below the present land surface, were also likely disturbed by land clearing activities associated with development of surrounding areas. No significant cultural deposits or limestone sinkholes were observed within the project area. Due to the heavy land disturbance, it is unlikely that intact subsurface cultural deposits remain within the project area.

Section 6 Recommendations

6.1 Project Effect

No historic properties were identified within the 5-acre project area. The project area was determined to have previously undergone extensive surface and subsurface land modification, including large-scale limestone quarrying operations. Based on the results of subsurface testing throughout the project area, including observations of heavy disturbance of the natural limestone shelf, it is doubtful that intact limestone sinkholes are present within the project area. Consequently, CSH's effect recommendation for the proposed residential development project is "no historic properties affected."

6.2 Mitigation Recommendations

No historic preservation mitigation measures are recommended for the proposed residential development project. However, if in the unlikely event that intact cultural resources, including but not limited to limestone sinkholes containing human remains or other significant cultural or paleoenvironmental deposits, are encountered during the course of development activities, all work in the immediate area should stop and the State Historic Preservation Division should be promptly notified.

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DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813 • AREA CODE 808 • PHONE: 768-7762 • FAX: 768-7792

MUFI HANNEMANN
MAYOR

DEBORAH KIM MORIKAWA
DIRECTOR

MARK K. OTO
SENIOR ADVISOR

December 13, 2006

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

Dear Ms. Salmonson:

Subject: Hale Wai Vista, Waianae, Oahu
Tax Map Key (1) 8:6-1: 35
Draft Environmental Assessment

The Department of Community Services has reviewed the Draft Environmental Assessment for the Hale Wai Vista affordable housing project and anticipates a Finding of No Significant Impact determination. We request that you publish a notice of availability for this project in the next available issue of your Environmental Notice. We have enclosed a completed Office of Environmental Quality Control publication form, four copies of the Draft Environmental Assessment, and the project summary on CD-ROM for your use.

We appreciate your assistance with this matter. Please call Mr. Keith Ishida at 768-7750 should you have any questions.

Sincerely,

Deborah Kim Morikawa
Director

DKM:ki

Enclosures

cc: Kusao and Kurahashi (w/o encl)

Cultural Impact Assessment for the Hale Wai Vista Affordable Family Rental Project Lualualei Ahupua'a Wai'anae District, Island of O'ahu TMK: [1] 8-6-001:035

Prepared for Kusao and Kurahashi, Inc.

Prepared by
Lisa Gollin, Ph.D.,
Constance O'Hare, M.A.,
and
Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawai'i, Inc.
Kailua, Hawai'i

(Job Code: LUALU 2)

July 2007

O'ahu Office
P.O. Box 1114
Kailua, Hawai'i 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

www.culturalsurveys.com

Maui Office
16 S. Market Street, Suite 2N
Wailuku, Hawai'i 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Management Summary

Reference	Cultural Impact Assessment for the Hale Wai Vista Affordable Family Rental Project in Lualualei Ahupua'a, Wai'anae District, Island of O'ahu.
Date	July 2007
Project Number (s)	Cultural Surveys Hawai'i Inc. (CSH) Job Code: LUALU 2
Agencies	State of Hawai'i Department of Health / Office of Environmental Quality Control (DOH / OEQC)
Project Location	The proposed project site is identified as Tax Map Keys [1] 8-6-001:035. The address of the property is 86-78 and 86-86 Farrington Highway. The lot is a 94,981 square foot flag lot with access off Farrington Highway and a secondary access off Moelua Street. The property is situated within a commercial/residential area in Waianae. It is bound on the north and east by residential single family dwellings. South of the site is Waianae Mall. The area to the west of the site is developed with City Mill, some structures used by the Leeward Community College, a small commercial center, restaurant and a gasoline filling station. The Wai'anae Coast Community Transit Center, located at the east corner of the property, is currently under construction according to the Department of Transportation Services.
Land Jurisdiction	Hawaii Housing Development Corporation
Project Description	The developer proposes to build an affordable rental housing project on a property adjacent to the Wai'anae Mall. The proposed development will consist of 4 multi-family buildings and 1 multi-purpose building. A total of about 216, 2- and 3-bedroom affordable rental units, including a resident managers unit, will be developed and rented to qualified families. The 2 mid-rise buildings are will be 7 stories with a height of 60' 1" to the top of the main roof. The other three buildings are 2-story structures. The 2 multi-family structures will be 27'-1" high and the community multi-purpose building will be about the same height. There will be a total of 331 parking stalls.
Project Acreage	5.02 acres
Area of Potential Effect (APE) and Survey Acreage	For the purposes of this assessment, the project's APE is defined as the approximately 5.02 -acre project area footprint. While this investigation focused on the project APE, the study area included the entire *ahupua'a* of Lualualei.

Document Purpose	The project requires compliance with the State of Hawai'i environmental review process (Hawai'i Revised Statutes [HRS] Chapter 343), which requires consideration of a proposed project's affect on cultural beliefs, resources and practices. At the request of Kusao and Kurahashi, Inc. on behalf of Hawai'i Housing Development Corporation, a non-profit organization, CSH undertook this Cultural Impact Assessment. Through document research and cultural consultation efforts this document provides information pertinent to the assessment of the proposed project's impacts to cultural practices (per the OEQC's *Guidelines for Assessing Cultural Impacts*). The document is intended to support the project's environmental review and may also serve to support the project's historic preservation review under HRS Chapter 6E-42 and Hawai'i Administrative Rules Chapter 13-284.
Consultation Effort	Hawaiian organizations, agencies and community members were contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the project area and the vicinity. The organizations consulted included the State Historic Preservation Division (SHPD), the Office of Hawaiian Affairs (OHA), and the O'ahu Island Burial Council.
Cultural Impact Study Results	Community contacts queried for this Cultural Impact Assessment for the proposed Hale Wai Vista Affordable Family Rental Project acknowledged the need for affordable housing in Lualualei, but identified the following key cultural and other community concerns related to future development of the project area: 1. If the height of any of the buildings for the apartment complex is above 2 stories (as in the current design) the *mauka-makai* view plane will be obstructed. A number of culturally significant features of the landscape associated with *mo'olelo* (legends) of Lualualei and Wai'anae (e.g., Pu'u Mā'ili'ili, Pu'u Pāhe'ehe'e, Mauna Kūwale, Pu'u Makali'i) may be blocked. Additionally, landmarks used for teaching navigation to youth groups, as well as identifying fishing locations, may no longer be visible from the reefs to the ridge-tops. 2. The low-income apartments may be (eventually) converted to private properties or condominiums and not serve the purpose for which they were originally intended. 3. There are sinkholes in the area that may contain *iwi kūpuna* (ancestral remains), human burials.

Cultural Impact Study Recommendations	Based on the information gathered from community agencies and members, cultural experts and practitioners consulted for this assessment, the evidence indicates that the proposed Hale Wai Vista Affordable Family Rental project, as it is planned now, will have an adverse cultural impact in Lualualei Ahupua'a. The archival research for this project has documented and confirmed the legends, landmarks, historic and cultural properties that correspond to the statements made by community members. The following mitigation measure and other recommendations are offered as a way to address community issues and cultural concerns raised for the proposed action: 1. The developer investigates and addresses the issue of the impact of the height of the buildings on view planes (visibility of aforementioned cultural resources). 2. As a precautionary measure, personnel involved in future development activities in the project area should be informed of the possibility of inadvertent cultural finds, including human remains, and should be made aware of the appropriate notification procedures to follow. 3. Community members should be further consulted and informed about these and other concerns (e.g., conversion to private condimiums) throughout the planning process. Addressing these cultural concerns will minimize the impact of the proposed project on Hawaiian cultural beliefs, resources and practices.

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Section 1 Introduction

1.1 Project Background

At the request of Kusao and Kurahashi, Inc. on behalf of Hawai'i Housing Development Corporation, a non-profit organization, Cultural Surveys Hawai'i, Inc. (CSH) undertook this Cultural Impact Assessment for the Hale Wai Vista Affordable Family Rental Project at Lualualei Ahupua'a Wai'anae District, Island of O'ahu (TMK: [1] 8-6-001:035). The Hawai'i Housing Development Corporation proposes to build an affordable rental housing project on a 5.02 acre property located adjacent to Wai'anae Mall. The proposed development will consist of 4 multi-family buildings and 1 multi-purpose building. A total of about 216, 2- and 3-bedroom affordable rental units, including a resident managers unit, will be developed and rented to qualified families. The 2 mid-rise buildings are will be 7 stories with a height of 60' 1" to the top of the main roof. The other three buildings are 2-story structures. The 2 multi-family structures will be 27'-1" high and the community multi-purpose building will be about the same height. There will be a total of 331 parking stalls. Figure 1 is a USGS map, Figure 2 is a Tax Map, and Figure 3 is an aerial photograph of the project area.

1.2 Scope of Work

The scope for the Cultural Impact Assessment includes:

1. Examination of historical documents, Land Commission Awards, and historic maps with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal and other resources or agricultural pursuits as may be indicated in the historic record.
2. A review of the existing archaeological information pertaining to the sites on the property as they may allow us to reconstruct traditional land use activities and identify and describe the cultural resources, practices and beliefs associated with the parcel and identify present uses, if appropriate.
3. Interviews with persons knowledgeable about the historic and traditional practices in the project area and region.
4. Preparation of a report on items 1-3 summarizing the information gathered related to traditional practices and land use. The report will assess the impact of the proposed action on the cultural practices and features identified.

1.3 Environmental Setting

The proposed project area is on the Leeward (western) coast in the Wai'anae District, and for the purposes this assessment is situated within the *ahupua'a* (traditional land division) of Lualualei on the island of O'ahu (see discussion of Lualualei and Wai'anae Ahupua'a in Section 3). The nine *ahupua'a* that make up the Wai'anae Coast (Nānākuli, Lualualei, Wai'anae, Mākaha, Kea'au, 'Ōhikilolo, Mākua, Kahanahāiki, Keawa'ula) are easily defined by the topographic and geologic features of the district – each *ahupua'a* physically distinct with its own

steep-walled valley, mountain ridge, and stream watershed. Defined by natural boundaries, the southern border of Lualualei is marked by Pu'u Heleakalā, and its northern boundary by Pu'u Pāhe'ehe'e. At about 4.6 miles wide at the shoreline, and 5.0 miles extending inland to the ridgetops, Lualualei is the largest valleys in the Wai'anae District (Cordy 2002). Lualualei is bordered by Wai'anae to the north and Nānākuli to the south with the mountain range Pu'u Pāhe'ehe'e extending up to Mauna Kūwale (just north of the project area) dividing the two. Pu'u Mā'ili'ili, a small mountain, borders the south side of the project area. There is one major stream (Mā'ili'ili Stream) and one secondary stream (Ulehawa Stream), both perennial in the upper reaches of the valley and intermittent in the lowlands.

Annual rainfall is low at approximately 600 millimeters (Giambelluca et al. 1986); 20 to 30 inches in the lower valley where the proposed project is located. The majority of precipitation occurs during the rainy season, October-April, and less precipitation occurs May-September. Temperatures in the area range from 43-88° Fahrenheit in January to 58-95° Fahrenheit in July (Armstrong 1973:58). Figure 4 shows the soils found in and near the proposed project area; they include: Mamala stony silty clay loam (MnC), 0 to 12% slopes; and Mokuleia clay (Mtb) (Foote et al. 1973).

Vegetation along this arid coast is sparse. With 20 inches or less of rain annually, only the hardiest plants adapted to the coastal environments can thrive in these zones. The vegetation is typical of dry seashore environments in Hawai'i and is dominated by alien species. Indigenous species include *hau* (*Hibiscus tiliaceous*), *koa* (*Cordia subcordata*), *kamani* (*Calophyllum inophyllum*), *naupaka* or *naupaka kahakai* (*Scaevola sericea*), *pa'u o Hi'iaka* (*Jacquemontia ovalifolia sandwicensis*), the native beach morning glory or *pōhuehue* (*Ipomea pes-caprae*) and the coconut *niu* (*Cocos nucifera*). Introduced species found bordering Farrington Highway include sea grape (*Coccoloba uvifera*), *kiawe* trees (*Prosopis pallida*), Madagascar olive trees (*Noronhia emarginata*), and *koa haole* (*Leucaena leucocephala*) (Foote et al. 1972: 93). Plants in the project area are primarily introduced and alien invasive species including various grasses, mimosa (*Acacia farnesiana*), wild tobacco (*Nicotiana glauca*) *koa haole*, *kiawe* as well as few native plants such as the indigenous ethnobotanical (medicinal) species *'uhaloa* (*Waltheria indica*), *kīpūkai* or *nena* (*Heliotropium curassavicum*), and the endemic species commonly known as Hawaiian cotton or *ma'o* (*Gossypium tomentosum*).

1.4 Built environment

The Lualualei Ahupua'a is comprised of agricultural, residential, and commercial developments including the farmlot communities along Hakimo Road and Lualualei Valley Road, the village of Mā'ili, and two large U.S. Navy installations, the latter of which occupies approximately 7,498 acres of land in the Lualualei Valley. The project area is a vacant lot covered with grass and shrubs, and with some rocks and rock piles; and is surrounded by commercial properties (e.g., City Mill, Wai'anae Mall, Kōkua Villa, Inc., Leeward Community College) on the south and west sides, and residential properties to the north and east.

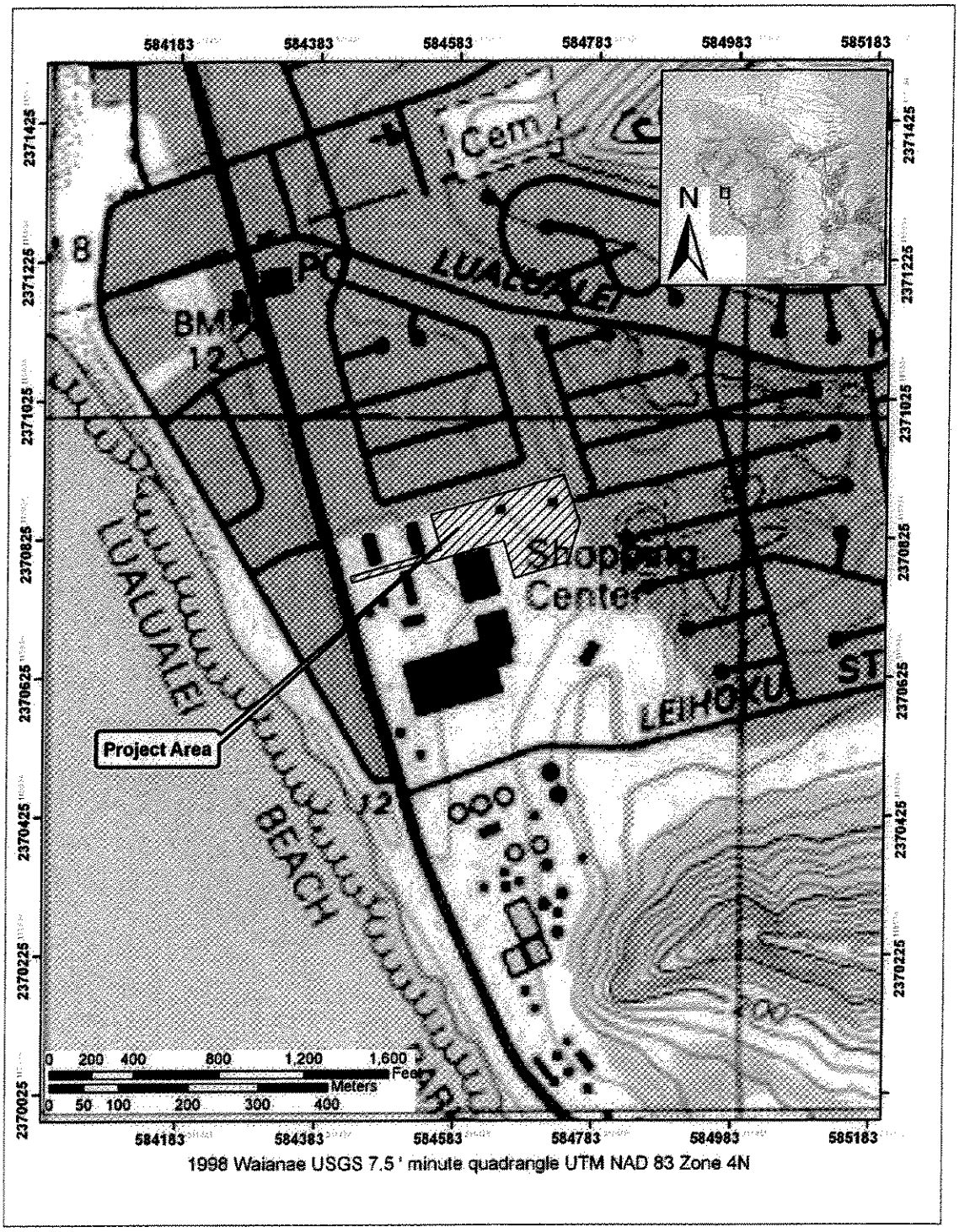

Figure 1. U.S. Geological Survey 7.5 Minute Series topographic map, Wai'anae Quadrangle, showing project area location

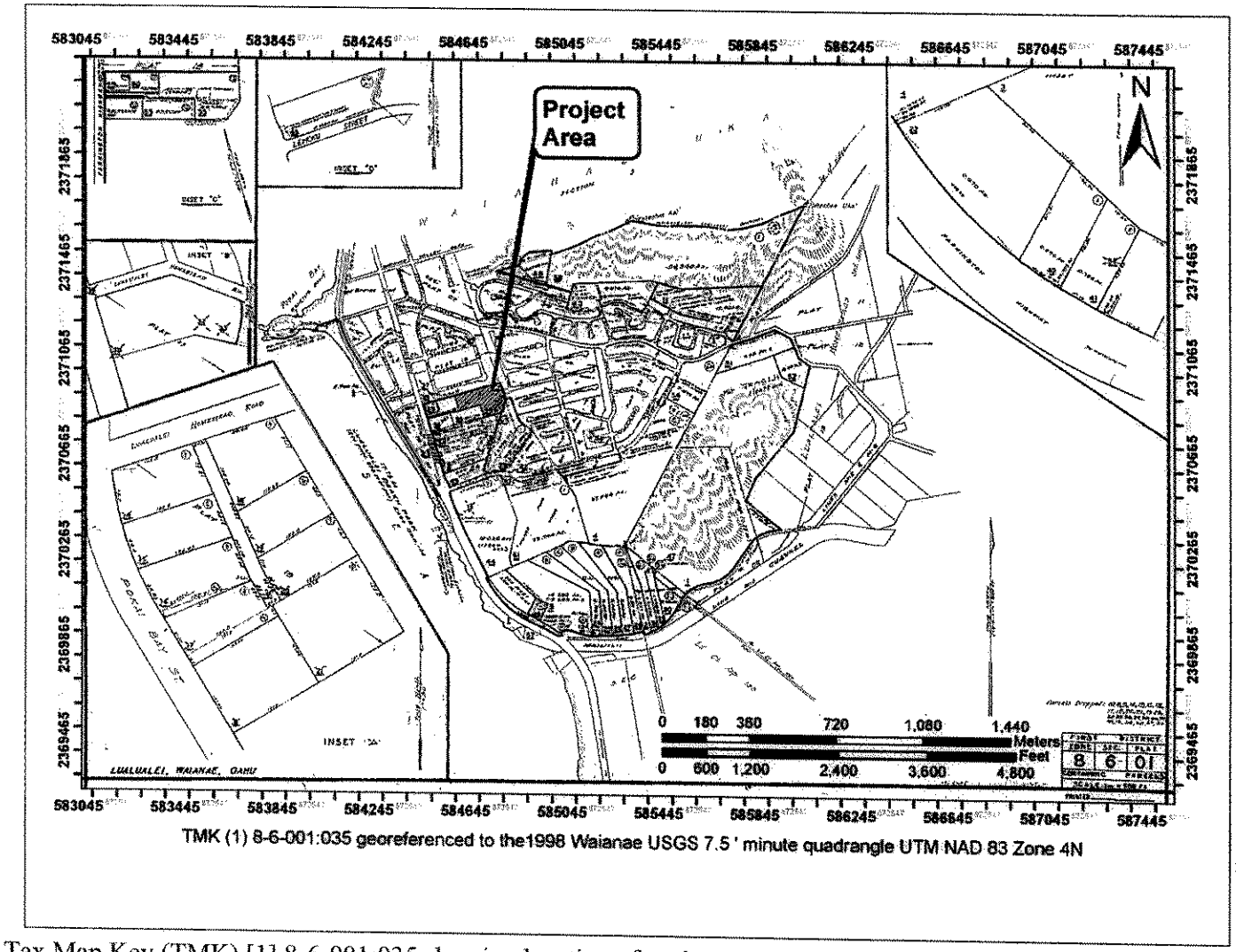

Figure 2. Tax Map Key (TMK) [1] 8-6-001:035 showing location of project area

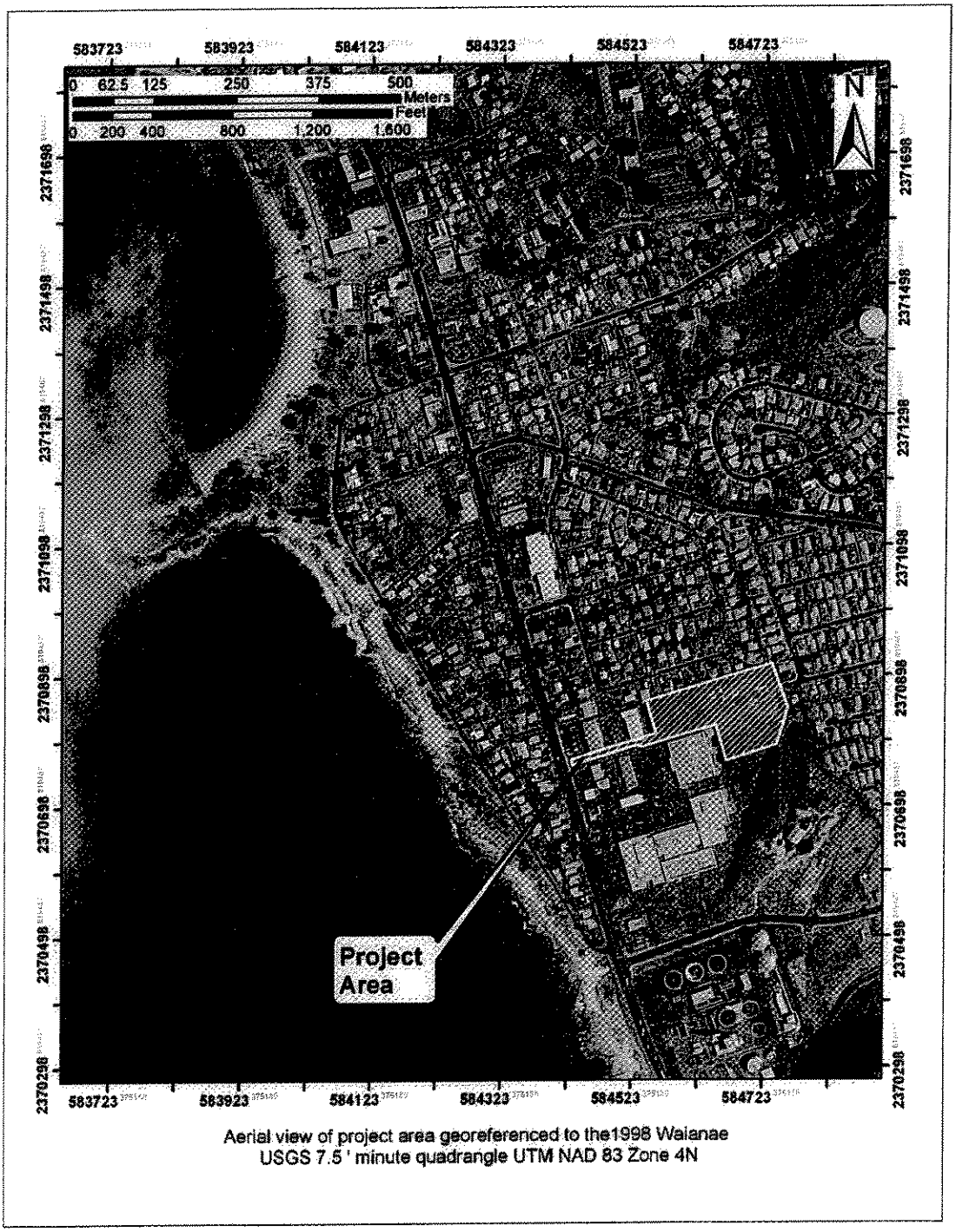

Figure 3. Aerial photograph showing project area

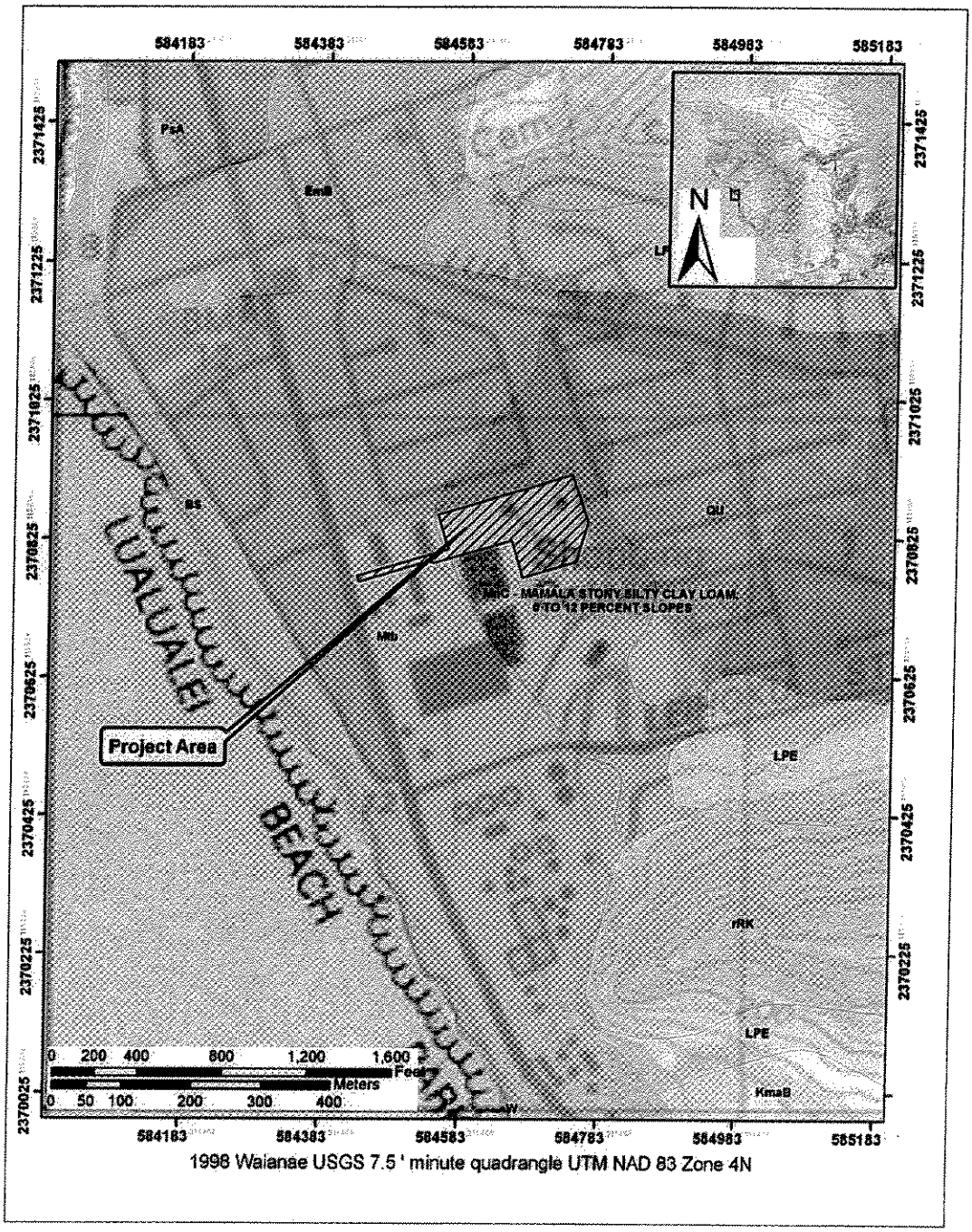

Figure 4. Overlay of Soil Survey of the State of Hawai'i (Foote el al. 1972), indicating sediment types within the project area. Source: Soils Survey Geographic Database (SSUGRO) 2001, U.S. Department of Agriculture

Section 2 Methods

Historical documents, maps and existing archaeological information pertaining to the sites in the vicinity of this project were researched at the State Historic Preservation Division library, and the Cultural Surveys Hawai'i library. Information on Land Commission Awards was accessed through Waihona Aina Corporation's Māhele Data Base (www.waihona.com). The State Historic Preservation Division, Office of Hawaiian Affairs, Island Burial Council, and members of other community organizations were contacted in order to identify potentially knowledgeable individuals with cultural expertise and/or knowledge of the project area and the surrounding vicinity. The names for potential community contacts were also provided by colleagues at CSH and from the researcher's familiarity with people who live in or around the project area. Some of the prospective community contacts were not available to be interviewed for this project. A discussion of the consultation process can be found in the section on "Community Consultations". Please refer to Table 4 in Section 6 below for a complete list of individuals and organizations contacted.

Section 3 Traditional and Historic Background

The District of Wai'anae on the west coast of O'ahu extends from Nānākuli Ahupua'a north to Ka'ena Point, and once incorporated nine *ahupua'a*, including Lualualei. In ancient times, the District of Wai'anae was known for its multitude of fish and especially for deep-sea fishing off Ka'ena, where the ocean currents meet. The meaning of Wai'anae (mullet water) also implies an abundance of fish — *'anae*, which is the full-grown mullet (*Mugil cephalus*) (Pukui et al. 1974). In 1840 Wilkes made the following comment, "The natives are much occupied in catching and drying fish, which is made a profitable business, by taking them to Oahu, where they command a ready sale" (Wilkes 1845:81-82). Handy and Handy (1972) attribute the naming of Wai'anae to a large fresh-water pond used for growing mullet called Pueha [sic] (Puehu). The chief Kewalo distinguished himself as a fisherman in Wai'anae; and, the legendary hero Māui — also a great fisherman — is associated with the area (Handy and Handy 1972). Today, the Wai'anae coast is still considered one of the best fishing grounds on O'ahu.

According to historic maps and accounts, the area where the proposed project is located has, at different times, been considered either in the *ahupua'a* of Lualualei or Wai'anae (see Figures 6, 8, 10, 12 and 13). McAllister, for instance, notes that Mauna Kūwale is the mountain separating Wai'anae and Lualualei (McAllister 1933:116), also reflected in the 1959 Bishop Museum map with archeological sites recorded by McAllister (Figures 12 and 13). People contacted for the cultural consultation component of this assessment view the project area as being within Lualualei *or* Wai'anae (see Sections 6 and 7). As the greater share of research suggests that the boundary between Lualualei and Wai'anae was marked by the peak Pu'u Pāhe'ehe'e and ridge which extends up to Mauna Kūwale — with Wai'anae starting just north of the ridge and Lualualei south of the ridge — the background section of this Cultural Impact Assessment focuses on the *ahupua'a* of Lualualei.

3.1 Mythological and Traditional Accounts

There are two traditional meanings given to the name Lualualei. One meaning, "flexible wreath", is attributed to a battle formation used by Mā'ilikūkahi against four invading armies in the battle of Kīpapa in the early 15th century (Sterling and Summers 1978:68). A second and perhaps more recent meaning, offered by John Papa 'Ī'ī (1959), is "beloved one spared". This meaning relates to a story of a relative who was suspected of wearing the king's *malo* (loincloth). The punishment was death by fire. 'Ī'ī writes:

> Near the end of that year, it was suspected that the son of Papa, named Kalakua, had worn the loin cloth of the king. Kalakua fetched and carried the king's possessions, such as his kahili, mat, or spittoon wherever he went in the court or any place.... In going together constantly the loin cloths they wore had a similar pattern. When they returned to the king's house, Kalakua was taken at once and kept in solitude.
>
> At the same time the king, chiefs and members of the court left Honolulu and sailed by canoe to Waianae. The heir of the kingdom went overland with Papa and others...and spent the night at Kumelewai in Ewa...

> The coming of this retinue was announced in Waianae and it was told that the family, parents and children included, would be set on fire for the wrong committed by Kalakua.... Only one committed the deed but the whole family was held guilty.
>
> The company, somewhat in the nature of prisoners spent a night at Lualualei. There was a fish pond there on the plain and that was where the night was spent. ....After several days had passed, the proclamation from the king was given by Kula'inamoku, that there was no death and that Kalakua did not wear the king's loin cloth. Thus was the family of Luluku spared a cruel death. For that reason, a child born in the family later was named Lualualei. ('Ī'ī 1959:23)

Mary Pukui believed the first meaning, "flexible wreath" to be the more appropriate one for Lualualei (Sterling & Summers 1978:63). According to Kelley (1991:317), the fish pond on the plain is Puehu fish pond, which is actually located just over the border in Wai'anae. The fish pond no longer exists today and was probably destroyed during the sugar plantation era. Perhaps a third association to the name Lualualei is an older reference to one of Māui's sisters, who went by the same name.

Numerous Hawaiian legends, in addition to archaeological evidence, reveal the Wai'anae coast and *mauka* (towards the mountains) interior to be an important center of Hawaiian history. It is here, in Wai'anae, that the famous exploits of Māuiakalana (Māui) are said to have originated. Traditional accounts of Lualualei focus on the mischievous adventures of the demi-god Māui. It was here that Māui learned the secret of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui's adzes were made, and of the magic fishhook, Mānaiakalani and the snare for catching the sun, and his kite-flying expedition. Pu'u Heleakalā is the ridge that separates Nānākuli from Lualualei. It was at Pu'u Heleakalā where Hina, Māui's mother, lived in a cave and made her *kapa* (bark cloth) (Sterling and Summers 1978:62).

Samuel Kamakau tells us that Māui's genealogy can be traced from the 'Ulu line thru Nana'ie:

> Wawena lived with Hina-mahuia, and Akalana, a male, was born; Akalana lived with Hina-kawea, and Maui-mua, Maui-waena, Maui-ki'iki'i, and Maui-akalana, all males, were born.
>
> Ulehawa and Kaolae, on the south side of Waianae, Oahu, was their birthplace. There may be seen the things left by Maui-akalana and other famous things: the tapa-beating cave of Hina, the fishhook called Manai-a-kalani, the snare for catching the sun, and the places where Maui's adzes were made and where he did his deeds. However, Maui-akalana went to Kahiki after the birth of his children in Hawai'i. (Kamakau 1991:135)

It was from atop Pōhākea summit in Wai'anae that Hi'iaka (the patron goddess of hula and Pele's younger sister) saw the fire and smoke clouds of her beloved *'ōhi'a lehua* groves on Hawai'i burned by Pele in a jealous rage. Pele, convinced that Hi'iaka had betrayed her trust and stolen her lover Lohi'au, sent a flood of lava through Hi'iaka's hula-dancing forest, entombing her dear friend Hōpoe in lava in the process. Hi'iaka, determined to avenge Pele's act of

volcanic wrath, put temptation before Lohi'au in the form of the young woman Wahine-oma'o. From her perch on Pōhākea, she watched the two sail off together in a canoe and sang this *mele* (song, chant) that also mentions the "plains of Lualualei":

Hanai alualu i ke kula Miki-kala,	I stand ahigh on Poha-kea;
I ke kula o Puha-malo	The dog of storm strips off his robe;
Hakaka, kipikipi o Kai-a-ulu me ke kanaka;	A zephyr fans you heated plain of
Ua ku' i-ku'i wale a ha' ini na ihu;	Miki-kala and Puha-malo: —
Ua ka i ka u me ka waimaka,	Wild strife 'tween the man and the Sea breeze:
I ke kula o Lualua-lei e!	I see noses flattened, broken,
Ku' u le aloha no olua no, e!	Fountains become of water and tears!
	On the plains of Lualualei
	This is my garland of love to you two!

(Emerson 1915:165, sixth line about Lualualei is not in Emerson's English translation and is translated here by Aulii Mitchell)

3.2 Early Historic Period

In January of 1778, Captain James Cook sighted Wai'anae from a distance, but chose to continue his journey and landed off Waimea, Kaua'i instead. Fifteen years later, Captain George Vancouver approached the coast of Wai'anae from Pu'uloa and wrote in his log:

> The few inhabitants who visited us [in canoes] from the village earnestly entreated our anchoring . . . And [they] told us that, if we would stay until morning, their chief would be on board with a number of hogs, and a great quantity of vegetables; but that he could not visit us then because the day was *taboo poory* (a day of kapu when nobody was allowed on the beach or in the water). The face of the country did not however promise an abundant supply [of water]; the situation was exposed. (Vancouver 1793 quoted in McGrath et al. 1973:17)

Vancouver wrote in his log that the entire Wai'anae coast was "composed of one barren, rocky, waste nearly destitute of verdure, cultivation or inhabitants" (Vancouver 1967, Vol. 2:217)

Vancouver did not anchor at Wai'anae. But had he done so, he would have been pleasantly surprised, at least by portions of the coastline. Even though the dry, arid coast seemed dismal, the ocean provided an abundant supply of fish (McGrath et al. 1973:17). The lowlands provided *'uala* (*Ipomoea batatas*) and *niu* (*Cocos nucifera*), and the inland valley areas were planted in *kalo* (*Colocasia esculenta*) and *wauke* (*Broussonetia papyrifera*). The upland forest regions provided various woods needed for weapons and canoes.

By 1811, sandalwood merchants began actively exploiting the Hawai'i market and huge amounts of sandalwood were exported to China. Traditionally, Hawaiians used *'iliahi* or sandalwood (*Santalum* spp.) as a scent to perfume their *kapa,* the tapa cloth made from *wauke* or *māmaki* (*Pipturus* spp.) bark (Abbott 1992) and in healing rituals (Gutmanis 1995). Kamehameha I and a few other chiefs controlled the bulk of the sandalwood trade. Kamakau (1992:204) writes, "The chiefs also were ordered to send out their men to cut sandalwood. The chief immediately declared all sandalwood to be the property of the government."

The sandalwood trade greatly impacted Hawaiian culture, and the traditional lifestyle Hawaiians had always pursued was altered drastically. In an effort to acquire western goods, ships, guns and ammunition, the chiefs had acquired massive debts to the American merchants ('Ī'ī 1983:155). These debts were paid off in shiploads of sandalwood. When Kamehameha found out how valuable the sandalwood trees were, he ordered the people not to let the felled trees fall on the young saplings, to ensure their protection for future trade (Kamakau 1992:209-210). According to Samuel Kamakau:

> The debts were met by the sale of sandalwood. The chiefs, old and young, went into the mountains with their retainers, accompanied by the king and his officials, to take charge of the cutting, and some of the commoners cut while others carried the wood to the ships at the various landings; none was allowed to remain behind. Many of them suffered for food . . . and many died and were buried there. The land was denuded of sandalwood by this means. (Kamakau 1992:252)

Kamakau comments about the plight of the common people and the general state of the land during this time:

> This rush of labor to the mountains brought about a scarcity of cultivated food throughout the whole group. The people were forced to eat herbs and tree ferns, hence the famine called Hīlaulele, Hāhāpilau, Laulele, Pualele, 'Ama'u, or Hāpu'u, from the wild plants resorted to. (Kamakau 1992:204)

In 1816, Boki Kama'ule'ule was made governor of O'ahu (and chief of the Wai'anae district) and served in that capacity until 1829, when he sailed to New Hebrides in search of sandalwood. 'Ī'ī writes:

> It was Boki's privilege to assign work, for he had been governor of the island of O'ahu from the time Kamehameha I ordered all the chiefs to O'ahu in 1816 to expel the Russians. ('Ī'ī 1983: 145)

The sandalwood era was short-lived and by 1829, the majority of the sandalwood trees had been harvested, and the bottom fell out of the trade business. It is unclear how extensive Lualaulei's sandalwood resources were; however, the effects of the sandalwood gathering, the population shifts and disruption of traditional lifestyles and subsistence patterns, would undoubtedly have affected the population of Lualualei.

The Reverend William Ellis visited the Hawaiian Islands in 1823. At that time, he estimated the population on the island of O'ahu to be about 20,000 (Ellis 1974:19). The missionaries were the first to gather systematic figures regarding population statistics throughout the various

districts on each island. The first census figures were gathered from 1831-1832 and 1835-1836. Population figures for Lualualei were not given, however population numbers given for all of Wai'anae were 1,868 and 1,654 respectively (Schmitt 1973:9). Figure 5 below presents a picture of Pōka'ī Bay drawn by Hiram Bingham (1789 - 1869), a member of the first group of missionaries to introduce Christianity to the Hawaiian Islands.

Following the western encroachment into the Wai'anae Coast, a swift decline in population occurred due to disease and a "tendency to move to the city where there was more excitement" (McGrath et al. 1973:25). The *'ōku'u* (possibly cholera) epidemic of 1804 undoubtedly had a major effect on the native population, not only in Wai'anae, but throughout the rest of the islands as well. John Papa 'Ī'ī (1983:16) relates that the *'ōku'u* "broke out, decimating the armies of Kamehameha I" [on O'ahu]. Other diseases also took their toll. As noted above, an 1835-1836 missionary census listed 1,654 residents on the Wai'anae Coast. The Wai'anae population was decimated by a smallpox epidemic in late 1853. In 1855, the Wai'anae tax collector recorded 183 taxpayers on the leeward coast, which is thought to represent a total population of about 800 people. This catastrophic depopulation facilitated the passing of large tracts of land into the hands of a few landholders, and led to the decline of the traditional economy that once supported the region (Hammatt et al. 1993:10-11).

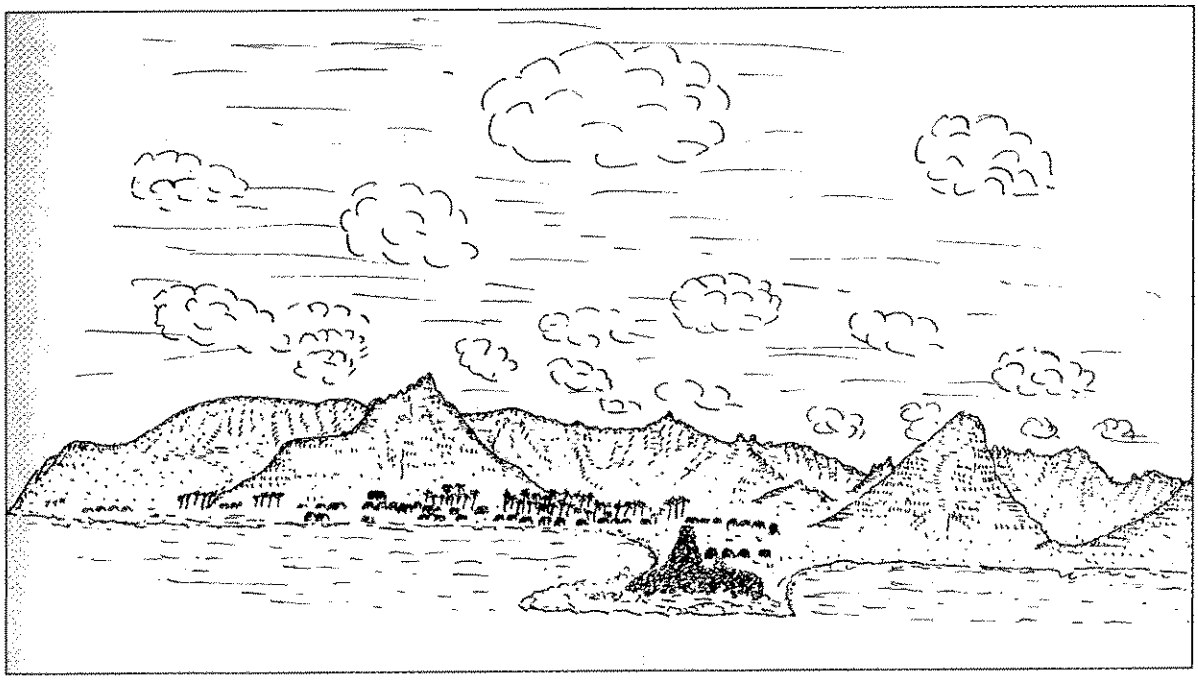

Figure 5. Sketch of village at Pōka'ī Bay made by Hiram Bingham during an 1826 visit; Kū'īlioloa Heiau on Kāne'īlio Point in central foreground

3.3 Mid-1800's: Land Commission Awards (LCAs)

The Organic Acts of 1845 and 1846 initiated the process of the Māhele - the division of Hawaiian lands - that introduced private property into Hawaiian society. In 1848, the crown and

the *ali'i* (royalty) received their land titles. *Kuleana* awards to commoners for individual parcels within the *ahupua'a* were subsequently granted in 1850. During the Māhele, the *ahupua'a* of Wai'anae, Lualualei, and Nānākuli were designated as Crown Lands by Kamehameha III. The crown lands were considered the private lands of the monarch, and many lands were sold or mortgaged during the reigns of Kamehameha III and IV to settle debts to foreigners. To end this practice, in 1865 the Crown lands were made inalienable, and their dispensation was regulated by a Board of Commissioners of Crown Lands, which effectively put them under the administrative control of foreign-born residents (Kame'eleihiwa 1992:310).

Before the passage of the Act of January 3, 1865, which made Crown Lands inalienable, Kamehameha III and his successors did as they pleased with the Crown Lands, selling, leasing, and mortgaging them at will (Chinen 1958:27).

In 1850, the Privy Council passed resolutions that would affirm the rights of the commoners or native tenants. To apply for fee-simple title to their lands, native tenants were required to file their claim with the Land Commission within the specified time period of February 1846 and February 14, 1848. The *Kuleana* Act of 1850 confirmed and protected the rights of native tenants. Under this act, the claimant was required to have two witnesses who could testify they knew the claimant and the boundaries of the land, knew that the claimant had lived on the land for a minimum of two years, and knew that no one had challenged the claim. The land also had to be surveyed.

Not everyone who was eligible to apply for *kuleana* lands did so and, likewise, not all claims were awarded. Some claimants failed to follow through and come before the Land Commission, some did not produce two witnesses, and some did not get their land surveyed. For whatever reason, out of the potential 2,500,000 acres of Crown and Government lands "less than 30,000 acres of land were awarded to the native tenants" (Chinen 1958:31).

A total of thirteen land claims were made in Lualualei, however only seven were actually awarded. Six of the awards were located upland in the *'ili* (land section, usually a subdivision of an *ahupua'a*) of Pūhāwai, far south and *mauka* of the current project area. No quiet land titles were claimed near the coast. From the claims, it can be determined that at least eight families were living in Pūhāwai at the time of the Māhele in 1848. The numerous *lo'i* (wetland agriculture) mentioned in the claims indicate the land was ideal for growing wetland taro and that this livelihood was actively pursued by the awardees. In addition, dryland crops were grown in *kula* (dryland field or pasture), *wauke* – paper mulberry (used for making *tapa/kapa* cloth) was being cultivated, and one claimant was making salt (www.waihona.com). Table 1 lists the land commission awards granted in Lualualei.

Information on the occupation at Lualualei at the time of the Māhele, aside from the historical accounts of scattered coastal hamlets, is from archival records indicating there were nine taxpayers at Mā'ili near the coast and 11 taxpayers at Pūhāwai in the upper valley (Cordy et al. 1998:36). Mā'ili is located along the eastern edge of the *ahupua'a* and Pūhāwai is well *mauka*. Based on these numbers, Cordy estimates a population of 90 people for coastal Lualualei and 55 people for the upper valley in 1855 (Cordy et al. 1998:36). Regardless of the population estimate, the existence of 20 taxpaying adults in Lualualei indicates that the area was being inhabited and worked. In this case, the Māhele documents are only a partial reflection of the population and actual land use during the time.

Table 1. LCAs awarded in Lualualei

LCA #	Claimant	*Ili*	Land Use	Awarded
7334	Kulepe	Lehanoiki, Mo'omuku	7 *lo'i*; 1 *kula*	2 *'āpana*; 4.877 Acres
7436	Kahi	Pūhāwai	100 *lo'i*; 1 *kula*; valley of *wauke*	2 *'āpana*; 24.856 Acres
7451	Kailianu	Pūhāwai, Waianae, Mo'omuku	25 *lo'i*; 3 *wauke*;1 house lot; pigpen	3 *'āpana*; 2.75 Acres
7452	Kaahia	Pūhāwai	36 *lo'i*; 1 *kula*; 2 *wauke*	2 *'āpana*; 2.08 Acres
7454	Kanahele	Pūhāwai	11 *lo'i*; 1 *kula*; 1 salt lands	2 *'āpana*; 1.154 Acres
7456	Kailaa	Pūhāwai	60 *lo'i*; 1 *kula*; *wauke*;1 house lot	2 *'āpana*; 6.74 Acres
8005	Apiki	Keaweloa, Pūhāwai	46 *lo'i*; 1 *kula*	2 *'āpana*; 19.06 Acres

3.4 1850 – 1900

3.4.1 Ranching in Lualualei

The first longhorn cattle were brought to O'ahu from Hawai'i Island in 1809 by John Young and Kamehameha I, and more were later imported to the islands by Don Francisco de Paula Marin (Kamakau 1992:268), a Spaniard who settled on the islands around 1791 (Lee 2002:26. One of the first areas to be utilized for ranching on the Wai'anae coast was Lualualei. In 1851, William Jarrett leased approximately 17,000 acres of Crown Lands from Kamehameha III for 30 years at a fee of $700 per year (Bureau of Conveyances [B.C.], Department of Land and Natural Resources, Liber 4:616-618.). He established Lualualei Ranch and used the leased land for cattle pasture. Jarrett sold Paul F. Marin, son of Don Francisco de Paula Marin, one-half of his interest in the ranch. Marin lived on the ranch and managed it until 1864, when a dispute arose over the profits of the ranch. Apparently, Marin had never turned over any ranch profits to Jarrett during the time he managed it. After the dispute was settled, Jarrett took on George Galbraith as a new partner (B. C. Liber 18:31).

In 1869, Jarrett sold the remaining portion of his son's interest in Lualualei Ranch to James Dowsett (B. C. Liber 29:16-18). Samuel Dowsett, the father of James Dowsett, was a sea captain who settled down in Hawai'i in 1828 with his wife and daughter. Soon the couple had a second child, the first Anglo-Saxon child born in the islands whose parents were not missionaries. The family was close to the monarchy; Dowsett was a childhood playmate of Kamehameha IV, Kamehameha V, and Lunalilo (Day 1984:37). Dowsett was an entrepreneur of sorts and dabbled in many different business ventures, such as:

> . . . a whaling fleet, a dairy, a salt works, an extensive trade in *awa* (a Hawaiian narcotic drink) and numerous land holdings. . . . He also ran cattle at different times in Nānākuli, Mikilua and Lualualei. (McGrath et al. 1973:32)

In 1880, George Bowser traveled through Wai'anae and wrote about Lualualei in his journal:

> Leaving Wai'anae, a ride of about two miles brought me to the Lualualei Valley, another romantic place opening to the sea and surrounded in every direction by high mountains. This valley is occupied as a grazing farm by Messrs. Dowsett & Galbraith, who lease some sixteen thousand acres from the Crown. Its dimensions do not differ materially from those of the Wai'anae Valley, except that it is broader – say, two miles in width by a length of six or seven miles. The hills which enclose it, however, are not so precipitous as those at Wai'anae, and have, therefore, more grazing land on their lower slopes, a circumstance which adds greatly to the value of the property as a stock farm. Although only occupied for grazing purposes at present, there is nothing in the nature of the soil to prevent the cultivation of the sugar cane, Indian corn, etc. Arrangements for irrigation, however, will be a necessary preliminary to cultivation. (Bowser 1880:493-494)

Bowser's comments imply that though water was still a problem, Lualualei seemed to have some potential for development.

James McCandless, who had been an oil-well driller in West Virginia, moved to Hawai'i in 1880 to use his experience to drill artesian wells for the water much needed by the newly established sugar plantations. Two of his brothers, John and Lincoln, joined him in 1883, and together they formed the firm of McCandless Brothers. This company drilled over 600 wells in the islands and invested in other business, including establishing a stock ranch in 'Ewa (Day 1984:90).

In 1894, Link McCandless entered the ranching scene:

> By the 1890s, Hawaii's well drilling boom had begun to peter out. So Link McCandless, a big man of generous enthusiasm and energy, went into ranching. In 1894, he and a man named Tom King chartered the brigantine Oakland in Seattle, filled her hole [*sic*] with cattle and the cabins with feed, and sailed for Hawai'i. By the turn of the century, McCandless' ranching empire covered much of the Wai'anae Coast, including land at Nānākuli, 4,000 acres at Lualualei, San Andrews' property in Mākua and pastures toward Ka'ena Point. (McGrath et al. 1973:68)

In 1878, Dowsett leased some of his land in Wai'anae to Herman Widemann, J. L. Richardson, George Wilcox, and Albert Wilcox in 1878, and they established a sugar plantation as the Waianae Co., in 1880 (Dorrance 1998: 190-191)

Captain Heinrich Hackfield, born in Oldenberg, Germany established the merchant firm of Hackfield and Co. in Honolulu in 1849. His company would prove very successful over the years as it expanded into other endeavors, including becoming a "factor," or business agent, for the large sugar plantations. In 1918, the firm name changed to American Factors, later shortened to Amfac, Inc. (Schweizer 1982:94-104). John Dominis, son of another sea captain, introduced him

to other German businessmen in the islands and they encouraged Hackfield to base his operations in Honolulu. One of these Germans was Herman A. Widemann, who had originally come to the islands on a whaleship. Widemann also proved to be an astute businessmen, and he became one of the largest sugar plantation owners in the islands (Schweizer 1982:109).

Many of these German immigrants were also involved in Hawaiian politics. At one time, Dominis was the secretary and chamberlain to King Kamehameha IV, who later married Lydia Liliu'okalani, the last monarch of Hawai'i. (Day 1984:36). Widemann was a justice of the supreme court, the Kingdom's Minister of Interior, and a member of the privy council (Schweizer 1982:108). Both were friends of the monarchy, and supported David Kalākaua in his candidacy for the throne.

With strong financial backing from his friend King Kalākaua, Widemann started the Waianae Sugar Plantation in 1879. The plantation covered 6,132 acres in the Mākaha, Wai'anae, and Lualualei Valleys. Over two-thirds of the land was too rocky and not suitable for sugar cane cultivation, so the plantation actually consisted of three non-contiguous irregularly-shaped parcels, one in each valley, two of which can be seen on the portion of the 1899 map of Wai'anae (Figure 8) (Condé and Best 1973:356; Chiddix and Simpson 2004:120).

An 1894 description of Lualualei by the Commissioner of Crown Lands described the land as

> . . . one of the best and most valuable of the Crown lands on the Island of O'ahu. Without exception it surpasses any of the other lands for richness and great fertility of the soil. The lower portion about 500 acres is under cultivation of cane by the Waianae Sugar co., where the yield is said to be enormous. . . . For ranching purposes, this land excels any other as it is known to be the best fattening land on the Island. (Commissioner of Crown Lands 1894:36)

In the early years of the plantation, all of the sugar was transported to Honolulu by ship, loaded on to schooners lying off-shore of Wai'anae Landing (Yardley 1981:130). Sugar from the cane fields to the coastal wharf was transported on their private rail system, originally transported on a steam locomotive running on a narrow 30-inch gauge rails (Condé and Best 1973:356). In 1889, the O'ahu Railway and Land Company extended their tracks to Wai'anae, along the present-day alignment of Farrington Highway. A portion of the plantation railroad tracks ran near the project area, as shown on the 1899 map of Wai'anae (Figure 8).

3.5 Early 1900's to Present

3.5.1 Sugar Plantations

By 1901, the Waianae Sugar Company had obtained a five-year lease on 3,332 acres of land at Lualualei to be used for raising cane as well as for ranching (Commissioner of Crown Lands 1902). Sugar and ranching continued to dominate the Lualualei landscape during the early years of the 20th century. The determining factor in the success of Lualualei for sugar production was always the water.

Widemann had sold his interest in the Wai'anae Plantation to his son-in-law, James M. Dowsett in 1897 (Condé and Best 1973:357). The J. M. Dowsett Estate, established for the heirs

of Dowsett after his death, sold the plantation to American Factors (now Amfac/JMB-Hawai'i) in 1931.

Throughout the first half of the twentieth century, the Waianae Sugar Company continued cultivating their sugar lands in Lualualei. By the 1940's, Waianae Sugar Company could no longer compete with foreign labor. This, in addition to drought problems, labor unions and land battles, caused the undermining of Waianae Sugar Company. In 1946, the Company was liquidated, and the land was sold (Dorrance 1998:192).

3.5.2 Homesteading

After the overthrow of the Hawaiian monarchy in 1893, the Crown Lands and the Government Lands were combined to become Public Lands. The Crown Lands were no longer indistinguishable and inalienable. In 1895, the Republic of Hawai'i decided to open up lands for homesteading in the hopes of attracting a "desirable class of immigrants" — Americans and those of Caucasian decent (Kuykendall and Day 1961:204). In anticipation of the Dowsett-Galbraith lease expiring in 1901, the Government intended to auction off these lands to the highest bidder.

In 1902, the government ran advertisements in the local newspapers, stating its intent to open up land in Lualualei for homesteads (Kelly 1991:328). Due to the lack of water, the lots were classified as second-class pastoral land, rather than agricultural land. The homesteads were sold in three series between the years 1903 and 1912. In Lualualei, the first series was for nine *mauka* lots, most of which were purchased by Lincoln McCandless. He leased some of the land to the Sandwich Island Honey Co., which placed apiaries on the land. The remaining portion was cattle pasture for his ranch until 1929, when the U.S. Navy acquired the land for the Naval Ammunition Depot, later renamed the Lualualei Naval Magazine.

The second and third series were for lots in the lower valley and along the coast, *mauka* of the government road. By the early 1920's, about forty families had settled on homestead lots in Lualualei (Kelly 1991:331-332). The well-known families that obtained homestead lots at this time were Von Holt, McCandless, and Dowsett.

Despite promises by the government to supply water, there was none, and what little there was, was not enough to go around. Competition between the Waianae plantation and the homesteaders for water caused friction within the community. The lack of water placed a hardship on the homesteaders. Water had to be carried in by hand, and many lost their crops. The Waianae Sugar Company had a lease with the government to take 2.5 million gallons of water daily from government lands, but even after their lease had expired, the plantation continued to take the water. In 1924, the government made an agreement with the plantation to release 112,000 gallons of water daily for the homesteaders (McGrath et al. 1973:84-88).

3.5.3 Other Commercial Enterprises

A 1937 Land Court Application (LCAp 1102) (Figure 9) map from the Hawai'i Department of Land and Natural Resources, illustrates the project area was owned by the Mahaka Coffee Co. in the early nineteenth century. Coffee was first planted in Makaha Valley about 1890 by James Robins Holt, and others hopeful investors soon followed. The coffee farms were, however, largely unsuccessful, as the original investment needs were high and there were always shortages

of laborers to pick the beans. Large landowners found that the same lands used to grow coffee could also be used to grow sugar cane, and with a greater profit. Eventually, the lands owned by the Makaha Plantation Co. became sugar lands, rather than coffee tree groves (Barrère 1970:11). The Makaha Coffee Co. parcel in Lualualei is too near the coast to have been used for coffee tree planting, so it was probably an office, or storage area for the beans, conveniently located close to the Poka'i Bay wharf and the OR&L railway line.

3.5.4 Military

During the first half of the 20th century another major influence in Lualualei was the military. In the early late 1920s and early 1930s, over 8,184 acres of the McCandless Cattle Ranch had been condemned and purchased by the U.S. Navy for the construction of a Naval Ammunition Depot for the ships of Pearl Harbor Naval Base. About 1,700 acres at Lualualei was taken from the Hawaiian Home Lands under federal executive orders when Hawai'i was a territory and turned over to the Navy. The acreage represented about one-fifth of Hawaiian Home Lands on O'ahu (Kakesako 1998). The construction of Naval Magazine LLL and Radio Transmission Facility (RTF) took place in Lualualei between 1930 and 1935 (Kelly 1991:339-341). Today, two antennas of the Navy's communication systems at Lualualei stand 1,500 feet over the Leeward Coast as the state's highest structure (Kakesako 1998).

The number of troops stationed and trained on the Wai'anae Coast during World War II at times reached 15, 000 to 20,000 (McGrath et al. 1973:136). The beaches were fortified with barbed wire and concrete bunkers--many of which are still visible today. Martial law severely curtailed the movements of the local population. In 1971, the Navy began sub-leasing some of its lands for agricultural uses, mainly for grazing and bee keeping. The presence of the military boosted the economy of Lualualei by providing jobs to residents over the years. The lower portions of Lualualei Valley were developed into residential lots after WWII. The project area lies outside of military lands.

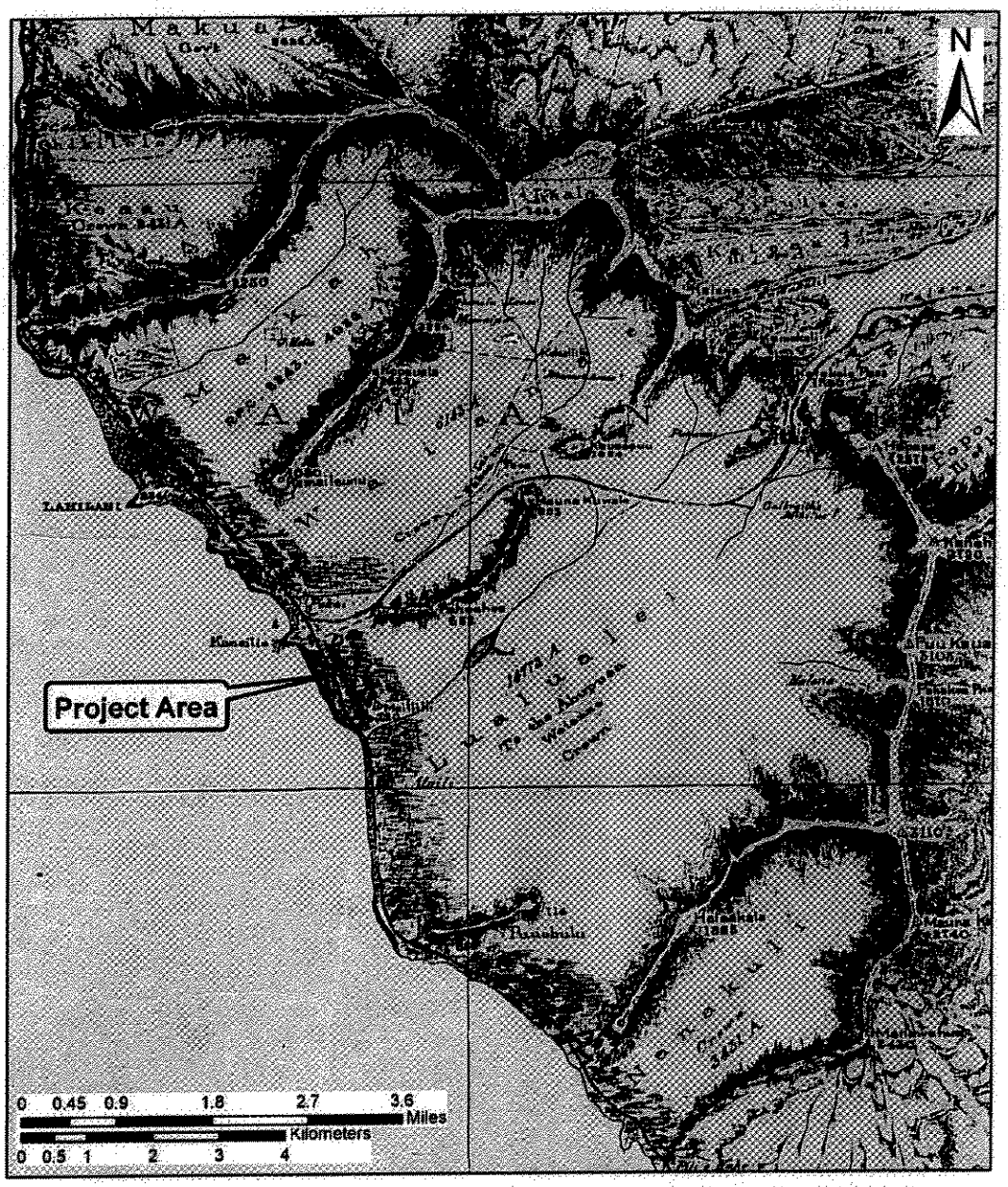

Figure 6. 1881 Hawaiian Government Survey map by C.L. Lyons and current project area

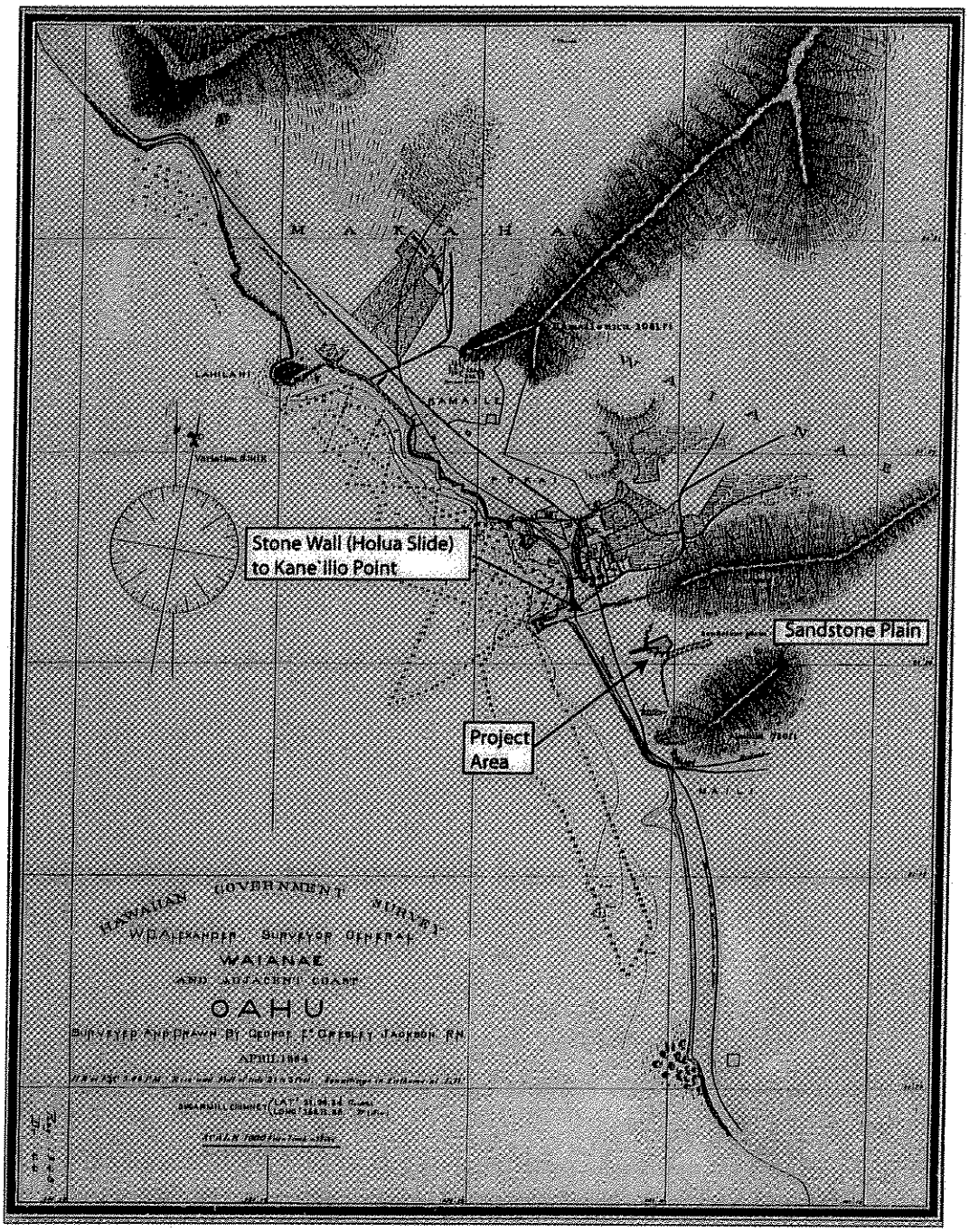

Figure 7. 1884 Hawaiian Government Survey map of Wai'anae by George Jackson, showing project area on a "Sandstone Plain"; map also shows the Hōlua Slide to Kāne'īlio Point, labeled "Stone Wall"

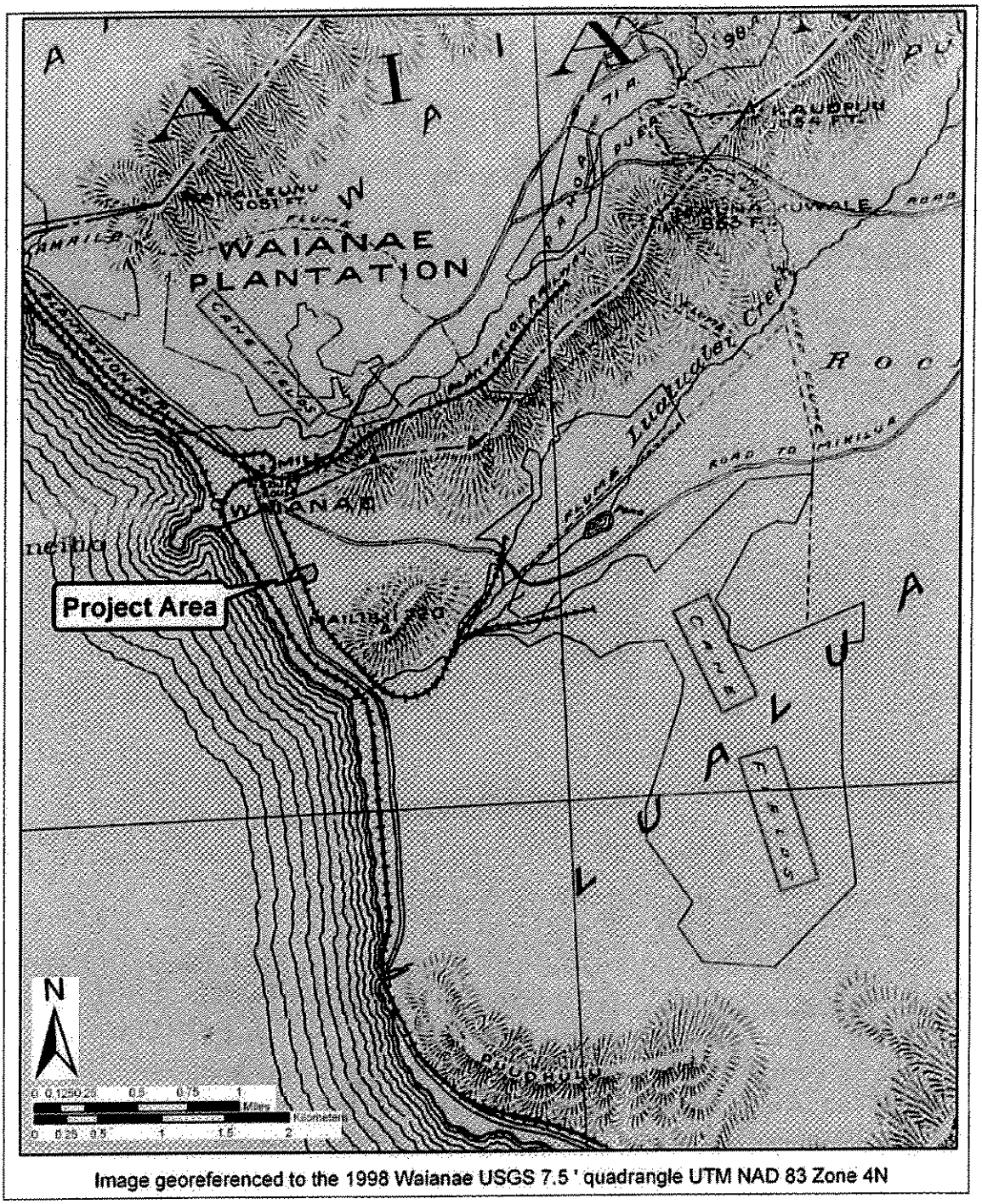

Figure 8. 1899 Hawaiian Government Survey map drawn by T.D. Beasley showing sugar cane cultivation indicated by the "cane field" areas and the current project area

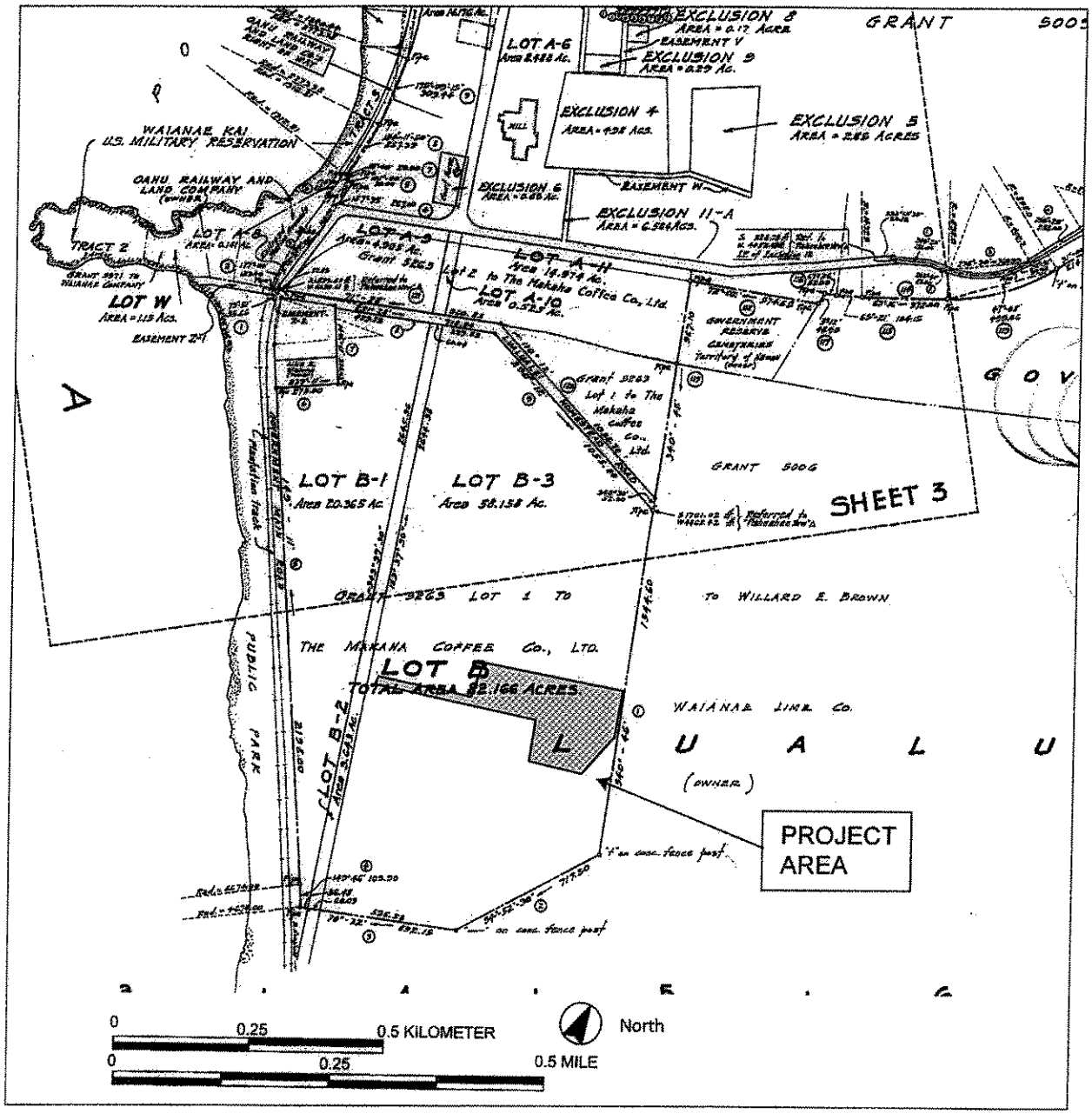

Figure 9. Land Court Application (LCAp) #1102 (1937), Department of Land and Natural Resources, showing project area owned by the Makaha Coffee Co., Ltd; *mauka* lot owned by the Waianae Lime Co.

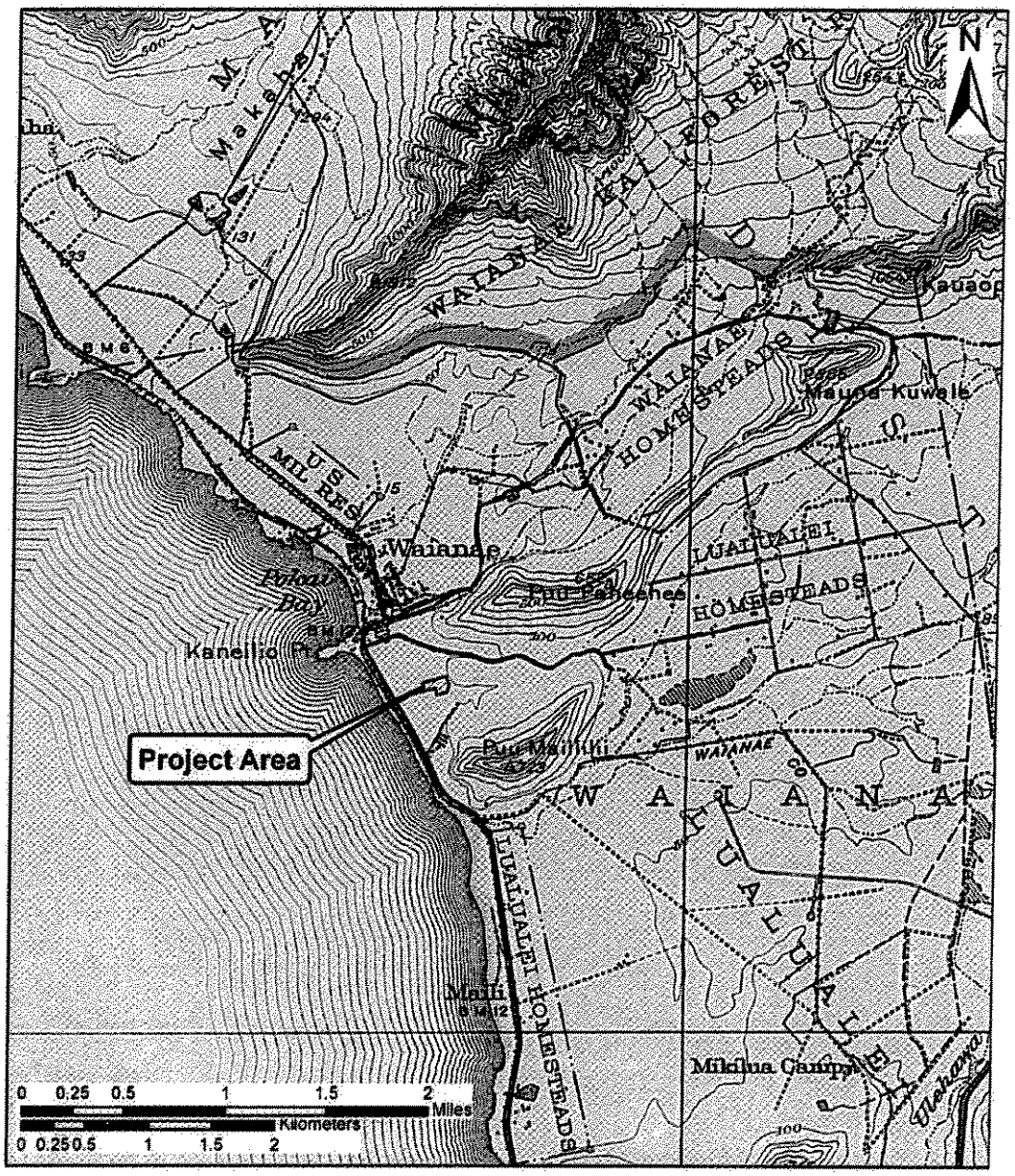

Figure 10. 1938 USGS topographical map of 1927-1930 survey of O'ahu and current project area

Table 2: Archaeological Investigations in Lualualei Ahupua'a.

Reference	Location	Description and Results
McAllister 1933	Lualualei Ahupua'a	Island-wide Survey; McAllister recorded eight sites in or near Lualualei: Site 147. 'Ilihune Heiau; Site 148, rock called Māui; Site 149, Nioiula Heiau on Hālona ridge; Site 150, House sites or heiau at Pahoa cliffs; Site 151, Kakioe Heiau at Pūhāwai; Site 152 Pu'u Pāhe'ehe'e Heiau; Site 153, Kū'īlioloa Heiau; and, Site 162, Mauna Kūwale burial cave.
Bordner 1977	Lualualei Ahupua'a TMK 8-7-9	Reconnaissance Survey: Performed on the proposed site for the Nānākuli landfill. The area included land on both sides of Lualualei Naval Road, continuing up the slope to Pu'u Heleakalā. No archaeological sites were found.
Kolb et al. 1995	Lualualei Ahupua'a TMK 8-6-03: Por. 25 and 8-4-04: Por. 52	Archaeological survey and excavations conducted on the Lualualei side of the slopes of Pahe'ehe'e Ridge. No pre A.D. 1900 habitation or farming activities occurred with the project area. Two enclosures interpreted as ritual shrines were located and were confirmed to date after A.D. 1400. It was recommended that both Sites 4432 and 4433 be preserved.
Haun 1991	Naval Magazine and Naval Communications Area Transmission Facility TMK 8-6; 8-7; 8-8-01	Archaeological Reconnaissance Survey: Included a 8,184-acre parcel, and a 700-acre parcel encompassing the entire inland portion of Lualualei Valley. A total of 131 sites and 1,004 features were identified. The features included "alignments, C-shapes, L-shapes, U-shapes, walls, terraces, enclosures, mounds, platforms, walled terraces and paved terraces" (Haun 1991; vii). The features are related to habitation, rituals, ceremonies, agriculture, the procurement of lithic material, and the manufacture of stone tools. Historical and recent structures associated with cattle ranching and military use was also identified.
Chiogioji, Hammatt 1993	Lualualei Ahupua'a TMK 8-7-21:17	Archaeological Survey and Testing: (Revised from the 1992 'Archaeological Investigations' report). This five acre parcel, formerly a basil farm, was situated between Pu'u o Hulu to the southwest and Ulehawa Stream to the southeast. The results of the survey found an absence of intact archaeological remains.
Hammatt et al. 1993	Lualualei Ahupua'a Lualualei Golf Course TMK 8-7-9:2; 8-7-10:6&10; 8-7-19:1	Archaeological Inventory Survey: Identified eight sites within the project area, two traditional Hawaiian sites that included one habitation complex and the remnants of one wall, and six historic sites that included a cattle wall, a furnace, wells, a house lot, and cement foundation structure. (These findings have also been included in the Final Environmental Impact Statement produced by Hida, Okamoto, & Associates, April 1991)

Reference	Location	Description and Results
Ogden Environ-mental and Energy Services Co., Inc. 1997	Lualualei Ahupua'a Lualualei Navel Magazine	Cultural Resource Review Survey: This survey reviewed existing information on sites in the previously listed locations. Sites reviewed within NAVMAG-LLL included 197 sites with 1020 recorded features and also an additional 400 sites that had been reported but not recorded; in NAVMAG-Waikele five sites with 11 features; in NAVMAG-West Loch two sites; and Kolekole Rock was located near NAVMAG-LLL. Three sites listed in the National Register of Historic Places (NRHP) were located in the project area. They include the Nioiula Heiau, NAVMAG-LLL; 'Oki'okiolepe Fishpond, NAVMAG-West Loch; and the Pearl Harbor National Historic Landmark, NRHP site 50-80-13-9992
Ogden Environ-mental and Energy Services 1998	Lualualei Ahupua'a Radio Transmission Facility	Phase I Archaeology Reconnaissance Survey: This survey was conducted to locate archaeological sites and incorporate them into a Cultural Resource Management Plan. Three sites were located on a 260-acre parcel. Site 5591 is composed of features associated with the sugarcane industry of the 19th and 20th centuries. Sites 1886 and 5592 are considered traditional Hawaiian sites; they include a permanent habitation site and a rock mound.
Tulchin et al. 2003	Lualualei Ahupua'a, Pu'u Mā'ili'ili	Archaeological Inventory Survey: Cultural Surveys Hawai'i conducted an inventory survey of the proposed Wai'anae 242 Reservoir and Access Road project area, on the northeast ridge of Pu'u Mā'ili'ili. Two possible field shelters and a cave were investigated, but there was little evidence that these were traditional Hawaiian sites.

Table 3: Archaeological Investigations in Mā'ili, Lualualei Ahupua'a.

Reference	Location	Description and Results
Barrera 1975	Mā'ili, Kaiser Pacific Prop. Corp. Land	Archaeological Site Survey: Six sites were found; a religious structure; C-shaped feature; two house site features; a possible site; and a midden scatter.
Cordy 1975	Mā'ili, Kaiser Pacific Prop. Corp. land	Excavation of Site CH-0A-1: The religious structure in Barrera's (1975) report was excavated. This report found no evidence to confirm the site as being a religious structure, instead it was found to be a modern structure built no earlier than 1930 or 1940.
Kennedy 1983	Mā'ili, TMK 8-7-06:32	Reconnaissance Survey: No archaeological sites were found on or within 50 feet of the proposed Wai'anae Corporation Yard site.
Hammatt, Shideler 1990	Mā'ili, Liopolo Street Burial (Site 50-80–08-4244)	Archaeological Monitoring and Osteological Analysis: Seven burials were discovered during the installation of a Board of Water Supply 8-inch water main. The burials were found in calcareous beach sand. Five burials were removed, and two were left in situ.
Jimenez 1994	Mā'ili Kai TMK 8-7-10:2	Additional Inventory Survey: Conducted at four previously inventoried sites in the Mā'ili Kai project area. This inventory identified intact prehistoric and historic cultural deposits at two of the sites. Twenty-five of 26 sites had been considered significant for scientific information content and required no additional data collection, while the remaining site was considered significant and recommended for additional data collection.
Mayberry, Rosendahl 1994	Mā'ili, TMK 8-7-10:2, 14	Reconnaissance Survey: Twenty-six sites were located. Twenty-four of these sites dated to the 20th century. Two of the 24 sites dated to the early to late 20th century, and the other 22 sites dated from 1930 to the present. The remaining two sites presented rock features, possibly pre-dating the 20th century.
McDermott, Hammatt 2000	Mā'ili, Ulehawa Beach Park, TMK 8-7-05:01, 03 and 05; 8-7-06:03; 8-7-08:01, 8-7-08:26; 8-7-08:26	Archaeological Inventory Survey: Two subsurface cultural layers, designated sites -5762 and 5763, were found during test excavations. Deposits consisted of midden (marine shell, fish bone, etc.) and both indigenous (fish hooks, volcanic and basalt flakes) and historic (glass, metal and concrete fragments) artifacts. Of particular interest was a nearly complete, barb-less pearl shell fish hook with an unusually deep v-bend reminiscent of Marquesan or Tahitian hooks and is atypical for Hawaiian hooks. Both layers appear to date to late pre-Contact or very early post-Contact times.

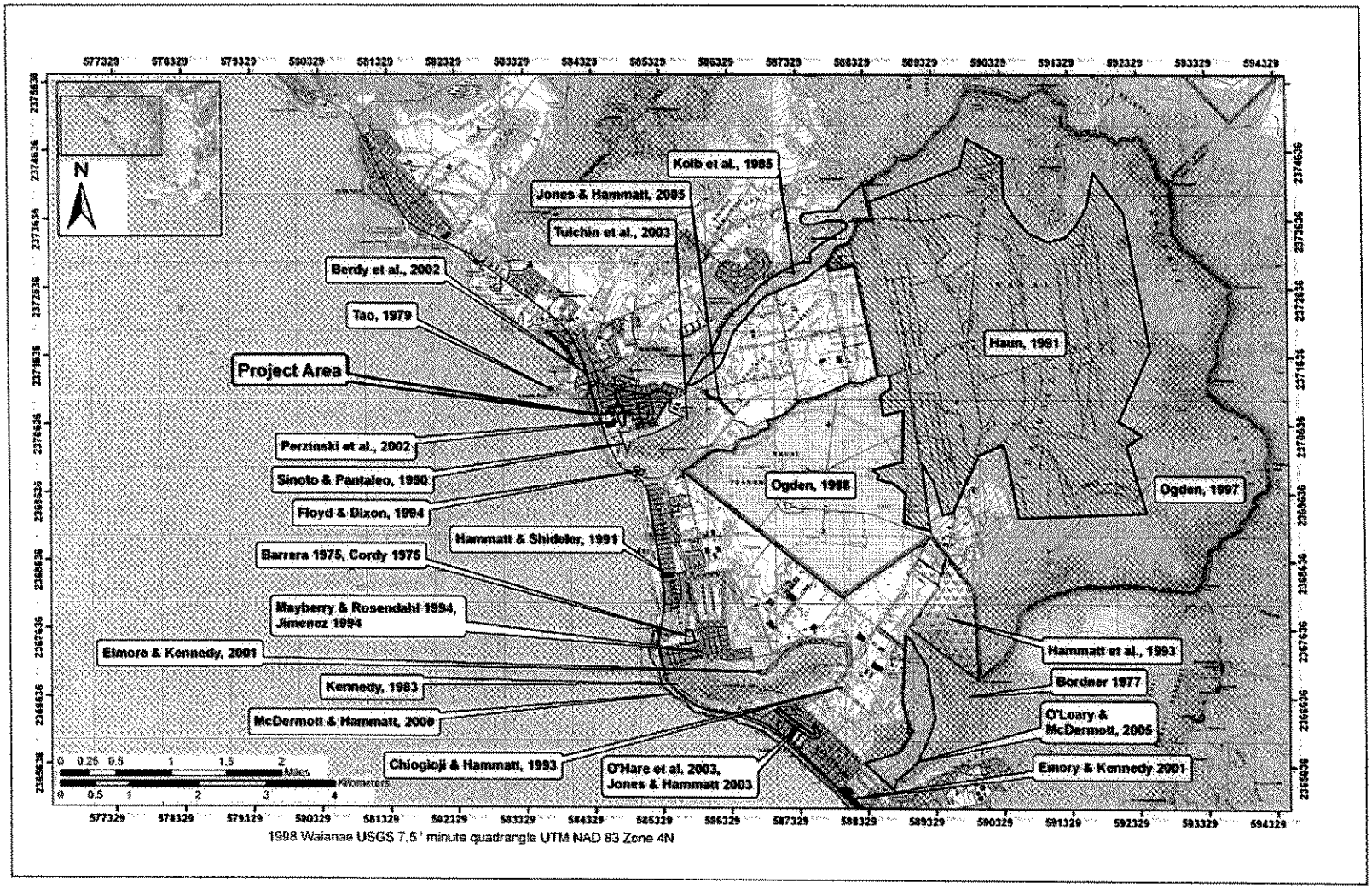

Figure 11. Previous Archaeological Work in the *Ahupua'a* of Lualualei, Wai'anae, O'ahu

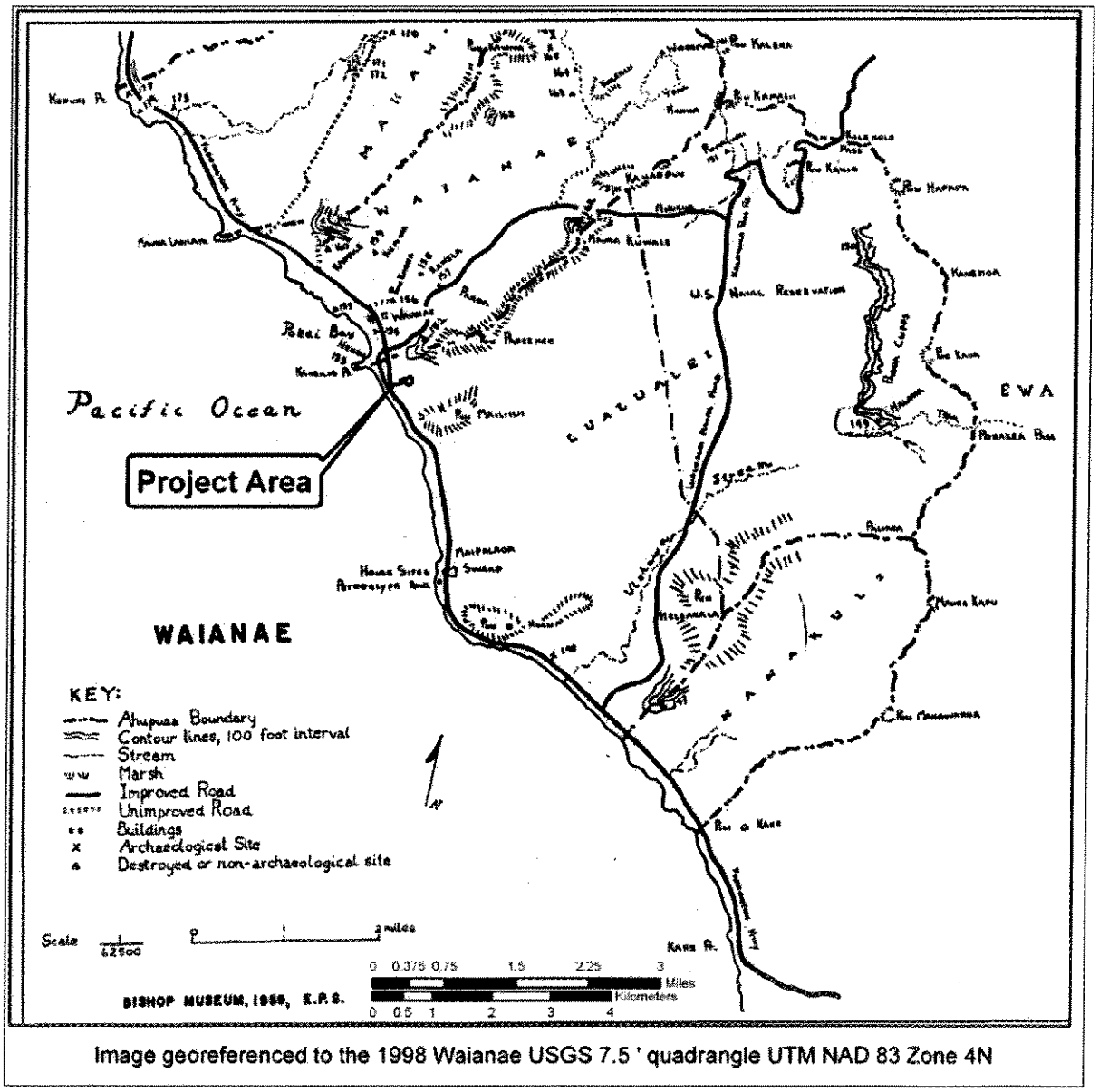

Figure 12. Archaeological sites in Lualualei and Wai'anae Ahupua'a, Wai'anae District, showing McAllister's sites (1959 Bishop Museum map in Sterling and Summers 1978); note the proximity of sites 152, 153, and 162 to the project area, and the *ahupua'a* boundary between Lualualei and Wai'anae as indicated on the legend

A 1977 reconnaissance survey for the Nānākuli landfill, far south of the current project, recorded no archaeological sites (Bordner 1977). The survey area included land on both sides of Lualualei Naval Road, continuing up the slope to Pu'u Heleakalā. This inventory survey reinvestigates the ground originally inspected by Bordner south of Lualualei Naval Road (Figure 11).

An archaeological reconnaissance survey of the "Naval Magazine, Lualualei (NAVMAG LLL) and Naval Communications Area Master Station Eastern Pacific Radio Transmitting Facility, Lualualei (RTF LLL)" was accomplished during the mid-1980's. The survey encompassed more than 9,000 acres, "the entire half of the large amphitheater-shaped valley, and approximately one-third of the coastal half" (Haun 1991:4). One hundred and thirty-one sites, consisting of 1,004 features, were identified during the survey. Indigenous Hawaiian feature types recorded include alignments, C-shapes, L-shapes, U-shapes, walls, terraces, enclosures, mounds, platforms, walled terraces and paved terraces. The features recorded relate to activities including habitation, rituals, ceremonies, agriculture, the procurement of lithic raw material, and the manufacture of stone tools. Historical and recent structures associated with cattle ranching and military use of the area were also identified. Fourteen shovel probes provided datable materials (charcoal and volcanic glass), as well as cultural materials (artifacts and midden). Radiocarbon dates range from A.D. 1420 to 1950. It is suggested that the interior of Lualualei Valley was initially occupied on a temporary basis by people cultivating the area. This may have begun as early as the mid 1400's, continuing up to the mid to late 1700's to early 1800's. Permanent habitation sites were occupied, and population of the valley evidently increased quite rapidly, based on the dense distribution of habitation and agricultural features (Haun 1991:vii).

During an archaeological study conducted on a five-acre parcel, formerly a basil farm, no archaeological remains were documented (Chiogioji and Hammatt 1993). The parcel was situated between Pu'u o Hulu and Ulehawa, south of the current study area.

An archaeological inventory survey of an approximately 170-acre parcel located southeast of the Naval Magazine was conducted by Cultural Surveys Hawai'i, Inc. (Hammatt et al. 1993). The parcel is described as comprising "vacant, unused lands. It is undeveloped and contains several remnant and abandoned historic structures" (Hammatt et al. 1993:7). Eight archaeological sites were identified, including "two traditional Hawaiian sites and six historic sites related to ranching and military activities" (Hammatt et al. 1993:i). The two traditional Hawaiian sites, 50-80-08-4366 (a site complex) and 50-80-08-4367 (a wall remnant), were interpreted as being attributable to traditional Hawaiian activity, with one site (50-80-08-4366) probably representing prehistoric, recurrent habitation at the foothills of Pu'u Heleakalā. This is primarily evidenced by the presence of a probable hearth feature within the site complex. Site 50-80-08-4367 - a remnant wall section running adjacent to an intermittent streambed - suggests an agricultural usage, possibly constructed to retain or divert water. Given the weathered condition of the structure, this site may be prehistoric (Hammatt et al. 1993:28).

The paucity of Hawaiian sites within the study parcel - in comparison to the number located within the large Naval Magazine study area, located to the north and *mauka*, suggests that the parcel may represent, at most, the *makai*-most fringe of the inland settlement. The survey report concludes:

> The few traditional Hawaiian sites identified during the present study suggest that most of the project area was sparsely inhabited during prehistory and early history. This would be due primarily to the lack of fresh water resources in the vicinity...Although surface run-off and intermittent drainage present in the project area would allow some potential for seasonal agriculture, the attraction for settling in the wetter upland valleys would surely have been greater. (Hammatt et al. 1993:31)

A cultural resource review survey was conducted by Ogden Environmental and Energy Service Co., Inc. (1997). This survey reviewed existing information on sites in the previously listed locations. Sites reviewed within NAVMAG-LLL included 197 sites with 1020 recorded features and also an additional 400 sites that had been reported but not recorded; in NAVMAG-Waikele five sites with 11 features; in NAVMAG-West Loch two sites; and Kolekole Rock was located near NAVMAG-LLL. Three sites listed in the National Register of Historic Places (NRHP) were located in the project area. They include the Nioiula Heiau, NAVMAG-LLL; 'Oki'okiolepe Fishpond, NAVMAG-West Loch; and the Pearl Harbor National Historic Landmark, NRHP site 50-80-13-9992

An archaeological survey of 260 acres of the Lualualei Ahupua'a Radio Transmission Facility was carried out to locate archaeological sites and incorporate them into a Cultural Resource Management Plan (Ogden Environmental and Energy Services Co., Inc. 1998). Three sites were located, 50-80-08-5591, 50-80-08-5592 and 50-80-08-1886. Site 50-80-08-5591 is composed of features that are associated with the sugarcane industry of the 19th and 20th centuries. Site 50-80-08-5592, a permanent habitation site and Site 50-80-08-1886, a rock mound are considered traditional Hawaiian sites. The report suggests that areas inland from the coast may once have been more heavily settled.

Cultural Surveys Hawai'i (Tulchin et al. 2003) conducted an inventory survey of the proposed Wai'anae 242 Reservoir and Access Road project area, on the northeast ridge of Pu'u Mā'ili'ili. Two possible field shelters and a cave were investigated, but there was little evidence that these were traditional Hawaiian sites.

Jones and Hammatt (2004) completed a monitoring report for sections of La'ikū, Wai'olu and Princess Kahanu Streets four a water main installation and found no historic or prehistoric cultural materials.

4.2 Archaeological Studies in Mā'ili

During the 1970's and 1980's, a series of studies was undertaken at Mā'ili on the northeast side of Pu'u o Hulu, south of the present project area. The area encompassed by these studies would ultimately comprise 415 acres. In 1975, William Barrera conducted an archaeological site survey of approximately 80 acres at Mā'ili. The eighty acres were divided into two survey areas. Barrera recorded six sites: five stone configurations and a single midden scatter. Four of the stone structures were deemed by Barrera to be either of modern origin or too amorphous to assess. However, one site, Ch-Oa-1, was judged "quite probably an ancient religious structure" (Barrera 1975:9). In October of 1975, Ross Cordy conducted an archaeological excavation of Site Ch-Oa-1. Cordy's report on the excavation noted "no underlying cultural deposits were found" and Cordy concluded that the results of the excavation indicated the structure was not an

ancient religious structure, but was rather a quite recent structure (probably built no earlier than 1930-1940) of unknown function (Cordy 1975).

Also in 1975, Cordy conducted an archaeological survey of an additional 130 acres at Mā'ili. Cordy identified nineteen sites including stone walls, mounds, enclosures, platforms, C-shapes, a trench with bridge, and a trail. Two rock platforms were recorded in what is now the proposed Pu'u o Hulu Community Park, Ch-Oa-28 (State Site No. -3757) and Ch-Oa-29 (State Site No. -3758). Site No. -3757 was described as a vertical-sided platform with a flat surface with dimensions of 6.2 m long by 4.9 m wide. Site No. -3758 was described as a rock platform with a C-shaped enclosure with dimensions of 6.0 m long, 5.5 m (meters) wide and 0.8-1.0 m high. In interpreting the platforms, Cordy suggests that the "vertical, high well-made walls are almost always characteristic of recent era sites" (Cordy 1976: 23). Cordy notes that much of the surveyed land had been recently impacted by bulldozing activity for quarrying purposes and concludes: "Most of the sites found in this survey are either walls, highly disturbed sites, or seemingly recent (ca. AD 1890-1970) sites" (Cordy 1976:21). His conclusions are largely based on associated historic or modern surface artifacts. He recommended archaeological test excavations of a C-shape enclosure, five platforms and a rock enclosure.

An archaeological reconnaissance survey for the proposed Wai'anae Corporation Yard was completed in 1983 (Kennedy 1983). No archaeological sites were found in the project area, which was on the coast along Mā'ili Point, south of the present study area.

The areas surveyed by Barrera and Cordy in the 1970's were subsumed in a 415-acre "Mā'ili Kai Property project area" (TMK 8-7-10:2,14) that was the subject of an archaeological reconnaissance survey conducted by Paul H. Rosendahl, Inc. in December of 1987. The survey report (Mayberry and Rosendahl 1988) noted that "large scale ranching, land clearing, and quarrying from 1851 to the present have extensively altered" the project area (Mayberry and Rosendahl 1988:ii). The report also documented 12 new sites and the reinvestigation of 14 sites previously recorded by Barrera and Cordy. The report summarizes:

> Land clearing and quarrying in particular have been destructive to the natural and cultural environments. One result of the destruction is that 24 of the 26 sites in the project area date to the 20th century. Two of the 24 sites date to the early to late 20th century and the other 22 sites date from 1930 to the present. Only two small sites, rock features without associated artifacts, may predate the 20th century. (Mayberry and Rosendahl 1988:ii)

Five sites were recommended for subsurface testing including site 50-80-08-3344, a platform located approximately 2500 ft north of Pu'u o Hulu Community Park, site 50-80-08-3750, a C-shape enclosure located approximately 2500 ft north of the Pu'u o Hulu Park, site 50-80-08-3755, a rock mound/platform located approximately 2000 ft north of Pu'u o Hulu Park, site 50-80-08-3335, a sinkwell and wall located approximately 2000 ft makai of the Pu'u o Hulu Park, site 50-80-08-3339, a stone enclosure and wall located on the northern base of Pu'u o Hulu Mauka. The two platforms (sites 50-80-08-3757 and 50-80-08-3758) recorded earlier by Cordy were relocated during the Rosendahl survey and were interpreted as sites related to land clearing and ranching of the early twentieth century. Mayberry and Rosendahl (1994:22) conclude:

> None of the ovoid or rectangular rock mounds and platforms in this group exhibit indications of internal structuring in the form of walls or raised platforms. They are thought to be the result of land clearing and rock-gathering operations... The research potential and cultural significance of this second group of sites is minimal. No further work was recommended for the rock platforms in the study area and these sites are thought to have been destroyed during the initial grading of the development.

Subsurface testing of the sites recommended for further testing during the Rosendahl study was carried out at the end of 1993 (Jimenez 1994). The sinkwell and wall (site 50-80-08-3335) had been destroyed during Phase I of the development, so no further archaeological testing could be done on that site. Of the remaining sites tested, only one produced evidence of pre-contact use, site 50-80-08-3750. This C-shaped enclosure yielded small amounts of lithics, midden, and charcoal. Radiocarbon dates suggest the site was used as a temporary habitation during the late prehistoric period. Further data collection was recommended for this site.

In 1990, several burials were inadvertently discovered during excavation work associated with improvements to the Mā'ili water system (Hammatt and Shideler 1990). In total, the water main work uncovered seven burials found in calcareous beach sand. Five of the burials were removed and two were left *in situ*. The five sets of removed human remains were examined to determine ethnicity and all were found to be Polynesian. The report concludes that the concentration of burials suggests a "specific burial ground for one or more Hawaiian families of the Mā'ili area during prehistoric or early historic times" (Hammatt and Shideler 1990:23).

In 1999, PBR Hawaii completed a Final Environmental Assessment for the recent improvement of Ulehawa Beach Park. An extensive cultural horizon, 8 to 10 centimeters thick was recorded within a sand dune cut. The deposit included charcoal flecking and contained bird and fish bones (PBR Hawai'i 1999).

In 1999, McDermott and Hammatt (2000) conducted an inventory survey on a 57.65 acre parcel of Ulehawa Beach Park. Two subsurface cultural layers, designated sites 50-80-08-5762 and 50-80-08-5763, were found during test excavations that covered approximately 2% of the project area. The deposits consisted of midden (marine shell, fish bone, etc.) and both indigenous artifacts (fish hooks, volcanic and basalt flakes) and historic artifacts (glass, metal, and concrete fragments). Of particular interest was a nearly complete, barb-less pearl shell fishhook with an unusually deep v-bend reminiscent of Marquesan or Tahitian hooks. This type of fishhook is considered atypical for Hawaiian fishhooks. Both cultural layers appeared to date to late pre-contact or very early post-contact times. The scant midden and artifact assemblages found suggest little evidence of permanent or recurrent habitation along the coastal area and further enforces the consensus that traditional Hawaiian settlement was concentrated inland. Also during 1999, two extensive cultural deposits were identified during an archaeological inventory survey of Ulehawa Beach Park (McDermott and Hammatt 2000:147-149), as State sites 50-80-08-5762 and 50-80-08-5763. Located adjacent to Lualualei Naval Road, south of the current project area, site 50-80-08-5762 contains charcoal enriched sediments, pit features, and a midden associated with prehistoric occupation. Site 50-80-08-5763 is located adjacent to Princess Kahanu Avenue, between the comfort station and Ulehawa Stream, and contains charcoal enriched sediments, pit features, artifacts and midden associated with prehistoric occupation. This deposit is *makai* of the

present project area, on the other side of Farrington Highway. According to a local community consultant, Walter Kamanã, a fishing *ko'a* (shrine) used to stand in this area, but was destroyed by the 1946 tidal wave. Mr. Kamanã also said that this general area was part of a pre-contact/early historic habitation site.

Also noted in this report is an area identified by a local community consultant to contain burials and cultural deposits (McDermott and Hammatt 2000:43). This area extends approximately from Ulehawa Stream northwest. Mr. Walter Kamanã's comments pertaining to the project area follow:

> The land from the bathrooms, just north of Ulehawa drainage, on around Mã'ili point is all *kapu* (taboo) ground. The night marchers are active at this place. There have been problems associated with that area, including violence and tragedy, including car wrecks. There were lost souls at that place in Hawaiian times. It is likely that you will find Hawaiian remains in the area. There are burials there on the *makai* side of Farrington Highway. A testing crew went in there to test the area, but Mr. Kamana did not know what for. Bones were found, but the public was not informed.
>
> Just beyond Hakimo Road, on the *makai* side of Farrington Highway, is a place called by the Japanese "Takamina", where the Japanese shrine stands today. [a "fishing marker" approximately 500 m north of Hakimo Road]. The Japanese shrine is not only important because of the Japanese culture and beliefs, but because of Hawaiian culture and beliefs as well. It was formerly a shrine area for the Hawaiians, but the shrine area has been largely forgotten by local Hawaiian residents. The shrine area should be respected at all times. Mr. Kamana mentions it as a "Point to Point (?) burial ground". That place must be respected. (McDermott and Hammatt 2000:43).

The presence of coastal cultural deposits to the south suggest that the area was significant in traditional times, and that the sandy shoreline seaward of Farrington Highway may contain additional, heretofore unidentified burials and cultural deposits (Dega 1998:3, McDermott and Hammatt 2000). A number of historic-era structures, such as concrete World War II bunkers, were also noted in the Ulehawa Beach Park studies (Dega, 1998:5; McDermott and Hammatt 2000:143-147). Two WWII concrete foundations were observed seaward of Farrington Highway.

An archaeological study (Hammatt et al. 2001) has evaluated the available data on burials in the vicinity of the present project area. This study notes a document in SHPD Burials Program files entitled "Burial Sites and Grave Sites Graveyards and Cemeteries Case Inventory" (page 19) has a line item:

* Ma'ili - Cave Burials / ID (#584)

* human remains re-interred.

It is less than clear whether there are known remains in Mã'ili Cave or where this cave may be. This 2001 study also notes that a few sites in Lualualei Ahupua'a are traditionally associated with human deaths. Nioiula Heiau on Hãlona Ridge in Lualualei (Site 149; also known as Hãlona Heiau) was said to have been of the *po'okanaka* class (McAllister 1933:110, Westervelt

1915a:122, Westervelt 1915b:178, Thrum 1908:47), which suggests associations with human sacrifice, but this site was located at the south base of the Pāhoa Cliffs of the Wai'anae Range. There are numerous accounts associating Kolekole Pass and vicinity with battles and mortal combat (Sterling and Summers 1978:67), but the area referred to is Pōhākea Pass. 'Ilihune Heiau (site 147, reported as destroyed by 1930), also said to be of *po'okanaka* class (McAllister 1933:110; Thrum 1906:47) lay closer at the tip of the Heleakalā Ridge, southeast of the present project area. This 2001 study also notes that a Lualualei, Wai'anae, O'ahu map by Emerson, dated October 1901 (Registered Map Number 2040), shows an annotation of "Maili Grave" on the seaward side of present day Farrington Highway.

Based upon the survey of the previous archaeological work conducted in Lualualei discussed above, Figures 11 (McAllister's sites) and 12 (previous archaeology) display archaeological sites, a few of which are within one mile of the project area.

Section 5 Settlement Patterns for Lualualei Ahupua'a

Cordy et al. (1998) has provided a synthesis of the settlement patterns and prehistory of the Wai'anae District, of which Lualualei is a portion. This study places the settlement of Wai'anae into the wider context of O'ahu settlement as a whole. The proximity of expansive forest resources and well-watered agricultural lands to abundant marine resources made the windward side of O'ahu most appealing to the early O'ahu settlers and their descendants. Foraging trips to the dryer areas of the island would have occurred and were most likely associated with recurrent, temporary habitation used during resource procurement. The rich marine resources of the Wai'anae District, particularly the fishing grounds off-shore, would have been a strong draw for early O'ahu inhabitants. As population in the windward areas increased, permanent settlement began to spill over into the well-watered regions of the leeward side. Eventually, with further population expansion, permanent settlement spread to the less watered regions of the leeward side, which included much of the Wai'anae District and all of the current project area (Cordy et al. 1998:1-6). Settlement would most likely begin as temporary habitation along the coast in association with marine resource procurement. Later, permanent settlement would have developed in response to expanding populations in previously settled, better watered areas.

Prehistorically, land use in Lualualei was greatest at the sea, where marine resources were plentiful, and in the mountainous interior, where there was sufficient rainfall for agriculture and forest resources. The intervening lands between the sea and the mountains were a dry scrubland. Although potentially useful for dryland agriculture in the wet winter months, it is unlikely that this area would have been largely utilized by Native Hawaiians. The settlement pattern prior to Western Contact for this region was likely dispersed residences concentrated at the sea and the mountains. Based on the season and the available resources, the resident population most likely used multiple residences, perhaps one at the seaside and another *mauka*, to reduce resource transport time. It is also possible, as is suggested by the account provided by Pukui (cited in McGrath et al. 1973:10), that there existed an informal exchange network where by coastal dwellers traded marine resources for the agricultural and forest resources of the inland dwellers.

Archaeological surveys of the upper portion of Lualualei Valley have located the remains of traditional-Hawaiian habitation, ceremonial, and agricultural structures. The extensive archaeological survey of the *mauka* portion of the valley is offset by a paucity of archaeological investigation in the coastal portion. However, based on context, information from long-time residents of the area, and traditional accounts, it is likely that the coastal areas of Lualualei contain cultural deposits related to habitation, including human burials.

Available radiocarbon dates indicate that by A.D. 600-800, there was at least temporary coastal habitation on the Wai'anae coast. This dated sample comes from the area fronting Pōka'ī Bay, one of the only areas along the Wai'anae Coast to have a perennial stream reach the coast, and undoubtedly one of the more attractive areas for early temporary and, later, permanent settlement (Cordy et al. 1998:6). Radiocarbon dates from inland, apparently permanent habitation contexts, within Nānākuli indicate permanent settlement began by A.D. 1200-1400 (Cordy et al. 1997:9). Extensive archaeological survey of inland Lualualei has yielded radiocarbon dates from permanent habitation contexts dating to A.D. 1620, with earlier dates (mid 1400's) for apparently temporary habitation structures (Haun 1991:237).

The only coastal dates for Lualualei are those reported by McDermott and Hammatt (2000) from the two coastal habitation deposits (Sites 50-80-08-5762 and -5763) found during the inventory survey of the Ulehawa Beach Park parcel. The three available dates from this project area span a broad temporal period, from 1460 to 1950. However, considering the early coastal date from Pōka'ī Bay and the *mauka* dates from Lualualei, it is certainly plausible that at least temporary coastal settlement took place within the first half of the 1460-1950 age range. However, if there is inland settlement and resource procurement by circa A.D. 1200-1400, it is likely that initial coastal temporary habitation, associated with marine resource procurement, predated this inland settlement.

The population along the Wai'anae coast may have been quite low. The immediate vicinity lacked water for cultivation and was proverbial for its poverty. Captain George Vancouver (in March of 1793) described the Wai'anae area as "one barren, rocky waste, nearly destitute of verdure, cultivation or inhabitants (Vancouver 1967, Vol. 2:217)

By the mid-1800's the traditional Native Hawaiian lifestyle in the valley of Lualualei was in decline. The sandalwood trade, which ended circa 1829, undoubtedly had a negative effect on the Native Hawaiian population. At this time, Lualualei began its cattle ranching period. The introduction of sugar plantations brought more foreigners and the OR&L railroad, which was linked to Wai'anae in 1895. Based on the paucity of LCA's claimed within the area and the early population figures, it appears that the Native Hawaiian population was quite low in the latter half of the 19th century.

In 1851, William Jarrett leased approximately 17,000 acres of Crown Lands from Kamehameha III for 30 years at a fee of $700 per year (Bureau of Conveyances [B.C.], Department of Land and Natural Resources, Liber 4:616-618.). He established Lualualei Ranch and used the leased land for cattle pasture.

Population numbers slowly increased when homesteading was instituted in the early 1900's. Military use of the land began in 1917. WWII greatly affected the landscape of the Wai'anae coast by placing bunkers, gun emplacements, and barbed wire along the waterfront. As noted by the local community consultants, tsunamis have also altered the landscape.

In summary, in contrast to the abundance of traditional Hawaiian sites and features encountered during the Bishop Museum survey of the *mauka* half of Lualualei, the surface sites recorded during the studies at Mā'ili were either post-contact or of equivocal origin. In the one instance where excavation was attempted at a structure originally judged "quite possibly a *heiau*" (Site Ch-Oa-1), the site was established as modern and no subsurface deposits were encountered. The lack of traditional Hawaiian sites in these areas may reflect not only the distortions of modern disturbances (including bulldozing, farming and ranching) but also a general disuse during pre-contact times. Population and activity in Lualualei may have been primarily focused in a narrow band along the coast and farther inland in the *mauka* reaches of this large valley. The land in between the coastal and *mauka* zones is likely to be characterized by an ephemeral archaeological record pointing to the intermittent use of locations such as lithic scatters and temporary habitation sites.

Section 6 Community Consultations

Throughout the course of this assessment, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices specifically related to the project area. This effort was made by letter, e-mail, telephone and in person contact. In the majority of cases, letters along with a map and aerial photograph of the project area were mailed with the following text:

> At the request of Hawai'i Housing Development Corporation, a non-profit organization, Cultural Surveys Hawai'i, Inc. is conducting a Cultural Impact Assessment for the proposed Hale Wai Vista Affordable Family Rental Project in Lualualei Ahupua'a, Wai'anae District, O'ahu (TMK: [1] 8-6-001:035). The developer proposes to build an affordable rental housing project on a 5.02 acre property located adjacent to Wai'anae Mall as indicated in the attached Location Map. The proposed development will consist of 4 multi-family buildings and 1 multi-purpose building. A total of about 216, 2 and 3 bedroom affordable rental units, including a resident managers unit, will be developed and rented to qualified families. The 2 mid-rise buildings are will be 7 stories with a height of 60' 1" to the top of the main roof. The other three buildings are 2-story structures. The 2 multi-family structures will be 27'-1" high and the community multi-purpose building will be about the same height. There will be a total of 331 parking stalls. See the attached figures for a detailed map and aerial photograph of the project.
>
> The purpose of this cultural study is to assess potential impacts to traditional cultural practices as a result of future development in Lualualei.
>
> We are seeking your *kōkua* and guidance regarding the following aspects of our study:
>
> - **General history and present and past land use of the project area.**
> - **Knowledge of cultural sites which may be impacted by future development of the project area - for example, historic sites, archaeological sites, and burials.**
> - **Knowledge of traditional gathering practices in the project both past and ongoing.**
> - **Cultural associations of the project area, such as legends and traditional uses.**

- **Referrals of *kūpuna* or elders and *kama'āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands.**

- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area.**

Community participation in CSH Cultural Impact Assessments is voluntary. CSH's continued good standing in local communities is contingent on developing and maintaining rapport and respect with our community consultants. It is sometimes the case that community contacts decide not to participate in CSH cultural studies because they object to the proposed development in their community and do not want to contribute in any way to the planning process. For this assessment, CSH found that a few key community contacts did not respond to multiple invitations to be interviewed. While some of these contacts are exceptionally busy and often hard to contact, a few participants stated explicitly that they would not comment on the project unless community concerns (enumerated below) are addressed first.

To ensure a good faith effort, CSH made several (3-9) attempts to contact individuals, organizations, and agencies apposite to the Cultural Impact Assessment for Lualualei. The results of the community consultation process are presented in the table below. Additionally, CSH spoke with employees of businesses located on the properties bordering the project area, namely City Mill and Kōkua Villa, Inc.. Their suggestions are included under Border Properties Contacts. Excerpts from more extensive interviews related to Lualualei and its environs are presented in Section 7 below.

Table 4. Community Contacts

Name	Background, Affiliation	Comments
Ailā, Melva	Lualualei Ahupua'a Council	Made referral to Lydia Tavares
Ailā, William	Hui Mālama I Nā Kūpuna O Hawai'i Nei, Wai'anae Representative	Mr. Ailā shared in a phone interview conducted on December 5, 2006 that the proposed project area was once part of a limestone quarry. The area has been highly disturbed and he doesn't recall any specific cultural sites. His father raised cattle on that property over 30 years ago. From a cultural perspective he has no concerns about the proposed housing development except that if the buildings are more than 2 stories, the view plane from the mountain ridges to Mā'ili'ili will be obstructed. All the *mauka-makai* (cultural) relationships have not been identified. Mr. Ailā related that there is a story told about Pu'u o Hulu, a hill in Lualualei named for a chief who was in love with Mā'ili'ili, one of twin sisters. The other sister was Pāhe'ehe'e. Because he could not tell the sisters apart, an impatient *kahuna* (priest, sorcerer, magician, wizard, minister, or expert in any profession) changed them both into *pu'u* (hill, peak). Mr. Ailā made referrals to: Alice Greenwood, Lydia Tavares, Agnes Cope, and Frenchy De Soto.
Aldeguer, Walterbea	Kama'āina of Mā'ili	See interview summary in Section 7
Border Properties Contacts	Kōkua Villa, Inc. employees	Recommended contacting *kūpuna* through the Wai'anae Gym, Ke Ola Mamo, and Cultural Practitioners Domingo Gomes Sr. and Elton Magallenes

Name	Background, Affiliation	Comments
Chang, Pi'ilani/Chinen, Melanie	State Historic Preservation Division-Culture and History Branch	CSH sent a letter on November, 11, 2006 and followed up with email, and phone messages. Richelle Paresa (SHPD office clerk) sent an email on 1/22/07 stating that: "… in response to your status update on your Lualualei Cultural Impact Assessment referenced in the previous email below. As you may know, Ms. Piilani Chang is no longer with us at SHPD. I would like to note that most of the information you are requesting can be found in our library located in the office. You are welcome to visit our library to assist you in your research, our hours of operation are M-F, 7:45-4:30 with the exception of weekends and holidays. If you have any questions or concerns please give us a call at 692-8015." CSH visited SHPD on 2/7/07 to conduct research on Lualualei.
Collins, Leilani	Queen Lili'uokalani Children's Center, Wai'anae Coast Unit, Manager	Made referrals to Joe Lapilio and Alice Greenwood
Cope, Agnes	Wai'anae Coast Culture and Arts, *Kumu* Hula and healing arts Cultural Practitioner	CSH sent a letter on November, 11, 2006 and followed up with several phone messages.
Cruz-Losano, Momi	Ho'omau Ke Ola, Cultural Director	CSH met with Ms. Cruz-Losano in her office in Wai'anae on February 27, 2007. Ms. Cruz-Losano stated that community objection to the proposed project, and reluctance to participate in the Cultural Impact Assessment, may be in part due to the fact that too often affordable housing projects have come into the community and then been converted to more expensive, for profit units. She commented, "affordable housing should be affordable". Ms. Cruz-Losano made referrals to family members and friends born and raised on the Leeward coast, most of which are included in this table.

Name	Background, Affiliation	Comments
De Soto, Frenchy	Wai'anae Coast Archaelolgical Preservation Committee	CSH sent a letter on November, 11, 2006 and followed up with phone messages. CSH was told during a phone call to Ms. De Soto's former home, that she has moved to the Big Island of Hawai'i.
Enos, Eric	The Cultural Learning Center at Ka'ala, Director, Educator and Cultural Practitioner	Mr. Enos shared in a phone interview on December 5, 2006 that the proposed project area has been heavily impacted and industrialized. He can't think of any possible disruption to cultural activities as a result of development. Mr. Enos noted that if there are any subsurface findings in the course of construction, appropriate measures should be taken. Mr. Enos recommended contacting William Ailā.
Gay, Lucy	Director for Wai'anae Educational Opportunities, Leeward Community College, Teacher of Wai'anae Elders	Ms. Gay shared in a phone interview conducted on March 21, 2007 that she had no particular comments about cultural aspects of the project and recommended CSH contact Alice Greenwood and Walterbea Aldeguer. Ms. Gay mentioned that she has been doing research on the area and noted that according to her Tax Map Key research, in the 1970s the property was used for petroleum storage. "Back in the 1976 USA Petroleum put up a storage facility, fence, and sheds." Ms. Gay cautioned that there may be some concern about petroleum residue on the land.
Gomes, Domingo Sr.	Cultural Practitioner, fisher and *Kumu*	See interview summary in Section 7
Greenwood, Alice	Lualualei Ahupua'a Council, O'ahu Island Burial Council Wai'anae Representative, Cultural Historian	See interview summary in Section 7
Ho'ohuli, Josiah "Black"	Wai'anae Coast Neighborhood Board No. 24	See interview summary in Section 7
Josephides, Analu Kame'eiamoku	O'ahu Island Burial Council Wai'anae Representative	Made referrals to William Ailā, Alice Greenwood, and Aggie Cope

Name	Background, Affiliation	Comments
Kawelo, Gege (Georgette)	Hawaiian Civic Club of Wai'anae, President	Ms. Kawelo stated in a phone interview conducted on December 4, 2006 that the Hawaiian Civic Club of Wai'anae meetings are quarterly. Ms. Kawaelo offered to present the letter to the membership at the next meeting (2/9/06) and to include a project description and invitation to participate in the project in the (1/9/07) newsletter. CSH followed-up with confirmation emails and phone calls before the meeting and newsletter publication. Ms. Kawelo also made referrals to Gail Gomes, Cynthia Rezentes, and Queen Lili'uokalani Children's Center.
Kila, Glen	Koa Mana, Principal of Kamaile Elementary School	See interview summay in Section 7
Lapilio, Joseph	'Ohana Lualualei Ahupua'a Council, former Chair; Wai'anae Coast Coalition	CSH sent an email on January 8, 2007, followed up with phone messages, and left material about the project for his review at his office at the Wai'anae Coast Coalition on 3/7/07.
Lindsey, Doreen	Nanaikapono Hawaiian Civic Club, *Pelekikena* (President) Emeritus	CSH sent a letter on November 11, 2006.

Name	Background, Affiliation	Comments
Magallanes, Elton "Pōki'i"	Koa Mana, Cultural Practitioner and *Kumu*	Elton "Pōki'i" Magallenes shared the following information with CSH in an interview conducted at the Wai'anae Mall on March 7, 2007: He was formerly an instructor of Hawaiian language and culture curriculum, teaching 3rd and 4th 5TH and 6th graders and college students, as well as working with youth groups at Ka'ala Farms and other community programs in Wai'anae. Speaking of the history of the Lualualei, he mentioned that Pu'u Pāhe'ehe'e was once the site of a *hōlua* (sled or sled course, especially the ancient sled used on grassy slopes, see Figure 7) running from what was formerly called Nene'u , and is now Pōka'ī Bay. *He'e* means 'to slide'. Pu'u Pāhe'ehe'e holds great importance in Hawaiian legend and was used for star navigation by Hawaiian voyagers. Pu'u Mā'ili'ili was the "home of our cousins, the *e'e'pa*, shape shifters." He cautioned against putting too much credence in the Sites of O'ahu, explaining that cultural sites reported to McAllister were *huna* (secret, hidden) and *wahi huna* (hidden places). The exact locale of a site would never be revealed to McAllister, but an approximate locale was provided. Mr. Magallanes said there could be sinkholes in the project area with burials, and advised contacting the lineal descendants of Wai'anae Moku, Glen Kila and Alika Silva.
Nāmu'o, Clyde	Office of Hawaiian Affairs, Administrator	See OHA response below table (Figure 13)
Rezentes, Cynthia	Wai'anae Coast Neighborhood Board No. 24	CSH spoke to Ms. Rezentes in-person on March 6, 2007 at the Neighborhood Board Meeting. She commented that she had no specific information on the project area and recommended contacting Walterbea Aldeguer.

Name	Background, Affiliation	Comments
Silva, Albert	Wai'anae Coast Neighborhood Board No. 24	CSH spoke to Mr. Silva by phone on January 25, 2007. Mr. Silva stated that he is not willing to comment on cultural concerns or any aspect of the project until the height of the building is changed to no more than 2 stories.
Silva, Alika	Koa Mana	CSH sent a registered letter with a return receipt requested to Mr. Silva on February 26, 2007 and received confirmation that the letter had been received on March 19, 2007.
Teruya, Patty	Wai`anae Coast Neighborhood Board No. 24, Planning and Zoning Chair	In an email sent to CSH on December 5, 2006, Ms. Teruya wrote: "Thank you, and I did receive your letter regarding the project. We have had this project presentation presented to our neighborhood board and in committee. At the last month's meeting, the board did not support this project location in Wai'anae. Regarding the Cultural Impact Assessment that CSH is conducting should probably be presented to the full board for community and members to comment. Please take a look at the last month's meeting minutes of the concerns by the community." Ms. Teruya did not respond to any subsequent phone or email messages. CSH attended a meeting of the Wai`anae Coast Neighborhood Board on March 6, 2007 and was able to speak to members of the Board (see this table and interview summaries in Section 7 below). At the meeting the Neighborhood Board again voted against supporting the Hale Wai Vista project.

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD06/2535B

December 18, 2006

Lisa Gollin
Cultural Surveys Hawai'i, Inc.
P.O. Box 1114
Kailua, HI 96734

RE: Cultural Impact Assessment for the Proposed Hale Wai Vista Affordable Family Rental Project, Lualualei Ahupua'a, Wai'anae, O'ahu, TMK: 8-6-001:035

Dear Lisa Gollin,

The Office of Hawaiian Affairs (OHA) is in receipt of your November 22, 2006 request for comment on the above-referenced proposed project, which would include an affordable rental housing project on a 5.02-acre property adjacent to Wai'anae Mall. OHA offers the following comments.

In a previous comment to the U.S. Department of Agriculture-Rural Development Office regarding this project, we recommended a comprehensive "due diligence" study of the potential impact of this project on archaeological, historic, and cultural resources. We also recommend contacting Alika Silva, William Ailā and Alice Greenwood to improve the consultation component of any such work.

OHA further requests your assurances that if this project goes forward, should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions, please contact Kai Markell at (808) 594-1945 or kaim@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

Figure 13. Office of Hawaiian Affairs review of proposed Hale Wai Vista project

Section 7 Summaries of *Kama'āina* Interviews

Kama'āina and *kūpuna* with knowledge of the Lualualei and Wai'anae Ahupua'a and the area in and around the proposed Hale Wai Vista Affordable Family Rental project participated in "talk-story" sessions for this assessment. The approach of Cultural Surveys Hawai'i Inc. to cultural impact studies affords those community contacts an opportunity to review transcriptions and/or interview notes and to make any corrections, deletions or additions to the substance of their testimony. Our interview selection process usually focuses on knowledgeable older individuals (*kūpuna*) who are often in ill health or of a mind not to be rushed. It is often the case that the coercive demands of time that drive the contemporary development process do not fit well with those who have memories of an earlier time.

Cultural Surveys Hawai'i Inc. employed snowball sampling, an informed consent process, and conducted semi-structured interviews according to standard ethnographic methods (as suggested by Bernard 2005) with 5 individuals. To assist in discussion of natural and cultural resources and cultural practices specific to the project area, CSH initiated the "talk-story" session with questions from five broad categories. The categories include: Burials, Trails, Native Gathering of Plants, Marine and Fresh Water Resources and Historic Properties. In some cases, historical maps (e.g., Figures 6, 8, 10, 12), photographs of the project area, or visits to the project area, were used during the interview to prompt discussion of cultural practices, beliefs, and features of the landscape. Presented below are summaries of participants' "talk-story" sessions and their comments and concerns about the proposed project area.

7.1 Alice Greenwood

Alice Greenwood, who serves on the Lualualei Ahupua'a Council and the O'ahu Island Burial Council for Wai'anae, graciously shared her *mana'o* (thoughts, ideas, beliefs, opinions) and concerns about the proposed project during a talk story session on March 6, 2007 conducted at the Wai'anae Community Center. *Kupuna* Greenwood is a long time resident of Wai'anae noted for her knowledge and expertise in Native Hawaiian culture, history and genealogy, especially in the repatriation and re-interment of Native Hawaiian burial sites. Until recently, Ms. Greenwood lived on Ma'ili Beach in Lualualei and was a well-known figure strolling up and down the beach collecting *puka* shells.

Ms. Greenwood described the proposed project area as once being the site of mining operations, "there were a lot of coral crops in Lualualei". She stated that as far as the project area and vicinity are concerned, cultural sites have been lost to the cement-mining operations, grading, and, eventually, the parking lot built for City Mill (on the south side of the project border), "ancient pathways, trails, and [possibly other cultural sites] were destroyed". She believes there also was a fishpond in the area.

Ms. Greenwood commented that the area is a pathway for the "night marchers" referring to the procession of ghosts (*huaka'i pō* or *pō kāne*) that can be seen and heard as they travel to familiar places they once frequented in life. She told a story about hearing the night marchers who "always go from the top of the valley to the sea" when she was a child: "It was loud. My mother told me to go down flat on the floor until they passed by". Her own daughter experienced the presence of the night marchers once when they were at the corner of the City

Mill parking lot. Her main cultural concern regarding the proposed project is that there is a blessing for the property before the development commences.

7.2 Domingo Gomes, Sr.

Domingo Gomes, Sr. graciously shared his *mana'o* about the proposed project during a talk story session on March 7, 2007 conducted in his front yard at his home in Nānākuli. *Kupuna* Gomes is a fisherman and one of the last practitioners of traditional Hawaiian fishing techniques. He was formerly a Bishop of the Church of the Latter Day Saints (1999-2005), and has taught youth groups techniques for drying and catching fish, and hook-making.

Mr. Gomes was born in 1946. His family was one of the first families in Nānākuli. He had 6 brothers, and a few of them became fishermen despite their father's admonition not to become fishermen. "I didn't listen", Mr. Gomes commented. He has been fishing the Wai'anae coast "from Barbers Point to Ka'ena Beach" since he was a boy. His father taught him a variety of fishing techniques such as trap-fishing and net-fishing. He recalls *hukilau* (net-fishing) as a youth and the surplus of fish they would catch and return to the ocean. It takes about 8 months to make a net for catching *'ōpelu* (Mackerel scad, *Decapterus pinnulatus and D. maruadsi*), another skill he learned from his father. Mr. Gomes laments the loss of the abundance and diversity of fish and *limu* (seaweed and algae) because of "pollution and global warming". He also used to make *alaea* (sea salt) with clay or soil from the mountains and salt from the ocean.

For Mr. Gomes, Lualualei and Wai'anae are favorite fishing grounds, and formerly areas for collecting *limu.* He explained that along the Wai'anae coast there are several landmarks used by fishers to identify key fishing spots and to keep track of where they have left traps, as well as for other purposes. For instance, Mauna Lahilahi in Mākaha Ahupua'a is used by fishers to determine their distance from shore. If Mount Lahilahi has faded from view, they know they are a good 30-40 miles offshore. Mr. Gomes mentioned that in Lualualei and Wai'anae he relies on features of the Lualualei mountain ranges for finding and keeping track of fishing locations. He also uses the *heiau* at Pōka'ī Bay (just northwest of the project area) as a landmark for fishing.

Mr. Gomes recalled his youthful memories of Lualualei. "That valley had all the water, all the *lo'i* (taro ponds)." He mentioned the irrigation flumes that carried water from the mountains to the ocean and fed neighboring valleys. "Lualualei was rich, a very productive place. We used to love to look at all the farms up there when I was a kid... The farmers had rights to the water." He said that the area is associated with the demi-god Māui. *Kupuna* Gomes has no particular cultural concerns about the proposed project and stated that there is a real need for low-income housing on the Wai'anae coast.

7.3 Josiah "Black" Ho'ohuli

Josiah "Black" Ho'ohuli graciously shared his *mana'o* and concerns about the proposed project during a talk story session on March 7, 2007 at his home in Nānākuli. Mr. Ho'ohuli is a member of the Wai'anae Neighborhood Board. Mr. Ho'ohuli began his discussion of the project area by questioning whether the project is in Lualualei or in Wai'anae Ahupua'a, commenting that he views the project area as being part of the *ahupua'a* of Wai'anae (see discussion in Section 3). Looking at the historical maps of the project area, he pointed out that the current

project area and surrounding environs was once a limestone quarry. He showed CSH reproductions of photographs (circa 1930s) a few taken by the former Superintendent of the quarry, Mr. Isao Hanabusa (who is now in his nineties), and a few from other sources. The photographs depict the quarry and a processing plant owned by Gaspro with signage of the name of the quarry: "*puna pōhaku*"; *puna* meaning 'coral', 'lime', or 'plaster' and *pōhaku* meaning 'rock' or 'stone'. Taken together this is Hawaiian for 'cement'. Mr. Ho'ohuli generously shared the photographs with CSH, and received permission to contribute a few copies of the photographs to this assessment report (Figures 14-21).

When he was a boy Mr. Ho'ohuli would jump on the train that ran along the coast, "I used to be naughty. I used to hop on the train and go all over the place". This is how he learned about places in and around Nānākuli. He enjoys talking story with Mr. Hanabusa, the both of them recalling memories of their youth and legends of the region. He offered to contact Mr. Hanabusa to see if he would be willing to meet with CSH.

Echoing the statement he and others made at the Neighborhood Board Meeting on March 6th, 2007, Mr. Ho'ohuli strongly objects to the proposed height of the building/s for the Hale Wai Vista housing project, "we like to see our mountains". He is concerned about the lack of attention that developers — even ones proposing projects such as low-income housing that are desired by the community — pay to the long-term interests of the community. "The way we look at it is that they are trying to come in build, sell out, and get out!"

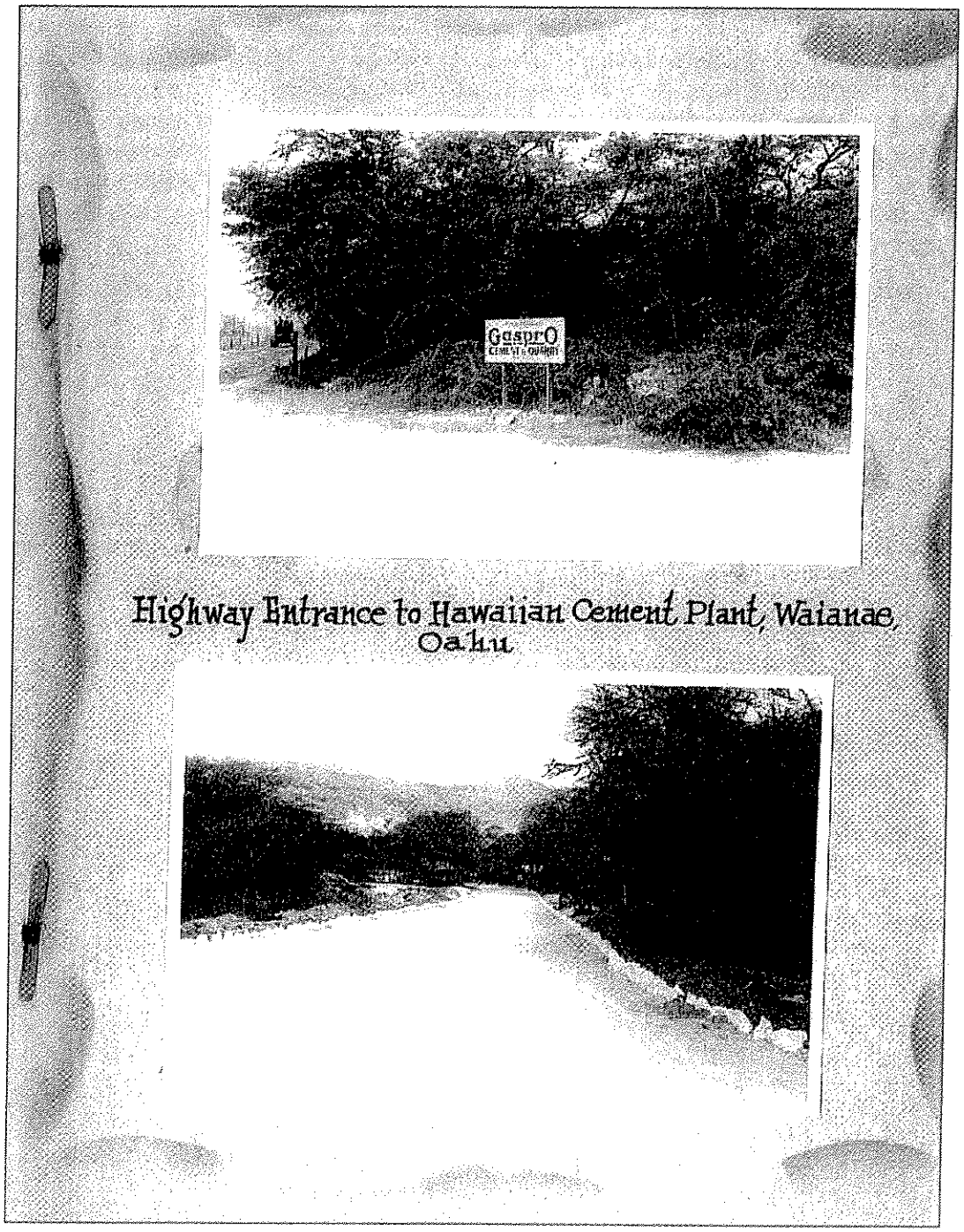

Figure 14. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

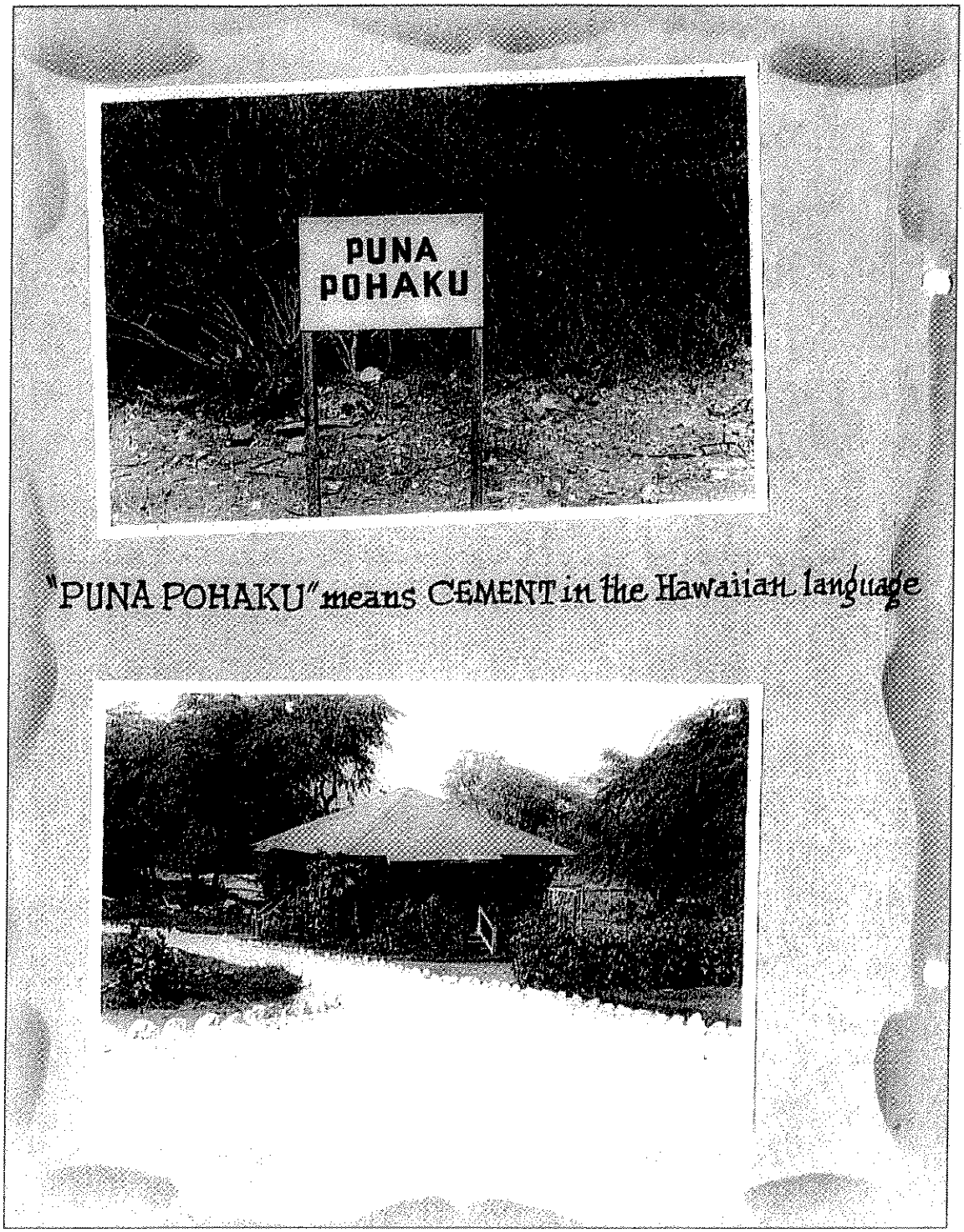

Figure 15. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

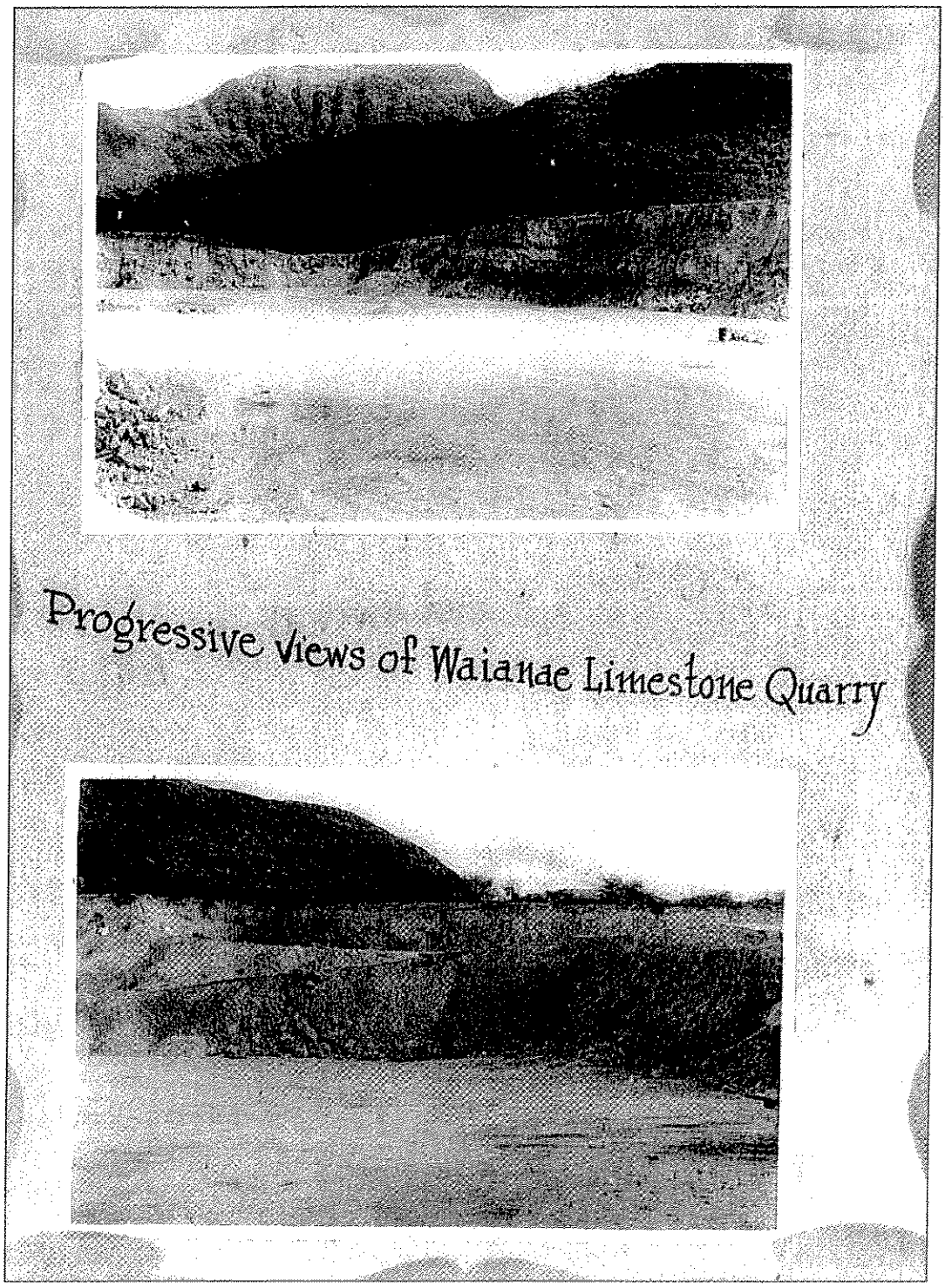

Figure 16. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

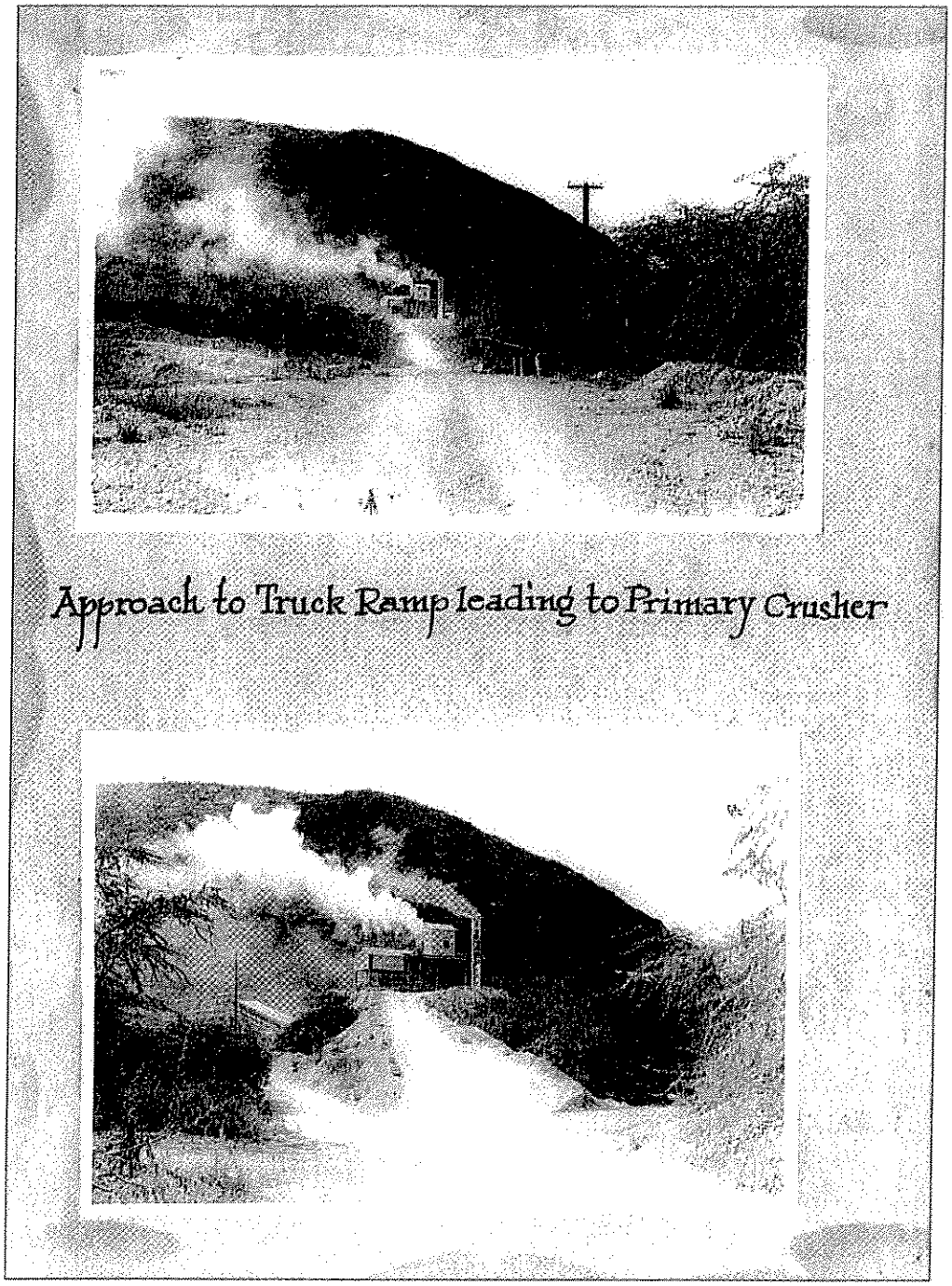

Figure 17. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

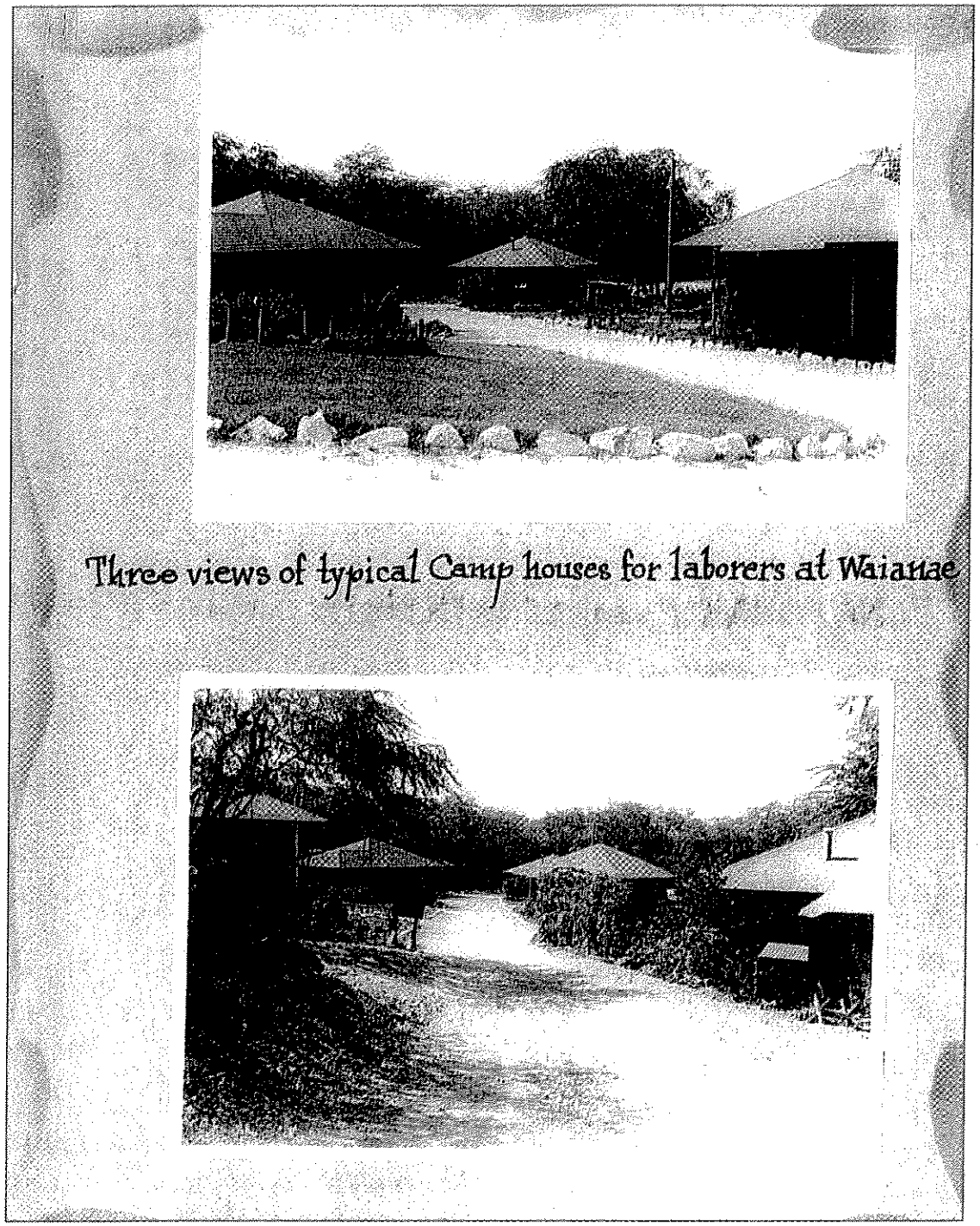

Figure 18. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

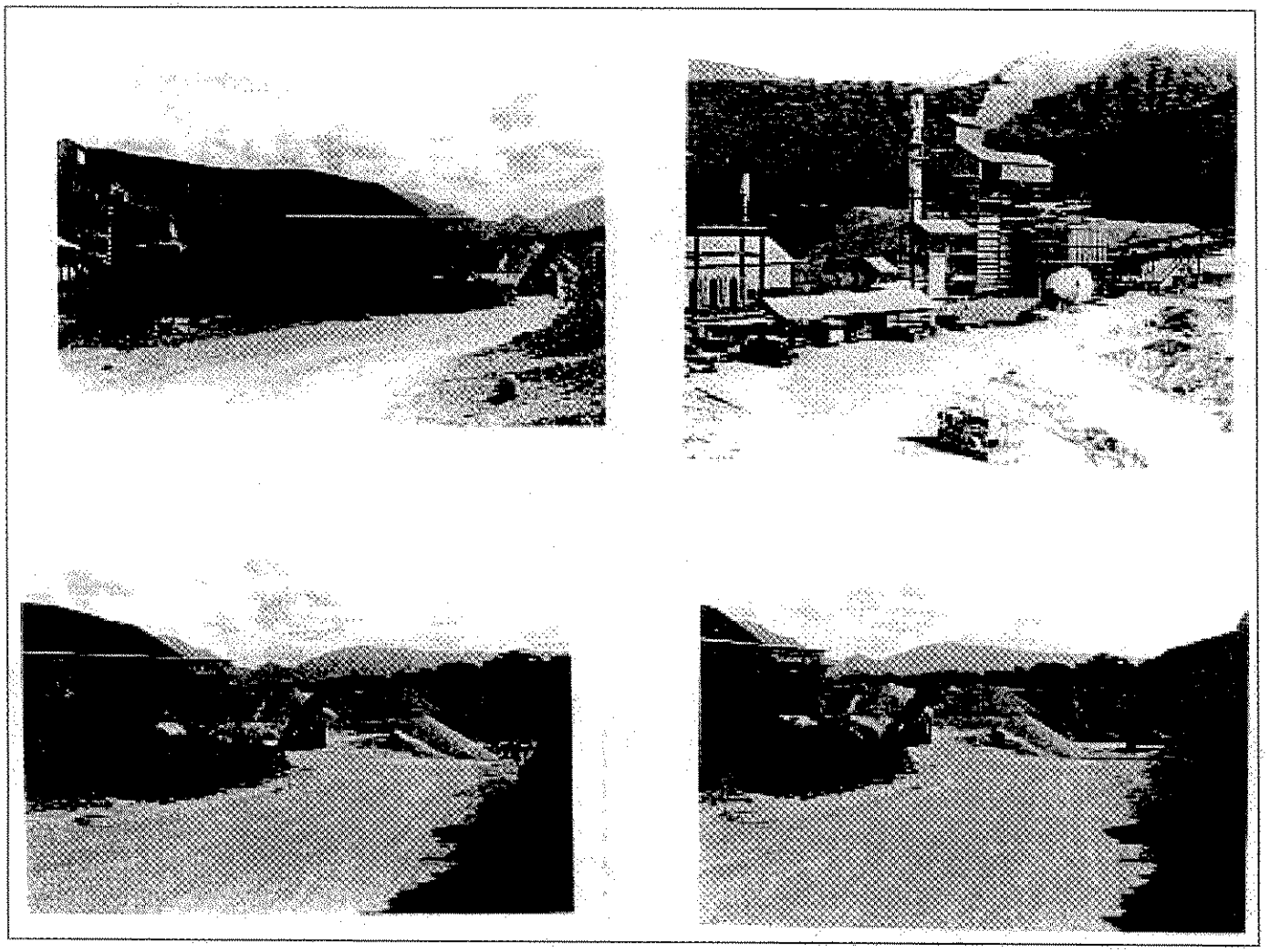

Figure 19. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

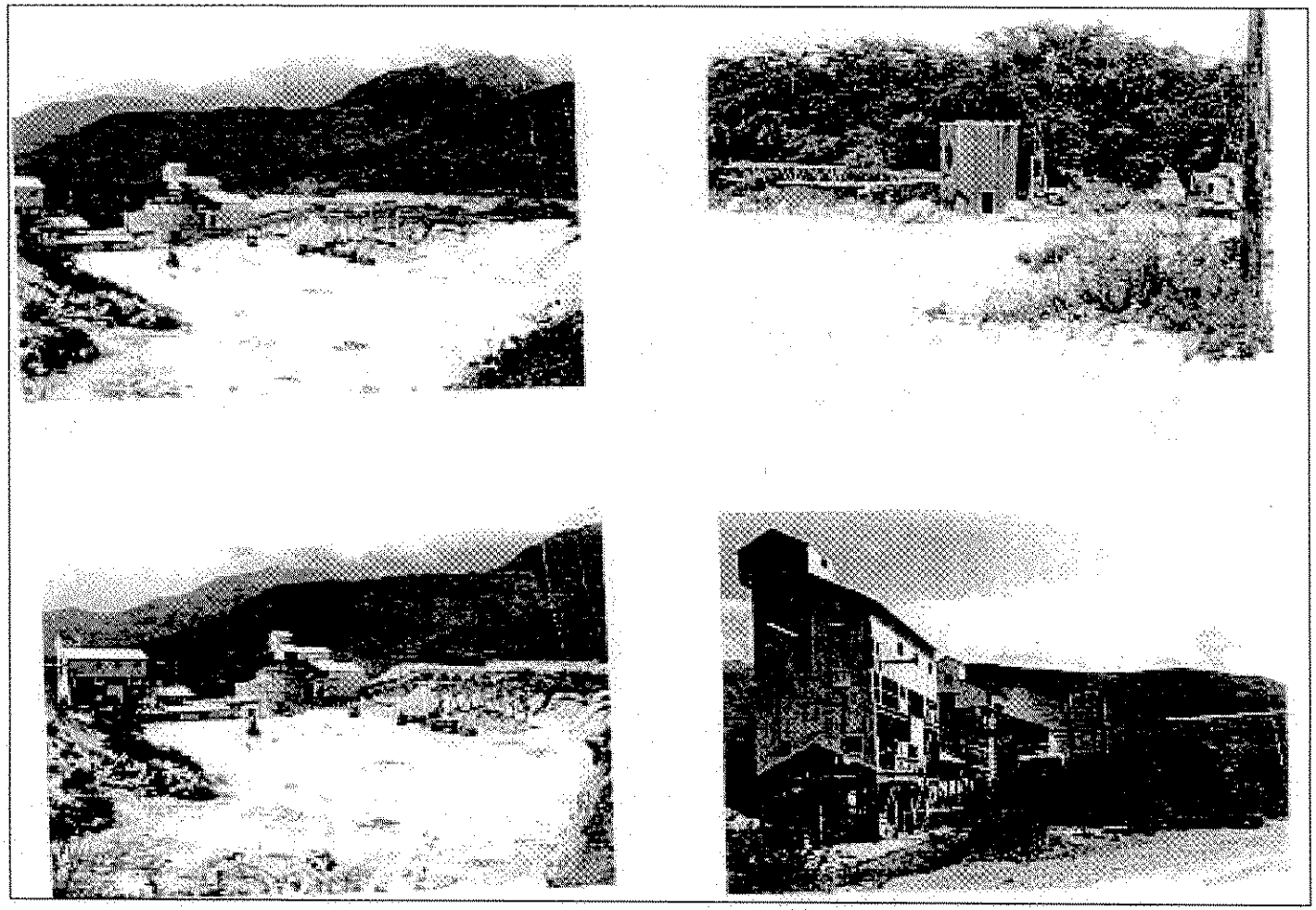

Figure 20. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

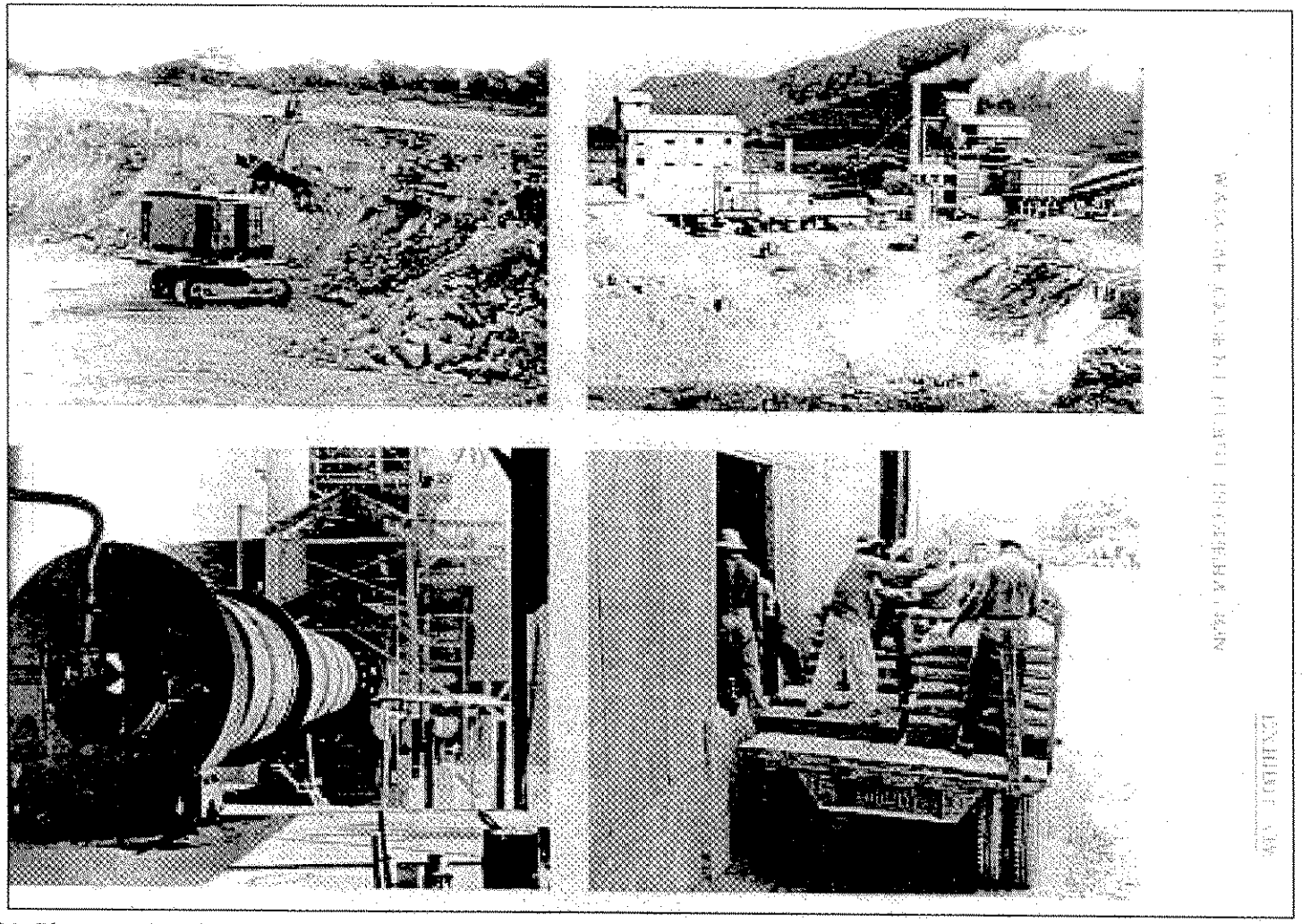

Figure 21. Photographs of quarry operations in and near the project area courtesy of Josiah Ho'ohuli

7.4 Walterbea Aldeguer

Ms. Walterbea Aldeguer, a lifelong *kama'āina* of Mā'ili, Lualualei, graciously shared her *mana'o* and concerns about the proposed project in a talk story session conducted at Leeward Community College (directly *makai* of the project area) on March 15, 2007. Ms. Aldeguer also took CSH to a place on Farrington Highway from which to better view the features of the landscape she discussed extensively in the her interview.

Ms. Aldeguer told a story about Hi'iaka coming to Wai'anae, and of her two uncles hiding in fear of her power; one uncle hid in Wai'anae Valley, and the other in Lualualei. Hi'iaka and the people of Wai'anae feasted on *kalo* and fish, and other favorites at the area that is now Pōka'ī Bay while her uncles lie hidden in the mountains after transforming themselves into sharks. These shark forms are part of Pu'u Pahe'ehe'e Ridge. The two *manō* (shark) share the same fin which is the mountain, Mauna Kūwale (Figures 26 and 27). One shark is visible from Kaupuni Stream and the other from Pu'u Ma'ili'ili'i.

Ms. Aldeguer also pointed out a peak in the Wai'anae Mountain Range she calls *Papa-hanau-moku* or "Papa-birthing-islands" (Papa is Mother Earth, or the goddess of the earth of Hawaiian *mo'olelo*) because of its unique shape. She mentioned that this is not the traditional Hawaiian name. The original name is Pu'u Makali'i. One can see the birthing of the *'aina* (land) from this peak located inland of Pu'u Pahe'ehe'e Ridge. Ms. Aldeguer also made reference to another peak she calls the Wai'anae Mo'o (lizard, dragon, or water spirit) of Kolekole. She stated that this is not the recorded name and pointed out that the image of the *mo'o* is not as defined as Pu'u Makali'i but can be seen with a trained eye. When Pu'u Makali'i becomes shrouded in mist the *mo'o* changes his shape and joins Papa-hanau-moku as symbols of procreation. These geological features are part of the mountain range that make up Lualualei Valley and can be seen from Farrington Highway and Pu'u Ma'ili'ili'i. She mentioned that there was once a *heiau* on the slopes of Pu'u Pāhe'ehe'e near an ancient *hōlua* slide that faced Kane'ilio Point.

Ms. Aldeguer stated that her father and other fishermen used the hills and peaks of Wai'anae as markers. Certain *pu'u*, and other landmarks, correspond to special fishing holes for certain fish such as *'āweoweo* (*Priacanthus* spp., red fishes, sometimes called bigeye). Ms. Aldeguer's father also used these markers to inform his fishing and diving buddies of his whereabouts at sea. In pre-European contact times Kū'īlioloa Heiau at Kāne'īlio Point was used for training navigators. The *heiau* is still being used by school groups who visit the area to learn about navigation from the captain of the Hokule'a, Nainoa Thompson. Training includes the study of wave patterns and currents, the rising and setting of the sun, moon, stars, and constellations, and more. In the past, trees were not normally grown on the point because it was necessary to keep the eastern skyline unobstructed. Visibility of the eastern skyline continues to play a vital role in this training. Ms. Aldeguer also mentioned that there was an extensive network of alanui (trails, pathways) in the Wai'anae Moku that connected Wai'anae with Waialua, Mokulē□ia, Wahiawa, 'Ewa, the Ko'olau mountains, and beyond (Figure 28).

Regarding the Hale Wai Vista project, Ms. Aldeguer objects to the proposed height of the buildings if they climb above 2-stories. Stressing the importance of maintaining the view plane from *mauka* to *makai*, and between Pu'u Pāhe'ehe'e and Pu'u Mā'ili'ili'i, Ms. Aldeguer

remarked, "We really want to see our mountains, much of our *mo'olelo* is written in our mountains, the beauty of Wai'anae is the view from *makai* to *mauka*". She emphasized the importance of maintaining a line of vision for the perspective fishermen who employ landmarks as indicators of prime fishing spots, teaching navigation, and the many stories that are written on the cultural landscape of Lualualei and Wai'anae Ahupua'a. Additionally, Ms. Aldeguer is concerned that the proposed low-income apartments might be converted to private condominiums and not really serve the future needs of the community. She has seen this happen in the past with low income and affordable housing projects in Wai'anae. Ms. Aldeguer stated that she objects to the proposed project.

7.5 Glen Kila

Mr. Glen Kila is the Principal of Kamaile Elementary School in Wai'anae and a member of Koa Mana, a group of families and lineal descendants of Wai'anae Moku. His *'ohana* is from Lualualei and Wai'anae Ahupua'a. Mr. Kila graciously shared his *mana'o* and concerns about the proposed project in a talk story session conducted at Kamaile Elementary School on March 15, 2007.

Mr. Kila discussed his experiences growing up as a *kupu ka 'āina* (literally, 'sprout of the land', figuratively, 'original descendant of the land') and presented an overview of the history of the project area and vicinity. His family lived in Nene'u, the beach fronting Pōka'ī Bay Beach Park where the Wai'anae Recreation Center now stands (slightly north of the project area). The military owned parts of Nene'u. There were many Hawaiian families in the area. In the 1930s the military forcibly moved the lineal descendant families from Nene'u. Mr. Kila recalled the nationality discrimination of the times, military personnel keeping out Hawaiians who would come on or near military property, and the families being put on military trucks and being moved off of their land. Nene'u was full of sinkholes, sites for Hawaiian burials including members of his *'ohana*. The 1940s were distinguished by "Limespur Camp," the work camp and town that grew out of the limestone quarry and cement works in Lualualei (Figures 14-21). He remembers swimming in the quarry in the 1960s. In the 1970s George and Polly Grace leased the land in the project area. At about this time, many of the sinkholes where covered up. The Waianae Mall was built. Before that the area was "all *kiawe* trees."

Mr. Kila also recalled that when he was a child his *tutu* referred to the place (where Lualualei Beach Park is now) as Ka'ao. He remembers the area as excellent fishing grounds, and at the shoreline an immense variety of shells such as *pūpū 'ewa* could be collected. There is a legendary tie between this part of the island and Kaua'i. Mr. Kila recalled an incredibly clear day in the 1970s when they could actually see Kaua'i from the vantage point of Ka'ao.

Mr. Kila commented that in pre-European contact times, Wai'anae was the center of the Hawaiian culture on the island of O'ahu. In the 1700s, before water was diverted for sugar plantations, the region was rich in natural resources. "This [area] was the center of O'ahu because of the water. When they took the water away...when Widemann started his sugar plantation the region changed."

The area was, and is, equally rich in *mo'olelo* (stories, myths, legends) many of which are imprinted on the landscape. Mr. Kila mentioned Hi'iaka's *mele*, sung from atop Pōhākea summit overlooking Lualualei and Wai'anae, and recited the portions of the *mele* that refer to

Lualualei, including a line that talks about the winds blowing through Lualualei that give respite from the heat of the sun. He spoke of the legend of the twin sisters/peaks of Pu'u Pāhe'ehe'e and Pu'u Mā'ili'ili (Figures 23 and 24) and the relationship to Pu'u o Hulu south of the project area. There was a *heiau* on Pu'u Pāhe'ehe'e where King Kamehameha I performed rituals for taking over O'ahu in the 1790s, as well as an *hōlua* course. The features of the mountain range above Lualualei and Wai'anae are associated with procreation and the birth of the island of O'ahu (Figures 25 and 27). Mr. Kila noted that many Hawaiian place names referred to Wai'anae creation stories, but were changed by the missionaries recording place names for Hawaiian language dictionaries.

Mr. Kila expressed his strong cultural concerns about the proposed Hale Wai Vista project, emphasizing that there is a *kauoha* (command, mandate, request) from *kūpuna* of Wai'anae that no building should be over 2 stories. He listed numerous reasons for this, but underscored that it is vital that both the *mauka-makai* and north-south view planes not be obstructed. He cited several physical features of the landscape that would no longer be visible from the lowlands or ridge-tops if buildings in the area exceed 2-stories. "We value openness from the mountains to the sea. It gives us a feeling of *lōkahi* (harmony, unity, peace)... a feeling of connectedness to the *'āina*. We want to be able to see our sacred mountains.... The Japanese wouldn't put a building on [or blocking] Mt. Fuji, or the Jews on Mt. Sinai." Mr. Kila stated that if a 7-story building was placed between Pu'u Pāhe'ehe'e and Pu'u Mā'ili'ili it would break the visual connection between the *mauka-makai* view plane. He also stated that highrise, low-income apartments "symbolize a hospital or prison to us [Hawaiians]...causes stress in our people [who] lose the connection to the land, and is contrary to our beliefs" and added that, "The lack of jobs in the community, the schools — which have already reached enrollment capacity — can not support the additional families this project [will bring]." Mr. Kila said that the project, as it is planned now, would cause *'eha* (hurt, pain, soreness, throbbing ache) and bring something *kaumaha* (literally, 'heaviness', 'weight'; figuratively, 'sad', 'wretched', 'dismal', 'dreary', 'downcast', 'depressed') to people in Wai'anae.

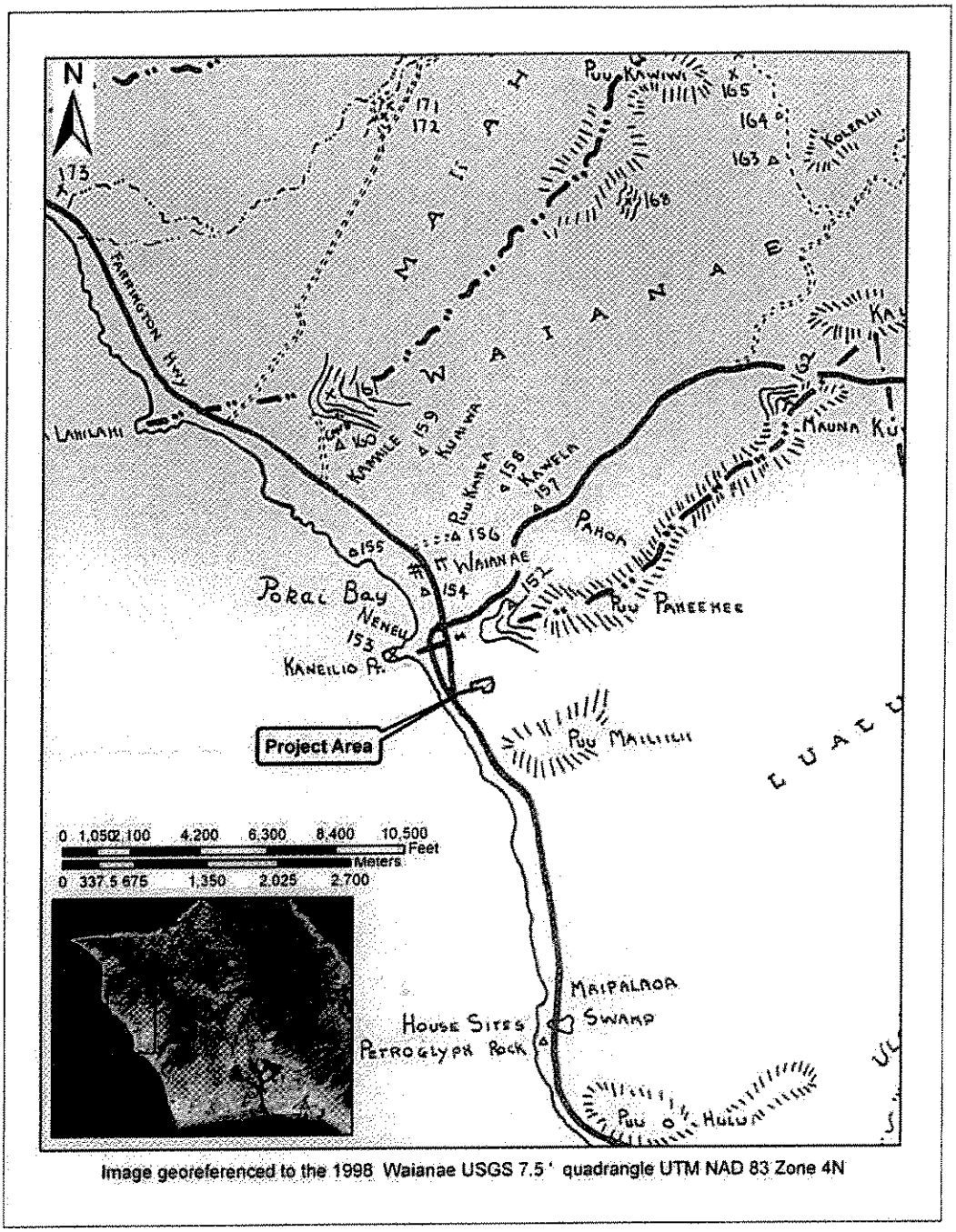

Figure 22. Enlargment of the 1959 Bishop Museum map (Sterling and Summers 1978); note that the project area is in the *ahupua'a* of Lualualei on the south side of the boundary division between Lualualei and Wai'anae Ahupua'a as indicated by the dot-dot-dash line on the legend (also see Figure 12). The mountains Pu'u Pāhe'ehe'e, Pu'u Mā'ili'ili and Pu'u o Hulu, mentioned by study participants, can also be seen on this map.

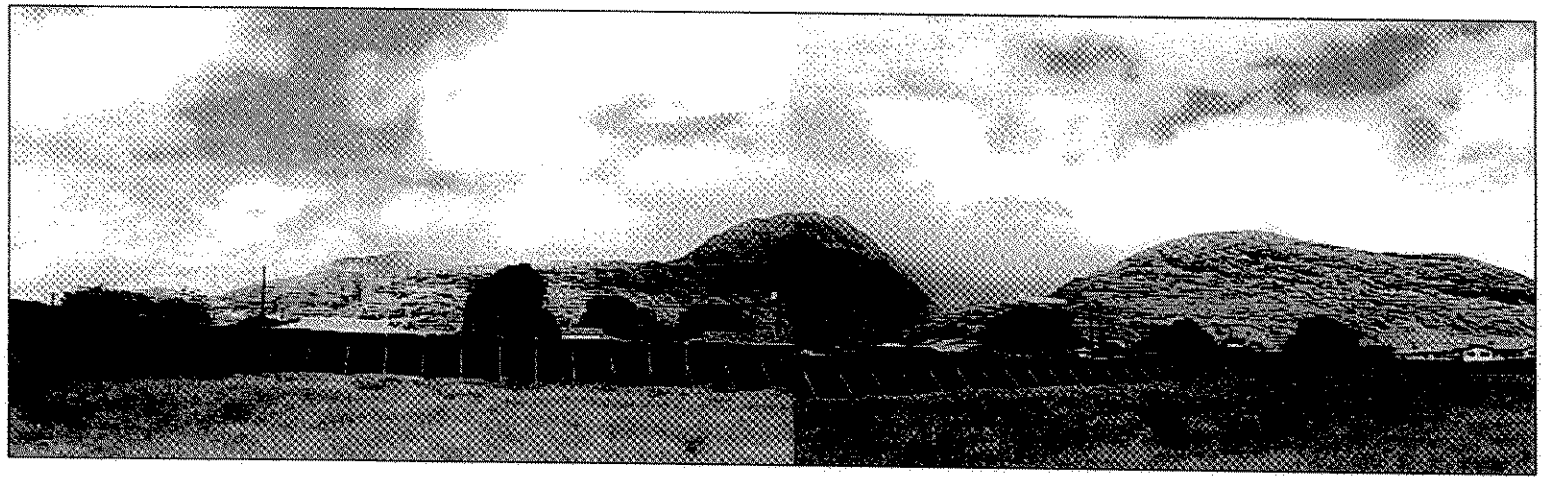

Figure 23. A view of Pu'u Pāhe'ehe'e on the north border of the project area. Pu'u Pāhe'ehe'e is the yellow mountain in the foreground. In the background stands Kamaile which extends up to Kawiwi Mountain.

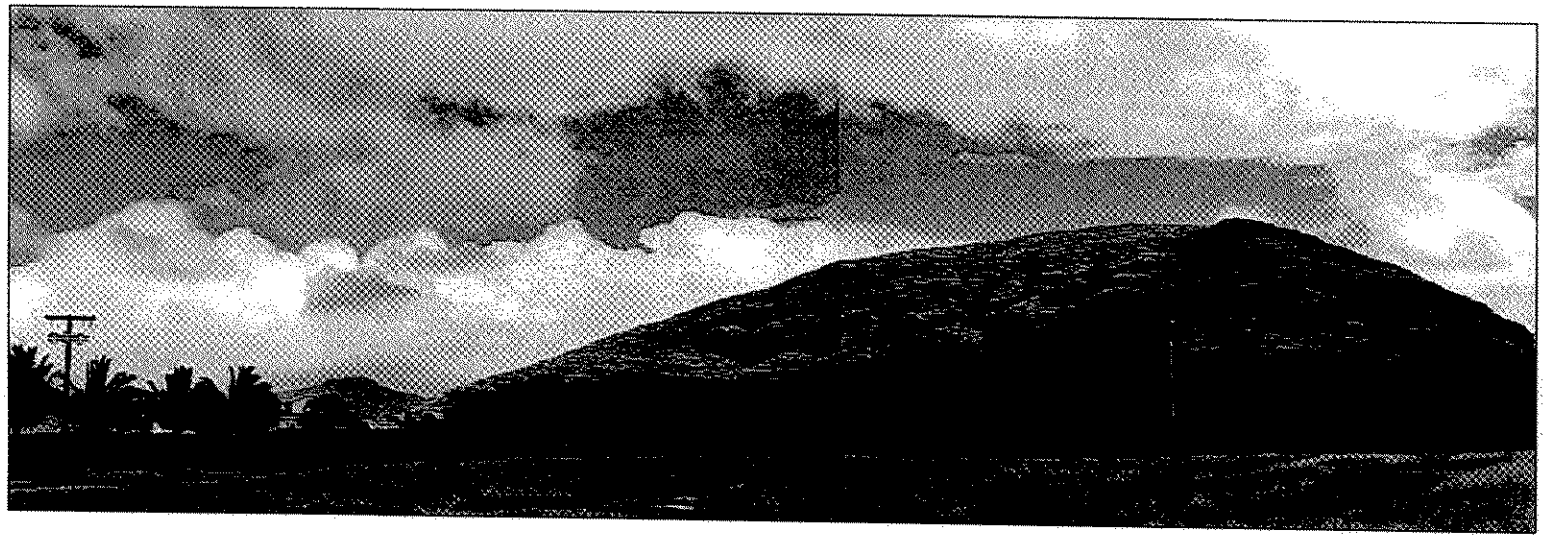

Figure 24. A view of Pu'u Mā'ili'ili on the south border of the project area

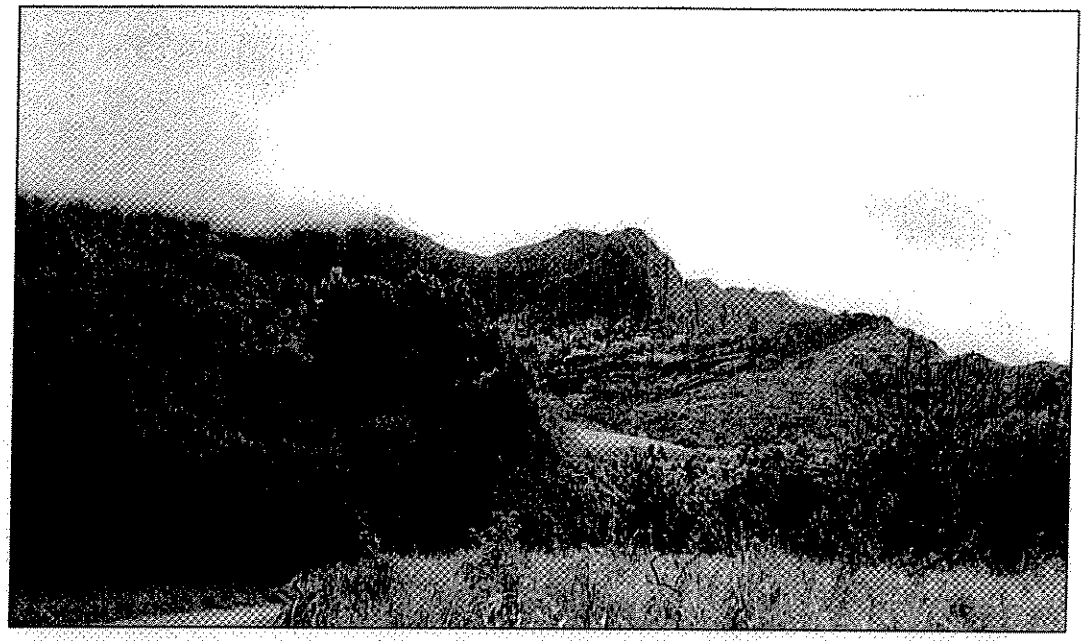

Figure 25. A view of Pu'u Makali'i from the back of Wai'anae Valley

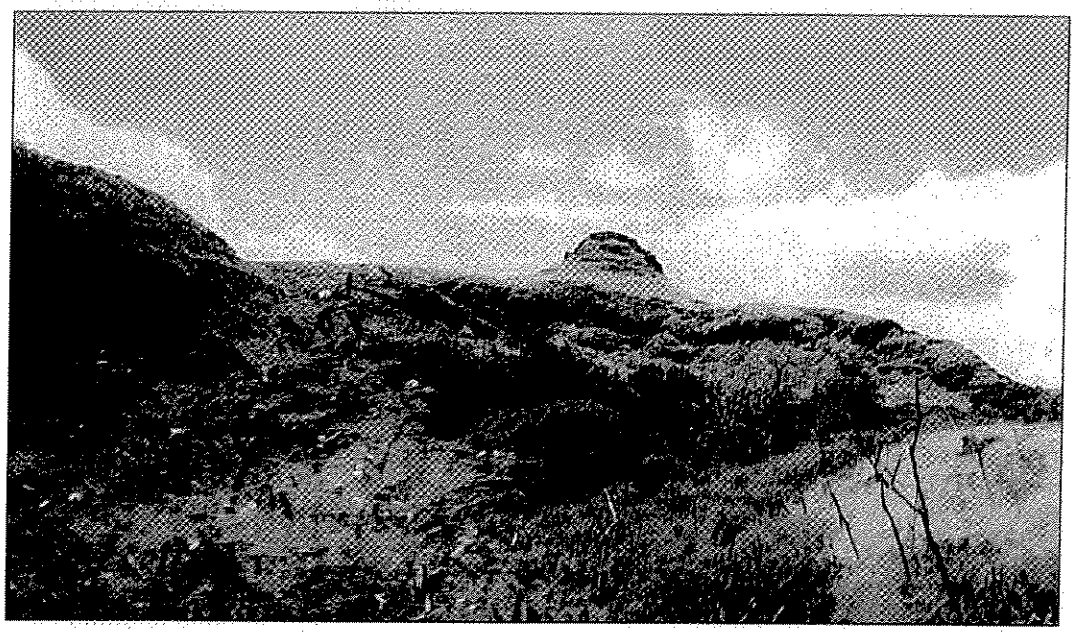

Figure 26. A view of Mauna Kūwale; note the shark's fin shared by Hi'iaka's uncles, this one heading toward Wai'anae Valley, the other (not visible) heading toward Lualualei

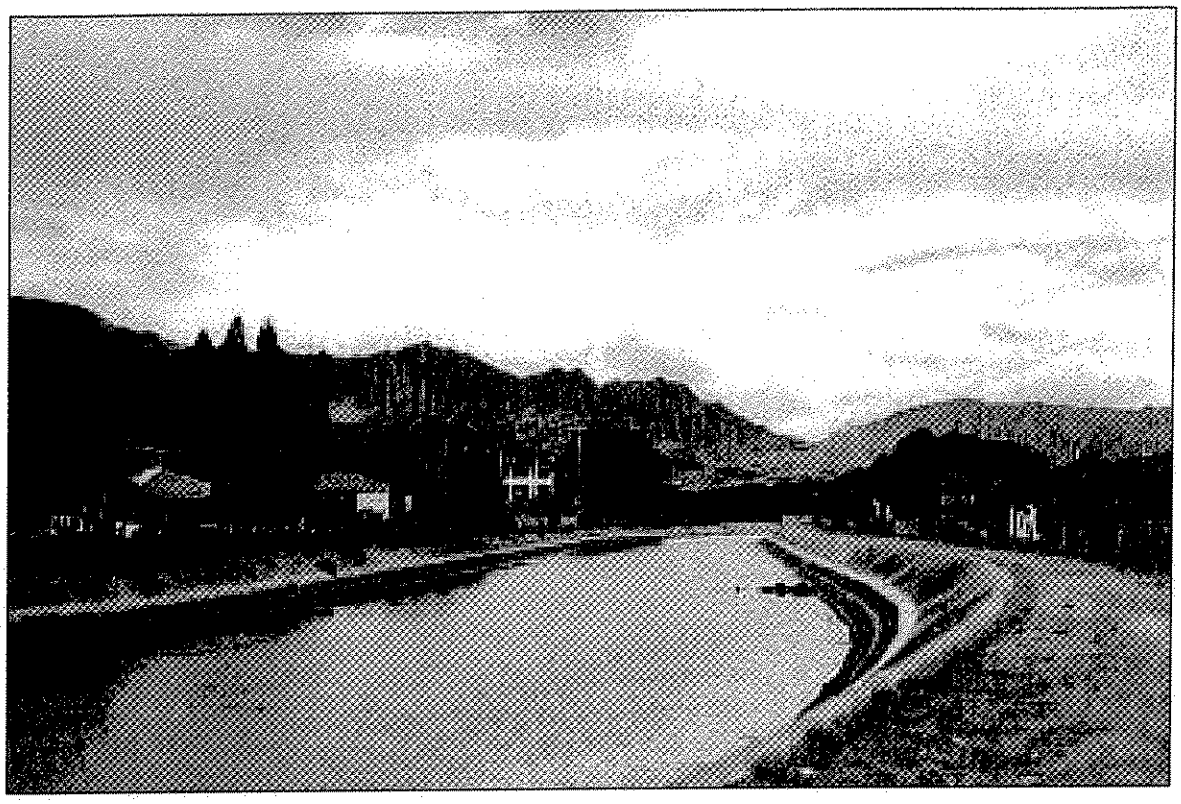

Figure 27. A view of Mauna Kūwale (small peak at the end of the canal) and Pu'u Makali'i (to the left of Mauna Kūwale) taken from Farrington Highway north of the project area

Section 8 Cultural Practices and Features of the Landscape

Discussions of specific aspects of Hawaiian culture as they may relate to the project area are presented below. The concluding discussion examines resources and practices identified within the project area in the broader context of the encompassing Lualualei Ahupua'a landscape. Excerpts from talk story sessions are incorporated throughout this section where applicable.

8.1 Hawaiian Habitation and Agriculture

According to the Land Commission Awards, during the time of the Māhele in 1848 there were numerous *kalo lo'i* in Lualualei Ahupua'a. The stone terraces of these *lo'i* are still visible today in the interior of the valley. Dryland crops were grown in *kula*, *wauke* or paper mulberry (*Broussonetia papyrifera*) was being cultivated, and one claimant was making salt (www.waihona.com). The lowlands provided *'uala* (*Ipomoea batatas*) and *niu* (*Cocos nucifera*). *Kupuna* Domingo Gomes, Sr. recalled his youthful memories of Lualualei. "That valley had all the water, all the *lo'i* (taro ponds)." He mentioned the irrigation flumes that carried water from the mountains to the ocean and fed neighboring valleys. "Lualualei was rich, a very productive place. We used to love to look at all the farms up there when I was a kid... The farmers had rights to the water." Mr. Gomes also mentioned that he used to make *alaea* (sea salt) with clay or soil from the mountains and salt from the ocean.

8.2 Gathering of Plant Resources

In ancient Hawai'i, upland forest regions provided various woods needed for canoes, tools and more, as well as cordage, food and herbs (Abbott 1992). The forests of Lualualei were also known for sandalwood (*Santalum* spp.) collected for its fragrant wood, traditionally used for perfuming *kapa*, and in healing rituals. A few of the plants within the project area have past and present day ethnobotanical uses. For example, the leaves of *ma'o* (*Gossypium tomentosum*) are used to make a greenish dye; the roots of *'uhaloa* (*Waltheria indica*) are used to treat sore throat. None of the community contacts interviewed for this assessment mentioned gathering plants in or near the project area.

8.3 Marine and Freshwater Resources

Wai'anae was known for its multitude of fish and especially for deep-sea fishing off Ka'ena, where the ocean currents meet. In 1840 Wilkes stated that "The natives are much occupied in catching and drying fish, which is made a profitable business, by taking them to O'ahu, where they command a ready sale" (Wilkes 1845:81-82). Handy and Handy (1972) attribute the naming of Wai'anae to a large fresh-water pond used for growing mullet, possibly Puehu. According to Kelley (1991:317), the fish pond on the plain is Puehu fish pond, which is actually located just over the border in Wai'anae. The fish pond no longer exists today and was most likely destroyed during the sugar plantation era. The chief Kewalo distinguished himself as a fisherman in Wai'anae; and, the legendary hero Māui — also a great fisherman — is associated with the area (Handy and Handy 1972). Today, Wai'anae is still considered one of the best fishing grounds on O'ahu. *Kupuna* Alice Greenwood made reference to an ancient fishpond in the vicinity of the project area. *Kupuna* Domingo Gomes, Sr. spoke of his past and present experiences fishing,

drying fish and teaching fishing techniques to youth groups along the Wai'anae coast. Walterbea Aldeguer explained that certain *pu'u*, and other landmarks, correspond to special fishing holes for certain fish such as *'āweoweo* (*Priacanthus* spp., red fishes, sometimes called bigeye). Ms. Aldeguer's father also used these markers to inform his fishing and diving buddies of his whereabouts at sea. Her father no longer fishes. Ms. Aldeguer is fairly certain that other fishers still use these landmarks for fishing. *Kupuna* Domingo Gomes, Sr. also commented that along the Wai'anae coast there is several landmarks that he uses — as do other fishers — to identify key fishing spots and to keep track of where they have left traps, as well as for judging distances (e.g., Mauna Lahilahi, Lualualei ridges, Kū'īlioloa Heiau on Kāne'īlio Point).

8.4 Cultural Properties and Burials

Archaeological surveys of the upper portion of Lualualei Valley have located the remains of traditional-Hawaiian habitation, ceremonial, and agricultural structures. The extensive archaeological survey of the *mauka* portions of these valleys is offset by a paucity of archaeological investigation in their coastal portions. McAllister recorded three sites near the boundary of Lualualei and Wai'anae, immediately north of the project area. Site 152, Pu'u Pāhe'ehe'e Heiau, consisted of a walled *heiau* on the slopes of Pāhe'ehe'e Ridge. In ancient times, the slopes were covered with slippery grass for the purpose of staging sledding contests (McAllister 1933:112). This site was completely destroyed with the enlargement of the adjacent Oriental Cemetery. At the tip of Kāne'īlio Point was Site 153, Kū'īlioloa Heiau. This *heiau* was surrounded by water on three sides and consisted of three platforms with evidence of terracing (McAllister 1933:112). Site 162 was a burial cave at Mauna Kūwale. It contained fragments of skeletal material (McAllister 1933:116). McAllister also noted that name Pu'u Pāhe'ehe'e (literally, 'slippery hill') was most likely, "in reference to a holua slide which used to be on the mountainside....In ancient times, the slopes were covered with slippery grass for the purpose of staging sledding contests" (McAllister 1933:112). Elton "Pōki'i" Magallenes, Domingo Gomes, Sr., Walterbea Aldeguer and Glen Kila all mentioned *heiau* near the project area on Pu'u Pāhe'ehe'e and at Kāne'īlio Point. A few spoke of the *hōlua* sled course. Many cultural properties and other types of historic sites have been destroyed or degraded by multiple disturbances to the area from farming, ranching, bulldozing for quarrying, and recent industrialization. Elton "Pōki'i" Magallenes, Eric Enos, and Glen Kila cautioned that the project area may have sinkholes that contain human burials. Based on context, information from long time residents of the area, and traditional accounts, it is likely that the coastal areas of Lualualei will contain cultural deposits related to habitation, including human burials.

8.5 Hawaiian Trails

Kama'āina Walterbea Aldeguer, an avid hiker, spoke of the network of *alaunui*, or pathways that once connected Lualaualei to outlying communities. Trails once served to connect the various settlements throughout O'ahu. John Papa 'Ī'ī described three trails accessing the Wai'anae District during the early post-contact period, "...there were three trails to Waianae, one by way of Puu o Kapolei, another by way of Pohakea, and the third by way of Kolekole ('Ī'ī, 1959:97) (Figure 28). The most popular was the coastal route which circled O'ahu. The other two trails traversed the Wai'anae Mountains into Lualualei. The northeast route traversed Kolekole Pass, followed the Pūhāwai Stream Valley down crossing into Wai'anae Kai through

the gap and finally to Pōka'ī Bay (immediately north of the current project area). According to 'Ī'ī, the second trail traverses the Wai'anae Mountains at Pōhākea Pass and descends the stream valley below Pōhākea, far south of the project area. On maps, this valley is shown as Hālona (in the *mauka* portion of Lualualei Ahupua'a). There is no indication where the Pōhākea trail continues after Hālona. However, it is worth suggesting that the trail may have continued west to the Lualualei coast. 'Ī'ī describes the trails:

> From Kunia the trail . . . met with the trails from Wahiawa and Waialua. The trail continued to the west of Mahu, to Malamanui, and up to Kolekole, from where one can look down to Pokai and Waianaeuka. There was a long cliff trail called Elou from Kalena and Haleauau on the east side of Kaala coming down to Waianae. There was also a trail called Kumaipo which went up and then down Makahauka.
>
> Below Kumaipo trail in the olden days was a stronghold named Kawiwi...[and it] was part of a mountain ridge lying between Waianae and Makaha and overlooking Kamaile. The trail Kumaipo, went down to the farms of Makaha and the homes of that land. A branch trail which led up Mount Kaala and looked down on Waialua and Mokuleia could be used to go down to those level lands. It was customary to have dwelling places along the mountain trails that led downward from here into Kamaile, as well as along the beach trail of Makaha. ('Ī'ī, 1959:97)

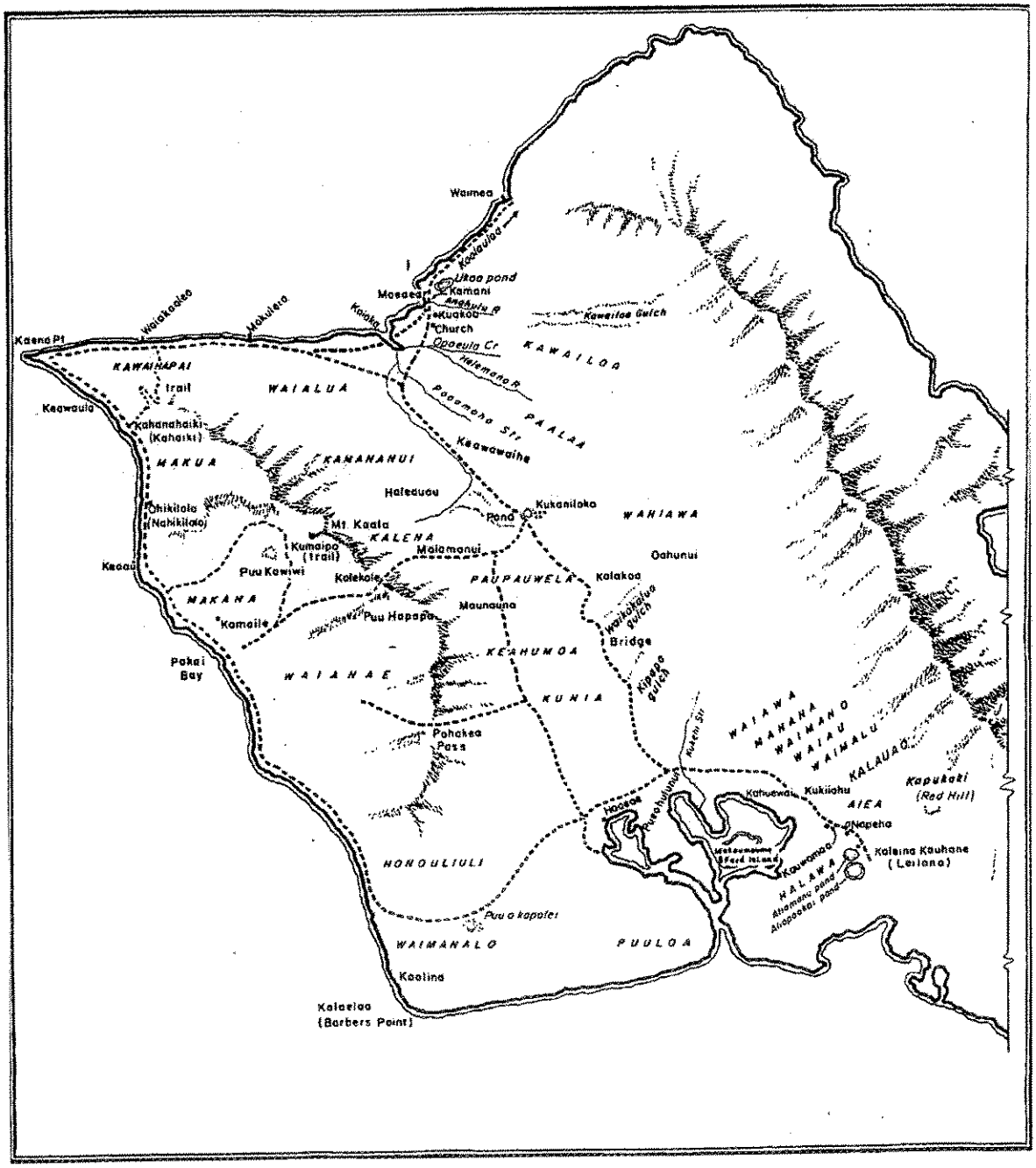

Figure 28. Trails of Leeward O'ahu as described by 'Ī'ī. Map by Paul Rockwood. ('Ī'ī 1959:96)

8.6 *Wahi pana* (Storied Places)

8.6.1 Twin Sisters Legend

Northwest of Pu'u Heleakalā is Pu'u o Hulu Kai, the hill nearest the ocean which rises to 860 feet in elevation which is connected to Pu'u o Hulu 'Uka (715 feet) by a saddle which drops down to 284 feet in elevation. Pu'u Mā'ili'ili and Pu'u Pāhe'ehe'e are northwest of Pu'u o Hulu Kai. There is a *mo'olelo* associated with the three peaks, Pu'u o Hulu, a peak looking north across the valley to the twin sisters, the *makai* Pu'u Mā'ili'ili and her twin peak located *mauka*, Pahe'ehe'e. According to legend:

> Puu o Hulu was said to be a chief who was in love with Ma'iliilii, one of twin sisters, but he could never tell, whenever he saw them, which of the two was his beloved. A mo'o changed them all into mountains so he is still there watching and trying to distinguish his loved one (Holt in Sterling and Summers 1978:67).

McAllister also referred to Pu'u Mā'ili'ili and Pu'u Pāhe'ehe'e as each being "one of the twin sisters" (McAllister 1933:112). Joseph Momoa (interviewed in Souza 2003) in his teenage years at Nānākuli High School painted a mural of this legend at Mā'ili Elementary. The mural depicts the twin sisters changing from human form into *pu'u* or hill form along side Chief Hulu who was also changed into a *pu'u* by a *mo'o* (Figure 29).

A few participants in this cultural assessment mentioned the legend of the twin sisters and the relationship between Pu'u o Hulu (to the south of the project area) and Pu'u Mā'ili'ili and Pu'u Pāhe'ehe'e, both bordering the project area. Willaim Ailā spoke of the *kahuna* who transformed the three players (Chief Hulu and the twin sisters Mā'ili'ili and Pāhe'ehe'e) into the three peaks of Lualualei. Elton "Pōki'i" Magallenes, Walterbea Alduguer and Glen Kila, also made reference to the three peaks of Hawaiian legend.

8.6.2 *Huaka'i pō* (Procession of the Night Marchers)

There is a belief that following the lunar calendar, on certain nights (the nights of the gods – Kū, Akua, Lono, Kāne and Kānaloa) a procession of ghosts popularly known as "night marchers" (*huaka'i pō*) can be seen and heard as they travel to familiar places they once frequented in life. An *`ōlelo no`eau* (proverb) makes reference to this tradition: *"He pō Kāne kēia, he mā`au nei nā `e`epa o ka pō."* (This is the night of Kāne, for supernatural beings are wandering about in the night) (Pukui 1983:98; O.N. #908). One participant in this study, *Kupuna* Alice Greenwood, told personal stories about her and her daughter experiencing the presence of spirits in the project area.

8.6.3 Māui Legends

Traditional accounts of Lualualei focus on the mischievous adventures of the demi-god Māuiakalana (Māui). It was here that Māui learned the secret of making fire for mankind and perfected his fishing skills. Other famous accounts tell of the place where Māui's adzes were made, and of the magic fishhook, Mānaiakalani and the snare for catching the sun, and his kite-flying expedition. Pu'u Heleakalā is the ridge that separates Nānākuli from Lualualei. It was at Pu'u Heleakalā where Hina, Māui's mother, lived in a cave and made her *kapa* (bark cloth)

(Sterling and Summers 1978:62). Domingo Gomes, Sr. commented that Māui is associated with Lualualei.

8.6.4 Other Stories of the Lualualei Landscape

Walterbea Aldeguer and Glen Kila discussed culturally significant features of the landscape. Ms. Aldeguer pointed out a peak in the Wai'anae Mountain Range she calls *Papa-hanau-moku* or "Papa-birthing-islands" (Papa is Mother Earth, or the goddess of the earth of Hawaiian *mo'olelo*) because of its unique shape. She mentioned that the traditional Hawaiian name of the peak is Pu'u Makali'i. Ms. Aldeguer also told a story she learned from a chant about Hi'iaka's exploits and how her uncles transforming themselves into sharks, the forms of which can still be seen beneath the fin (Mauna Kūwale) of the two *manō* connected to Pu'u Pāhe'ehe'e ridge. One can see the birthing of the *'aina* from this peak located inland of Pu'u Pahe'ehe'e Ridge. Mr. Kila recited part of a chant about Hi'iaka referring to Lualualei and discussed the features of the mountain range above Lualualei and Wai'anae and the association with procreation and the birth of the island of O'ahu. Mr. Kila noted that many Hawaiian place names referred to Wai'anae creation stories, but were changed by the missionaries recording place names for Hawaiian language dictionaries.

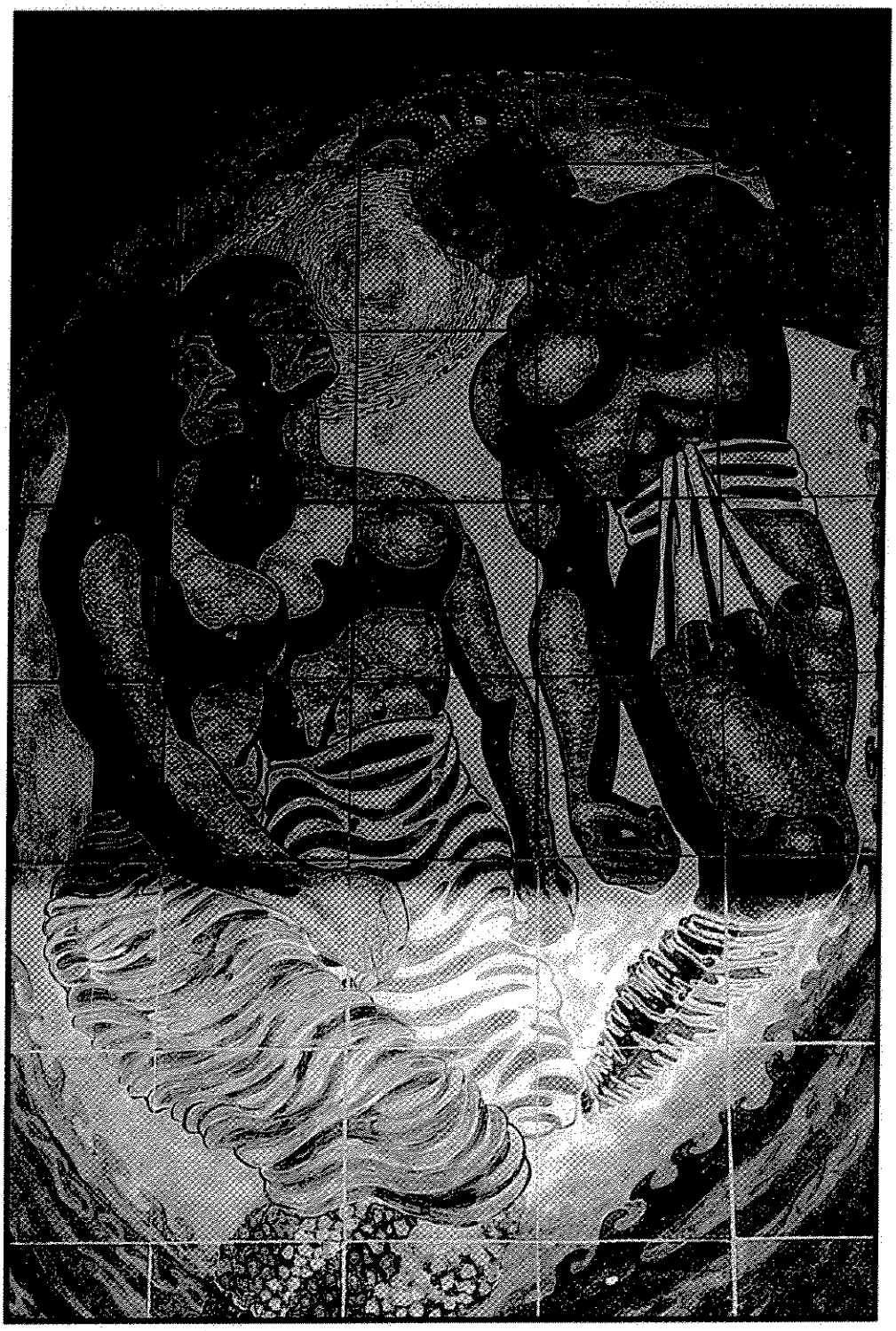

Figure 29. A Mural of the Twin Sister Legend at Mā'ili Elementary by Joseph Momoa.

Section 9 Summary and Recommendations

The community contacts queried for this Cultural Impact Assessment for the proposed Hale Wai Vista Affordable Family Rental Project did not identify any specific ongoing cultural practices such as plant gathering within the current project area. Community contacts queried for this assessment acknowledged the need for affordable housing in Lualualei, but identified the following key cultural and other community concerns related to future development of the project area:

1. If the height of any of the buildings for the apartment complex is above 2 stories (as in the current design) the *mauka-makai* view plane will be obstructed. A number of culturally significant features of the landscape associated with *mo'olelo* (legends) of Lualualei and Wai'anae (e.g., Pu'u Mā'ili'ili, Pu'u Pāhe'ehe'e, Mauna Kūwale, Pu'u Makali'i) may be blocked. Additionally, landmarks used for teaching navigation to youth groups, as well as identifying fishing locations, may no longer be visible from the reefs to the ridge-tops.
2. The low-income apartments may be (eventually) converted to private properties or condominiums and not serve the purpose for which they were originally intended.
3. There are sinkholes in the area that may contain *iwi kūpuna* (ancestral remains), human burials.

Based on the above study results, Cultural Surveys Hawai'i Inc. finds that the proposed Hale Wai Vista Affordable Family Rental project, as it is planned now, will have an adverse cultural impact in Lualualei Ahupua'a. While there is a great need for low-income apartments in Wai'anae Moku, and this need has been expressed by a number of the individuals who participated in this cultural assessment, the proposed action for the Hale Wai Vista buildings is not in compliance with the community and cultural (*kauoha*) mandate set by the Wai'anae Coast Neighborhood Board Association No. 24 and *kūpuna* of Wai'anae Moku that no building should be over 2 stories. According to the State Office of Environmental Quality Control (OEQC) guidelines for preparation of cultural impact studies, analysis should relate to traditional subsistence practices (e.g., fishing, aquaculture) as well as current cultural activities that may be commercial, scientific, recreational, or educational (OEQC 2004:47) and that:

> If the subject area is in a developed urban setting, cultural impacts must still be assessed. Many incorrectly assume that the presence of urban infrastructure effectively precludes consideration of current cultural factors. For example, persons are known to gather kauna'oa, 'ilima, 'uhaloa, noni or ki on the grassy slopes and ramps of the H-1 freeway....Certain landmarks and physical features are used by Hawaiian navigators for sailing and the lines of sight from landmarks to the coast by fisherman to locate certain fishing spots. Blocking these features by the construction of buildings or tanks may constitute an adverse cultural impact. (Office of Environmental Quality Control 2004:47)

The archival research for this project has documented and confirmed the legends, landmarks and other cultural resources that correspond to the statements made by community members.

The following mitigation measure and other recommendations are offered as a way to address community issues and cultural concerns raised for the proposed action:

1. The developer investigates and addresses the issue of the impact of the height of the buildings on view planes (visibility of aforementioned cultural resources).
2. As a precautionary measure, personnel involved in future development activities in the project area should be informed of the possibility of inadvertent cultural finds, including human remains, and should be made aware of the appropriate notification procedures to follow.
3. Community members should be further consulted and informed about these and other concerns (e.g., conversion to private condimiums) throughout the planning process.

Addressing these cultural concerns will minimize the impact of the proposed project on Hawaiian cultural beliefs, resources and practices.

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Honolulu, HI 96826

c/o Ardis Shaw-Kim – Kusao & Kurahashi, Inc.

RE: HUD Noise Assessment Study for the Hale Wai Vista Project (DLAA #07-15)

Dear Mr. Furuta:

The following report summarizes the analysis and results of the HUD noise study conducted for the Hale Wai Vista project located in Waianae, Oahu. The project will be partly funded by the U. S. Department of Housing and Urban Development (HUD) and is subject to the requirements of the *U.S. Department of Housing and Urban Development Environmental Criteria and Standards* [Reference 1]. The following noise analysis of the Hale Wai Vista project site will show compliance with the HUD Noise Guidelines. Discussion of potential noise impacts on the project is also provided.

PROJECT DESCRIPTION

The project proposes to develop an affordable rental housing project on a 5.02 acre property located adjacent to Waianae Mall. The development consists of four multi-family buildings and one multi-purpose building. The project site is currently vacant.

NOISE STANDARDS

In addition to HUD the other federal agency that has established guidelines and standards for assessing environmental noise impacts on urban development and has set noise limits to classify site acceptability is the U.S. Environmental Protection Agency (EPA). We have included the applicable standard and criteria in this report as a guide only. Additionally, various local and federal agencies have established guidelines and standards for assessing environmental noise impacts and set noise limits as a function of land use.

U.S. Environmental Protection Agency (EPA)

The U.S. EPA [Reference 2] has identified a range of yearly day-night equivalent sound levels, L_{dn}, sufficient to protect public health and welfare from the effects of environmental noise. The EPA has established a goal to reduce exterior environmental noise to an L_{dn} not exceeding 65

970 N. KALAHEO AVE. • SUITE A311 • KAILUA, HAWAII 96734
808/254-3318 • FAX 808/254-5295
www.dlaa.com • hawaii@dlaa.com

dBA and a future goal to further reduce exterior environmental noise to an L_{dn} not exceeding 55 dBA. Additionally, the EPA states that these goals are not intended as regulations as it has no authority to regulate noise levels, but rather they are intended to be viewed as levels below which the general population will not be at risk from any of the identified effects of noise.

State of Hawaii, Community Noise Control

The State of Hawaii Community Noise Control Rule [Reference 3] defines three classes of zoning districts and specifies corresponding maximum permissible sound levels due to *stationary* noise sources such as air-conditioning units, exhaust systems, generators, compressors, pumps, etc. The Community Noise Control Rule does not specifically address most *moving* sources, such as vehicular traffic noise, air traffic noise, or rail traffic noise. However, the Community Noise Control Rule does include equipment related to agricultural, construction, and industrial activities, which may not be stationary.

These maximum permissible noise levels are enforced by the State Department of Health (DOH) for any location at or beyond the property line and shall not be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits which apply are a function of the zoning and time of day as shown in Figure 1. With respect to mixed zoning districts, the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. In determining the maximum permissible sound level, the background noise level is taken into account by the DOH.

EXISTING ACOUSTICAL ENVIRONMENT

Continuous long-term ambient noise level measurements were conducted at one location, L1, as shown on Figure 2. The meter was located on the proposed Hale Wai Vista project site, approximately 80 feet from the mauka property line. This noise measurement location represents the existing ambient noise environment on the project site which includes noises from Farrington Highway, the neighboring residential community, and Waianae Mall. The noise measurements were conducted between March 23, 2007 and March 28, 2007.

Noise Measurement Results

The results from the long-term noise measurements are graphically presented in Figure 3, which shows the measured equivalent sound level, L_{eq}, in A-weighted decibels (dBA) as a function of the measurement date and time. The sound levels are relatively static throughout the day where the hourly L_{eq} noise levels generally range from 47 dBA to 57 dBA. At night, noise levels drop off and range between 37 dBA and 51 dBA. The average calculated L_{dn} at location L1 was 54 dBA for the measurement period. The dominant and secondary noise sources are described below:

Noise Sources

Dominant: Wind, birds, vehicular traffic from Farrington Highway.

Secondary: Rooftop mechanical equipment from adjacent buildings, roosters, pedestrians, and vehicular traffic from adjacent residential roadways.

PROJECT SITE ASSESSMENT

Compliance with HUD Guidelines

Although it is preferred by HUD that future noise levels (generated by nearby roadways or airports) at a proposed site are calculated using mathematical models, the project site was assessed based on the measured day night equivalent noise levels. The nearest major roadway and potential noise source is Farrington Highway. Insufficient traffic data was available to develop a model of the vehicular traffic noise from the roadway. In addition, the line-of-sight from the proposed residential buildings on the project site to the roadway will be blocked by the Waianae Mall, making traffic noise difficult to model. Airport noise from Kalaeloa Airport, approximately 15 miles away, was not assessed as the project site is outside the L_{dn} 55 noise contour.

Based on measured noise levels, the site classification is "acceptable" as defined by the Site Acceptability Standards stated in section 51.104 of HUD 24 CFR 51 [Reference 1]. The average day-night noise level will not exceed the HUD exterior noise goal of 65 dBA for an acceptable site.

Compliance with EPA Noise Guidelines

Existing noise levels at the project are relatively quiet. From noise measurements taken within the Hale Wai Vista project property lines, the average L_{dn} of 54 dBA is below the EPA existing and future maximum noise guidelines of 65 dBA and 55 dBA, respectively. Future noise levels are expected to increase slightly due to community noise from within the project site, but will not exceed the EPA future noise guidelines, i.e., 65 dBA.

Noise Impact on the Project

The new residences are located directly adjacent to existing commercial buildings, a loading area, and the new Waianae Coast Community Transit Center. These noise sources are indicated in Figure 4 and their potential noise impacts are described below.

Rooftop mechanical equipment and loading docks may impact the new residential building. Noise from the rooftop mechanical equipment and other equipment must meet the State noise rules, which stipulate maximum permissible noise limits at the property line. These noise limits are 60 dBA during the daytime hours (7:00 am to 10:00 pm) and 50 dBA during the night time hours (10:00 pm to 7:00 am) for multi-family residential areas.

Noise emanating from the existing City Mill loading dock to the proposed neighboring residences may be audible and cause for complaint. Design of the project site should give consideration to potential noises emanating from the loading dock.

The Waianae Coast Community Transit Center is currently under construction at a site adjacent to the Hale Wai Vista. Review of the Transit Center Environmental Assessment [Reference 4] shows that a parking lot will provide a buffer zone between the Transit Center and the proposed residential buildings. In addition, noise levels from the Transit Center were calculated based on the projected operations of The Bus. The day-night equivalent sound levels, L_{dn}, at the project site are not expected to increase due to the Transit Center.

Please feel free to contact us if you have any questions or comments.

Sincerely,

Dana Dorsch

Encl. Figures 1-4
HUD Site Evaluation Worksheets

REFERENCES:

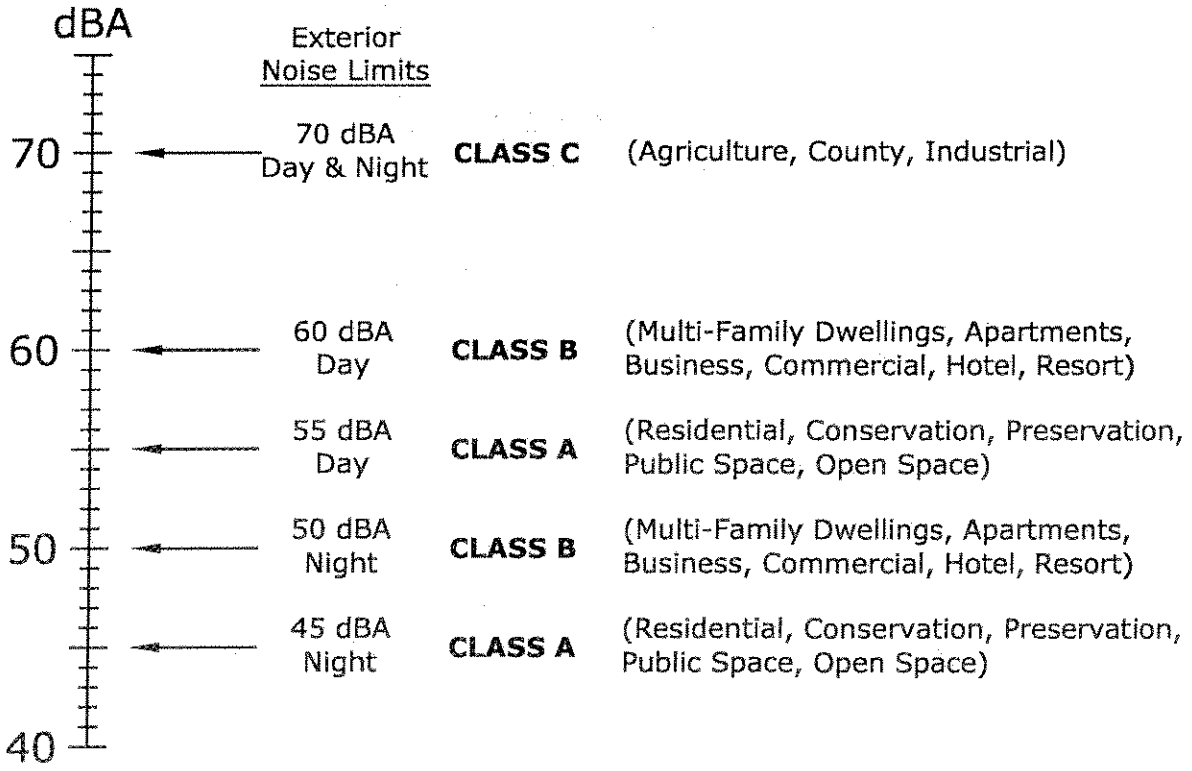
1. *Department of Housing and Urban Development Environmental Criteria and Standards*, Title 24, CFR Part 51, 44 FR 40860, July 12, 1979; Amended by 49 FR 880, January 6, 1984.

2. *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.

3. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.

4. *Waianae Coast Community Transit Center Final Environmental Assessment*, AM Partners, October 2003.

Zoning District	Day Hours (7 AM to 10 PM)	Night Hours (10 PM to 7 AM)
CLASS A Residential, Conservation, Preservation, Public Space, Open Space	55 dBA (Exterior)	45 dBA (Exterior)
CLASS B Multi-Family Dwellings, Apartments, Business, Commercial, Hotel, Resort	60 dBA (Exterior)	50 dBA (Exterior)
CLASS C Agriculture, Country, Industrial	70 dBA (Exterior)	70 dBA (Exterior)



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970 N. KALAHEO AVE. A-311
KAILUA, HAWAII 96734
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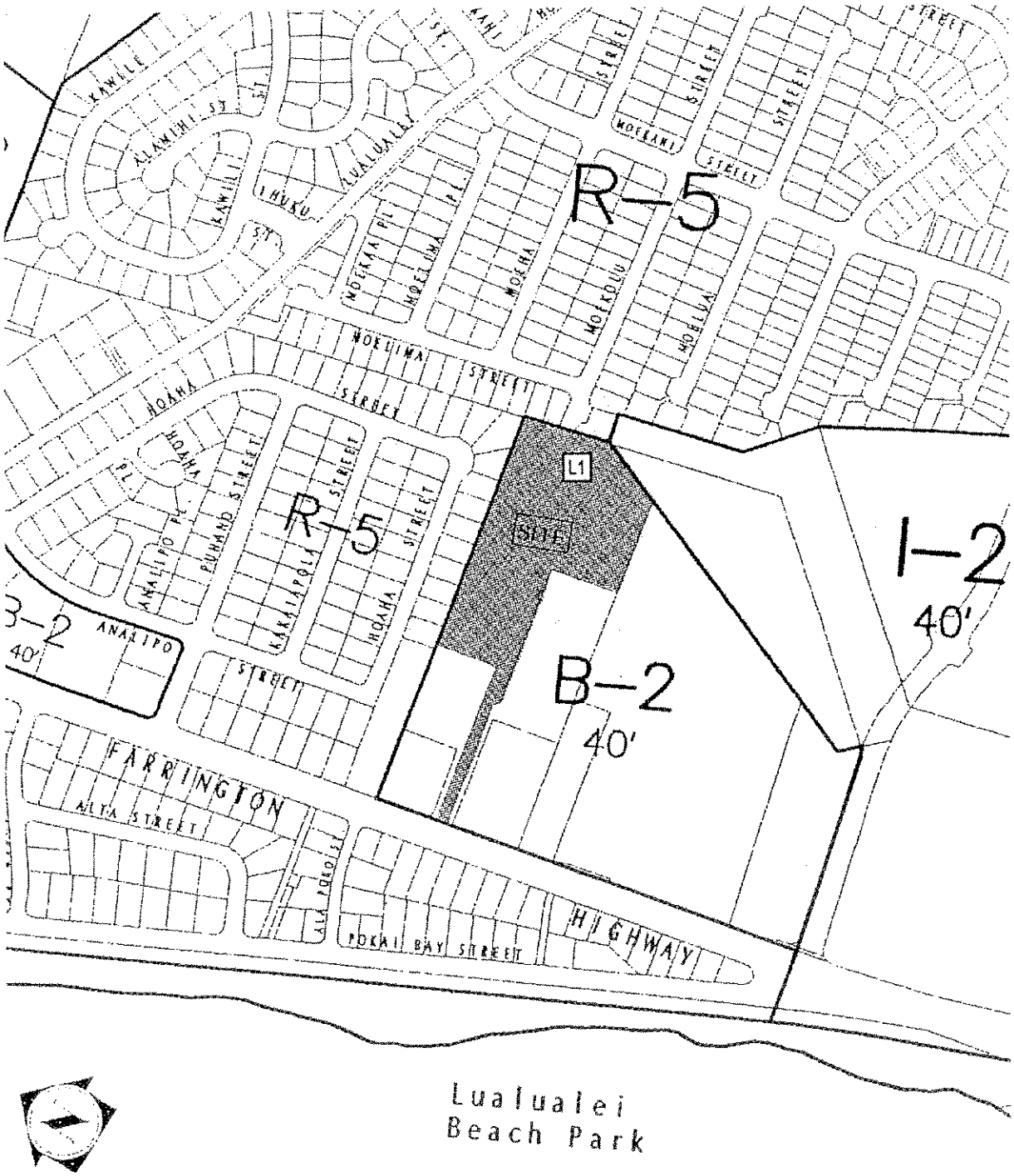
Hawaii Maximum Permissible Sound Levels for Various Zoning Districts

Hale Wai Vista

Not to Scale

Figure No 1

Date	Project No.	Drawn By
March 2007	07-15	TRB



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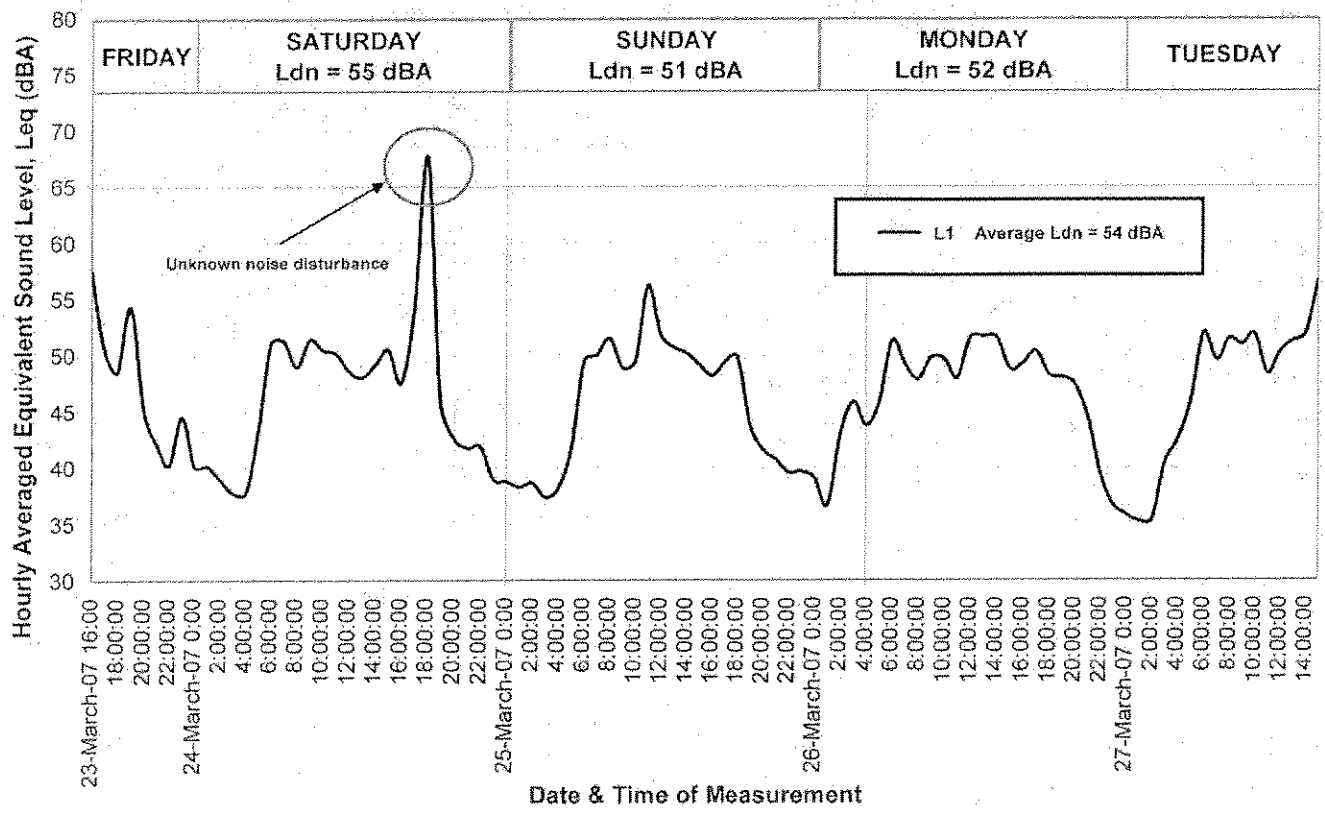
Noise Measurement Location L1

Hale Wai Vista

Not to Scale

Date	Project No.	Drawn By
March 2007	07-15	DFD

Figure No
2



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Graph of Long Term Noise Measurements

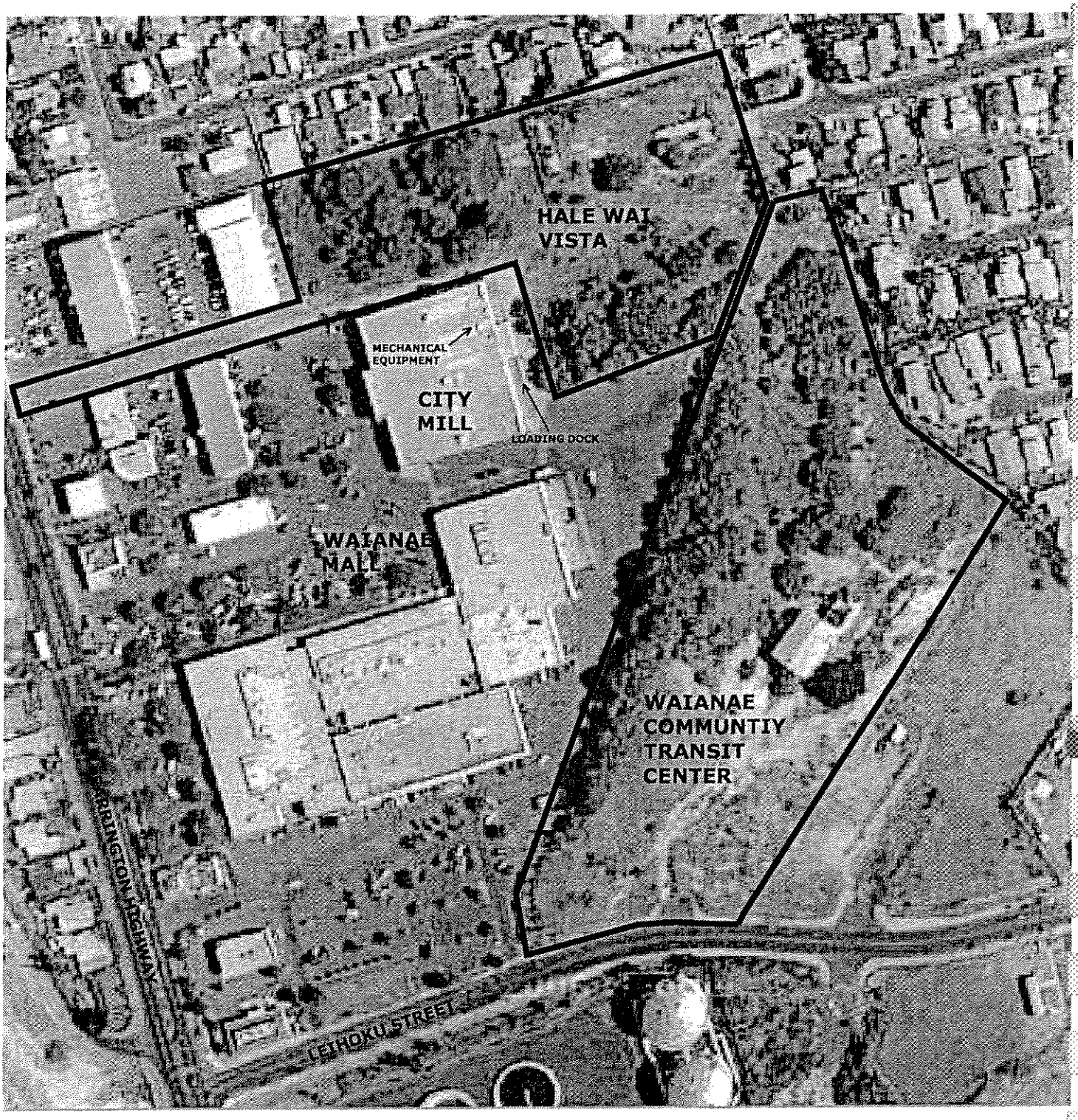
Hale Wai Vista

Not to Scale

Date	Project No.	Drawn By
March 2007	07-15	DFD

Figure No

3



Vicinity Map and Major Noise Sources

Hale Wai Vista

Not to Scale

Figure No

4

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Date	Project No.	Drawn By
March 2007	07-15	DFD

FINDING: [58.40(g)]

___ **Finding of No Significant Impact**
(The project will not result in a significant impact on the quality of the human environment)

___ **Finding of Significant Impact**
(The project may significantly affect the quality of the human environment)

Preparer Signature: _____ **Date:** Dec 1 2006

Name/Title/Agency: for **Keith Kurahashi, President**
Kusao & Kurahashi, Inc.

RE Approving Official Signature:

_____ **Date:**_____

Name/Title/
Agency:_____

Statement of Purpose and Need for the Proposal: [40 CFR 1508.9(b)]
See Page 8, "Purpose and Need for the Proposal", of the Draft Environmental Assessment.

Description of the Proposal: Include all contemplated actions which logically are either geographically or functionally a composite part of the project, regardless of the source of funding. [24 CFR 58.32, 40 CFR 1508.25]
See page 11, "Proposed Development" of the Draft Environmental Assessment

Existing Conditions and Trends: Describe the existing conditions of the project area and its surroundings, and trends likely to continue in the absence of the project. [24 CFR 58.40(a)]
See page 13, "Location, Existing Conditions and Trends", of the Draftl Environmental Assessment

Statutory Checklist

[24CFR §58.5]

Record the determinations made regarding each listed statute, executive order or regulation. Provide appropriate source documentation. [Note reviews or consultations completed as well as any applicable permits or approvals obtained or required. Note dates of contact or page references]. Provide compliance or consistency documentation. Attach additional material as appropriate. Note conditions, attenuation or mitigation measures required.

Factors Documentation	Determination and Compliance
Historic Preservation [36 CFR 800]	See Page 34 of the DEA*, "Historical and Archaeological Resources"
Floodplain Management [24 CFR 55, Executive Order 11988]	See Page 37 of the DEA*, "Floodplain Management"
Wetlands Protection [Executive Order 11990]	See Page 38 of the DEA*, "Wetlands Protection"
Coastal Zone Management Act [Sections 307(c),(d)]	See Page 38 of the DEA*, "Coastal Zone Management"
Sole Source Aquifers [40 CFR 149]	See Page 37 of the DEA*, "Water Resources"
Endangered Species Act [50 CFR 402]	See Page 37 - of the DEA*, "Flora and Fauna"
Wild and Scenic Rivers Act	See Page 39 of the DEA*, "Wild and Scenic Rivers"

[Sections 7 (b), (c)]	
Air Quality [Clean Air Act, Sections 176 (c) and (d), and 40 CFR 6, 51, 93]	See Page 44 of the DEA*, "Air Quality"
Farmland Protection Policy Act [7 CFR 658]	See Page 39 of the DEA*, "Farmland Protection Policy"
Environmental Justice [Executive Order 12898]	See Page 39 of the DEA*, "Environmental Justice"

HUD Environmental Standards Determination and Compliance Documentation

Noise Abatement and Control [24 CFR 51 B]	See Pages 42 and 46 of the DEA*, "Noise" and "Mitigation Measures"
Toxic/Hazardous/Radioactive Materials, Contamination, Chemicals or Gases [24 CFR 58.5(i)(2)]	See Pages 45 of the DEA*, "Hazards"
Siting of HUD-Assisted Projects near Hazardous Operations [24 CFR 51 C]	See Pages 45 of the DEA*, "Hazards"
Airport Clear Zones and Accident Potential Zones [24 CFR 51 D]	See Pages 42 and 46 of the DEA*, "Noise" and "Mitigation Measures"

***DEA means Draft Environmental Assessment**

Environmental Assessment Checklist

[Environmental Review Guide HUD CPD 782, 24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Evaluate the significance of the effects of the proposal on the character, features and resources of the project area. Enter relevant base data and verifiable source documentation to support the finding. Then enter the appropriate impact code from the following list to make a determination of impact. **Impact Codes:** **(1)** - No impact anticipated; **(2)** - Potentially beneficial; **(3)** - Potentially adverse; **(4)** - Requires mitigation; **(5)** - Requires project modification. Note names, dates of contact, telephone numbers and page references. Attach additional material as appropriate. Note conditions or mitigation measures required.

Land Development	**Code**	**Source or Documentation**
Conformance with Comprehensive Plans and Zoning	2	Draft EA - Consistent with State Plan, somewhat consistent with Development Plan and Zoning.
Compatibility and Urban Impact	2	Draft EA
Slope	1	Draft EA
Erosion	1	Draft EA
Soil Suitability	1	Draft EA
Hazards and Nuisances including Site Safety	1	Draft EA
Energy Consumption	1	Draft EA
Noise - Contribution to Community Noise Levels	1	Draft EA
Air Quality Effects of Ambient Air Quality on Project and Contribution to Community Pollution Levels	1	Draft EA
Environmental Design Visual Quality - Coherence, Diversity, Compatible Use and Scale	1	Draft EA

Socioeconomic	**Code**	**Souce or Documentation**
Demographic Character Changes	2	Draft EA
Displacement	1	Draft EA
Employment and Income Patterns	1	Draft EA

Community Facilities and Services	**Code**	**Source or Documentation**
Educational Facilities	2	Draft EA
Commercial Facilities	1	Draft EA
Health Care	1	Draft EA
Social Services	1	Draft EA
Solid Waste	1	Draft EA
Waste Water	1	Draft EA

Storm Water	1	Draft EA
Water Supply	1	Draft EA
Public Safety - Police	1	Draft EA
- Fire	1	Draft EA
- Emergency Medical	1	Draft EA
Open Space and Recreation - Open Space	2	Draft EA
- Recreation	2	Draft EA
- Cultural Facilities	1	Draft EA
Transportation	1	Draft EA

Natural Features		**Source or Documentation**
Water Resources	1	Draft EA
Surface Water	1	Draft EA
Unique Natural Features and Agricultural Lands	1	Draft EA
Vegetation and Wildlife	1	Draft EA

Other Factors		Source or Documentation
Flood Disaster Protection Act [Flood Insurance] [§58.6(a)]	1	Draft EA
Coastal Barrier Resources Act/ Coastal Barrier Improvement Act [§58.6(c)]	1	Draft EA
Airport Runway Clear Zone or Clear Zone Disclosure [§58.6(d)]	1	Draft EA
Other Factors		

Summary of Findings and Conclusions
See Page 48 of the Draft Environmental Assessment, Chapter VII, "Significance Criteria"

ALTERNATIVES TO THE PROPOSED ACTION

Alternatives and Project Modifications Considered [24 CFR 58.40(e), Ref. 40 CFR 1508.9]
(Identify other reasonable courses of action that were considered and not selected, such as other sites, design modifications, or other uses of the subject site. Describe the benefits and adverse impacts to the human environment of each alternative and the reasons for rejecting it.)
See Page 45, Section V, "Major Impacts and Alternatives Considered" of the Draft EA.

No Action Alternative [24 CFR 58.40(e)]
(Discuss the benefits and adverse impacts to the human environment of not implementing the preferred alternative).
See Page 45, Section V- A "No Action", of the Draft EA.

Mitigation Measures Recommended [24 CFR 58.40(d), 40 CFR 1508.20]
(Recommend feasible ways in which the proposal or its external factors should be modified in order to minimize adverse environmental impacts and restore or enhance environmental quality.)
See Page 46, Section VI, "Mitigation Measures" of the Draft EA.

Additional Studies Performed
(Attach studies or summaries)
Refer to the list of Appendices in the Draft EA for a list of studies performed.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]
See page 4 of the Draft EA for a list of agencies consulted prior to preparation of the Draft EA.

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

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

February 13, 2007

Ms. Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawai'i 96822

LOG NO: 2007.0157
DOC NO: 0702amj11
Archaeology

Dear Ms. Shaw-Kim:

SUBJECT: **Chapter 6E-8 Historic Preservation Review –**
Draft Environmental Assessment for the Proposed Hale Vista Affordable Rental Housing, 86-78 and 86-86 Farrington Highway
Wai'anae Ahupua'a, Wai'anae District, Island of O'ahu
TMK: (1) 8-6-001:035

Thank you for the opportunity to review the aforementioned document, which we received on January 12, 2007. We apologize for the short delay in responding. The proposed undertaking consists of an affordable rental housing project on a 5.02-acre property adjacent to Wai'anae Mall.

According to your document, the applicant has committed to conduct an archaeological inventory survey plan, an archaeological inventory survey, and a cultural impact assessment. All three of these documents should be included in the Environmental Assessment, since their results may effect the design of this project.

We also recommend consultation with the following three Wai'anae residents, Mr. Alika Silva, Ms. Alice Greenwood, and Mr. William Ailā, who may wish to comment on aspects of the cultural, historical, and / or archaeological work.

Please contact Mr. Adam Johnson (O'ahu Assistant Archaeologist) at (808) 692-8015 if you have any questions or concerns regarding this letter.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

amj:

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Ms. Melanie Chinen, Director
State Historic Preservation Division
Land and Natural Resources
601 Kamakila Blvd. Rm 555
Kapolei, HI 96707

Dear Ms. Chinen:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your comments on the Draft Environment Assessment (EA) for Hale Wai Vista. The following responds to your comments:

Cultural Surveys has conducted a meeting with your staff in the field and determined the scope of the archaeological inventory survey.

The Cultural Impact Assessment and archaeological inventory survey have been completed and will be included in the Final EA. Since no historic properties were identified in the project area, this investigation is termed an archaeological assessment per Hawaii Revised Statutes Chapter 13-13-284-5.

Thank you for your recommendations on residents to contact for information on cultural aspects of the community. The individuals you recommended for preparation of the Cultural Impact Assessment are identified in the Cultural Impact Assessment Report. All three were among many contacted and one provided comments over the phone, one was interviewed and one did not respond to our request for an interview.

Thank you for participating in the environmental review process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD07/2535C

January 23, 2007

Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, HI 96822

RE: Draft Environmental Assessment for the Proposed Hale Vista Affordable Rental Housing, 86-78 and 86-86 Farrington Highway, Wai'anae, O'ahu, TMK: 8-6-001:035.

Dear Ardis Shaw-Kim,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 10, 2007 request for comments on the above-referenced project, which would include construction of an affordable rental housing project on a 5.02-acre property adjacent to Wai'anae Mall. OHA offers the following comments on this commendable project.

We strongly encourage the developer to continue consulting with the Wai'anae Neighborhood Board regarding the overall size and height of the buildings, which are still 20 feet above the allowable height limit. We realize the need for affordable housing is great, but also ask that you carefully consider the visual impact of this project; this issue is extremely important in maintaining a sense of community in Wai'anae.

According to your document (p. 28), "...[t]he applicant may consider xeriscape landscaping to reduce the demand for water." We commend the proposed use of water-efficient plantings, but would also recommend that a commitment be made to use native plants.

The "Environmental Impacts" section includes commitments to conduct both an archaeological inventory survey and a cultural impact assessment. Both of these documents should be included in the Draft Environmental Assessment (DEA), because their results may affect the overall project design.

Also, the Table of Contents includes a List of Agencies Consulted and Community Groups consulted, but no results of these consultations in the DEA, other than the Neighborhood Board comments to lower the maximum height of the buildings. In previous comments to other agencies regarding this project, we have suggested consultation with three specific individuals: Alika Silva, Alice Greenwood, and William Ailā, but no mention is made of whether or not these people were contacted.

OHA further requests your assurances that if this project goes forward, should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions, please contact Jesse Yorck, Policy Advocate – Native Rights, at (808) 594-0239 or by e-mail at jessey@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

C: Gary S. Furuta, Project Manager
Hawaii Housing Development Corporation
1828 Young Street, Suite 201
Honolulu, HI 96826

Department of Community Services
715 South King Street, Suite 408
Honolulu, HI 96813

Genevieve Salmonson
Office of Environmental Quality Control
235 South Beretania Street, 7th Floor
Honolulu, HI 96813

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Clyde Namuo, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 1250
Honolulu, HI 96740

Dear Mr. Namuo:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your comments on the Draft Environment Assessment for Hale Wai Vista. The following responds to your comments:

We have met with the Neighborhood Board on three occasions, September 5, 2006, November 14, 2006 and March 6, 2007 in an endeavor to address concerns that have been raised. As a result of the first meeting with the Neighborhood Board, two of the buildings were reduced in height from 70 feet to 60 feet and additional parking was provided (the height limit for the property is 40 feet). Based on concerns raised about the building heights the applicant went through a second redesign of the project and was able to offer one building with a 60-foot height, three buildings under 40 feet in height and one building about 27 feet in height. This plan was not supported by the Neighborhood Board and one board member commented that the structures should all be no higher than two stories. The applicant cannot provide affordable housing at the 60% and below of median income with two story structures and has decided to keep the three buildings situated adjacent to single family homes located on Hoaha Street at two stories (about 27 feet in height) and to provide two 60-foot apartment buildings on an area of the site further from single family residences and closer to the proposed Transit Center and the Waianae Mall (see enclosed site plan). The applicant has provided several photographic renderings from public viewing points to depict the visual impact of the proposed development (enclosed), which does not have a significant impact on views from public viewing points.

The applicant is considering the use of native plants on the property, which could include Akia, Pohinahina, as well as other native plants that are adapted to that environment.

The Cultural Impact Assessment and archaeological inventory survey have been completed and will be included in the Final EA. Since no historic properties were

identified in the project area, this investigation is termed an archaeological assessment per Hawaii Revised Statutes Chapter 13-13-284-5.

Appendix IV in the Draft EA included Agency Comments Prior to the Draft EA and these comments were cited in the body of the Draft EA. We received comments from the State Historic Preservation Division of the Department of Land and Natural Resources, the Department of Education, Senator Colleen Hanabusa, Leihoku Elementary School, the Department of Planning and Permitting, the Honolulu Fire Department, the Police Department, Board of Water Supply, and the Department of Transportation Services (City).

The three individuals that the Office of Hawaiian Affairs identified have all been contacted for preparation of the Cultural Impact Assessment and are identified in the Cultural Impact Assessment Report. The three were among many contacted and one provided comments over the phone, one was interviewed and one did not respond to our request for an interview.

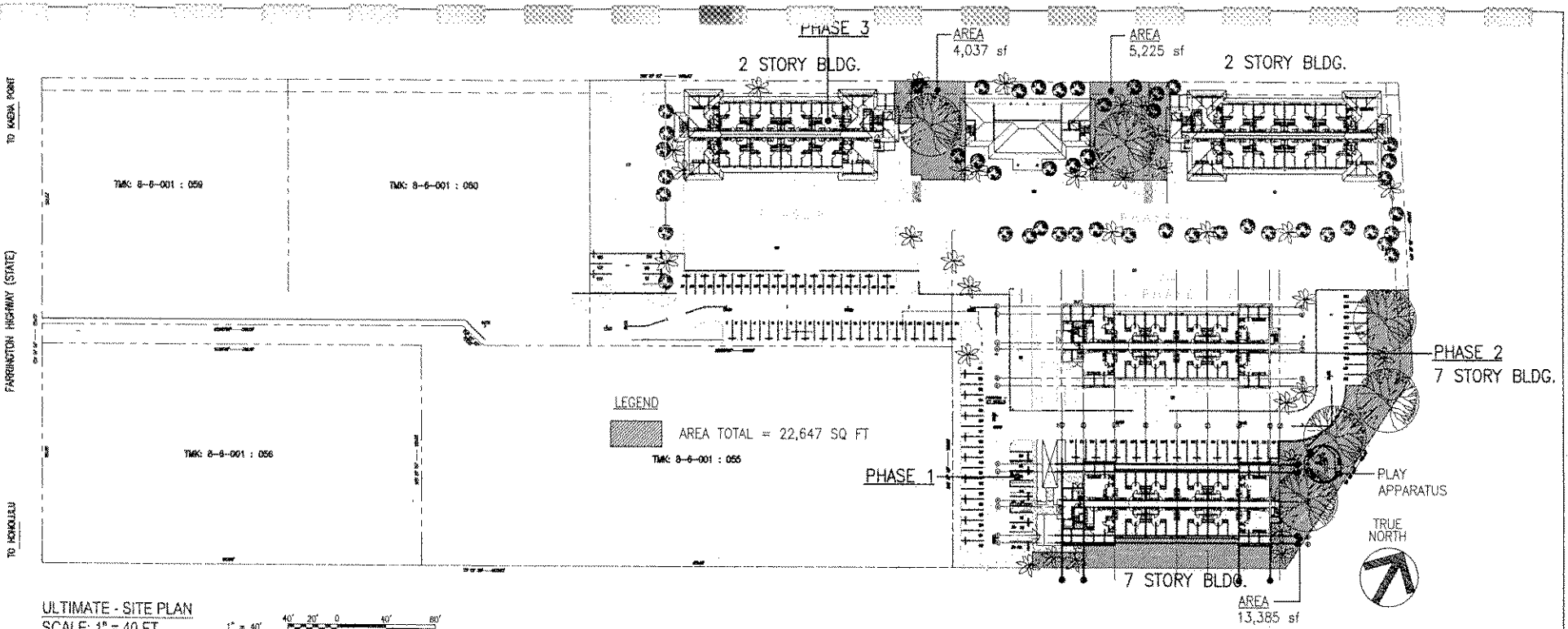
In the event that cultural resources, including iwi kupuna or Native Hawaiian cultural or traditional deposits are discovered during ground disturbance, the appropriate agencies, including the State Historic Preservation Division will be contacted pursuant to applicable law.

Thank you for participating in the environmental review process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner



ULTIMATE - SITE PLAN
SCALE: 1" = 40 FT.

1" = 40'

40' 20' 0 40' 80'

LAND USE ORDINANCE DATA

ADDRESS	78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII
TAX MAP KEY	8-6-001: 035 (PORTION)
ZONING	R-2
MINIMUM LOT AREA	5,000 SF
ACTUAL LOT AREA	94,981 S.F.
MINIMUM LOT WIDTH	50'-0"
ACTUAL LOT WIDTH	XXX
MINIMUM YARDS:	
FRONT	5'
SIDE/REAR	0' (PROVIDE 20 FT. @ BLDG. TO ALLOW UNPROTECTED WINDOW OPENINGS @ END UNITS)
MAXIMUM BUILDING AREA	NOT REGULATED
ACTUAL BUILDING AREA (BUILDING FOOTPRINT)	BUILDING 1: 9,804 S.F. BUILDING 2: 9,804 S.F. BUILDING 3: 9,873 S.F. BUILDING 4: 9,873 S.F. TOTAL LOT COVERAGE: 39,354 S.F.
MAXIMUM HEIGHT ALLOWED	40'-0"
ACTUAL HEIGHT	60'-1" TO ROOF LEVEL (71'-1" TO TOP OF ELEVATOR/STAIR PARAPET)
OPEN SPACE PROVIDED	34,500 S.F.
PRIVATE PARK SPACE REQUIRED	110 S.F. X 216 UNITS = 23,760 S.F.
PRIVATE PARK SPACE PROVIDED	XXX
ACTUAL GROSS FLOOR AREA	PHASE 1: BUILDING 1 – 69,167 S.F. (7 STORY BLDG. – 84 UNITS) PHASE 2: BUILDING 2 – 69,167 S.F. (7 STORY BLDG. – 84 UNITS) PHASE 3: BUILDING 3 – 19,746 S.F. (2 STORY BLDG. – 24 UNITS) BUILDING 4 – 19,746 S.F. (2 STORY BLDG. – 24 UNITS) COMMUNITY CENTER – 6,000 S.F. TOTAL GROSS AREA: 181,828 S.F.
TOTAL NUMBER OF UNITS	216 UNITS

PARKING CALCULATION:

PHASE 1:
BUILDING 1 (84 UNITS):
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS

(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

PARKING PROVIDED: 111 STALLS – 4 ARE ACCESSIBLE
1 LOADING

PHASE 2:
BUILDING 2 (84 UNITS):
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 598 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS

(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

PHASE 3:
BUILDING 3 (24 UNITS)
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 3 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 31 STALLS

(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

BUILDING 4 (24 UNITS)
PER FLOOR:
1 – 2 BEDROOM END UNIT @ 622 S.F. = 1.5 STALL
3 – 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 – 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS

SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS

VISITOR STALLS: 1 PER 10 UNITS = 3 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 31 STALLS

(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)

1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

COMMUNITY CENTER
2 STORY – 6,000 S.F. (3,000 S.F. EACH FLOOR)
PARKING REQUIRED: 6,000 S.F./400 = 15 STALLS

TOTAL PARKING RECAP SUMMARY – ULTIMATE PHASE
TOTAL PARKING REQUIRED: 289 STALLS (7 ACCESSIBLE)
TOTAL PARKING PROVIDED: 331 STALLS (10 ACCESSIBLE)
111 STALLS PROVIDED IN PHASE 1 (50 OF THESE ARE COMPACT)

BUILDING CODE DATA: (1997 UBC)

BUILDING 1 AND 2:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE II-FR
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	29,900 SF
MULTI-STORY (29,900 X 2)	59,800 SF
AREA INCREASE (59,800 X 2)	119,600 SF
ACTUAL AREA	49,475 S.F.
ALLOWABLE HEIGHT	12 STORIES
ACTUAL HEIGHT	7 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED LESS THAN 20 FT.
BUILDING AREA TABULATION	
GROUND FLOOR	9,804 S.F.
2ND – 7TH FLOORS	
TYPICAL FLOOR PLATE	9,846 S.F.
6 FLOORS	59,076 S.F.
ROOF LEVEL	
STAIR, ELEVATOR	287 S.F.
TOTAL GROSS FLOOR AREA:	69,167 S.F.

BUILDING 3 AND 4:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE V-N
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	6,000 SF
MULTI-STORY (6,000 X 2)	12,000 SF
AREA INCREASE (12,000 X 2)	24,000 SF
ACTUAL AREA	19,746 SF
ALLOWABLE HEIGHT	2 STORIES
ACTUAL HEIGHT	2 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED LESS THAN 20 FT.
BUILDING AREA TABULATION	
GROUND FLOOR	9,873 S.F.
2ND FLOOR	9,873 S.F.
TOTAL GROSS FLOOR AREA:	19,746 SF

REVISIONS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISORY AND CONTRACTUAL CONTROL AND IT CONFORMS TO THE CODES AND REGULATIONS APPLICABLE AT THE TIME OF THE CONSTRUCTION AS DEFINED IN CHAPTER 464, HRS. AS AMENDED. I, [illegible], A LICENSED ARCHITECT IN THE STATE OF HAWAII, HEREBY CERTIFY THAT THE ABOVE STATEMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ARCHITECT

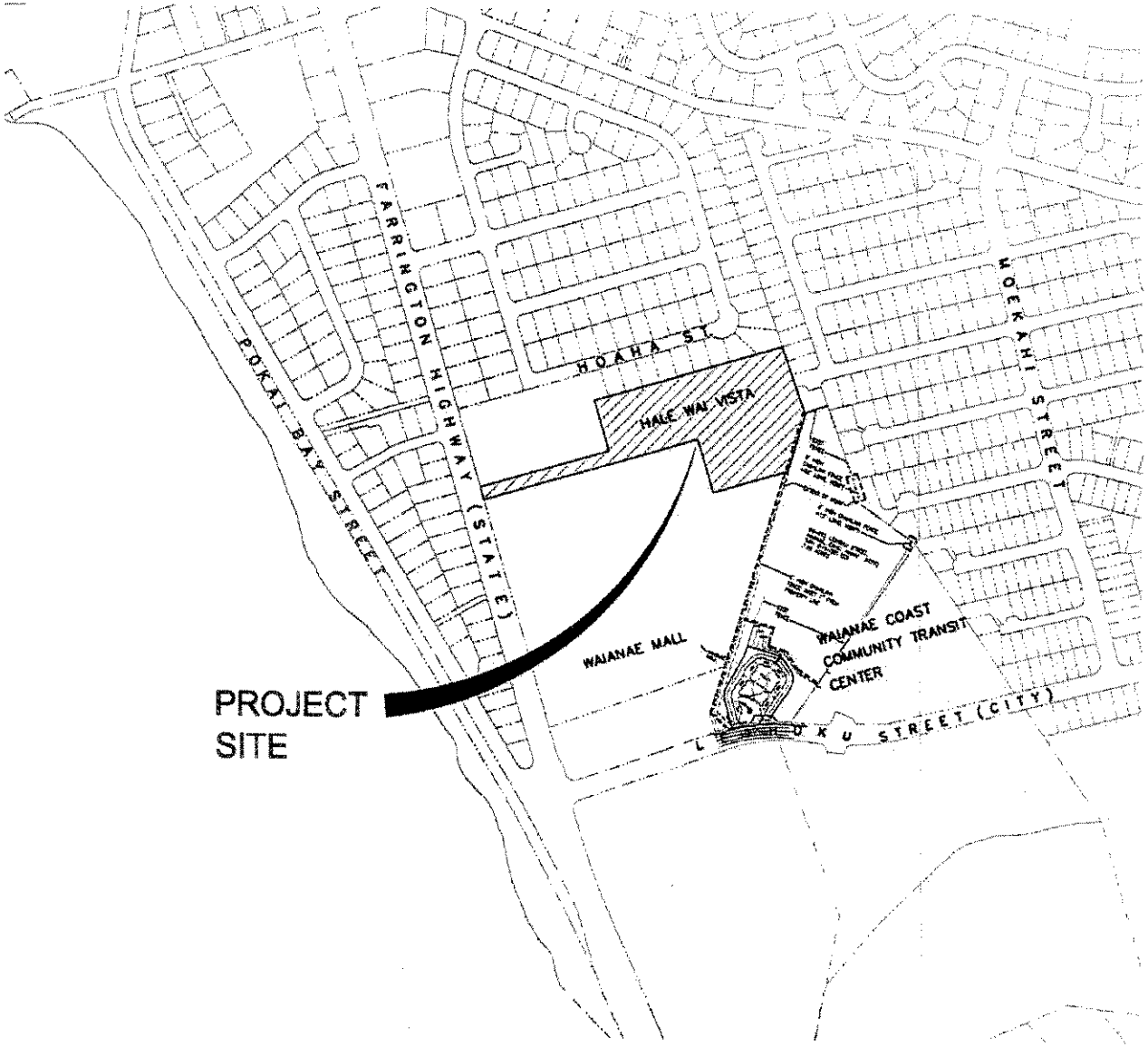
EXPIRATION DATE:

HALE WAI VISTA
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001: 035 (PORTION)

M & A HAWAII
ARCHITECTURE
PLANNING
CONSTRUCTION MANAGEMENT
737 BISHOP STREET
SUITE 2115
HONOLULU, HI 96813
PH: (808) 949-7992
FAX: (808) 949-2363

Sheet Title

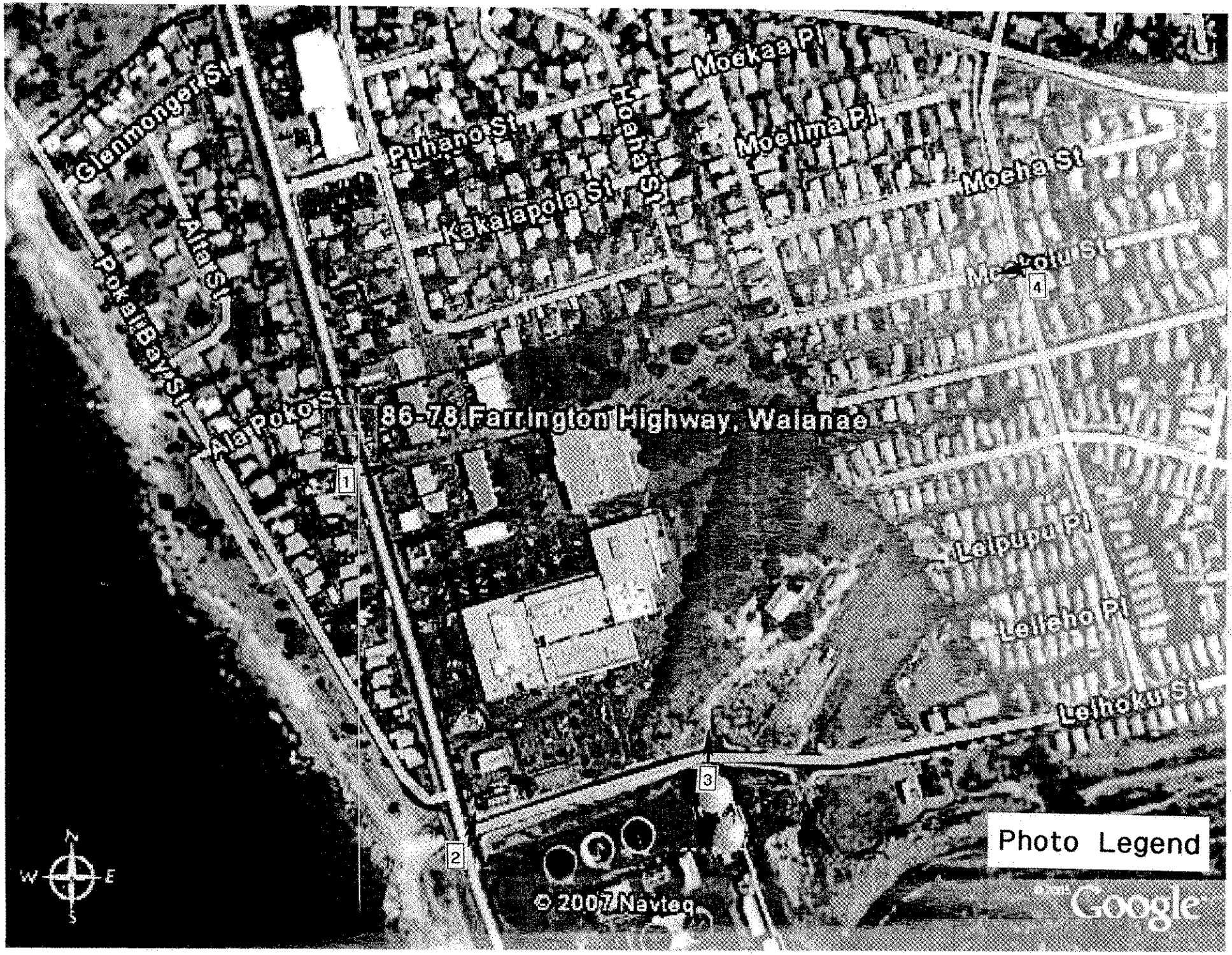
Date 10 AUGUST 2007
Scale AS NOTED
Drawn By
Job
Sheet



TMK: 8-6-001: 035 (PORTION)

LOCATION PLAN

NO SCALE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Moekaa Pl
Puhano St
Hoeha St
Moelima Pl
Moeha St
Kakalapola St
Alta St
Pokai Bay St
Mc Kolu St
4
Ala Poko St
86-78 Farrington Highway, Waianae
1
Leipupu Pl
Leileho Pl
Leihoku St
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Photo Legend
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1

Glenmonger St
Puhano St
Hoaha St
Moekaa Pl
Moelima Pl
Moeha St
Kakalapola St
Alta St
Pokai Bay St
Ala Poko St
86-78 Farrington Highway, Waianae
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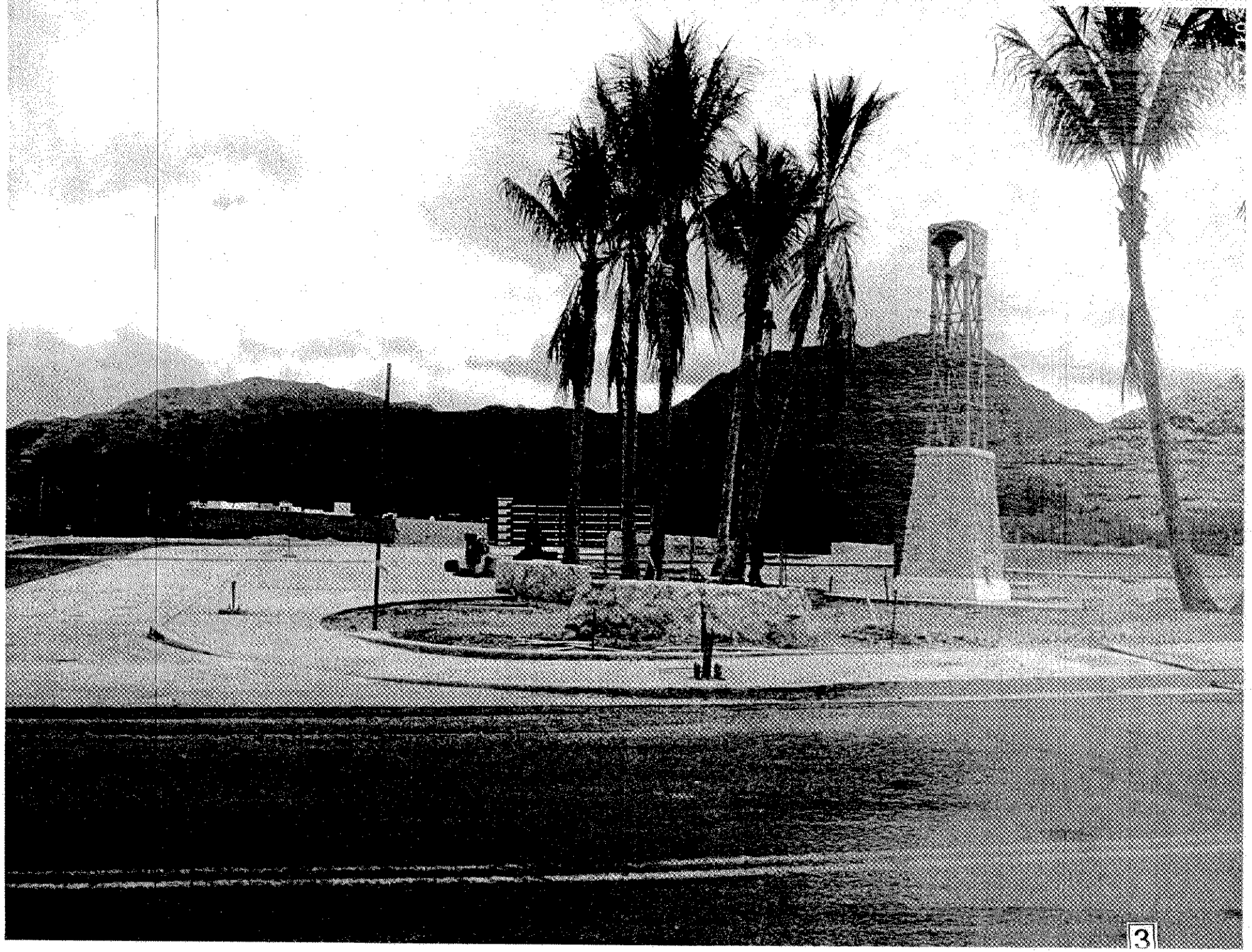
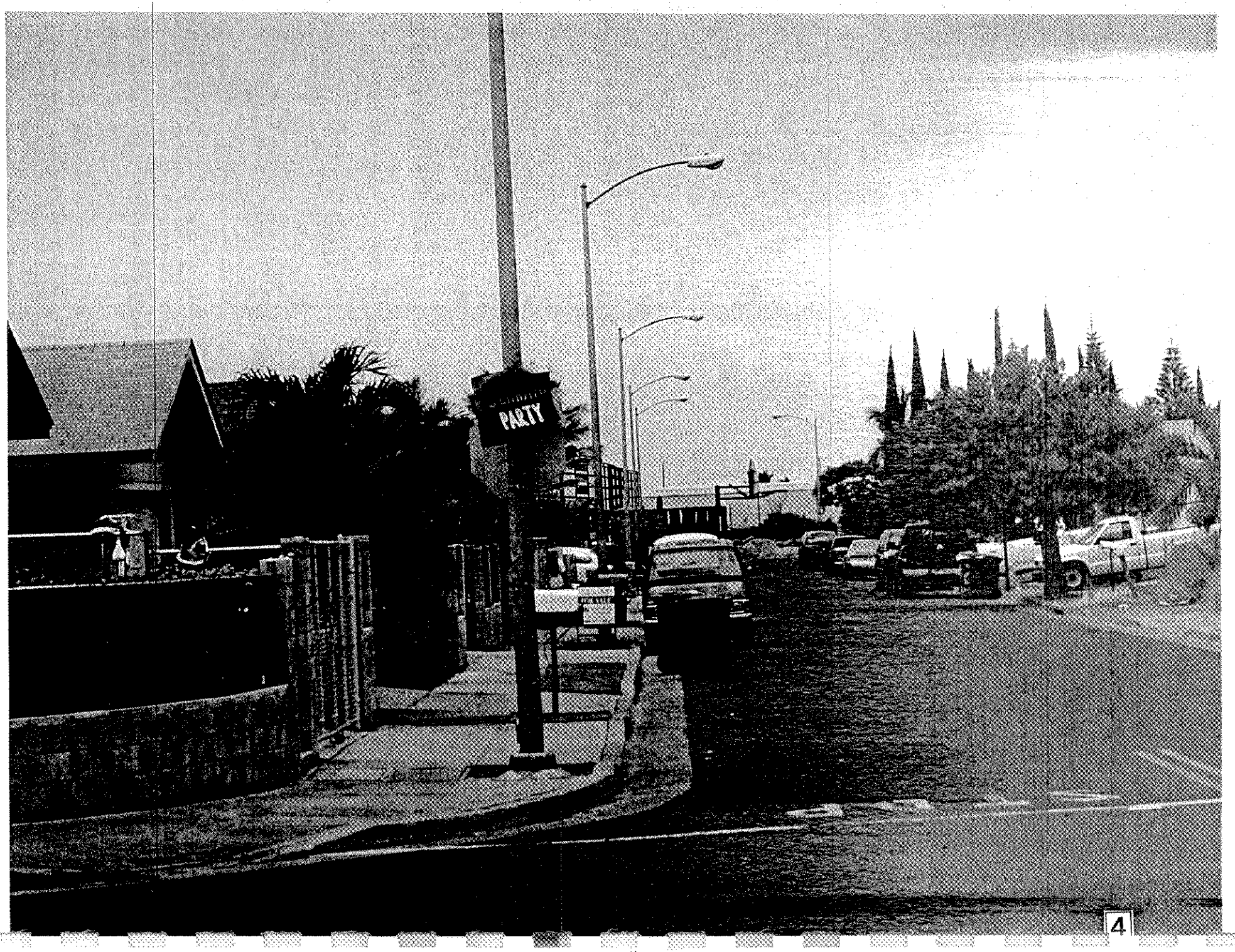



PARTY

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

January 16, 2007

Kusao & Kurahashi, Inc.
Planning and Zoning Consultants
2752 Woodlawn Drive Suite 5-202
Honolulu, Hawaii 96822

Attention: Ardis Shaw-Kim

Gentlemen:

Subject: Hawaii Housing Development Corporation, Waianae, Hawaii, Tax Map Key: (1) 8-6-1:35

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources has no comment to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Russell Y. Tsuji
Administrator

Cc: Central Files

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Russell Y. Tsuji, Administrator
Land and Natural Resources, Land Division
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Tsuji:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your letter on the Draft Environment Assessment for Hale Wai Vista. Your letter indicates that the Land Division has no comments to offer regarding the proposed affordable housing project.

Thank you for participating in the environmental assessment process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

LINDA LINGLE
GOVERNOR

ORLANDO "DAN" DAVIDSON
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

IN REPLY REFER TO:

07:PEO/18

February 12, 2007

Ms. Ardis Shaw-Kim
Kusao & Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Re: Draft Environmental Assessment (EA) for Hale Wai Vista Affordable Rental Housing

Thank you for the opportunity to provide comments on the subject draft EA.

The Hawaii Housing Finance and Development Corporation (HHFDC) is supportive of efforts to provide affordable rental housing to meet the housing needs of Hawaii's lower income families. The HHFDC has approved the award of $42,559,090 in federal and state low income housing tax credits over 10 years and the commitment of rental housing trust funds in the amount of $20,735,762 to facilitate the development of Hale Wai Vista, Phases I and II.

Sincerely,

Orlando "Dan" Davidson
Executive Director

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Orlando "Dan" Davidson, Executive Director
Housing Finance & Development Corp.
677 Queen, Suite 300
Honolulu, HI 96813

Dear Mr. Davidson:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your comments on the Draft Environment Assessment for Hale Wai Vista.

We understand that there are various funding sources available for this and other affordable housing projects including Hawaii Housing Finance and Development Corporation (HHFDC) approved awards of $42,559,090 in federal and state low income housing tax credits and a commitment of rental housing trust funds in the amount of $20,735,762 for development of the project. The applicant appreciates the work that HHFDC does in support of affordable housing in Honolulu and the State.

Thank you for participating in the environmental review process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

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

IN REPLY REFER TO:

STP 8.2433

March 24, 2007

Ms. Ardis Shaw-Kim
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Subject: Hale Wai Vista
Draft Environmental Assessment (DEA)
TMK: 8-6-1: 35

Thank you for transmitting the Draft EA for the subject project.

In December 2006, your firm held an early consultation meeting on the project with our Highways Division staff. Please continue to meet with the appropriate branches of the Highways Division to resolve the traffic, access and roadway/intersection issues associated with the project by coordinating such meetings through the Highways Planning Branch.

When you do meet, please ensure that the project is consistently represented in the traffic impact assessment report (TIAR) and the development plans. In the Draft EA, we noted that the development plans in the project drawings were not identical with the project map in the TIAR. While there may have been minor differences between the two, the plans for the project should be correctly represented in all parts of a document, including matching and corresponding with any presentation of technical information.

We appreciate the opportunity to provide our comments.

Very truly yours,

BARRY FUKUNAGA
Interim Director of Transportation

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Barry Fukunaga
Interim Director of Transportation
State Dept. of Transportation
869 Punchbowl Street, 4th Floor
Honolulu, HI 96813

Dear Mr. Fukunaga:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your comments on the Draft Environment Assessment for Hale Wai Vista. The applicant will continue meeting with the appropriate branches of the Highways Division to address the concerns of the State Department of Transportation.

The plans were modified between the preparation of the traffic assessment and the completion of the Draft EA. The traffic assessment will be updated to include a current site plan. We note that the proposed number of dwelling units and the access to the site are expected to remain unchanged.

Thank you for participating in the environmental review process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EPO-7-011

February 5, 2007

Mr. Ardis Shaw-Kim
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Mr. Shaw-Kim:

SUBJECT: Draft Environmental Assessment for Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae, Oahu, Hawaii
TMK: (1) 8-6-001: 035

Thank you for allowing us to review and comment on the subject documents. The documents were routed to the various branches of the Environmental Health Administration. We have the following Clean Water Branch and Clean Air Branch comments.

Clean Water Branch

The Department of Health (DOH), Clean Water Branch (CWB) has reviewed the limited information contained in the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 for this project. Pursuant to Federal Water Pollution Control Act (commonly known as the "Clean Water Act" (CWA) Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40, Code of Federal Regulations (CFR), Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

2. In accordance with HAR, Sections 11-55-04 and 11-55-34.05, the Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant Discharge Elimination System (NPDES).

a. An application for an NPDES individual permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

b. An NOI to be covered by an NPDES general permit is to be submitted at least 30 days before the commencement of the respective activity. A separate NOI is needed for coverage under each NPDES general permit. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

   i. Storm water associated with industrial activities, as defined in Title 40, CFR, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi). [HAR, Chapter 11-55, Appendix B]

   ii. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.** [HAR, Chapter 11-55, Appendix C]

   iii. Discharges of treated effluent from leaking underground storage tank remedial activities. [HAR, Chapter 11-55, Appendix D]

   iv. Discharges of once through cooling water less than one (1) million gallons per day. [HAR, Chapter 11-55, Appendix E]

   v. Discharges of hydrotesting water. [HAR, Chapter 11-55, Appendix F]

   vi. Discharges of construction dewatering effluent. [HAR, Chapter 11-55, Appendix G]

   vii. Discharges of treated effluent from petroleum bulk stations and terminals. [HAR, Chapter 11-55, Appendix H]

   viii. Discharges of treated effluent from well drilling activities. [HAR, Chapter 11-55, Appendix I]

   ix. Discharges of treated effluent from recycled water distribution systems. [HAR, Chapter 11-55, Appendix J]

   x. Discharges of storm water from a small municipal separate storm sewer system.

[HAR, Chapter 11-55, Appendix K]

xi. Discharges of circulation water from decorative ponds or tanks. [HAR, Chapter 11-55, Appendix L]

3. In accordance with HAR, Section 11-55-38, the applicant for an NPDES permit is required to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. If applicable, please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

4. Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage, shall comply with the applicable State Water Quality Standards as specified in HAR, Chapter 11-54.

The Hawaii Revised Statutes, Subsection 342D-50(a), requires that "[n]o person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director."

If you have any questions, please contact Mr. Alec Wong, Supervisor of the Engineering Section, CWB, at (808) 586-4309.

Clean Air Branch

Control of Fugitive Dust

A significant potential for fugitive dust emissions exists during all phases of construction and operations. Proposed activities that occur in proximity to existing residences, businesses, public areas or thoroughfares, exacerbate potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. The plan, which doses not require the Department of Health (DOH) approval, would help with recognizing and minimizing the dust problems from the proposed project.

Activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance problems.

The contractor should provide adequate measures to control the fugitive dust from the road areas and during the various phases of construction. Examples of measures that can be implemented to control dust include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Providing an adequate water resource at the site prior to start-up of construction activities;
c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimizing dust from shoulders and access roads;
e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Controlling dust from debris being hauled away from the project site.

If you have any questions, please contact the Clean Air Branch at 586-4200

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

If there are any questions about these comments please contact Jiacai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB
CAB

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Kelvin H. Sunada, Manager
State Department of Health
Env. Planning Office
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Sunada:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your comments on the Draft Environment Assessment for Hale Wai Vista. The following responds to your comments:

Clean Water

1. A Draft Environmental Assessment was sent to the Army Corps of Engineers on January 10, 2007.

   The applicant will comply with applicable sections of the Clean Water Act.

2. The applicant will comply with requirements related to Hawaii Administrative Rules (HAR), Sections 11-55-04 and 11-55-34.05 related to individual and general permits authorized under the National Pollutant Discharge Elimination System (NPDES).

3. If applicable, the applicant will submit a copy of the of the Notice of Intent or an NPDES permit application to the State Department of Land and Natural Resources and the Sate Historic Preservation Division.

4. The project will comply with the State Water Quality Standards as specified in HAR, Chapter 11-54 related to discharges from construction or operational activities.

Clean Air

1. The applicant acknowledges that there maybe a potential for fugitive dust emissions during the construction phase of the project. The applicant will prepare a dust control management plan and undertake mitigation measures to control dust as needed.

   The contractor will be directed to provide adequate measures to control fugitive dust from the road areas and during construction utilizing appropriate mitigation measures as described in your letter.

   The proposal is not anticipated to result in significant fugitive dust emissions during the operational phase of the project.

   The project will comply with the provisions of HAR, Section 11-60.1-33 related to fugitive dust.

   The applicant will review the Standard Comments on the cited website and consider applicable recommendations.

Thank you for participating in the environmental review process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

LINDA LINGLE
GOVERNOR

ANTHONY J.H. CHING
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

January 22, 2007

Mr. Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Mr. Shaw-Kim:

Subject: Draft Environmental Assessment
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1:35

We have reviewed the above Draft Environmental Assessment forwarded by your letter dated January 10, 2007.

Given the location, scope, and nature of the proposed activity, we have no comments to offer at this time.

Thank you for the opportunity to comment on the subject application. Please do not hesitate to contact me at 587-3822 should you require clarification or any further assistance.

Sincerely,

ANTHONY J. H. CHING
Executive Officer

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Anthony Ching, Executive Director
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804

Dear Mr. Ching:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

Thank you for responding to our request for comments on the Draft Environment Assessment for the above named project. Your letter indicates that you have no comments to offer at this time.

Thank you for participating in the environmental assessment process.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
636 SOUTH STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 723-7139 • FAX: (808) 723-7111 • INTERNET: www.honolulufire.org

MUFI HANNEMANN
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ALVIN K. TOMITA
DEPUTY FIRE CHIEF

January 23, 2007

Ms. Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
Suite 5-202, Manoa Market Place
2752 Woodlawn Drive
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Subject: Draft Environmental Assessment
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway
Tax Map Key: 8-6-001: 035

In response to your letter dated January 10, 2007, regarding the above-mentioned subject, the Honolulu Fire Department reviewed the material you provided and has no additional comments. Please refer to our correspondence dated August 16, 2006.

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 723-7151.

Sincerely,

Alvin K. Tomita

ALVIN K. TOMITA
Acting Fire Chief

AKT/SK:jl

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16 , 2007

Mr. Alvin K. Tomita, Acting Fire Chief
Fire Department
City and County of Honolulu
636 South Street
Honolulu, Hawaii 96813

Dear Chief Silva:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

Your August 16, 2006 letter cited various requirements of the Uniform Fire Code related to providing a fire apparatus access road and water supply. Your letter also asks that civil drawings be submitted to the Honolulu Fire Department for review and approval.

The project will comply with the various requirements of the Uniform Fire Code. Civil drawings will be submitted to the Honolulu Fire Department for review and approval.

Thank you for participating in the environmental assessment process. You may contact our office at 988-2231.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
636 SOUTH STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 723-7139 • FAX: (808) 723-7111 • INTERNET: www.honolulufire.org

MUFI HANNEMANN
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ALVIN K. TOMITA
DEPUTY FIRE CHIEF

July 14, 2006

Ms. Denise Boswell, Multi-Family Housing Specialist
United States Department of Agriculture - Rural Development
Hawaii State Office - Western Pacific Region
Room 311, Federal Building
154 Waianuenue Avenue
Hilo, Hawaii 96720

Dear Ms. Boswell:

Subject: National Environmental Protection Agency (NEPA) Class II
Environmental Assessment for the Hale Wai Vista I
86-78 Farrington Highway
Waianae, Oahu, Hawaii
Tax Map Key: 8-6-001: 035

In response to a letter from the Hawaii Housing Development Corporation dated June 22, 2006, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)

2. Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

   On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as

measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2 as amended.)

3. Submit civil drawings to the HFD for review and approval.

In addition, please note that our new address is:

Honolulu Fire Department
636 South Street
Honolulu, Hawaii 96813-5007

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SK:bh

cc: Hawaii Housing Development Corporation

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

MUFI HANNEMANN, Mayor

RANDALL Y. S. CHUNG, Chairman
HERBERT S. K. KAOPUA, SR.
SAMUEL T. HATA
ALLY J. PARK
ROBERT K. CUNDIFF

LAVERNE T. HIGA, Ex-Officio
BARRY FUKUNAGA, Ex-Officio

CLIFFORD P. LUM
Manager and Chief Engineer

DEAN A. NAKANO
Deputy Manager and Chief Engineer

February 1, 2007

Ms. Ardis Shaw-Kim
Kusao & Kurahashi, Incorporated
Manoa Market Place
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Subject: Your Letter Dated January 10, 2007 Regarding Draft Environmental Assessment for Hale Wai Vista Affordable Rental Housing 86-78 and 86-86 Farrington Highway, Waianae TMK: 8-6-1: 35

Thank you for the opportunity to comment on the proposed project again.

The comments in this letter supercede any comments previously made regarding this proposed project.

The Board of Water Supply is currently studying the system's capacity in the Waianae area. Therefore, a decision on the availability of water will be deferred until the study has been completed. It is anticipated that the study will be completed by July 2007, at which time the Board of Water Supply will be better able to address the system's ability to accommodate the proposed development.

If you have any questions, please contact Robert Chun at 748-5440.

Very truly yours,

K. Shida

KEITH S. SHIDA
Principal Executive
Customer Care Division

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Keith S. Shida, Principal Executive
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96813

Dear Mr. Shida:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

Your letter indicates that a study was being conducted to determine the availability of water in the project area. In a follow-up phone conversation on July 23, 2007, Board of Water Supply staff indicated that the study had been complete and that the study found that the existing water system is adequate to accommodate the proposed development. Further more, staff indicated that the final decision on the availability of water would be confirmed when building permits are submitted for approval.

Thank you for participating in the environmental assessment process. Your letter and our response will be placed in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

January 12, 2007

Deborah Kim Morikawa
Department of Community Services
715 South King Street, Suite 311
Honolulu, Hawaii 96813

Attn: Keith Ishida

Dear Ms. Morikawa:

Subject: Draft Environmental Assessment (EA) for **Hale Wai Vista Affordable Housing**

We have the following comments to offer:

Cultural impacts assessment: In the final EA include your analysis and conclusion of the project's impacts to existing cultural practices.

Landscaping: Any landscaping that you plan may include invasive plant species. Before finalizing your plan consult the Division of Forestry & Wildlife of DLNR at 587-0166 or go to the Hawaii Ecosystems at risk (HEAR) website at www.hear.org to eliminate those species that may pose a threat to the environment. Will the landscaping be irrigated with recycled water?

Design details: In the final EA discuss the following:

Open space: Section III. C, *Technical Characteristics*, mentions inclusion of open space. In the final EA give a fuller description of the open space(s) planned.

Solar power: Will solar power be used for the water heaters?

Fire access: Will Moelua Street be used for emergency access by fire trucks, or will they enter by Farrington Highway?

Elevators: Will there be a generator to power the elevators during times of emergency?

Contacts: In the final EA include copies of any replies sent in response to pre-consultation correspondence.

Acronyms: In section V. D, *Impacts*, indicate what the acronyms HOME and CDBG stand for.

Waianae Transit Center: On the photo legend in Appendix V indicate the proposed location of the transit center in relation to the housing project and other adjacent facilities. Also include a fuller discussion of noise impacts from the transit center on the housing project.

Cumulative impacts: In the final EA discuss and analyze the cumulative impacts of this project and all others in this part of the Waianae Coast. Factors should include traffic, noise, air quality, water resources, drainage, and flora and fauna.

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

Sincerely,

GENEVIEVE SALMONSON
Director

c: Ardis Shaw-Kim, Kusao & Kurahashi

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Larry Lau, Acting Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Mr. Lau:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

1) Cultural Impacts

The Final Environmental Assessment will include a Cultural Impact Assessment and conclusion of the project's impacts to existing cultural practices.

2) Landscaping

The landscape architect is aware of the problems caused by invasive species. The applicant does not plan to use recycled water for irrigation.

3) Design Details

Open Space -The Final EA will provide a description or illustration of the open space to be provided on the property.

Solar Water Heating -There are no plans to use solar power for heating water. Solar heating is always an alternative for the affordable housing projects initiated by the project manager. However, after doing an economic life analysis, it proves more expensive overall and not economical to install and operate.

Fire Access - Fire access will be available from both Moekolu Street and Farrington Highway.

Elevators - Generator are not required for buildings under 75 feet in height and none are planned at this time.

6) The Final EA will include comments received during the pre-consultation period.

7) The Final EA will indicate what the acronyms stand for. HOME is not an acronym.

8) The Final EA will identify the location of the proposed transit center and anticipated noise impacts. (The location of the cannot be shown on the photo legend in Appendix V because it is "off of the map." The center will be shown on another exhibit.)

9) The Final EA will identify the cumulative impacts of the project within the Waianae Coast for relevant factors.

Thank you for participating in the environmental review process. Your letter and this response will be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

HONOLULU EMERGENCY SERVICES DEPARTMENT
CITY AND COUNTY OF HONOLULU
3375 KOAPAKA STREET, SUITE H-450 • HONOLULU, HAWAII 96819-1814
Phone: (808) 723-7800 • Fax: (808) 833-3934

MUFI HANNEMANN
MAYOR

ELIZABETH A. CHAR, M.D.
DIRECTOR

ADMIN 07-03

January 19, 2007

Ms. Ardis Shaw-Kim
Kusao and Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Re: Draft Environmental Assessment
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1:35

Thank you for your January 10, 2007 letter requesting our review and comments on the Draft Environmental Assessment proposal on affordable rental project.

This project should have no significant impact on our ambulance accessibility to the building.

If there are any questions, please feel free to speak with Ms. Baybee Hufana-Ablan at 723-7811.

Sincerely,

ELIZABETH A. CHAR, M.D.
Director
Honolulu Emergency Services Department

EAC:bha

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Dr. Elizabeth A. Char, MD, Director
Honolulu Emergency Services Department
3375 Koapaka Street, Ste. H450
Honolulu, HI 96819

Dear Dr. Char:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. Your letter states that the proposed affordable housing project is not anticipated to have a significant impact on ambulance accessibility to the building.

Thank you for participating in the environmental assessment process. Your letter and this response sill be included in the Final Environmental Assessment.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4432 • FAX: (808) 527-6743
DEPT. INTERNET: www.honoluludpp.org • INTERNET: www.honolulu.gov

MUFI HANNEMANN
MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

2007/ELOG-67(sn)

February 21, 2007

Ms. Ardis Shaw-Kim
Kusao & Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Subject: Draft Environmental Assessment – Hale Wai Vista
Affordable Rental Apartment Development
86-078 and 86-086 Farrington Highway - Waianae
Tax Map Key 8-6-1: 35

The Department of Planning and Permitting (DPP) has reviewed the Draft Environmental Assessment (DEA) for the subject project and offers the following comments:

1. Project Description - The DEA states that the project proposes to develop "about 216, 2 and 3 bedroom affordable rental units, including a resident manager's unit...".

   Given the information provided on Pages 9 and 10 regarding the proposed number of units to be made available to the three income levels, it would appear appropriate for the DEA to simply state that the project will provide 215 rental units and one (1) manager's unit.

2. Introduction - In the context of the discussion regarding the height and number of stories for the proposed buildings, the DEA should indicate the height limit(s) for the site and surrounding area.

3. General Information – Revise as follows:

   a. The correct lot area. Is the lot area 94,981 square-feet or 5.02 acres.

   b. Confirm the recorded fee owner. Our records indicate that the fee ower is WAMA Corporation, not Hawaii Housing Development Corporation.

   c. Change "Public Facilities Map" to "Public Infrastructure Map" to be consistent with Exhibit 3 and Section III B4c and list separately from the Development Plan.

4. Target Market - Information provided on these pages indicate that the proposed development's rental rates will largely be lower than the rates permitted under Federal guidelines.

   The DEA should explain how the lower rates would be made possible, and provide more information about the "utility allowance" included in the anticipated rental rates.

5. Proposed Development – Clarify the use of the community multi-purpose building and the appropriate parking standard. If the facility will be available for use by the general community, then it should be considered a meeting facility for Land Use Ordinance (LUO) purposes. Please refer to the LUO for the appropriate parking standards.

6. Land Use Approvals – Revise by adding a new subsection that discusses how the proposed project supports the City's General Plan.

7. Development Plan – The proposed project is within the Rural Community Boundary of the Waianae Sustainable Communities Plan (SCP). To the extent that it can, the DEA should describe how the project promotes with the rural character of Waianae. We believe the proposed project is generally inconsistent with the vision of Waianae as a "rural community" as mentioned in Section 2.2 (page 2-2). Additionally, the proposed project is also inconsistent with the site's "Country Town" land use designation because of the height, density, and housing type being proposed (Section 3.10.3.3). In DEA Section III B4b (Page 15) and Appendix VIII, it should be noted that the project would not comply with the following Waianae SCP guidelines and principles:

   - Section 2.2 (Page 2-2) relating to "We are a rural community."
   - Section 3.10.3.3 (page 3-45) relating to two-story structures; housing types of townhomes, duplex units, and cluster single-family homes; high-rise and mid-rise apartment buildings not appropriate; and density of about 10 units per acre.

   Also, under Section III.B.4.1 (page 15), change "Section 3.7" to "3.8.2."

8. Access and Transportation – Expand this section to address the following:

   a. The project site appears to connect with Moekolu Street, not Moelua Street, as indicated on Pages 14 and 25.

   b. Identify the properties that use the existing access easement from Farrington Highway. Also, describe the pavement width, as well as the combined width of the easements.

c. The State Department of Transportation (DOT) should be consulted regarding the access to Farrington Highway, since this roadway facility is under their jurisdiction. It is recommended that the DOT comments be included in the Final EA.

d. Discuss pedestrian safety along the access easements. Also, discuss whether the recommendations of the traffic assessment to improve access to and from the site will be implemented.

e. An additional vehicular access should be provided at Moekolu Street. The applicant should meet with the residents of the surrounding community to present this proposed secondary access.

9. Drainage – Expand this section to address the following:

a. Clarify whether the on-site drainage system will connect to the City municipal storm drain system. If so, identify the location of the proposed connection.

b. Describe how the project complies with Section II (Storm Water Quality) of the "Rules Relating to Storm Drainage Standards."

c. If a storm drain connection license is required for the project, that must be listed on Page 47, Section VII relating to the required government permits and approvals.

d. A drainage report for the project will be required at a later date.

10. Schools – Clarify whether the State Department of Education concurs with the table showing the projected student enrollment at the various Waianae public schools. Based on the October 10, 2006 letter from the principal of Leihoku Elementary School and the July 14, 2006 letter from the State Department of Education (DOE), it appears that there may not be adequate student capacity at Leihoku Elementary, Waianae Intermediate and Waianae High School.

11. Park Dedication. Discuss how the park dedication requirements will be addressed. If an exemption will be requested, then discuss potential impacts on existing park space and facilities. Also, the DEA should clearly indicate that the park dedication requirements are administered under Chapter 22 of the Revised Ordinances of Honolulu (ROH), and not the LUO, which is Chapter 21, ROH. The park dedication requirements appear to be combined with the LUO standards in several sections of the DEA, including Appendix VIII.

12. Visual Impacts. Further discuss potential visual impacts on the surrounding area since two of the buildings will exceed the underlying zoning district height limit by 20 feet and the adjoining residential district height limit by 35 feet. It appears that the proposed

buildings will be the tallest buildings in the area, unless there are nonconforming structures which exceed the zoning height limits. Also discuss other measures to mitigate potential visual impacts such as building design and landscaping.

13. Alternatives Considered – Consider other project alternatives, such as an alternative that complies with the LUO height limit or an alternative that would add floors to the two-story buildings while decreasing the height of the seven-story buildings.

14. Government Permits and Approvals Required – Technically, the 201H approval is not a permit. The approval of exemptions from planning and zoning standards by City Council is pursuant to Chapter 201H, Hawaii Revised Statutes. Please revise accordingly.

15. Exemptions – Discuss the exemptions that will be requested for the project in greater detail. Except for an earlier discussion of height, only limited details were provided regarding other LUO exemptions. Thus, it is difficult to evaluate the impact, since specifics were not disclosed.

16. Ultimate Site Plan – Revise the site plan to address the following:

    a. The shared access easements and the width of the existing, paved access road. Also, identify Farrington Highway and Moekolu Street.

    b. The correct lot area, the actual lot width and the amount of private park space to be provided. The site plan shows "XXX" next to the lot width and park space. Also, we were unable to fully review the site plan, since the words are illegible. The plans and data table will be further reviewed for compliance with the LUO under the 201H application process.

    c. Verify the off-street parking total. It appears that the parking calculations for several of the buildings are incorrect.

Should you have any questions, please contact Sharon Nishiura of our staff at 523-4256.

Very truly yours,

Robert A Bannister

for Henry Eng, FAICP, Director
Department of Planning and Permitting

HE:nt

doc no. 514756

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Henry Eng, FAICP
Department of Planning and Permitting
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Eng:

Subject: Draft Environmental Assessment (EA) Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

1. The project description will be reworded as you suggest.

2. The Final EA will note the height limit for the site and surrounding area in the context of the discussion regarding height and the number of stories.

3. General Information

   a. The lot area is 5.02 acres.

   b. The owner of the property is the Hawaii Housing Development Corporation.

   c. The Final EA will reference the Public Infrastructure Map. The Final EA will list this separately from the Development Plan.

4. The Final EA will include an explanation of how rental rates can be offered at the proposed rates. The utility allowance will be described in the Final EA. The net rents provided in the Final EA, include fees that will pay for utilities expenses.

5. The Final EA will described the intended use of the multi-purpose building as well as the proposed parking that will be provided for that facility. The exact use of the proposed multi-purpose building has not yet been determined as construction fo the facility is several years off. At this time parking for the multi-purpose building is being provided at 1 stall/400 square feet of floor area as if the facility would be used as a meeting facility.

6. The Final EA will describe how the proposal supports the City's General Plan.

7. The Final EA will state that the project is within the Rural Community Boundary of the Waianae Sustainable Communities Plan and describe the projects relation to the vision for this area. The Final EA will note those guidelines and principles of the Waianae Sustainable Communities Plan with which the project will not comply. We acknowledge that the proposal may not be consistent with the vision of Waianae as a "rural community" and will be requesting exemptions from these guidelines by seeking a 201-H approval for the project.

   Section III.B.4.1 (page 15) of the Final EA will be amended to change "Section 3.7" to "3.8.2".

8. Access and Transportation

   a. The Final EA will indicate that the site is connect with Moekolu Street.

   b. Figure 2 and pages 3-4 of the Traffic Assessment identifies properties that utilize the flag stem. This report will be included in the Final EA. According to subdivision documents there are three easements that begin at the Farrington Highway juncture, these are generally 16, 26 and 16 feet in width (excluding the additional width of the curb radius). The Final EA will provide additional information on proposed pavement widths as well as the combined width of the easements.

      The pavement width for the private driveway access currently varies from about 60 feet near the juncture with Farrington Highway diminishing to the width of the flag access.

   c. Comments from the State Department of Transportation will be included in the Final EA.

   d. The Traffic Assessment recommend improved pedestrian access to the site. This will be noted in the Final EA. There will be a 5-foot wide concrete sidewalk on the Diamond Head side of the proposed access road/driveway within the project area that the developer has exclusive use over. A curb ramp will be provided to match/transition to the existing pavement toward Farrington Highway.

   e. The Traffic Assessment recommends that emergency access be provided from Moekolu Street but recognizes that there are reasons not to have it opened at all times for regular vehicular access. The residents of the adjacent residential community may not wish to have additional traffic in their neighborhood. Further, opening this access point could create a through route or short cut though the project to the highway.

9. Drainage

The Final EA will be revised to provide additional information on drainage.

10. Schools

The enrollment and projected enrollment data was obtained from the State Department of Education Facilities Development Branch on October 17, 2006. We cannot speak for the State DOE but assume that they concur with the data that they provided. We hope that with the early consultation the State Department of Education is made aware of the proposal and can make adjustments to accommodate the anticipated increases in enrollment.

11. Parks

Comments from the Department of Parks and Recreation will be included in the Final EA. The Final EA will clarify that the developer will be seeking exemption from the park dedication requirements and application process. The Final EA will identify those park facilities in the area that are likely to be used by the residents of the project and will state that the park dedication requirements are administered under Chapter 22, Revised Ordinances of Honolulu. The Final EA will indicate that the developer is planning to provide a play apparatus on site.

12. Visual Impacts

The Final EA will provide additional illustrations describing the potential visual impact of the proposal on the surrounding area. We note that there is an 8 story building along the coastline, Pokai Bay Marina, approximately .36 miles from the project site. The Final EA will discuss measures that will be used to mitigate potential visual impacts.

13. Alternatives Considered

The project was originally conceived with two eight-story multi-family buildings with a height of approximately 71 feet, with the remaining two multi-family building and multi-purpose building being two stories with an approximately height of 27 feet. One of the 8-story, 84 unit buildings, is financed with 9% Low Income Housing Tax Credits and a Rental Housing Trust Fund loan, among other sources of funding. The remaining multi-family buildings are financed with 4% Low Income Housing Tax Credits/Hula Mae bonds and another Rental Housing Trust Fund loan.

When this proposal was initially presented to the Waianae Neighborhood Board on September 5, 2006, the board expressed concern regarding the height of the eight-story buildings and the proposed number of parking stalls.

Accordingly, the project was modified to what is now the preferred alternative, described in the Final EA, with two seven-story buildings and three two-story buildings. This alternative allows the developer to maintain the initially proposed unit count, thus helping to ensure the continued financing and scheduled deadlines for the project. This alternative dropped the height of the eight-story buildings to seven stories. The reduction in height is accomplished by relocating parking from under the building, to outside of the building foot print. In addition to reducing the height, the number of parking stalls was increased to 331 stalls (about 38 stalls more than would be required by the LUO).

As another alternative, the applicant considered revising the project to one seven story building, at about 61 feet in height, with the remaining multi-family buildings in generally the same foot print, as two, three-story buildings and one four-story building, all within the 40-foot height limit. The tallest building would be situated adjacent to the commercial and industrial zoned properties with the one three-and four-story building on the northern side of the property, closer to some single family dwellings. This scheme would have all but one of the buildings (located adjacent to commercial and industrial properties), within the allowable height limit. This alternate scheme would add about $3 Million to the cost of the project. This alternative was presented to the Waianae Neighborhood Board on March 6, 2007. At the time of the Neighborhood Board presentation the agent for the developer explained that since funding had already been approved for Phase 1 with 84 units, the number of units and building height could not be reduced without loss of funding and significant delay. At that meeting Board members expressed concerns regarding the height of the buildings, visual impact, contaminated soils, and egress thru a residential subdivision. Some expressed a preference for 25-foot high structures. Beyond addition to the cost and delays that would be incurred, this scheme may be relatively undesirable because it would result in higher structures located in closer proximity to the existing residential development. Accordingly the Final EA will explain that the why the preferred alternative was selected.

14. Permit/Approval

Section VII of the Final EA will be revised to clarify that exemptions approved under Chapter 201H, Hawaii Revised Statutes is not a permit but rather an approval.

15. Exemptions

The Final EA will include plans showing the proposed structures and how they conform or diverge from development standards. The requested exemptions will be identified in the Final EA.

16. Site Plan

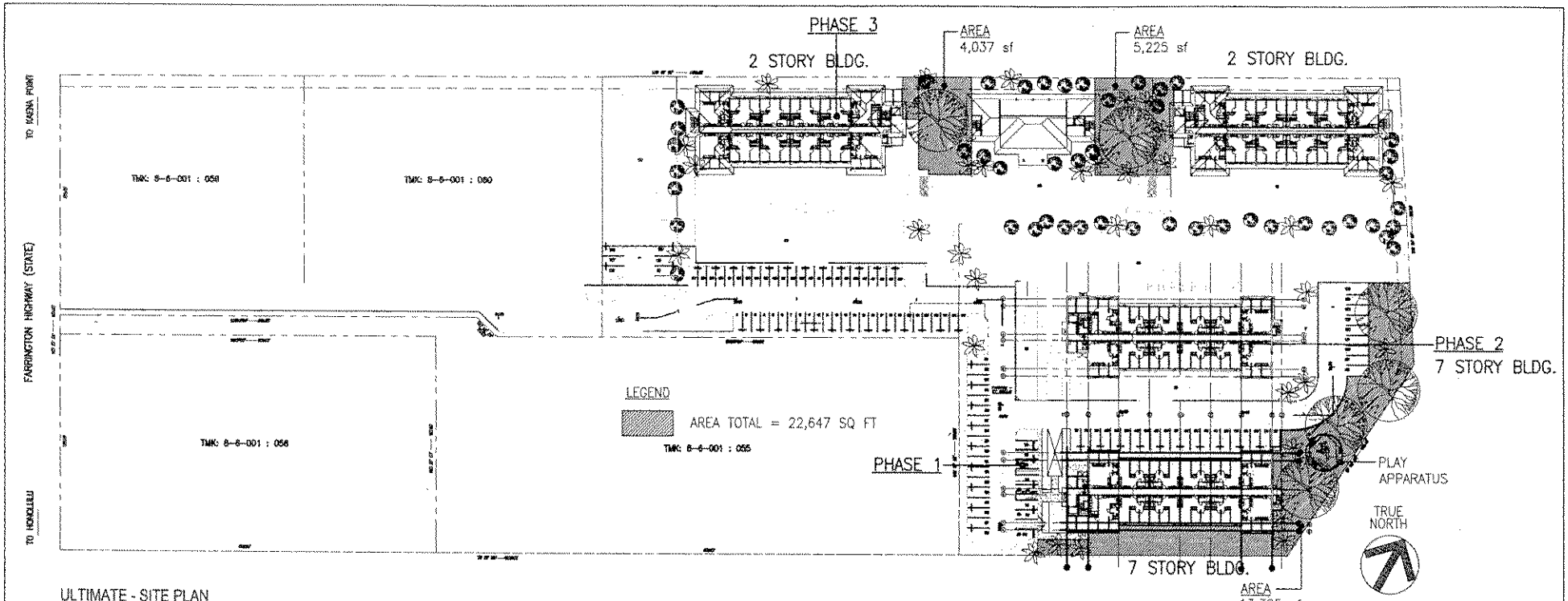
The Final EA will provide an updated site plan.

Thank you for participating in the environmental assessment process. Your letter and this response will be included in the Final EA.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner



ULTIMATE - SITE PLAN
SCALE: 1" = 40 FT.

1" = 40'

40' 20' 0 40' 80'

LAND USE ORDINANCE DATA

ADDRESS	78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII
TAX MAP KEY	8-6-001: 035 (PORTION)
ZONING	B-2
MINIMUM LOT AREA	5,000 SF
ACTUAL LOT AREA	94,981 S.F.
MINIMUM LOT WIDTH	50'-0"
ACTUAL LOT WIDTH	XXX
MINIMUM YARDS	
FRONT	5'
SIDE/REAR	0' (PROVIDE 20 FT. @ BLDG. TO ALLOW UNPROTECTED WINDOW OPENINGS @ END UNITS)
MAXIMUM BUILDING AREA	NOT REGULATED
ACTUAL BUILDING AREA (BUILDING FOOTPRINT)	BUILDING 1: 9,804 S.F. BUILDING 2: 9,804 S.F. BUILDING 3: 9,873 S.F. BUILDING 4: 9,873 S.F. TOTAL LOT COVERAGE: 39,354 S.F.
MAXIMUM HEIGHT ALLOWED	40'-0"
ACTUAL HEIGHT	60'-1" TO ROOF LEVEL (71'-1" TO TOP OF ELEVATOR/STAIR PARAPET)
OPEN SPACE PROVIDED	34,500 S.F.
PRIVATE PARK SPACE REQUIRED	110 S.F. X 216 UNITS = 23,760 S.F.
PRIVATE PARK SPACE PROVIDED	XXX
ACTUAL GROSS FLOOR AREA	PHASE 1: BUILDING 1 = 69,167 S.F. (7 STORY BLDG. - 84 UNITS) PHASE 2: BUILDING 2 = 69,167 S.F. (7 STORY BLDG. - 84 UNITS) PHASE 3: BUILDING 3 = 19,746 S.F. (2 STORY BLDG. - 24 UNITS) BUILDING 4 = 19,746 S.F. (2 STORY BLDG. - 24 UNITS) COMMUNITY CENTER = 6,000 S.F. TOTAL GROSS AREA: 181,826 S.F.
TOTAL NUMBER OF UNITS	216 UNITS

PARKING CALCULATION:

PHASE 1:
BUILDING 1 (84 UNITS):
PER FLOOR:
1 = 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 = 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 = 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS
(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'
PARKING PROVIDED: 111 STALLS = 4 ARE ACCESSIBLE
1 LOADING

PHASE 2:
BUILDING 2 (84 UNITS):
PER FLOOR:
1 = 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 = 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 = 2 BEDROOM UNITS @ 598 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 7 FLOORS = 98 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 8 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 1: 106 STALLS
(4 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

PHASE 3:
BUILDING 3 (24 UNITS)
PER FLOOR:
1 = 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 = 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 = 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 3 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 31 STALLS
(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

BUILDING 4 (24 UNITS)
PER FLOOR:
1 = 2 BEDROOM END UNIT @ 822 S.F. = 1.5 STALL
3 = 3 BEDROOM UNITS @ 751 S.F. = 4.5 STALLS
8 = 2 BEDROOM UNITS @ 591 S.F. = 8 STALLS
SUBTOTAL: 14 STALLS PER FLOOR X 2 FLOORS = 28 STALLS
VISITOR STALLS: 1 PER 10 UNITS = 3 STALLS
TOTAL STALLS REQUIRED FOR BUILDING 3: 31 STALLS
(2 OF THESE STALLS ARE REQUIRED TO BE ACCESSIBLE WITH 1 STALL TO BE VAN ACCESSIBLE)
1 LOADING ZONE REQUIRED WITH SIZE OF 12' X 35'

COMMUNITY CENTER
2 STORY = 6,000 S.F. (3,000 S.F. EACH FLOOR)
PARKING REQUIRED: 6,000 S.F./400 = 15 STALLS

TOTAL PARKING RECAP SUMMARY = ULTIMATE PHASE
TOTAL PARKING REQUIRED: 289 STALLS (7 ACCESSIBLE)
TOTAL PARKING PROVIDED: 331 STALLS (10 ACCESSIBLE)
111 STALLS PROVIDED IN PHASE 1 (50 OF THESE ARE COMPACT)

BUILDING CODE DATA: (1997 UBC)

BUILDING 1 AND 2:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE II-FR
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	29,900 SF
MULTI-STORY (29,900 X 2)	59,800 SF
AREA INCREASE (59,800 X 2)	119,600 SF
ACTUAL AREA	49,475 S.F.
ALLOWABLE HEIGHT	12 STORIES
ACTUAL HEIGHT	7 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED LESS THAN 20 FT.
BUILDING AREA TABULATION	
GROUND FLOOR	9,804 S.F.
2ND - 7TH FLOORS	
TYPICAL FLOOR PLATE	9,846 S.F.
6 FLOORS	59,076 S.F.
ROOF LEVEL	
STAIR, ELEVATOR	287 S.F.
TOTAL GROSS FLOOR AREA:	69,167 S.F.

BUILDING 3 AND 4:

OCCUPANCY GROUP	R-1
TYPE OF CONSTRUCTION	TYPE V-N
AUTOMATIC FIRE SPRINKLER	REQUIRED
ALLOWABLE FLOOR AREA	
BASIC	6,000 SF
MULTI-STORY (6,000 X 2)	12,000 SF
AREA INCREASE (12,000 X 2)	24,000 SF
ACTUAL AREA	19,746 SF
ALLOWABLE HEIGHT	2 STORIES
ACTUAL HEIGHT	2 STORIES
EXTERIOR WALL AND OPENING	OPENINGS NOT PERMITTED LESS THAN 3 FT, PROTECTED LESS THAN 20 FT.
BUILDING AREA TABULATION	
GROUND FLOOR	9,873 S.F.
2ND FLOOR	9,873 S.F.
TOTAL GROSS FLOOR AREA:	19,746 SF

REVISIONS

THE DATA HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE DONE AT OR UNDER THE SUPERVISION OF THE FIRM ASSOCIATED WITH THE PREPARATION OF THIS DATA (CONSTRUCTION RELATED, PROFESSIONAL, GRAPHIC, ARCHITECTURAL, SCHEDULE, AND LANDSCAPE AS NEEDED)

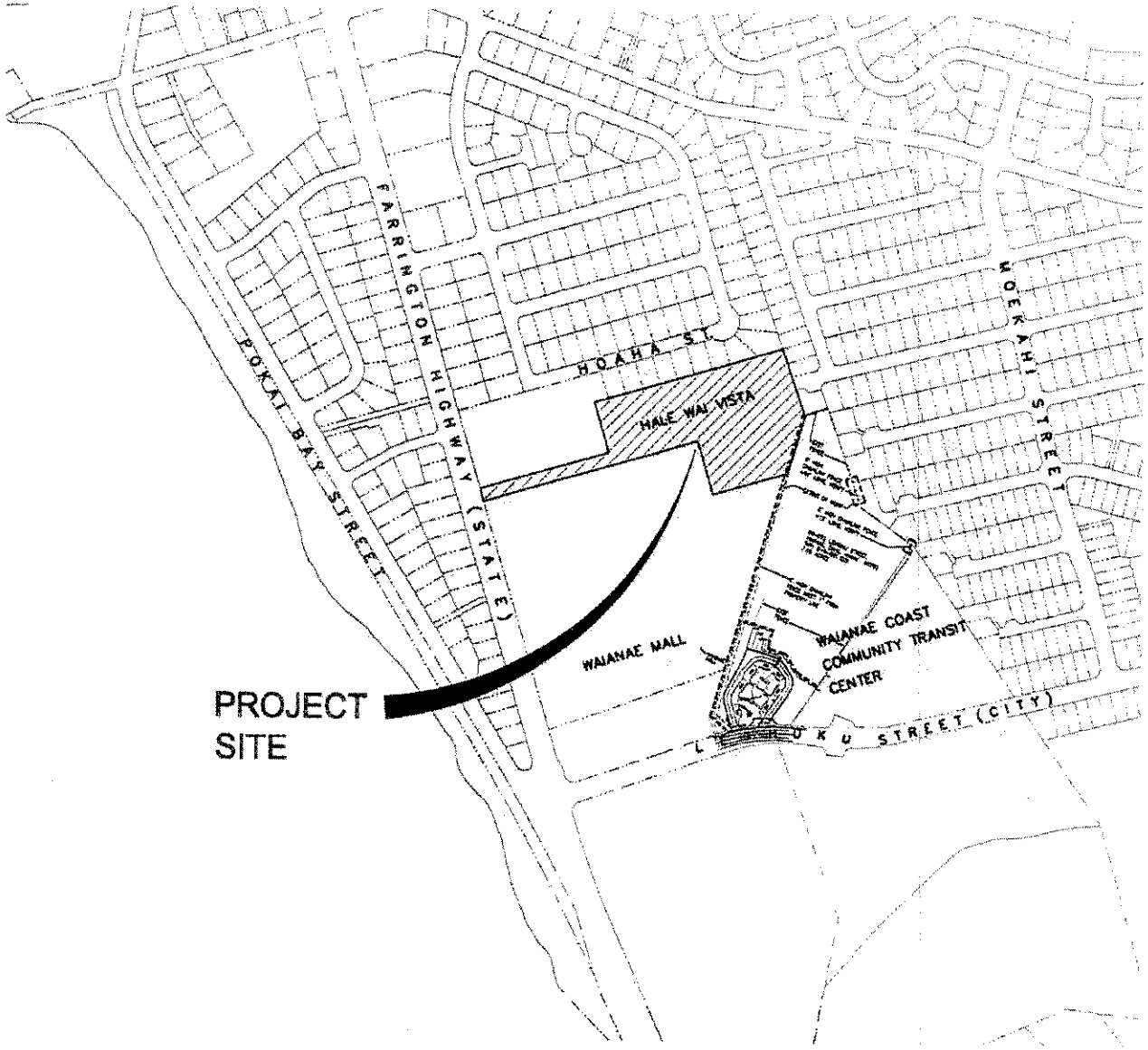
EXPIRATION DATE:

HALE WAI VISTA
78 & 86 FARRINGTON HIGHWAY WAIANAE, HAWAII 96792
TMK: 8-6-001: 035 (PORTION)

M & A HAWAII
ARCHITECTURE
ENGINEERING
PLANNING
CONSTRUCTION MANAGEMENT
747 Amana Street
Suite 216
Honolulu, HI 96814
PH. (808) 945-1882
FAX. (808) 946-2253

Sheet Title

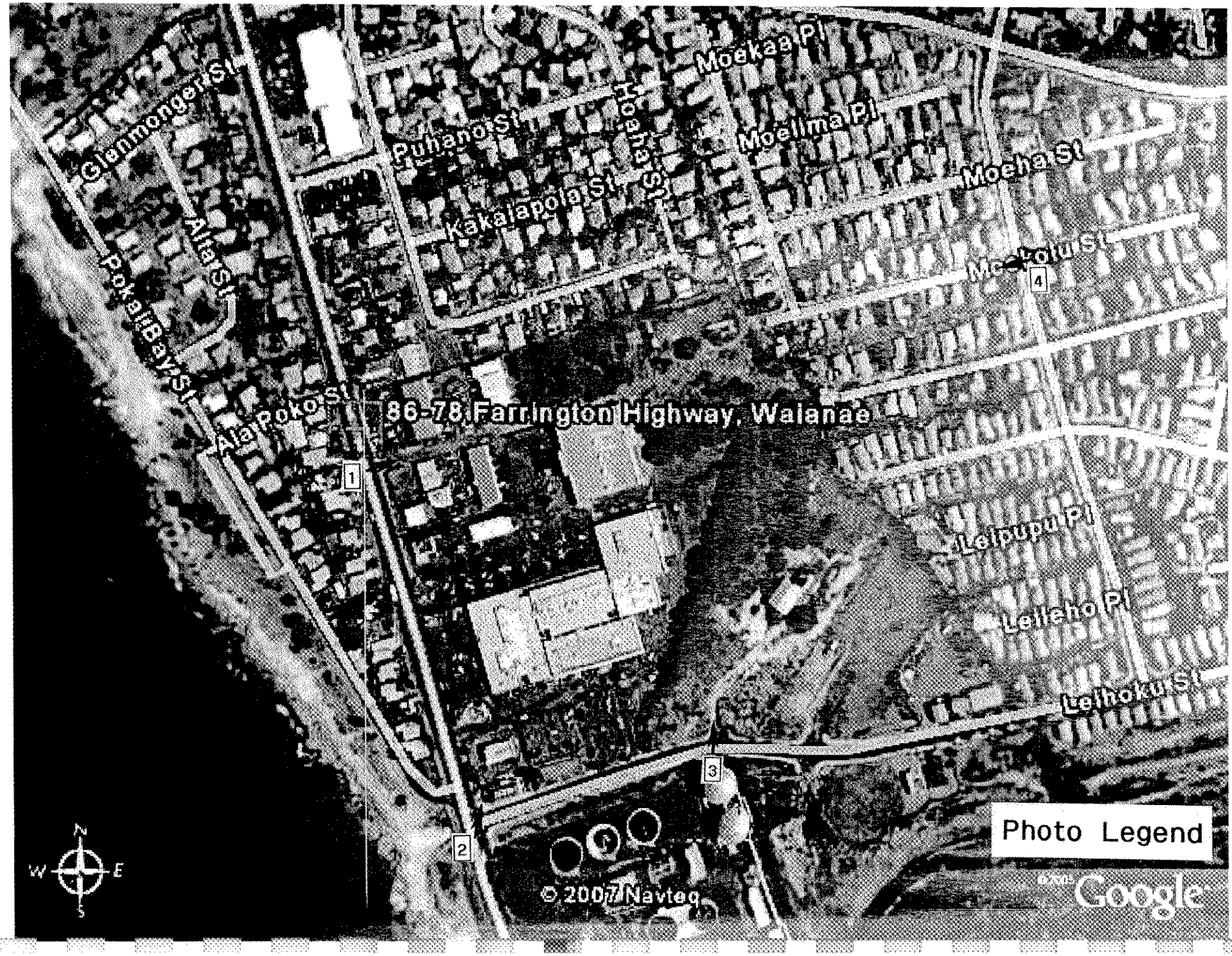
Date: 10 AUGUST 2007
Scale: AS NOTED
Drawn By:
Job:
Sheet:



TMK: 8-6-001: 035 (PORTION)

LOCATION PLAN

NO SCALE


Glenmonger St
Moekaa Pl
Puhano St
Hoeha St
Moelima Pl
Moeha St
Kakalapola St
Alta St
Pokai Bay St
Moekolu St
4
Ala Poko St
86-78 Farrington Highway, Waianae
1
Leipupu Pl
Leileho Pl
Leihoku St
3
2
Photo Legend
N
W
E
S
© 2007 Navteq
Google

1

Glenmonger St
Moekaa Pl
Puhano St
Hoaha St
Moelima Pl
Moeha St
Kakalapola St
Alta St
Pokai Bay St
Moekolu St
4
Ala Poko St
86-78 Farrington Highway, Waianae
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Lelleho Pl
Lelhoku St
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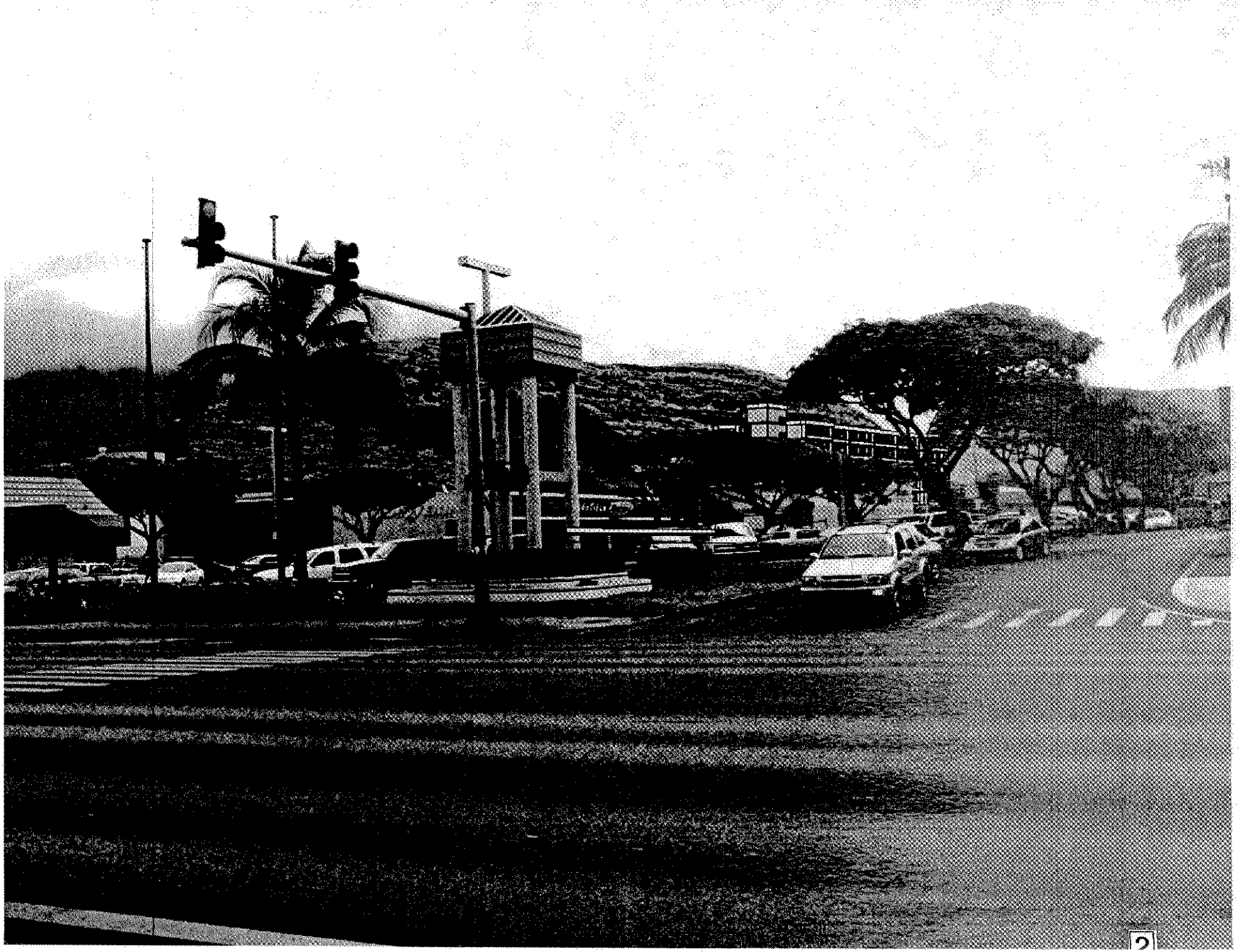

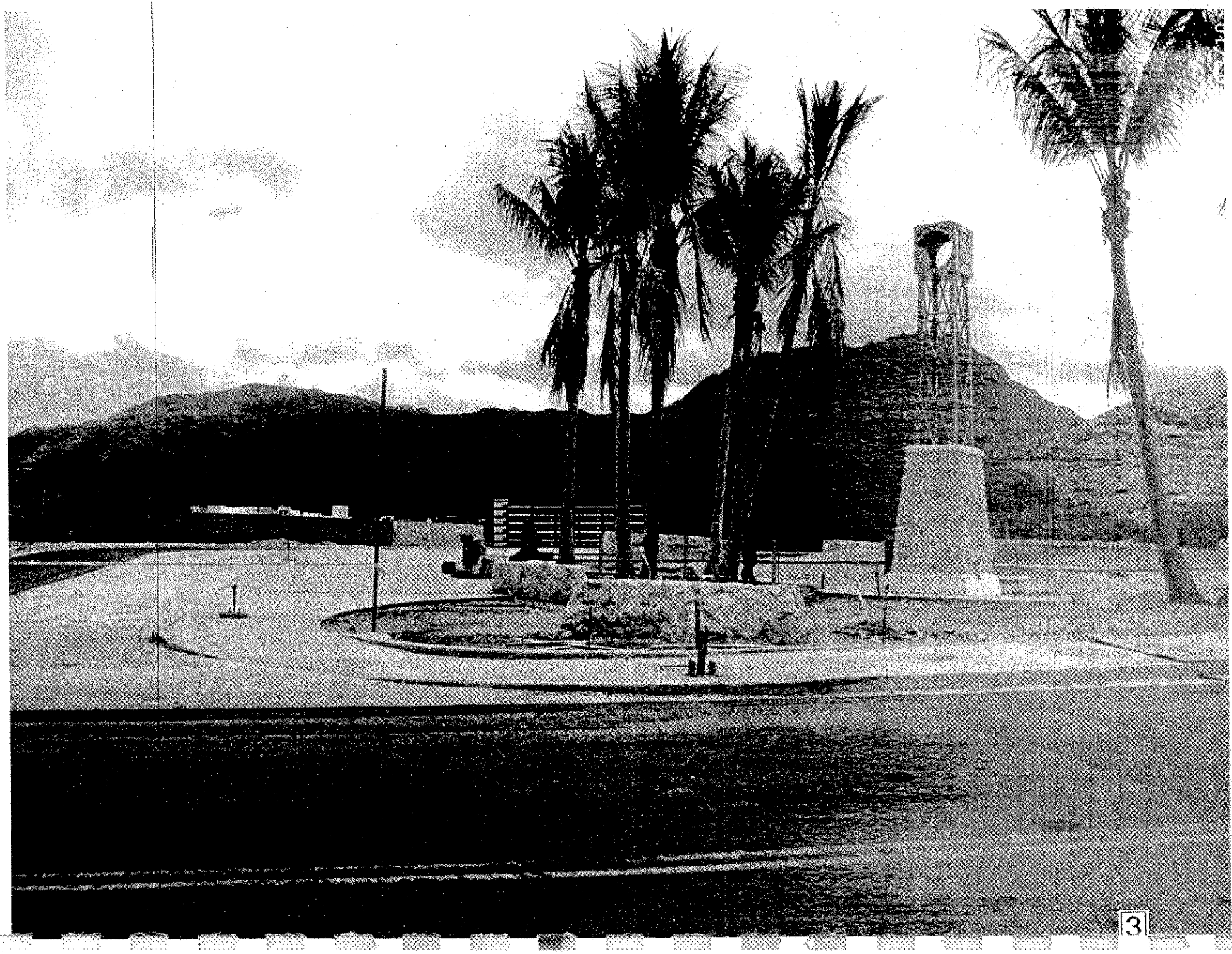

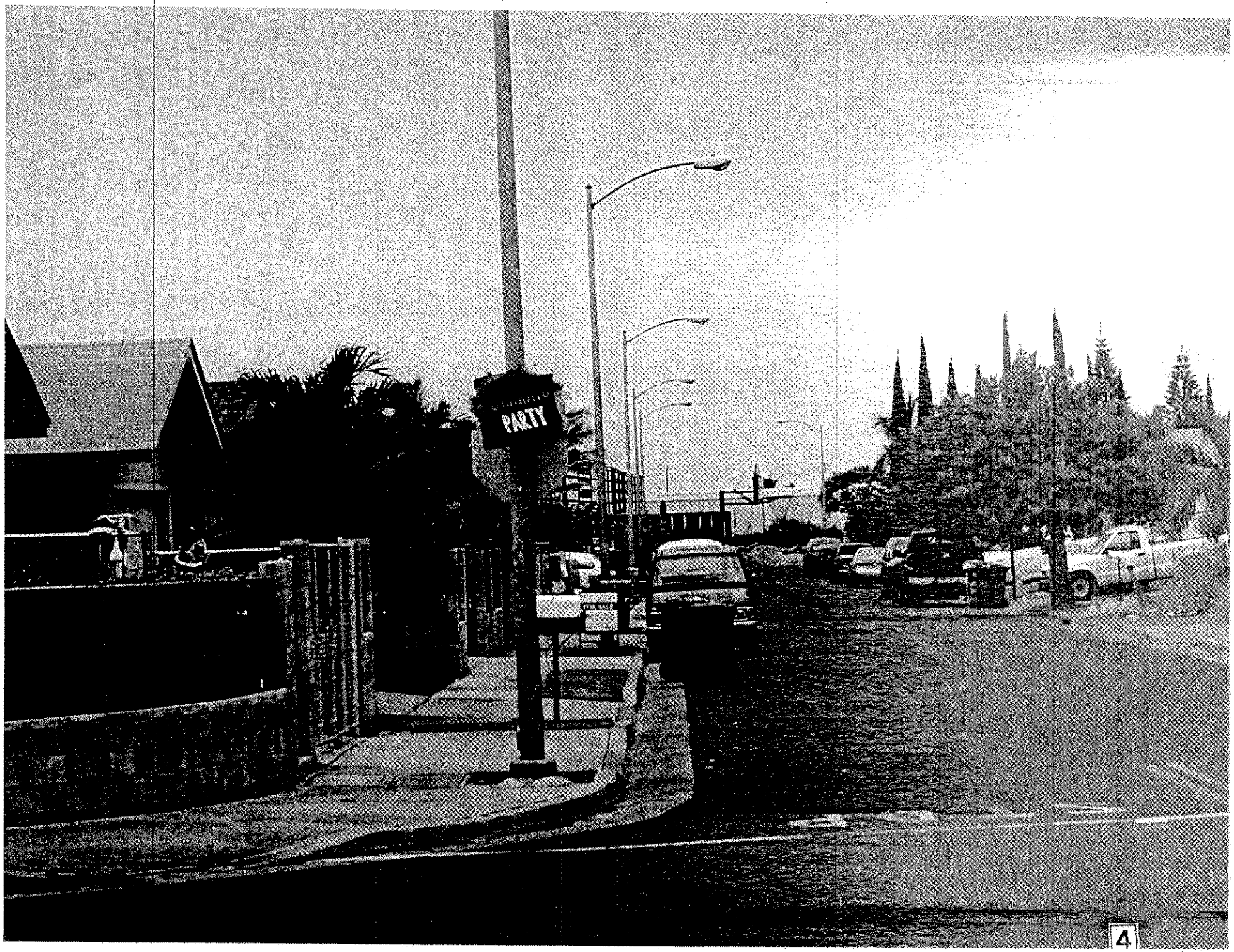
PARTY

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 523-4730 • Internet: www.honolulu.gov

MUFI HANNEMANN
MAYOR

MELVIN N. KAKU
DIRECTOR

RICHARD F. TORRES
DEPUTY DIRECTOR

TP1/07-190149R

February 22, 2007

Ms. Ardis Shaw-Kim, Planner
Kusao & Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu, Hawaii 96822

Dear Ms. Shaw-Kim:

Subject: Hale Wai Vista Affordable Rental Housing

Thank you for your January 10, 2007 letter, requesting our review of and comments on the draft environmental assessment for the subject project.

We have the following comments on Section **IV. IMPACTS**, D. PUBLIC SERVICES, 1. Access and Transportation, of the document:

1. The Hawaii State Department of Transportation should be consulted as the proposed driveway to the site impacts Farrington Highway.

2. On Page 25, it is incorrectly stated that the development abuts Moelua Street.

3. This section should include a discussion on the expected impact on the public transit system.

4. The pedestrian path from the proposed project to the nearby bus stops must be accessible, in compliance with the Americans with Disabilities Act.

5. In order for TheHandi-Van vehicles to access the proposed project, adequate space on the project site must be provided to allow the vehicles to drop-off/pick-up passengers without having to reverse.

6. Appropriate project notification should be provided to the area neighborhood board, as well as community residents, businesses, emergency personnel, bus personnel, etc. They should be kept apprised of the details of the proposed project and the impacts the project may have on the adjoining local street network area.

Should you have any questions regarding these comments, please contact Ms. Faith Miyamoto of the Transportation Planning Division at 768-8350.

Sincerely,

MELVIN N. KAKU
Director

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Melvin Kaku, P.E., Director
Department of Transportation Services
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kaku:

Subject: Draft Environmental Assessment (EA) Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

1. The developer has been meeting with the State Department of Transportation (DOT) regarding the project. Comments from the DOT will be included in the Final EA.

2. Page 25 of the Final EA will be corrected.

3. The Final EA will include a discussion related to impacts to public transit.

4. The Final EA will address pedestrian access toward Farrington Highway. There will be a 5-foot wide concrete sidewalk on the Diamond Head side of the proposed access road/driveway within the project area that the developer has exclusive use over. A curb ramp will be provided to match/transition to the existing pavement toward Farrington Highway. The developer plans to provide ADA compliant access ways within the area that he has exclusive control.

5. The project will provide adequate space on the project site to allow TheHandi-Van to drop-off/pick-up passengers without having to reverse.

6. The developer has made presentations of the project to the Waianae Neighborhood Board on three occasions. There have been numerous meetings with elected officials and community housing groups. The Final EA will outline this outreach and identify those agencies who participated in the environmental review process.

Thank you for participating in the environmental assessment process. Your letter and this response will be included in the Final EA.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

Cynthia K.L. Rezentes
87-149 Maipela Street
Wai'anae, HI 96792-3154
Email: rezentesc@aol.com

February 4, 2007

City and County of Honolulu
Department of Community Services
Attn: Mr. Keith Ishida
715 S. King Street, Suite 408
Honolulu, HI 96813

RE: Draft Environmental Assessment for Hale Wai Vista Affordable Rental Housing, TMK 8-6-1:35, 86-78 and 86-86 Farrington Highway, Wai'anae, O'ahu

Dear Sirs:

The following comments in opposition to the granting of a Finding of No Significant Impact (FONSI) are submitted in response to the notice in the Office of Environmental Quality Controls' newsletter, "The Environmental Notice", dated January 8, 2007.

The entire Draft Environmental Assessment and presumption of a FONSI (page 54) is predicated upon a belief that the applicant will be able to attain exemptions from the City and County of Honolulu including a modification to the current Wai'anae Sustainable Communities Plan, a zoning exemption, building permit fees, plan review fees, grading and grubbing permit fees, private storm drain connection license fee, deferral of payment of wastewater system facility charges and Board of Water Supply water system facilities charges, and subdivision (for creation of a sewer easement on the adjacent Waianae Mall Property).

The current zoning for this parcel of land is B-2 Community Business District under the Land Use Ordinance. This proposed multi-family affordable rental project is not a permitted use for this zoning identification.

The applicant proposes to not only building a multi-family affordable rental project on this property but also to exceed the height limits of a B-2 zoned property by more than 20 feet. This proposed height has been modified by the original proposal to the Wai'anae community by a reduction of ten feet but is still not acceptable to the surrounding residential landowners nor the larger community as expressed during two Wai'anae Coast Neighborhood Board meetings and a community meeting enumerating the various emergency, transitional and affordable housing projects being proposed within the community.

In Section III, subpart A, item 1, the applicant speaks about no new construction targeting the market rate rental market for families looking for a residence suitable for aging-in-place. What is

the definition of aging-in-place? Are these proposed units to also include long-term plans for in-place care to be provided? Or does the applicant mean that individuals and families would just have the option to the potential of long-term affordable rental units at their disposal? This should be clarified as to the long-term intent and not just the short-term provision of affordable housing being made available. There should also be an indication of how long these units will be "affordable rentals". As we have seen recently, other affordable rental units have been under threat of new classifications via market turnover (i.e. Kukui Gardens).

In that same section and subpart, item 2, there is a discussion regarding the target market being 30, 50 or 60% of the area medium gross income (AMGI). It is also clearly stated that this AMGI is related to the Honolulu medium family income. With all due respect to the larger City and County of Honolulu, these numbers are not necessarily indicative of the medium gross income of the Wai`anae community at-large. The analysis should be done to determine whether or not the target market will help Wai`anae community individuals or still be out of reach for most of the people living in Wai`anae on the lower end of the economic scale. (Example: If a minimum wage of $7.25 per hour is used, an individual working 40 hours per week and 52 weeks per year will still only be making $15,080. This means two people would have to work at least one job each {one full-time} to make the minimum salary to afford even the 30% AMGI qualification.)

In Section III, subpart B, item 1, there is a statement that the multi-purpose building being proposed "could provide space for various social uses possibly including a Head Start program or community meeting rooms." Is a Head Start planned or not? Will the community be allowed to utilize the meeting rooms or not?

It is also stated, "It is anticipated a that fence/wall will be placed at the perimeter of the project site." When will this decision be made? When will the community know if a fence will be installed or not? How will that affect access of residents to the surrounding businesses? Will it increase or negate security for the facility?

During the description of the seven story buildings there is reference to elevators to access the upper floors of the buildings. When describing the two story buildings there is no reference to elevators for those buildings. Does this mean that ADA compliant units will only be located in the seven story buildings? What about ADA compliance for visitors?

In item two of the same section and subpart, there is discussion of access for Moelua Street. According to the maps provided it appears that Moelua is not accessible via this project but Moekolu Street is. Which is the correct street being accessed?

Under item four in the same section and subpart, it is recognized that the applicant/developer will need to request exemptions from the Wai`anae Sustainable Communities Plan. When is that planned?

Under Section III, subpart C, item 1 it is stated that the project's proximity to potential employment and public transportation will allow residents the opportunity to live closer to where they might work. The only problem with this logic is the taking away of potential future employment opportunities due to the taking of this property for residential use.

In the same section and subpart, item 2, the description talks about handicapped accessible units being available on the 2nd through 5th floors. The drawing provided, A-, does not reflect the same information. In fact, it refers to ADA compliant units only being provided on the Ground, second and third floors. Which reflects the correct information?

In Section IV, subpart A, item 1, the applicant expects that when fully built and rented, there could be a potential of 858 individuals in 215 units (not including the resident manager unit). That works out to approximately 4 individuals per unit, on average. Is this reasonable considering 162 of the units are 2 bedroom and only 54 of the units are 3 bedrooms? How was that number derived?

Under subpart C, item 1 this project is purported to "improve socio-economic conditions in the area by possibly providing housing to those without housing or for those who live in substandard or crowded conditions." While I agree to most of this statement, what is considered crowded considering this project is proposing an average of 4 persons per unit including the 2 bedroom units at approximately 591 square feet?

Under subpart D, item 1 traffic impacts are projected for the year 2010. While it appears the increase in traffic may seem to be small (45 units each north and south during peak morning traffic), what is the impact against the total projected increase in traffic on Farrington Highway in 2010, especially in light of the traffic flowing towards the north, to Wai`anae Intermediate School and Wai`anae High School?

It is also stated that the developer will work with the City and County of Honolulu so residents may have direct access to the nearby Transit Center. Will that access be ADA compliant considering the difference in elevation of the two projects?

Emergency access is expected to not be blocked to Moekolu Street. Who will control the access and who will determine when the access will be allowed?

Under item 2 in that same section and subpart, the expected daily wastewater flow is .353 million gallons per day based on the proposed rental apartment use. According to the Board of Water Supply Customer Services/Information, the normal amount of water per day per person in a single family household is 137 gallons of water per day. Assuming 858 persons in the complex on any one day, that means the per person usage to provide .353 million gallons of wastewater per day is 411 gallons of water per day. Why would the daily usage of water be approximately three times the rate of an individual in a single family household?

Under item 4 in that same section and subpart, the site drainage systems will be designed to accommodate a storm with a 10-year recurrence interval. The last large storm water study done in the Wai`anae area calls for changes to basic infrastructure to accommodate a larger storm water occurrence (Lualualei Flood Study contracted for the U.S. Army Corps of Engineers, September 2001). What rationale is being utilized to call for a smaller storm water occurrence?

Under item 6 in that same section and subpart, the number of student population appears to be very small considering the number of individuals that can be accommodated in the complex. The projected number of school age children (does not include children under the age for kindergarten) is only 65, less than 10% of the residents. Is this reasonable? What standards were used to project these numbers? Given the projected impact of 43 students from Kindergarten to 5th grade at 43 that would mean there would only be approximately 7 children under the Kindergarten age in the complex, thereby reducing the number of adults to approximately 785 or so. Is this reasonable for this type of a complex?

What are the true impacts to the area schools considering the other projects under construction in the area already (near Leihoku Elementary School)? The principal of Leihoku Elementary School has expressed his concern for the accumulated numbers of students he is expecting from other projects. How is this being addressed?

In this section and subpart, under item 10.b. the applicant refers to both Hawaiian Telcom and Verizon regarding whether new telephone utility lines will be required. Verizon is no longer a land line telephone utility on O`ahu. Is this an error?

In this section under subpart K, visual impact is discussed but not demonstrated with drawings of what the impact could be expected to be from various vantage points. The community has no idea what visual impacts this proposal would actually have on the surrounding residential community much less the business community.

In section VIII under **"The action will not require substantial energy consumption"** it is stated that all the units will be air conditioned. Why is air conditioning being utilized but not other energy conservation methods, i.e. solar energy instead of "energy efficient water heaters"?

Considering these base observations and dichotomies in the Draft Environmental Assessment, I would encourage that this project not be accepted as it is drafted, the applicant and developer invited to work within the scope of the Wai`anae Sustainable Communities Plan, and also to work with the community to promote an acceptable affordable housing project with realistic information and impacts on the community in an area identified for urban use.

Sincerely,

Cynthia K.L. Rezentes
Wai`anae Resident

cc: Kusao & Kurahashi
Office of Environmental Quality Control

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16 , 2007

Ms. Cynthia Rezentes
87-149 Maipela Street
Waianae, Hawaii 96792-3154

Dear Ms. Rezentes:

Subject: Draft Environmental Assessment (EA) Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments in the order in which they were presented:

1. We acknowledge that the developer is seeking exemptions from a variety of planning and zoning requirements. These exemptions are established in state law for the purpose of encouraging the development of affordable housing for families and individuals who are in great need of housing assistance. The Final EA will note that planning and zoning exemptions will be requested.

2. The Final EA will note that the property is zoned B-2 Community Business District and that the proposed multi-family dwelling is not a permitted use in this district. The applicant will seek approvals under the provisions of Chapter 201-H, Hawaii Revised Statutes, to allow the affordable rental development to be developed on this site.

3. The Final EA will state that of the five buildings being proposed, two exceed the allowable height limit by about 20 feet. The input from the Waianae Neighborhood Board will be included in the Final EA.

4. The Final EA will clarify the long-terms plans for the project. Generally, families and individuals will be allowed to remain in the project as long as they meet established criteria.

   The proposed rental units will remain affordable for 61 years. The developer does not propose to covert the affordable rental units to market rate units before the 61 years is over.

5. The Final EA will explain that the Federal Housing and Urban Development schedules for area medium gross income are for all Oahu. A market study, conducted for the Hale Wai Vista project validated the need for the rental project at the project site. Families and individuals who qualify, from Waianae or else where, can apply for the proposed rental units. For example, the current maximum HUD allowable income that a family of two could have is $17,900/$29,800/$35,760 for 30/50/ and 60% AMI, respectively. Also, the rents proposed for those in the 50% and 60% AMI are below the maximum allowable by HUD, making the rental units even more affordable.

6. The multipurpose building won't be competed for several years. The developer will continue to meet with agencies and potential users regarding their interest in using the structure.

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Traffic Assessment

Hale Wai Vista

Waianae, Oahu, Hawaii TMK 8-6-001: 035

March 2007

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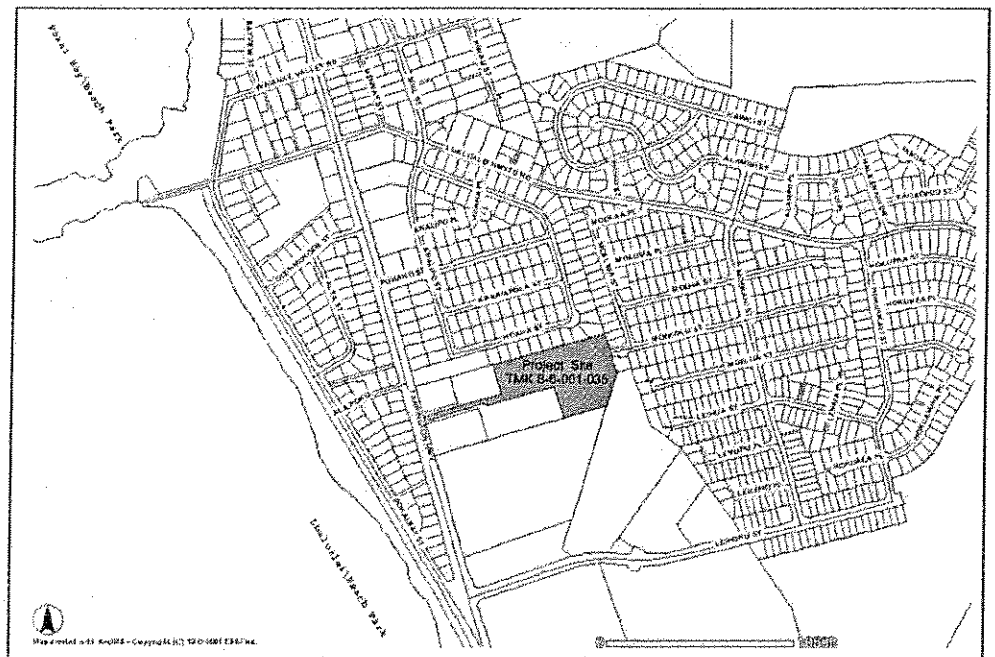

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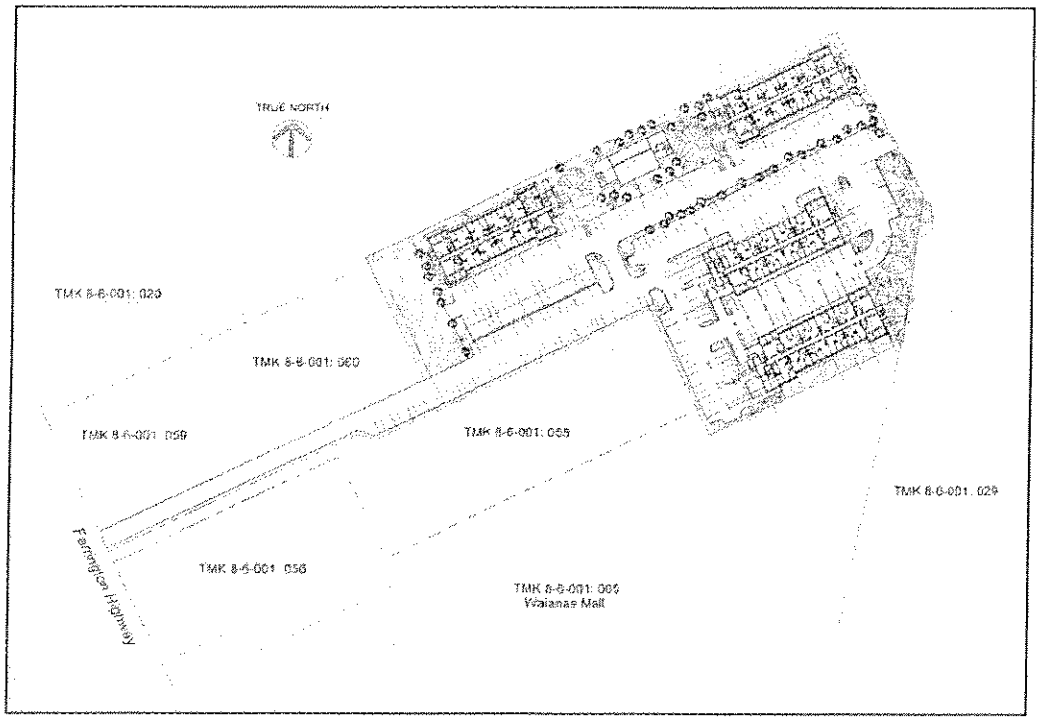
Existing Conditions

The proposed development is located in the south portion of Waianae, on the west coast of Oahu. The development site is currently vacant and the project will occupy a portion of the property identified by TMK 8-6-001: 035, a "flag" lot that connects to Farrington Highway. A portion of the stem of the flag lot currently serves as an access road to parking lots on adjacent properties. Figure 2 shows the proposed site plan and identifies the large neighboring parcels.



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vehicular access to that street is proposed. The southeast boundary of the project site, which adjoins the site of the City and County of Honolulu's Waianae Transit Center that is currently being constructed, will not have any vehicular access.

Vehicular access to the project site will be from Farrington Highway on the existing access road. The existing access road provides the primary vehicular access to the two parcels (TMK 8-6-001: 059 & 060) located north of the access road. There are two buildings on these properties with a total floor area of approximately 36,000 square feet* in office and retail uses; these properties have parking lots with a total of approximately 100 stalls. The property on the south side fronting the highway (TMK 8-6-001: 056) includes a gasoline station and other buildings in office and retail use, with a total floor area of approximately 18,000 square feet.

The property identified by TMK 8-6-001: 055 is the site of a City Mill store and a parking lot with approximately 70 parking stalls. While a portion of the store appears to be located on the neighboring lot, the parcel is reported to have a building that has nearly 42,000 square feet of floor area. The Waianae Mall shopping center, located on the property identified by TMK 8-6-001: 005, and along with the next property to the south (TMK 8-6-001: 045), has several buildings with a total of 136,790 square feet of building area. With the City Mill store, the Waianae Mall has a total floor area of nearly 180,000 square feet.

Several driveways to Farrington Highway provide access to the parking lots in the Waianae Mall; a traffic signal controls traffic movements and pedestrian crossing of the highway at one of these driveways. In addition, three driveways from the parking lot connect to Leihoku Street, a collector street perpendicular to Farrington Highway. A traffic signal controls traffic movements and pedestrian crossings at the intersection of Farrington Highway and Leihoku Street.

Several City bus routes currently run on Farrington Highway, providing both local service within Waianae and local and express service to downtown Honolulu. Bus stops are located on the far side of the traffic signals at the Waianae Mall driveway.

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While no traffic counts were done as part of this assessment, the traffic volumes generated by the proposed development are compared with the traffic that could be generated by existing uses to provide a perspective of the development's traffic impact. The existing Waianae Mall and the other commercial properties near the project site are estimated to have the potential to generate traffic as shown in Table 2.

Table 2 – Potential Traffic Generation, Existing Uses

	Waianae Mall		Other properties	
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Traffic volumes generated by existing uses served by the access road on a weekday and during the weekday PM Peak Hour are about three times that expected to be generated by the proposed rental development.

Farrington Highway fronting the project is a four-lane highway with a posted speed limit of 25 miles per hour. Concrete sidewalks are provided between the traffic lanes and the properties on the east side of the highway. A median lane for left turn extends from near the front of the project site to the intersection with Leihoku Street. There are several single family residential properties with driveways on the opposite side of the highway.

The latest available estimate of average daily traffic (ADT) for the segment of Farrington Highway between Hakimo Road to the south and Waianae Valley Road to the north (from the State Department of Transportation, *Traffic Summary – Island of Oahu 2003*) is 31,102 vehicles per day in 2003. Past estimates of ADT on this part of Farrington Highway from the State Department of Transportation show that traffic volumes have not changed significantly; the ADT for 2003 is about 2% higher than the 1999 ADT, reflecting an average increase of about 0.5% per year.

Conclusions and Recommendations

The traffic generated by the proposed development is only a small part of the total traffic that could be generated by the adjacent properties, which include the Waianae Mall and several commercial (retail and office) buildings between the development and Farrington Highway. The peak hour traffic volumes generated by the proposed development are less than the threshold recommended by the Institute of Transportation Engineers for conducting a site access or traffic impact study.

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In addition, the following measures should be considered to improve access to the site:

a. a smooth, all-weather surface for pedestrian access conforming to the requirements of the American with Disabilities Act (ADA) should be provided between the sidewalk on Farrington Highway and the development's building entrances.

b. the layout of the development should not block emergency access between the property and Moekolu Street (this does not preclude the installation of a gate or other barrier to prevent vehicular or pedestrian movement across the property line during normal conditions).

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Waianae Neighborhood Board
C/O The Neighborhood Board Commission
530 South King Street, Rm. 400
Honolulu, Hawaii 96813

Dear Neighborhood Board Members:

Subject: Draft Environmental Assessment
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

As your Board took a position to to oppose the project with the same concerns expressed in the letter written by Board member Cynthia Resentes, we are providing you with a copy of her letter and our response to her comments.

Thank you for participating in the environmental assessment process. You may contact our office at 988-2231.

Very truly yours,

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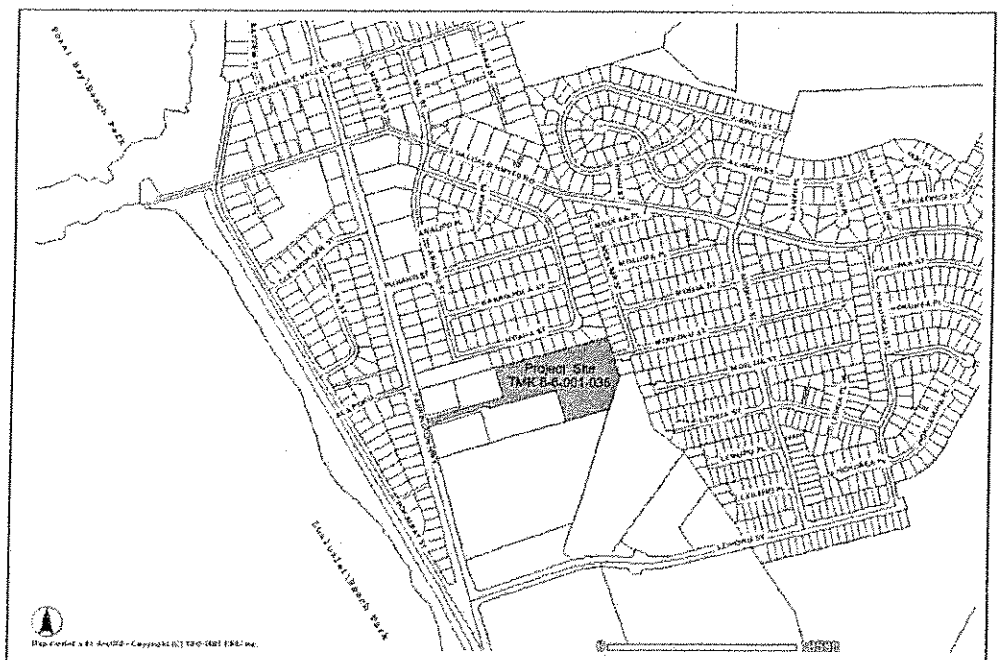

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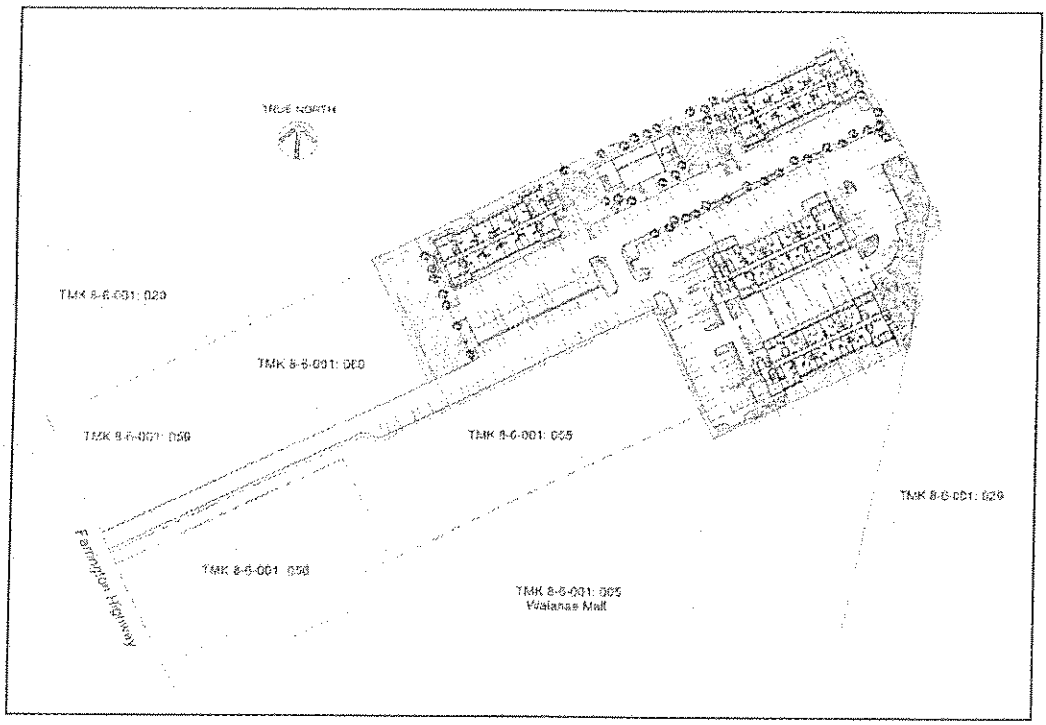

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Impact of the Proposed Development

Traffic estimates for year 2010 weekday peak hours at the intersection formed by the site driveway and Farrington Highway were developed assuming that highway volumes continue to increase from 2003 to 2010 at a rate consistent with the increase from 1999 to 2003. Other assumptions are that the existing buildings are fully occupied and driveway movements are evenly split in each direction on the highway (since local trips will tend to be from or to the north of the site, where most of Waianae and Makaha are situated, while longer trips will be to the south). Existing high volumes on the highway in the PM Peak Hour would limit capacity for the driveway and two-thirds of the traffic that would otherwise use the driveway was assumed to be diverted to other driveways serving the parking lots (the existing signal or driveways to Leihoku Street). Project traffic distribution onto Farrington Highway was estimated to be 50% in each direction. The peak hour traffic estimates are shown in Figure 3.

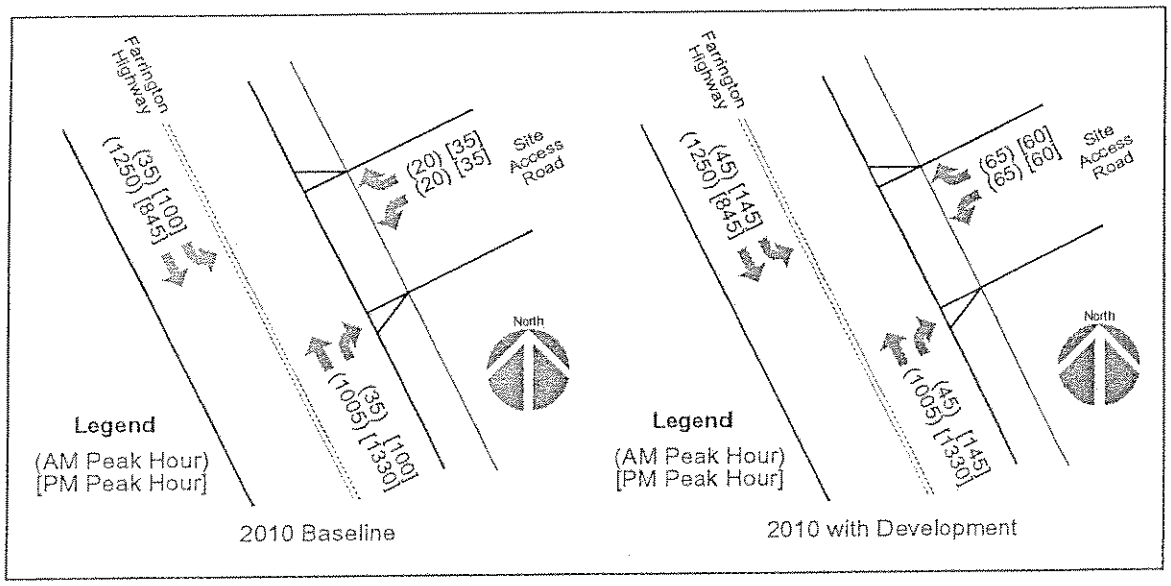

Figure 3 – Traffic Estimates (2010)

The site driveway forms an unsignalized intersection with Farrington Highway. The unsignalized intersection analysis procedure described in the *Highway Capacity Manual* was applied to estimate delays for each condition. However, because the site driveway is located between two signalized intersections, the delays for traffic movements into or out of the

driveway would be affected by the signal timings and their offsets. The results, shown in Table 3, are not presented to represent the delays at the driveway, but to illustrate the impact of the added traffic from the development.

Table 3 – Analysis Results

	AM Peak Hour		PM Peak Hour	
Peak Hour	Baseline	+ project	Baseline	+ project
Shared Lane on Driveway				
volume/capacity ratio	0.18	0.60	0.46	0.91
average delay (seconds per vehicle)	22.7	39.9	44.2	112.5
Level of Service	C	E	E	F
Left Turn from Farrington Highway				
volume/capacity ratio	0.06	0.08	0.27	0.42
average delay (seconds per vehicle)	11.5	11.7	17.2	20.8
Level of Service	B	B	C	C

The results of the analyses indicate that traffic on the site driveway wishing to turn onto Farrington Highway will experience increased delays with the added traffic resulting from the proposed development. In the AM Peak Hour, average delays would nearly double, but the volume will remain less than the available capacity. In the PM Peak Hour, volumes are much closer to capacity and the increase in delay is greater. For left turns from Farrington Highway into the driveway, there will be a small increase in the average delay during each peak hour, but the level of service for that movement will not change with the additional traffic due to the proposed development.

The proposed development will increase weekday traffic volumes on Farrington Highway by less than 2½% or the equivalent of five years of increase based on the recent trend in traffic volumes. Peak hour volumes are estimated to be affected by increases ranging from 1% to 5% of baseline (without the proposed development) volumes.

Conclusions and Recommendations

The traffic generated by the proposed development is only a small part of the total traffic that could be generated by the adjacent properties, which include the Waianae Mall and several commercial (retail and office) buildings between the development and Farrington Highway. The peak hour traffic volumes generated by the proposed development are less than the threshold recommended by the Institute of Transportation Engineers for conducting a site access or traffic impact study.

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In addition, the following measures should be considered to improve access to the site:

a. a smooth, all-weather surface for pedestrian access conforming to the requirements of the American with Disabilities Act (ADA) should be provided between the sidewalk on Farrington Highway and the development's building entrances.

b. the layout of the development should not block emergency access between the property and Moekolu Street (this does not preclude the installation of a gate or other barrier to prevent vehicular or pedestrian movement across the property line during normal conditions).

March 12, 2007

Ardis Shaw Kim, Planner
Kusao & Kurahashi, Inc.
Manoa Market Place
2752 Woodlawn Drive - Ste. 5-202
Honolulu, HI 96822

Dear Ms. Shaw-Kim:

Re: Hale Wai Vista Affordable Rental Housing
86-78 & 86-86 Farrington Highway, Waianae
TMK: 8-6-1-: 35

Thank you for the opportunity to comment on the above-referenced project. Hawaiian Electric Company, Inc. (HECO) has no objections at this time. The following comments were received from the Transmission & Distribution Division of our Engineering Department:

(1) HECO currently has existing overhead facilities within and supplying the project area. We appreciate your efforts to keep us apprised of the planning process. As the project progresses, please continue to keep us informed. We will be better able to evaluate any effects on our system facilities further along in the project's development. We request that development plans show all affected HECO facilities, and address any conflicts between the proposed plans and HECO's existing facilities. Please forward the pre-final development plans to HECO for review.

(2) Should relocation be required of HECO, please submit a request in writing and we will work with you so that construction of the project may proceed as smoothly as possible. Please note that there may be costs associated with any relocation work, and that such costs may be borne by the requestor. Because any redesign or relocation of HECO's facilities may cause lengthy delays, upon determination that HECO facilities will need to be relocated, HECO should be notified immediately in order to minimize any delays in or impacts on the project schedule. HECO shall not be responsible for any delay or damage that may arise as a result of not being given sufficient notice to relocate our facilities.

Our point of contact for this project, and the originator of these comments, is Scott Bonilla, Transmission & Distribution Division, Engineering Department (543-7536). I suggest dealing directly with Scott to coordinate HECO's continuing input in this project.

Sincerely,

Kirk S. Tomita
Senior Environmental Scientist

cc: S. Bonilla/P.Nakagawa/M.Lum

KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Mr. Kirk S. Tomita, Senior Environmental Scientist
Hawaiian Electric Company
P.O. Box 2750
Honolulu, Hawaii 96740

Dear Mr. Tomita:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for comments on the Draft Environment Assessment for the above named project. The following responds to your comments:

Your letter indicates that Hawaiian Electric Company, Inc. has existing overhead facilities within and supplying the project site and requests that the developer forward the pre-final development plans to HECO for review. The developer will submit pre-final development plans to HECO for review when they have been developed.

The developer is aware that redesign or relocation of electrical facilities will require coordination with HECO and will plan accordingly. The developer will coordinate HECO regarding the need to redesign or relocation of electrical facilities and the provision of electric power to the project.

Thank you for participating in the environmental assessment process. You may contact our office at 988-2231.

Very truly yours,

Ardis Shaw-Kim

Ardis Shaw-Kim
Planner

DISABILITY AND COMMUNICATION ACCESS BOARD

919 Ala Moana Boulevard, Room 101 • Honolulu, Hawaii 96814
Ph. (808) 586-8121 (V/TDD) • Fax (808) 586-8129

August 7, 2007

Ms. Ardis Shaw-Kim
Planner
Kusao & Kurahashi, Inc.
2752 Woodlawn Drive, Suite 5-202
Honolulu. Hawaii 96822

Regarding: Draft Environmental Assessment for a
Proposed Affordable Rental Project
Hale Wai Vista in Waianae
TMK Map Key: 8-6-1:35

Dear Ms. Shaw-Kim:

The Disability and Communication Access Board would like to thank you for the opportunity to review the Draft Environmental Assessment for the proposed Hale Wai Vista affordable rental housing project. The purpose of this review is to ensure that this project will take into account accessibility design requirements for persons with disabilities.

The following general statement should be included in the Environmental Assessment:

> *"All buildings, facilities, and sites shall conform to applicable federal, state, and county accessibility guidelines and standards. In addition, it is the policy of the Hawaii Housing Finance and Development Corporation to require all projects receiving state tax credits to comply with all HRS §103-50 requirements. The HRS §103-50 requires all State of Hawaii or County government buildings, facilities, and sites to be designed and constructed to conform to the Americans with Disabilities Act Accessibility Guidelines, the Federal Fair Housing Amendments Act, the State of Hawaii Residential Housing Accessibility Guidelines and other applicable design standards as adopted and amended by the Disability and Communication Access Board. The law further requires all plans and specifications prepared for the construction of State of Hawaii or County government buildings, facilities, and sites to be reviewed by the Disability and Communication Access Board for conformance to those guidelines and standards."*

There are certain portions of the Draft Environmental Assessment for the proposed Hale Wai Vista affordable rental housing project that should be reassessed.

- Appendix I – Site Plan: An accessible route does not appear to be provided within the boundary of the site from the public street to the accessible entrance, as required by the Americans with Disabilities Act Accessibility Guidelines (ADAAG) Section 4.1.2(1) and the Fair Housing Accessibility Guidelines (FHAG) Section 5. Guidelines Requirement 1.

- Appendix I – Site Plan: An accessible route does not appear to connect accessible buildings and elements on the site, as required by the ADAAG Section 4.1.2(1) and the FHAG Section 5. Guidelines Requirement 2.

- Appendix I – Site Plan: The number of accessible units provided in Phase I does not appear to comply with the RHAG Section 13.2.2(1). Where the required number of elements or facilities to be provided is determined by calculations of ratios or percentages and remainders or fractions result, the next greater whole number of such elements or facilities shall be provided.

- Appendix I – Site Plan: The number of accessible parking provided in Phase I does not appear to comply with RHAG Section 13.2.2(4).

- Appendix I – Floor Plans: Bedroom and bathroom doors, which are required to be accessible in the 2 Bedroom and 3 Bedroom ADA Units do not appear to comply with the minimum door maneuvering clearances as required by ADAAG Section 4.13.6.

The above reflects the Disability and Communication Access Board's advice and recommendations for the proposed Hale Wai Vista affordable rental housing project.

Should you have any further questions, feel free to contact Mr. Gary Batcheller, Facility Access Specialist at (808) 586-8121.

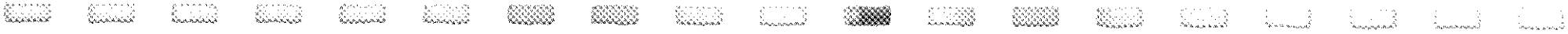
Sincerely,

Francine Wai

FRANCINE WAI
Executive Director

c: Randy Wong
Chief
Department of Community Services
Community Base Development Division
City and County of Honolulu
715 S. King, Suite 311
Honolulu, Hawaii 96813

Gary S. Furuta
Project Manager
Hawaii Housing Development Corporation
1828 Young Street, #201
Honolulu, Hawaii 96826



KUSAO & KURAHASHI, INC.
Planning and Zoning Consultants
MANOA MARKET PLACE
2752 WOODLAWN DRIVE, SUITE 5-202
HONOLULU, HAWAII 96822

BUS. (808) 988-2231
FAX. (808) 988-1140
E-Mail: kkurahashi@hawaii.rr.com

August 16, 2007

Ms. Francine Wai, Executive Director
Disability and Communication Access Board
919 Ala Moana Boulevard, Room 101
Honolulu, HI 96814

Dear Ms. Wai:

Subject: Draft Environmental Assessment Comments
Hale Wai Vista Affordable Rental Housing
86-78 and 86-86 Farrington Highway, Waianae
Tax Map Key: 8-6-1: 35

Thank you for your comments on the Draft Environment Assessment (EA) for Hale Wai Vista. The project will take into account accessibility requirements for persons with disabilities.

The specific development standards related to compliance with the Americans with Disabilities Act Accessibility Guidelines and the Fair Housing Accessibility Guidelines will be addressed during the detailed designed phase of the project. Thank you for itemizing specific requirements for us.

Thank you for participating in the review process.

Very truly yours,

Ardis Shaw-Kim
Planner

Printable version (copy and paste into browser):
http://www.honolulu.gov/nco/nb24/07/24_2007_03Min.PDF

Waianae Neighborhood Board

DRAFT REGULAR MEETING MINUTES
TUESDAY, MARCH 6, 2007
WAIANAE COMMUNITY CENTER

CALL TO ORDER: Chair Patty Teruya called the meeting to order at 7:02 p.m. with a quorum present.

MEMBERS PRESENT: Alvin Awo, Josiah Hoohuli, Jo Jordan, Kimo Kelii, Maralyn Kurshals, James Manaku, Kaipo Pomaikai, Cynthia Rezentes, Albert H. Silva, Adrian Silva, Patty Teruya, Neddie Waiamau-Nunuha

MEMBERS ABSENT: Suzanne Leonida, Frank Slocum.

GUESTS: John DeSoto, Faith Arakawa; William Akama III, Coordinator, University of Hawaii (UH) Leeward Community College at Waianae (LCCW); Stephanie Cadirao, Clyde Hudson IV, Thomasina Kamana, and Veronica Tubania – UH LCCW students; Bill Souza, UH LCCW; Mercedes Latihan, John Canapher, Carol Ryan, Margaret Perry, Hope Hap, Peter Matautia, Clyde Hudson, Clayton Braun, Pat Patterson, Kathy (US Vets); Dana Newman (Lualualei Homestead Shelter); Margaret Filly, George Turner (Kokua Legal Services), Melvin Kalaupo (DPR), Margie Peary, Felix Jozario, Jamie Jozario, Donna Gatewood, Charlen Kaawaloa, Vivian Akau, Renolds Fruean, Erin Chang, Kope Hatton, Marriet Mahoe, Robert Fuhr, Charles Hudson, Lisa Golein, Keith Kurahashi, Kaiawe Makanan, Curtis Kropar, Carolyn Holeay, William Aila, Melva Aila, Dan Dinnell, (HCDA), Alva Kaneaiakala, Erin Kane, Melvin Puu, Rodlyn Brown, Major Michael Moses (Honolulu Police Department – HPD), Alice Greenwood, Wendy Sefo (Councilmember Apo's Office staff), Bob Smith, Kanani Bulawan (Waianae Community Outreach), Johnnie-Mae Perry, Breene Harimoto (member, Board of Education; Councilmember Okino's Office staff), Polly Grace, Lt. Michael Johnson (HPD), Daryl Vincent (US Vets), Lt. Commander LaConta Coleman (US Navy), Ken Shimizu (Mayor's Representative; Deputy Directory, Department of Environmental Services), Dwight Radcliff (US VETS, president), Chuck Patterson (US VETS), Clayton Brown (Board of Water Supply – BWS), Nalani To'oto'o, Lt. Colonel Mundell (US Army), Kaulana Park (State Homeless Program), Elwin Spray (Neighborhood Commission Office staff).

WELCOME/PULE/PLEDGE OF ALLEGIANCE/HAWAII PONO'I: Chair Teruya welcomed the community to the meeting. Kelii gave the pule, asking for special attention to be given for the passing of Benjamin Kama, Jr., who served as Executive Director for the Neighborhood Commission and prior to that as a long-time Neighborhood Assistant to the Waianae Coast Neighborhood Board, as well as to the recent passing of two seniors in pedestrian fatalities. Adrian Silva led in the pledge of allegiance and Waiamau-Nunuha led Hawaii Pono'i. Ten

6. The need to fill the Board vacancy is a requirement in the Neighborhood Plan, Perry announced. Chair Teruya thanked her for her assistance.
7. A request to be on the April 2007 Board agenda for an affordable housing project was made by George Turner of the Kokua Legal Services.
8. A status of filming at Maikikaloa was asked.
9. Makaha Beach concerns were expressed by DPR lifeguard Melvin Kalaupo, who reported that the showers and comfort station had been torn down and there is no replacement for use of youth who Kalaupo works with in paddling programs. He reported that cars park head onto the beach, blocking views of motorists and pedestrians, and asked for improvements to the highways, showers, bathrooms, and concerns about speeding and pedestrians on the roads. Jordan suggested that part of the answer is to move the road back, with Kalaupo agreeing and reporting that the sand is disappearing. Jordan said she would add the issue to her committee agenda.
10. A report on the need of street lights and traffic light to be turned on was expressed by a resident of the Makaha Valley condominium, who also stressed the need for speed enforcement where cars are now going 40 to 50 mph. She suggested speed humps for Makaha Valley roads.
11. A suggestion was made for a pedestrian-generated traffic sign at the Sack 'n Save.
12. A comment was made that the van cams were illegal and that speed bumps have had a moratorium due to the fear that the motorist might lose control of the vehicle.
13. Hakimo Road has 18-wheelers racing up and down the road at 30, 35, and 40 mph reported R. Brown.

Neighborhood Plan Amendments – Rezentes reported the Neighborhood Commission is studying revisions to the operating document for neighborhood boards, the Neighborhood Plan, with the revisions now under review by the City's Corporation Counsel, after which it will be discussed at public hearings where the public will be invited to make comments. Rezentes will have updates as they are available.

Unfinished Business

Hale Wai Vista Project Environmental Assessment (EA): Keith Kurahashi presented an update on the project, located near City Mill, which is intended to produce affordable rentals in what was to have been an eight-story building, but that after input from the community (at the Board's September 5, 2006 meeting), the project is being scaled back to seven stories, a sixty-foot height limit. The cost to make the reduction, which will now be one four-story building, three three-story buildings, and the one next to the City transit center still 60 feet in height, will total $3.2 million. The project will have 216 units, an increase in parking from 293 to 331 cars, approximately 1.5 per unit. The project is seeking a use exemption and a height exemption. Manaku reported that there were many more people below the price ranges planned for the project. Kurahashi said that the affordability was committed to for 61 years, with the combination of tax and construction assistance targeting a certain audience.

Rezentes asked if a new Environmental Assessment would be prepared; Kurahashi responded that the alternative of reducing the height has an affect on the visual aspect and pointed out that each concern raised could be similarly addressed point by point. Pomaikai and Jordon expressed concerns about egress and ingress, asking about the transit study, described Board vote of opposition at the prior meeting and reported that the adjacent residents do not support an exit through the sub-division and that the traffic is increased in the business district.

Albert Silva expressed concerns about the height, stressing that the Coast is lower level.

Kurshals asked why the issue is on the agenda, with Chair Teruya saying that Kurahashi is reporting updates with the lower height. Kurshals expressed concern that the height was still not in keeping. Awo said he agreed with Jordon, having also spoken to neighbors and is also concerned about the contaminated soil, which he feels was simply covered (bulldozed) by prior developers. R. Brown said the community has opposed the project so why start. Kurahashi said the archeological survey has been digging on the site. Perry said that the project may get an exemption due to the location of transportation at the transit center and suggested that a community meeting be held with the assistance of the schools and the state representative. Grace asked if it was a non-profit organization and if the rentals were low income; Kurahashi said it was a mix of low and moderate income. Grace also expressed concerns about the parking, if the stalls would be wide enough and if the building would block the breezes. Aila asked who the developer was; Kurahashi said the Hawaii Housing Development Corporation. Aila asked if the height was negotiable, with Kurahashi saying that the height has been brought from the original September proposal. Chair Teruya thanked Kurahashi for his report.

State Purchase of 499 acres of Kalaeloa land from the Navy – Dan Dinnell, Executive Director, Hawaii Community Development Authority (HCDA), reported the vision for Kalaeloa has been developed in the form of an adopted Kalaeloa Master Plan. The Navy is under a Congressional mandate to dispose of some of its Kalaeloa properties by the end of 2008 and the State of Hawaii is proposing to purchase some of the lands, through the passage of legislative bills for state purchase of Kalaeloa parcels (HB1667 – to provide for revenue bonds for purchase of lands and infrastructure). He reported that HB1667 passed the House today. Pomaikai asked about job creation, with Dinnell agreeing that would be a result, generally light industrial. Manaku asked about the density increase and the road system, with Dinnell saying that the area is an urban growth area, to be on the transit lines, and with additional roads under way, including widening Ft. Weaver and the North-South Road. Manaku said roads are at carrying capacity, with Dinnell saying that this project would encourage jobs to be closer and that the existing grid of roads allows people to move in all directions from Kalaeloa.

Adrian Silva asked about funding for the site, with Dinnell saying that there could be a mix of funds used. He repeated that the mandate of Congress for the Navy to sell the land is September 30, 2008.Rezentes asked about a possible aircraft carrier, with Dinnell saying that the home-porting seems unlikely but that the planning for other alternatives need to proceed. Kurshals endorsed the purchase and called for community input in the land use. Perry asked why should the community support since the Kakaako HCDA project wasn't very good, with Dinnell saying that Kakaako has a 400 foot height limit, being very different from Kalaeloa, and that the Master Plan is on the web, with support from the Kalaeloa neighborhood board (Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34) and his involving other communities, including Ewa, in the process. Newman asked about water availability, with Dinnell reporting that the Navy has a water and a wastewater system in place as well as the adjacent Honouliuli Treatment Plant. R. Brown asked about the intended use, with Dinnell referring to the adopted Master Plan. Awo said he agreed with the concerns of Manaku and would not support. Kurshals supported the planning and the proposed purchase. Adrian Silva said that there are sites that are not being utilized and asked why purchase new land. Awo asked whose land the sites were, with Dinnell explaining that the Barbers Point military base was all bought in the 1930s from the Campbell Estate. Hoohuli asked if DHHL has received the land, with Dinnell explaining that the DHHL has land in the area.

Aila said he was a HCDA commissioner, reported to Adrian Silva that the land will be sold

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Waianae Neighborhood Board

DRAFT REGULAR MEETING MINUTES
TUESDAY, FEBRUARY 6, 2007
WAIANAE COMMUNITY CENTER

CALL TO ORDER: Chair Patty Teruya called the meeting to order at 7:02 p.m. with a quorum present.

MEMBERS PRESENT: Alvin Awo, Josiah Hoohuli, Jo Jordan, Kimo Kelii, Maralyn Kurshals, Suzanne Leonida, James Manaku, Cynthia Rezentes, Albert H. Silva, Adrian Silva, Patty Teruya, Neddie Waiamau-Nunuha

MEMBERS ABSENT: Kaipo Pomaikai, Frank Slocum.

GUESTS: Wayne Panoke (Executive Director, 'Ilio'ulaokalani Coalition), John DeSoto, Faith Arakawa, Gary Oliva, Tulu Toa, Laura Pitolo, Tercia Ku, John L. Dudoit Jr., Lovella Marcas, Kainalii Figuiera-Konia, Rodlyn Brown, Harriet Plahoe, Major Michael Moses (Honolulu Police Department – HPD), Hank Albrecht, Fred Nervera, Karen Halemano, De Peralta Joan, Chet Urata, Rose Miller, Kaiawe Makanani, Donna Gatewood, Alice Greenwood, Michelle Matson, Wendy Sefo (Councilmember Apo's Office staff), Joe Sanchez, Trinda Sanchez, Bob Smith, Kanani Bulawan (Waianae Community Outreach), Rebecca Smith, Calvin Endo, Estrella Cibang Juanita Maieao, Johnnie-Mae Perry, Pat Lee, Cameron Nekota, Breene Harimoto (member, Board of Education; Councilmember Okino's Office staff), Gail Pictum, Kenneth Kapeliela, Polly Grace, Lt. D. Tsuchida (HPD), Debbie Kim Morikawa (Director, City Department of Community Services), Daryl Vincent, Lt. Commander LaConta Coleman (US Navy), Denise Keliikoa, Carolyn Hallway, Lawson Teshima, Ken Shimizu (Mayor's Representative; Deputy Directory, Department of Environmental Services), Clifford Oliviera, Dwight Radcliff (US VETS, president), Chuck Patterson (US VETS), Clayton Brown (Board of Water Supply – BWS), Nalani To'oto'o, Acting Captain G. Hosaka (Honolulu Fire Department – HFD), Lt. Colonel Mundell (US Army), Kaulana Park (State Homeless Program), Hanalei Aipoalani, Paul Kapka, Nanalai Ipo, Lawson Toshima, John Bristol, Elwin Spray (Neighborhood Commission Office staff).

WELCOME/PULE/PLEDGE OF ALLEGIANCE/HAWAII PONO'I: Chair Teruya welcomed the community to the meeting. Kelii gave the pule, Adrian Silva led in the pledge of allegiance and Waiamau-Nunuha led Hawaii Pono'i.

REPORTS PART ONE

Honolulu Fire Department (HFD) – Acting Captain G. Hosaka reported monthly call activity numbers for the preceding month of January 2007, listing Waianae HFD Station calls as

Waiamau-Nunuha asking if Board members wished to table the issue. Keilii said he agreed with concerns of Jordan and Manaku. **Kelii moved, and Waiamau-Nunuha seconded, that the Waianae Coast Neighborhood Board No. 24 not recommends the Chinn property conversion from Country District to R-5 Residential District zoning. Chair Teruya announced that the motion passed 10-0-2. Aye:** Awo, Hoohuli, Jordan, Kelii, Kurshals, Leonida, Manaku, Rezentes, A.H. Silva, A. Silva, Teruya, Waiamau-Nunuha. Abstain: Abstain: Albert Silva, Cynthia Rezentes.

Hale Wai Vista Project Environmental Assessment (EA): Jordan reported that the project, located near City Mill, had been intended to produce affordable rentals in an eight-story building, but that after input from the community (at the Board's September 5, 2006 meeting), the project is being scaled back to seven stories, a sixty-foot height limit; the deadline for comments on the EA is tomorrow. Jordan reported that the community-developed Sustainable Community Plan has a guideline of forty feet, that the project is still not in keeping with that height guideline, and that the developers have not committed to lower to forty feet. Jordan explained that there was support for the housing projects but not for the height, and that at the September 5th meeting, comments had been made that only a small number of adjoining residents had received notice from the developers of the public meeting. **Waiamau-Nunuha moved and Kelli seconded to respond to the EA that the Waianae Coast Neighborhood Board No. 24 does not support the Hale Wai Vista Project.** Kelii reported an additional concern that there is no mention of the location's prior use by Okada Trucking and the likelihood of the site having oil contamination, although he reported that the prosecutor's office had been advised but that the developer's had said that they were not aware of the prior land history. Rezentes explained that the issues were not as simple as height and notice, but that the EA was not a complete document, giving the impression that it had been thrown together, citing un-addressed issues of too high density, Headstart not decided, projecting 100 students for the total projected 858 residents and stressing that the drawings were not consistent with the narratives. Rezentes reported she had a four-page letter listin the inconsistencies, citing an example of high wastewater production at about three times the BWS rate, explaining that too many items don't make sense and there is no guarantee of the units remaining affordable. **Chair Teruya announced that the motion to oppose the Hale Wai Vista project passed, with the inclusion of Rezentes letter of concern, by a vote of 12-0-0. Aye:** Awo, Hoohuli, Jordan, Kelii, Kurshals, Leonida, Manaku, Rezentes, A.H. Silva, A. Silva, Teruya, Waiamau-Nunuha. Chair Teruya thanked Jordan and Rezentes for keeping the Board on track with the project. An audience comment was made that although the Board had opposed the development that an exemption could be made for this project.

Leonida left at 9:30 p.m.; eleven Board members present.

Protection of All Shorelines along Kahuku Golf Course from Future Development: Wayne Panoke, Executive Director, 'Ilio'ulaokalani Coalition, was present to express concern on state-wide shoreline development, which is resulting in loss of access to beaches by the whole community, and especially the immediate project at Kahuku, and to request that the Board take a position in opposition to shoreline developments. He reported that support could be expressed to Senator Kokubun on the position, who had introduced legislation, Senate Bill 851, which was part of the Democratic Majority's package, and asked for a Neighborhood Board position in support of the intent of the bill. Panoke discussed the Kahuku issue: Campbell Estate had sold 1800 acres to Continental LLC, located in Florida, which is proposing 18 five-acre each luxury homes fronting the golf course, and with shoreline access to be limited to each end of the 18 homes. Panoke said that Continental is proposing to allow the current Kahuku residents to inexpensively obtain their own house lots if the residents will agree to a ten-point agreement to support the developer's proposals, with the presentations to the residents currently being completely verbal. Panoke stressed that the shore access is both a recreational and a sustainability issue, that developers are looking

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Waianae Neighborhood Board

REGULAR MEETING MINUTES
TUESDAY, NOVEMBER 14, 2006
WAIANAE COMMUNITY CENTER

CALL TO ORDER: Chair Patty Teruya called the meeting to order at 7:00 p.m. with a quorum present.

MEMBERS PRESENT: Karen Awana, Alvin Awo, Josiah Hoohuli, Jo Jordan, Kimo Kelii, Maralyn Kurshals, Suzanne Leonida, James Manaku, Paul Kaipo Pomaikai, Sr., Cynthia Rezentes, Adrian Silva, Patty Teruya, Frank Slocum, Neddie Waiamau-Nunuha. 14 of 15 Board members present.

MEMBERS ABSENT: Albert H. Silva.

GUESTS: Pat Patterson (Habitat for Humanity-Leeward), Angela Sacrider, Bob Smith (Waianae Assembly of God), Wilma Keawe (Koa Mana), Polly Grace, Clayton Brown (BWS), Bud Ebel, Asst. Chief Mike Tamashiro (HPD), Laura Pitolo (WCO), Tulu Toa (WCO), Ka'ui Kapu (WCO), Haunani Kalama (WCO), Ralph Saito (LPI), Lt. Michael Johnson (HPD), Ofc. Antone Pacheco (HPD), Johnnie-Mae Perry, Capt. Francis Nishimura (HFD), Tori Collins, Alice Greenwood, Lt. Lethe Decaires (HPD-communications), Wendy Sefo (Councilmember Apo's office), Councilmember Todd Apo, Maj. Jim Craig (U.S. Army), William Aila, Melva Aila, Mieko Shintani, Ardis Shaw-Kim (Kusao & Kurahashi), Don Clegg (Analytical Planning), Laurie Clegg (Analytical Planning), Patricia Chin, Patricia Wilczynski, Hanale Hopfe, Rhonda A., Ron Sullivan (Hawaii Allstar), Keoni Fox, Clyde H., Shammy Dringus, Carolyn Holway, Ken Shimizu (Mayor's Rep.), Wayne China (Nextel), Kaulana Park (State-DHHL) Vanessa Mata'utia (Neighborhood Commission Office staff).

WELCOME/PULE/PLEDGE OF ALLEGIANCE/HAWAII PONO'I: Chair Teruya welcomed everyone to the meeting. Kelii conducted pule while Adrian Silva led the Pledge of Allegiance and Waiamau-Nunuha leading everyone in Hawaii Pono'i.

REPORTS PART ONE

Emergency Services Department (EMS) - No representative was available for comment.

Honolulu Fire Department (HFD) – Captain Nishimura gave the following report:

1. Nanakuli Fire Station for the month of October 2006 responded to 90 calls with 13 fires, 57 medical emergencies and 20 miscellaneous calls.

2. Waianae Fire Station for the month of October 2006 responded to 171 calls with 31 fires, 90 medical emergencies and 50 miscellaneous calls.

order to support themselves and in affect, create a 'brain drain' where young people would have to leave the island in order to find good jobs.

17. A resident questioned how many phases would be included in the Honolulu High Capacity Transit Corridor. Apo reported that the 28-mile course is considered the Minimum Operating System or MOS. There could possibly be more phases to the system in the future but in the meanwhile the City Council member hoped to keep focused on the situation at hand.

18. Resident Loa questioned with all the future development in which is being talked about, he wonders where all the extra water will be gathered. Loa stated that development must stay within reason in order to accommodate the resources in which we do have.

19. Pat Wilczynski believed that the rail transit system was a good thing but questioned when the second access route for the Waianae Coast would be provided. Apo reported that he knew the State Department of Transportation was in the process of developing a second access road.

20. Pomaikai commented that any project that the City initiates must be able to move the most people possible in a fast manner.

21. Rezentes questioned if the Board and the community had more time in order to deliberate and Councilmember Apo confirmed that the Board had time before their next Board meeting. She asked for this agenda issue to be put on next month's agenda and Chair Teruya confirmed that it would be included.

Rezentes moved and Pomaikai seconded to put the support of the rail Transit- Fixed Guideway in the Alternative Analysis on the Board agenda for the December 2006 meeting. The motion passed unanimously, 12-0-0.

Health, Human Services & Public Safety- No report.

Planning & Zoning/Vision- Teruya gave the following report:

A. **Hale Wai Vista in Wai`anae Project** -- Ardis Shaw-Kim was present to give the Board an update regarding the Hale Wai Vista in Wai`anae project.

After the last meeting, plans for the Hale Wai Vista project in Wai`anae were revised in order to meet the requests of the community. The current level of the project's highest building would be 60 feet at seven floors which was down one floor from the original plans. More parking has been included with an additional 31 parking stalls and this will hopefully allow for Kusao and Kurahashi to gain support from the Board for this project.

Questions, comments and concerns:

1. Rezentes commented that she believed Kusao and Kurahashi was not clear on what the sentiments of the community were. The Waianae Sustainable Communities Plan had intent in mind to keep Waianae "country" and Rezentes believed that even a seven story mid rise in the middle of Waianae valley would be unacceptable. She understood the tremendous need for affordable housing and appreciated the worked that had been done by Kusao and Kurahashi. Shaw-Kim commented they had taken the comments by the Board and community into consideration but if the towers were brought any lower, it would make the development unfeasible as an affordable housing.

2. Kurshals commented that the project seemed to be a lot like the Kuhio Park Terrace housing project in Kalihi. She questioned Shaw-Kim if there were cost issues and Shaw-Kim reiterated the problems in bringing the number of levels down.

3. Awana questioned if traffic issues were taken into consideration because within the near vicinity there is a major transit terminal, an elementary school, a shopping center and heavily traveled thoroughfare. She also questioned with 333 parking stalls, how many units were available for rent and Shaw-Kim reported that there were 432 available units. Awana's final question was in regards to the exit and how safe it would be with the current traffic levels plus that of the development and believed that there is need for more to be done.

4. Waiamau-Nunuha commented that this project was in the wrong location near the elementary school and homes, and she questioned if the school had been made aware of this project.

5. Pomaikai commended Shaw-Kim for her work and coming to the Board but he commented that this project would be better suited next to the mountainside where it would blend better but did not believe the residents of Waianae would appreciate such a development in their area.

6. Jordan commented that she would not support this project because with 400 children approximately going to Waianae and Leihoku Elementary School from this development, it would tax an already overtaxed school. Jordan also disagreed that the traffic study is not correct and would only create a problem for the traffic surrounding the development. Jordan also commented that if the development were scaled down to single homes or town homes with rent to own or low income housing it would be able to gain support but stated that this is not conducive to what the community supports.

7. Awo commented that he had followed up with Leihoku Elementary School Principal, Randy Miura, who was very concerned with the influx of children entering his school. Awo raised questions on whether Kusao and Kurahashi requested the correct permit and stated that they did not need a B-2 permit but rather a Business Mixed Use (BMX) permit. He also commented that he had contacted OSHA regarding the possibility of hazardous waste on the site and whether or not it had been cleaned. Awo also commented that neighbors surrounding the area requested that the parking be fronted up next to their property and not the actual building. Shaw-Kim reported that they had been in contact with the school but did not have it available for the meeting.

8. Johnnie Mae Perry commented that Kusao and Kurahashi did not attend several meetings prior to this meeting. She reiterated that affordable housing is very much needed but did not believe that this project was correct for the Waianae Coast. She believed that it would send the wrong sentiment that Waianae should be the only area to have affordable housing without the community input into such a large project.

Kelii motioned to oppose the Hale Wai Vista in Wai`anae project and was seconded by Awana.

Discussion:

9. Kurshals commented that a laundry list of exemptions from the Wai`anae Sustainable Communities Plan as well as from the City Department of Planning and Permiting. Therefore, Kurshals believed that the lesson for those wishing to do such projects that would benefit the

community is to first reach out to the community for input rather than what has been worked on.

10. Pat Patterson stated a portion from the Wai`anae Communities Watershed Plan expressing the need for small town like development. She also questioned if this project was built, why they would not create the development closer to job sources.

Rezentes requested to add an amendment in the original motion to include: The Waianae Coast NB does not oppose Affordable Housing but the fashion that this particular project has been crafted. Kelii and Awana accepted the amendment. The Board voted, without objection, 12-0-0 in favor of the motion.

B. **Proposed Telecommunications Tower At Our Lady Of Keeau Property With T-Mobile And Nextel** --Wayne China and Keoni Fox presented a plan for a telecommunications tower at Our Lady of Keeau property by T-Mobile and Nextel.

Keoni Fox introduced himself to the Board and the current project to set up a telecommunications tower on the Our Lady of Keeau property that would include coverage for both T-mobile and Nextel subscribers. Service would be improved in the area and allow for emergency services to better respond to incidents. Fox and China provided copies to the Board and community of the telecommunications tower including improvements that would be made to the existing property. The handouts included renderings of the communication tower and its equipment, the area that the proposed tower would provide and enhance service and a copy of an article regarding cell phone tower health concerns that was published on Maui last month. They are proposing a single 80 foot pole in order to carry three providers instead of creating three different poles. Fox commented that the tower was low powered to reduce any health effects and included that this would allow for e-911 technology (which enables cell phones locations to be identified) to be supported in the area.

At this time, Nextel and T-mobile are in negotiations for a long term lease with the property owners in the event that the permits are granted.

Questions, comments and concerns:

1. Jordan commented that the 80-foot tall towers are rather tall for the area and Fox reported that the two carriers have insisted in painting the tower to camouflage its presence better. The towers are required to be 80 feet tall in order to gain the coverage for both providers. Jordan also questioned if there are other areas that have been looked at but China stated that the only other option in order to keep the needed coverage area would be to install on the mountainside, where it becomes economically unfeasible.

2. Pomaikai remarked that in the Waipio area, they have put to use a stealth palm tree-like tower and questioned if this could be used for the Keeau property. He believed that if anyone should be compensated, it should be the Sisters of St. Francis who would receive this perpetual gift.

3. Awana read a letter of support from Board member Albert H. Silva who was not able to attend the meeting. Awana also supports this proposal due to its fulfillment of providing better cellular service to the area.

4. Adrian Silva commented that for emergency services, it would provide better service and this was a good thing. China stated that the emergency services that respond in the area were very supportive of the proposed current.

5. Kelii questioned if this would include a community benefits package and China promised to

Printable version (copy and paste into browser):
http://www.honolulu.gov/nco/nb24/06/24_2006_9Min.PDF

WAIANAE COAST NEIGHBORHOOD BOARD

REGULAR MEETING MINUTES
TUESDAY, SEPTEMBER 5 2006
WAIANAE COMMUNITY CENTER

CALL TO ORDER: Chair Patty Teruya called the meeting to order at 7:00 p.m. with a quorum present.

MEMBERS PRESENT: Alvin Awo, Josiah Hoohuli, Jo Jordan, Kimo Kelii, Suzanne Leonida, James Manaku, Cynthia Rezentes, Adrian Silva, Albert H. Silva, Patty Teruya, Frank Slocum, Neddie Waiamau-Nunuha. 12 of 15 Board members present.

MEMBERS ABSENT: Karen Awana, Kaipo Pomaikai

VACANCIES: Subdistrict 1 (Makaha).

GUESTS: Bud Ebel, Allen Tan (NOAA), Clara Batongbacal, Tulu Toa (WCO), Sybol Uelese (WCO), Laura Pitolo (WCO), Wendy Sefo (Councilmember Apo's Office), Danette Rayford (HCAP), Alice Lua, Bob Benson, Pat Patterson, Walterben Aldeguer, Joann Lewaller, Rodlyn Brown (AARP), Kanani Kaaiawahia Bulawan (WCO), Kaui Kapu (WCO), Belinda Anderson (WCO), Barbara Kalama, Joe Moamua, Sally Wheeler, Luela Kellar, Rita Makekau, Shannon Ka'aekuahiwi (KMCC), Jonettee Lee, Joann Lewaller, Francis Nishimura (HFD), Aloha Jones, Maralyn Kurshals, William & Melva Aila, C.S. Blaisdell, Rose Joshan, Franny Navarro (WCO), Deonne Carden (Ka Mo'I Canoe Club), Deana & Claudette Sur, Fred Dodge, William Akama (UH-LCC Waianae), Peter Quigley (UH-LCC Waianae), William Souza (UH-LCC Waianae), Angela Sacrider, Lt. Fabian Loo (HPD), Maj. Mike Tamashiro (HPD), Representative Mike Kahikina, Kaulana Park (State Housing Rep.), Ken Shimizu (Mayor's Rep.), Cmdr. Sevilla (Pearl Harbor detachment), Lt. Col. Mundell, Rep. Maile Shimabukuro, Ardis Shaw-Kim (Hale Vista), Keith Kurahashi (Hale Vista), Alice Greenwood, Conrad Shiroma (Shiroma consultants), Vanessa Matautia (Neighborhood Commission Office staff).

WELCOME/PULE/PLEDGE OF ALLEGIANCE/HAWAII PONO'I: Chair Teruya welcomed everyone to the meeting and noted that there may be delays to reports because of the earlier H-1 highway closure in. Kelii conducted the pule and asked that a moment of silence be held for Board member Karen Awana's father who recently passed away. Albert H. Silva led the pledge of allegiance with Waiamau-Nunuha leading everyone in Hawaii Pono'i.

REPORTS PART ONE

Emergency Services Department (EMS) - No representative was available for comment.

Honolulu Police Department (HPD) – Lt. Fabian Loo gave the following report:

1. Statistics for July were 5 robberies, 34 burglaries,70 thefts, 19 auto thefts, 62 thefts from vehicles, 92 person thefts, 1 ID theft, 71 motor vehicle collisions, 4 DUIs, 36 CPDs, 2 drug

Chair Teruya at this time takes the meeting out of order and revisits Planning and Permitting Committee in order to have the presentation by Keith Kurahashi and Ardis Shaw-Kim Keith Kurahashi on the proposed Hale Vista affordable housing project.

Planning

Ardis Shaw-Kim gave a presentation regarding the proposed development by Hawaii Housing Development Corporation on a 5.2 acre property located adjacent to Waianae Mall. Featuring an eight story building among other one and two story buildings for residents and community living and provided parking, 216 affordable rental units that will be planned for low income and very low income residents. The development is in need of several permits, particularly a 201-H application requesting certain exemptions from development standards for the development of affordable housing in accordance with State Statutes.

Questions, comments and concerns:

1. Awo questioned if they had done an Environmental Analysis on the site because it was the Okada trucking dump site in the 1980's. Ardis-Shaw reported that they would follow up on that information.

2. Rezentes questioned the development of an eight story building in the middle of Waianae. She questioned the amount of parking stalls available on the property, which was 291 and believed that it would not be enough for the proposed 216 units available. Rezentes commented that the information provided on the handouts was too small to read and did not give a reasonable amount of information. She also believed that this development is relatively massive for the area and should be more comprehensive not only to the community around.

3. Chair Teruya asked that these concerns be looked into and at a later date provide more information on the development before the Board can provide a position. Kurahashi reported that they would follow up and report back to the Board at a later date.

4. Manaku questioned the use of "affordable" and asked what a possible dollar amount would be regarding the rent of the units. Ardis-Shaw stated that they would be using the federal HUD numbers that would be 30% and lower than the median average income or "very low". At this rate, a family would be able to rent a 2-bedroom unit at $481 or a 3-bedroom unit at $556. The "low" income that is at 60% below the median income average would make a 2-bedroom unit rent for $960 and a 3-bedroom unit at $1016.

5. Residents questioned whether the units would be for sale or for rent. Kurahashi reported that the units would be fee simple rental leases for 61 years.

Rezentes moved and Kelii seconded to defer a Board position for a future meeting in order for information to be provided by Ardis Shaw-Kim and Keith Kurahashi, consultants from Kusao and Kurahashi. .

Discussion:

1. A resident who lived next to the proposed development asked whether it will block the view or wind into her residence and also questioned if this development will depreciate the value of her property. Kurahashi stated that he would follow-up as he only had information that the property would have an exemption due to its affordable housing status.