

Hualalai Elderly
Housing

Benjamin J. Cayetano
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Ramona K. Mullahey
Chair

Craig K. Hirai
Vice-Chair

State of Hawaii
Rental Housing Trust Fund

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OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

March 7, 1997

Mr. Gary Gill
Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Dear Mr. Gill:

Subject: Finding of No Significant Impact for
Hualalai Elderly Housing Project
TMK (3)7-5-10-10, Kailua, Hawaii

The Rental Housing Trust Fund ("RHTF") has reviewed the comments received during the 30-day public comment period which began on January 8, 1997. The RHTF has determined that this project will not have significant environmental effect and has issued a finding of no significant impact. Please publish this notice in the March 23, 1997 OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA.

Please contact Kwan G. Low at 587-0797, if you have any questions.

Sincerely,


Ramona K. Mullahey
Chairperson

Attachments

c: Keith Kato

1997-03-23-HI-FEA-Hualalai

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Elderly Housing

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FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT

HUALALAI ELDERLY HOUSING PROJECT

KAILUA, NORTH KONA, HAWAII TMK: (3) 7-5-10: 10

APPROVING AGENCY: STATE OF HAWAII RENTAL
HOUSING TRUST FUND

677 QUEEN STREET SUITE 300
HONOLULU, HAWAII 96813

FEBRUARY, 1997

PREPARED BY:
BRIAN T. NISHIMURA, PLANNING
CONSULTANT
101 AUPUNI ST. SUITE 217,
HILO, HAWAII 96720

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1. INTRODUCTION

1.1 Purpose

The purpose of this Environmental Assessment is to comply with Chapter 343, Hawaii Revised Statutes ("HRS"), in conjunction with an application submitted to the State of Hawaii Rental Housing Trust Fund (RHTF) for construction financing to develop the Hualalai Elderly Housing Project. The request to utilize these State funds triggers the environmental review process as required by Chapter 343, (HRS).

1.2 Identification of Applicant

The Hualalai Elderly Housing Limited Partnership is applying to the RHTF for interim construction financing. Mr. Keith H. Kato is the Executive Director the Hawaii Island Community Development Corporation, the general partner, doing business at 99 Aupuni Street, Suite 104, Hilo, Hawaii 96720.

1.3 Identification of Approving Agency

Chapter 343, HRS, requires that an environmental review process be initiated whenever one of eight actions or activities is proposed in the State of Hawaii. The use of State funds is one of the triggering activities for the environmental review process.

In accordance with Chapter 343, HRS, the RHTF is the appropriate accepting authority of the Environmental Assessment since it is the agency administering the State funds for affordable rental housing projects such as the Hualalai Elderly Housing Project.

1.4 Technical Description

The Hawaii Island Community Development Corporation (HICDC), a Hawaii nonprofit corporation, is proposing the development of a thirty (30) unit elderly housing project in Kailua-Kona, Hawaii, tax map key number (3)-7-5-10:10. The 3.1 acre parcel is situated on the west side of Hualalai Road, approximately 200 feet south of the Hualalai Road - Aloha Kona Road intersection. (See Figure 1 - Location Map)

The subject property is owned by Lanihau Partners L.P., a Delaware limited partnership and the HICDC has obtained an option to lease the property for the proposed project. The project site is well situated in Kailua-Kona, the major urban center for the west side of the island of Hawaii. This location allows ready access to shopping, personal service, and medical service providers.

The proposed project will consist of thirty (30), one (1) bedroom/one(1) bath units with five hundred forty-six (546) square feet of living area per unit. Other improvements will include extensive landscaping, twenty-eight (28) regular and two (2) handicap parking stalls,

and a common building with laundry facilities, open and covered patio, office and storage space. (See Figure 2 - Site Plan.)

There will be six single story structures with five units per structure as well as a separate common area building. The makai buildings will have wood floors on post and piers while the mauka buildings will have concrete slabs on grade. The construction material will include plywood siding for the exterior walls, asphalt shingle over plywood sheathing for the roofs and gypsum drywall for the interior walls.

Access to the site will be provided from Hualalai Road which is a County owned and maintained roadway. Hualalai Road has a 30 foot wide right-of-way and a 22 foot wide pavement with 3 foot wide shoulders. All utilities including County water is available to the site. Sewage disposal will be handled with an on-site septic system.

Construction of the proposed project is scheduled to begin in December, 1996 with occupancy of the units scheduled for January, 1998. The total development budget for the 30 one bedroom units is estimated to be \$3,364,054. The proposed project is requesting approximately \$165,000 from the Rental Housing Trust Fund.

1.5 Project Background

1.5.1 Need for the Project

The proposed affordable housing units will address an existing affordable housing demand in the County of Hawaii and in West Hawaii in particular. A recent housing market analysis prepared for the proposed project by Real Estate Services, Inc., Peter T. Young, Certified General Real Estate Appraiser, provided the following findings:

- The proposed monthly rent structure of approximately \$349 plus utilities is affordable to persons in the 60% of median income group and is significantly lower than market rents for 'typical' 1-bedroom units.
- An indicator of market demand for affordable elderly housing are the waiting lists for existing elderly projects. The newest elderly project in West Hawaii in Waimea (40 units) filled immediately upon completion. All other elderly projects are full and have typically experienced waiting lists. Projections indicate that if a name were added to the list today, the individual would have to wait a year before a unit becomes available.
- The general marketplace appears to have changed over the past few years and many 'affordable' properties are available for rent in the marketplace. However, there are no market units designed and marketing to the elderly. In addition, the market rents for 'typical' units are significantly higher than the target elderly group proposed by the subject project (60% of median income).

FIGURE 1 LOCATION MAP

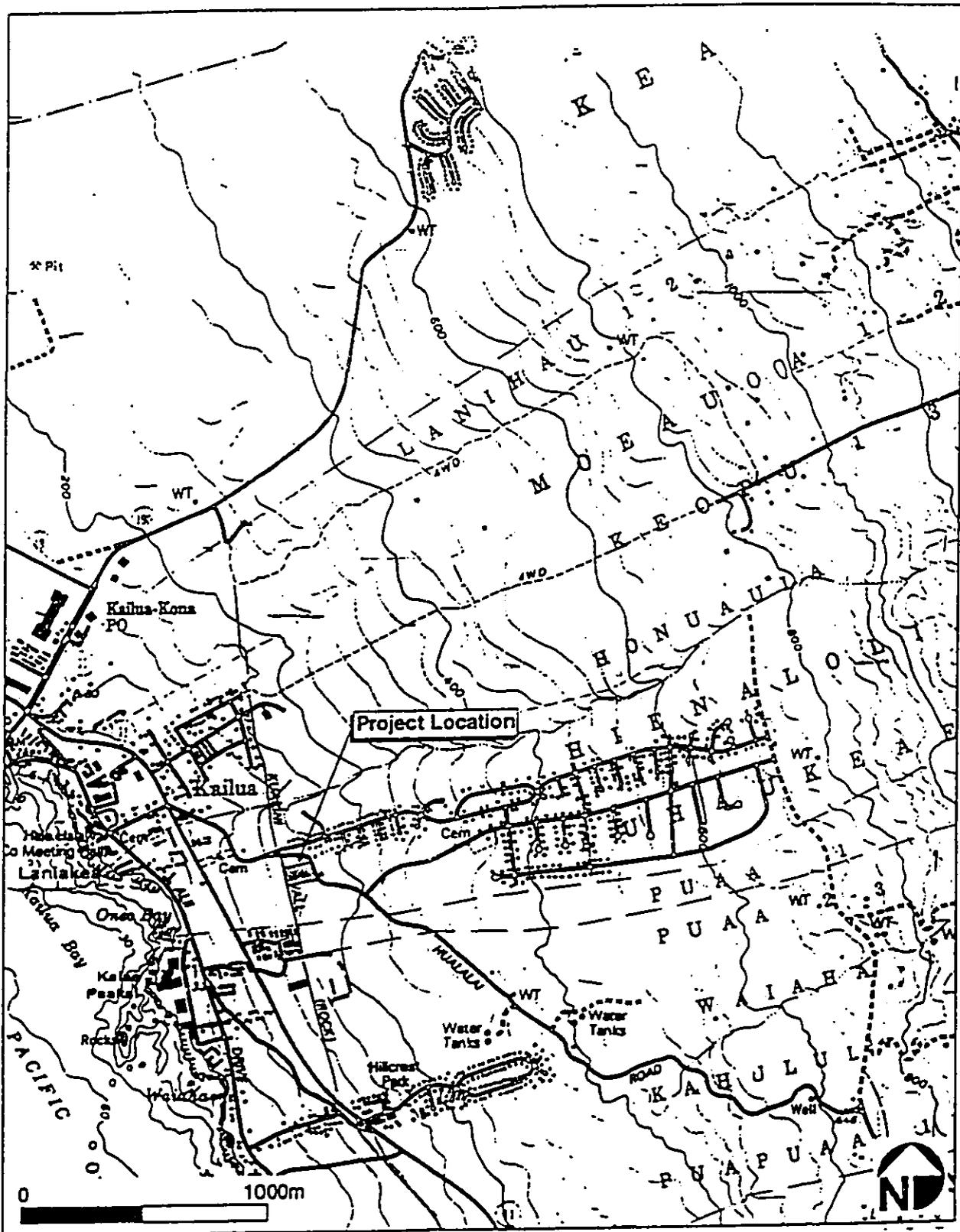
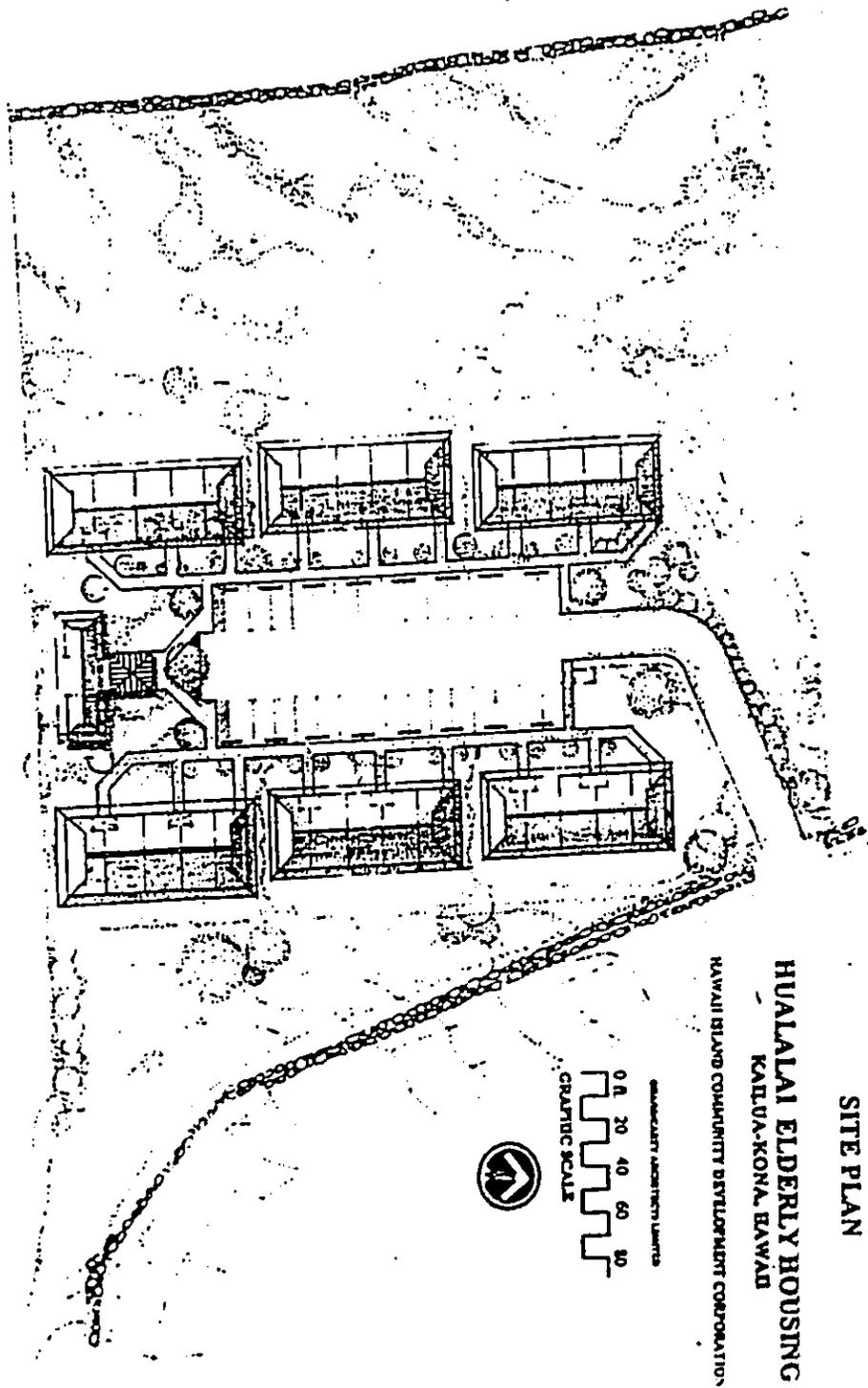


FIGURE 2. SITE PLAN



1.5.2 Target Population

The 30 elderly rental units will be developed as a low income housing tax credit project utilizing interim construction financing from the RHTF . All of the units will be rent restricted and occupied by individuals whose income is 60% or less of the area median income. In 1996, a single person household earning up to \$19,800 and a two person household earning up to \$22,620 would qualify as an eligible family in the project. Initial rental rates for the 1 bedroom 1 bath units are projected to be \$349/month.

1.5.3 Land Use Designations

The subject property is situated within the State Land Use Urban District. The County General Plan Land Use Pattern Allocation Guide Map (LUPAG) designates this area as "Medium Density Urban". Such a designation allows village and neighborhood commercial activities as well as residential development with a density of up to 35 units per acre. The county zoning designation for the site is presently Agriculture one acre (A-1a).

The HICDC has submitted a request to the County's Office of Housing and Community Development to "preempt" the County's zoning restrictions for the proposed affordable housing project pursuant to Sections 201E-201 and 201E-210, Hawaii Revised Statutes. Detailed plans and specifications of the affordable housing project will be submitted to the Hawaii County Council for specific preemption approval prior to the development of the project. A preemption resolution will authorize the Mayor or his designee to certify compliance with applicable laws and ordinances relating to the development of the affordable housing project.

1.6 Agency and Public Consultation

The following public and private organizations were consulted during the preparation of this environmental assessment:

Federal Government

U.S. Fish and Wildlife Service
Division of Ecological Services

State of Hawaii

Department of Land and Natural Resources
Historic Preservation Division
Division of Forestry and Wildlife
Department of Health

County of Hawaii

Planning Department
Department of Public Works
Department of Water Supply
Office of Housing and Community Development
Police Department
Fire Department
Kailua Village Special Design Commission

Organizations

West Hawaii Housing Foundation
Hawaii Leeward Planning Conference
American Lung Association

The comments provided during the pre-assessment consultation period have been included in Appendix A.

2. ENVIRONMENTAL SETTING, IMPACTS AND PROPOSED MITIGATION MEASURES

2.1 Physical Environment Characteristics

2.1.1 Geology and Hazards

Environmental Setting

The subject property is located on the lower slopes of Mount Hualalai which geologically is in a late mountain building stage characterized by the capping of the volcano with siliceous andesite lava, and the presence of ash beds which mantle portions of the volcanic shield. The bulk of Hualalai is composed of highly permeable alkali-basaltic lava which erupt somewhat explosively due to their high gas content. Hualalai last erupted in 1800-1801 from several vents along the northwest rift zone. One of these flows reached the ocean near Kiholo Bay and another flow reached the ocean at Keahole Point.

The volcanic hazard as assessed by the United States Geological Survey is "4" on a scale of ascending risk 9 to 1 (Heliker 1990). Zone "4" includes all of Hualalai where the frequency of eruptions is lower than on Kilauea and Mauna Loa. Less than 15% of the zone "4" designation has been covered by lava in the last 750 years.

The entire island of Hawaii is in earthquake zone 3 of the Uniform Building Code which establishes structural design standards for earthquake resistance for certain types of buildings. This zone is prone to major damages from potential earthquake activity.

Impacts

The proposed project will not expose residents to any severe volcanic hazard. The major urban centers in the Big Island, Kailua-Kona and Hilo share the identical volcanic hazard risk or an even higher risk than the project site.

Mitigation Measures

The proposed 30 unit elderly housing project will be constructed to current Building Code standards which includes measures to reduce seismic damage.

2.1.2 Soils and Agricultural Resources

Environmental Setting

The soil types found on the project site include the Punaluu and Waiaha soil series. The Punaluu series consists of well-drained, thin organic soils over pahoehoe lava bedrock. The Waiaha series consists of shallow, well-drained silt loams that formed in volcanic ash. Both soil types are used for pasture with the Punaluu soils having a capability subclass

rating of VIIs while the Waiaha soils having a capability subclass rating of VII (U. S. Soil Conservation Service 1973). The Land Study Bureau's overall master productivity rating of the subject area for agricultural use is class "E" or "very poor" (Land Study Bureau 1965).

Impacts

Given the location of the project site within the urban boundaries of Kailua village, the low agricultural capability and productivity ratings of the soil and the limited agricultural use of the site and surrounding properties, no adverse impact on agricultural soils or uses are anticipated as a result of the proposed project.

2.1.3 Rainfall, Hydrology and Drainage

The annual rainfall for the subject area is approximately 30 inches. The "rainy" season is generally from May to September. Occasionally, large storms may yield abundant rainfall that produce high runoff and stream flows.

The project site is designated Zone X (Areas determined to be outside the 500-year flood plain) on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (Map Panel 0713D). The subject property is not within the two major drainageways in the Kailua village area, the Keopu-Hienaloli drainageway or the Waiaha drainageway.

Impacts and Mitigation Measures

Development of the proposed project has the potential to increase surface runoff and flooding in the area. The proposed project will adhere to County and State requirements for disposing of runoff and addressing drainage concerns. As such, no adverse drainage impacts are anticipated as a result of the proposed project.

2.1.4. Flora, Fauna and Ecosystems

Environmental Setting

The project site generally supports dry grasslands and a variety of shrubs and trees that are typical of the area. The grass is predominantly fountain grass (*Pennisetum purpureum*) while the trees include kiawe (*Prosopis pallida*), lantana (*Lantana camara*) and koa-haole (*Leucaena leucocephala*).

The State Department of Land and Natural Resources, Division of Forestry and Wildlife, commented that, "We have no objections to the proposed project as it will not affect any rare or threatened botanical resources." In addition, the United States Department of the Interior, Fish and Wildlife Service, stated that, "The Service has no records of wetlands, sensitive habitats, or endangered, threatened, or proposed, or candidate species at the

project site. No significant adverse effects to fish and wildlife resources are expected from the proposed action."

Impacts

No listed, candidate or proposed endangered animal or plant species are found on the subject property. In terms of conservation value, no botanical or zoological resources requiring special protection are present.

2.1.5. Air Quality, Noise and Scenic Resources

Environmental Setting

The air quality of the subject area is affected by pollutants derived from the volcanic emissions from the ongoing Kilauea eruption. Other sources of air pollutants include vehicle emissions and dust from construction activities.

Ambient noise levels in the area are low to moderate due to the sparsely developed nature of the surrounding properties. Noise in the general area is mainly derived from residences and traffic along Hualalai Road.

Scenic resources for the project area includes ocean views of Kailua Bay and mountain views of Hualalai.

Impacts and Mitigation Measures

Project activities would entail only negligible increases in air pollution and noise while having a marginal impact on the scenic views of the subject area. Short term air and noise impacts generated by construction activity for the project will be mitigated through standard construction practices in compliance with State regulations. The scenic views of the subject area will be maintained due to the sloping nature of the property and the single story construction of the units.

2.2 Social, Cultural and Economic Setting

2.2.1 Socio-Economic Characteristics

Setting

The 1990 census data found that almost 3,500 households in North Kona and over 1,300 households in South Kona have incomes primarily from Social Security, public assistance or retirement income. If the ratio of elderly population for the entire population (approximately 22 percent for West Hawaii) is consistent with these households, that means approximately 1,070 North and South Kona households are made up of the elderly with limited incomes. In 1996, a single person household earning up to \$19,800 and a

two person household earning up to \$22,620 would qualify as an eligible family whose income is 60% or less of the area median income.

Current market rentals for studio and one-bedroom units in West Hawaii are predominantly between \$495-\$650 per month. These are typical apartments and not specifically designed for the elderly. All of the existing elderly housing units in West Hawaii are a 100% occupied and have waiting lists which would result in a wait of one year on the average. The Captain Cook Elderly project in South Kona has 21 units with 100% occupancy and 22 on the waiting list; the Nani Olu and Hale Hookipa projects in South Kona have a mix of 32 one bedroom and studio units apiece with 100% occupancy and 107 on the studio waiting list and 180 on the one bedroom waiting list; Waimea Elderly in South Kohala has 40 units with 100% occupancy and 8 on the waiting list.

Impacts

The proposed 30 unit elderly housing project will have a beneficial socio-economic impact by addressing an existing affordable housing demand in the County of Hawaii and in West Hawaii in particular. The proposed monthly rent structure of approximately \$349 plus utilities is affordable to persons in the 60% of median income group and is significantly lower than market rents for 'typical' 1-bedroom units in West Hawaii. The proposed project will assist the State and County in their efforts to implement their Consolidated Plan priorities for Special Needs groups by providing affordable rental housing for the elderly. (The County's specific goal, to be accomplished between 1995 and the year 2000, is to, "Complete construction of approximately 125 new elderly rental units affordable to the elderly and frail elderly earning less than 80% of the median income.") (Office of Housing and Community Development, 1996)

2.2.2 Adjacent Land Uses

Setting

The Hualalai Elderly Housing Project site is situated in a pocket of undeveloped land within the Kailua village urban core. Vacant lands to the north, west and south are either unutilized or only sporadically used for grazing of livestock. The Pines at Kailua-Kona, a residential condominium project, is situated to the east of the site, on the eastern side of the Hualalai Road. The Aloha Kona Subdivision, a single family residential project with 7,500 square foot lots, is also situated on the eastern side of Hualalai road to the northeast of the project site.

Impacts

The proposed project will be consistent with the character of the existing residential projects on the eastern side of Hualalai Road. The proposed project will have little or no impact on the existing land use pattern of the surrounding properties.

2.3 Public Facilities and Services

2.3.1 Roads and Traffic

Setting

The public roadway providing access to the site is the Hualalai Road which is a two-lane County road. This segment of Hualalai Road fronting the subject property is a mauka-makai link between Kuakini Highway and the Queen Kaahumanu Highway. Hualalai Road has a 22-foot wide pavement and has a posted speed limit in the vicinity of the project site of 35 miles per hour. There are no sidewalks or crosswalks along this section of Hualalai Road.

Impacts and Mitigation Measures

The additional traffic to be generated by the 30 unit elderly housing project will be minimal. Only a few of the residents of existing elderly housing projects own vehicles. Plans for the proposed project do not include any sidewalk or crosswalk improvements. Transportation services for the elderly are provided by social service agencies in the community.

2.3.2 Water Supply

Existing Setting

Water for the proposed project can be made available from an existing 8-inch waterline which is situated at the intersection of Aloha Kona Drive and the Hualalai Road approximately 250 feet from the subject property.

Impacts and Mitigation Measures

The proposed 30 unit elderly housing project will not have a significant adverse impact on the existing Department of Water Supply sources. Waterline improvements will be extended to provide service to the proposed project. Although a water commitment for the proposed project has not been secured at this time, the developer will take the necessary steps to secure a water commitment upon completion of the land use regulatory process.

2.3.3 Wastewater

Existing Setting

The Kailua community is served by County's Kealakehe Wastewater Treatment Plant. The nearest transmission line to the subject property is approximately 1,200 feet away along

Kuakini Highway through TMK: 7-5-09: 54. The Department of Public Works has commented that sewer lines should be installed to tie in with the sewer system.

The developer has initiated further discussions with the Department of Public Works, Wastewater Division regarding sewage disposal options for the subject project. The County is not requiring the proposed project to connect to the county sewer system based on the location of the existing lines. Based on the current distance to the sewer line (approximately 1/4 mile) the approximate off-site sewer cost for the proposed project is \$380,000. A septic system serving the project would cost approximately \$55,000. The added expense of making the off-site sewer connection would make the project cost prohibitive.

Impacts and Mitigation Measures

The developer will not be able to install sewer lines to tie in with the County's sewer system due to the distance and expense involved. Sewage disposal will be handled by an on-site septic system meeting the approval of the Department of Health.

In the event that the County is able to accelerate their time frame for extending the existing sewer line from Kuakini Highway mauka along Hualalai Road to where it could service the subject property, the developer will be open to exploring the options for connecting to the county system at that time. The proposed alternative of installing a septic system has been approved by the State Department of Health for other affordable housing projects in the County of Hawaii. The developer must provide a sewage disposal system meeting with the approval of the State Department of Health.

2.3.4 Electricity, Telephone and Cable T.V.

Setting

Electricity, telephone and cable t.v. are available to the subject property from existing service lines along Hualalai Road.

Impacts

The proposed project will not have any significant adverse impact on the existing capacity of these services.

2.3.5 Solid Waste

Existing Setting

The County does not provide any municipal waste pick up services in the area. The nearest county solid waste transfer station to the subject property is within a three mile

radius of the subject property. A new landfill facility at Puuanahulu, approximately 20 miles to the north, has recently opened to service the West Hawaii communities.

Impacts and Mitigation Measures

A private waste pick up service will be utilized for the proposed project. In addition, recycling bins can be accommodated on site to encourage the recycling of cans, bottles and paper.

2.3.6 Protective Services

Existing Setting

Protective services including fire, police, rescue and medical services are located in Kailua all within a three mile radius of the project site. These facilities and services adequately meet the needs that would be generated by the proposed project.

Impacts

The proposed project is not likely to create an additional burden on the existing service providers. (Most of the elderly housing residents will be relocating from existing West Hawaii communities.) As such, the proposed project will have a positive impact by placing the residents in closer proximity to the service providers.

2.4 Archaeology and Historic Sites

Setting

An archaeological inventory survey was conducted of the subject property between May 25-31, 1996, by Ogden Environmental Energy Services Company, Inc. The report, attached as Appendix C, details the results of the survey, testing, site significance evaluation, and recommendations, following a brief summary of the background and methods. The original report, prepared in July, 1996 was revised in November, 1996.

The survey report provided the following conclusions:

"The housing project site area, approximately 3-acres, contained three archaeological sites: Site 50-10-28-7276 (Great Wall of Kuakini); Site 50-10-28-21134, comprised of 11 features; and site 50-10-28-21176, comprised of two features. Subsurface testing at Site 21134, Features 1,2,7, and 9 indicate that all were related to the post-Contact Period; Site 21176, Features 1 and 2 are related to the late pre-Contact Period.

"Based on the inventory survey and subsurface testing results, both new recorded sites (Sites 21134 and 21176) are significant under criterion d of the National Register of Historic Places and Chapter 6E of the Hawaii Revised Statutes. Based on the results of the inventory survey it is recommended that data recovery be conducted at Site 21176, Features 1 and 2, to determine the function of the features and the extent of the subsurface deposits. Site 7276, the Great Wall of Kuakini, built in the 1830s, is significant under criteria b,c, and d and should be preserved."

Impacts and Mitigation Measures

The State Historic Preservation Division has reviewed and concurred with the findings and recommendations of the Archaeological Inventory Survey of the Proposed Hualalai Elderly Housing Project prepared by Ogden Environmental and Energy Services Co., Inc. The State Historic Preservation Division has stated that, "We agree with your significance evaluations. Site 21134 was significant solely for its information content and an adequate amount of that information was recovered during the survey, making this site 'no longer significant'. Site 21176 is significant solely for its information content. The Kuakini Wall is significant under multiple criteria of the Hawaii and National Registers of Historic Places. Thus, 2 significant sites remain in the project area."

"We also agree with your proposed mitigation commitments -- preservation of the Kuakini Wall and archaeological data recovery of site 21176."

The developer will work with the archaeological consultant and the State Historic Preservation Division to devise and implement a detailed mitigation plan for the two significant sites, site 7276 (the Kuakini Wall) and site 21176, that remain in the project area. The site 7276, the Kuakini Wall, will be preserved and archaeological data recovery will be implemented for site 21176. This

mitigation plan will be developed and implemented prior to any construction or land disturbing activity commencing on the subject property.

3. SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

3.1 Short Term Impacts

Construction:

Impacts: Short term impacts will result from the construction of the 30-unit elderly housing project. Impacts will consist of temporary noise, dust and exhaust from machinery along with minor traffic disruption. In addition, runoff may be a problem during construction and until landscaping is established

Mitigation: Dust, noise and runoff control measures will be utilized as necessary. Best management practice requirements will be imposed on the contractor during the construction of the project.

3.2 Long Term Impacts

Geologic Hazard:

Impacts: The proposed project will be exposed to damages from potential earthquake activity.

Mitigation: The proposed 30 unit elderly housing project will be constructed to current Building Code standards which includes measures to reduce seismic damage.

Drainage:

Impacts: Development of the proposed project has the potential to increase surface runoff and flooding in the area.

Mitigation: The proposed project will adhere to County and State requirements for disposing of runoff and addressing drainage concerns. As such, no adverse drainage impacts are anticipated as a result of the proposed project.

Scenic Resources:

Impacts: The proposed project has the potential to adversely affect scenic views of Kailua Bay and mountain views of Hualalai.

Mitigation: Project design will incorporate the natural topography of the property the single story construction of the units to minimize the potential impacts to the scenic resources.

Archaeological Resources

Impacts: The project, as proposed, would destroy one of the three archaeological sites, Site 50-10-28-21134, identified on the subject property.

Mitigation: Site 21134 was significant solely for its information content and an adequate amount of that information was recovered during the survey, making this site 'no longer significant'. The developer will work with the archaeological consultant and the State Historic Preservation Division to devise and implement a detailed mitigation plan for the two significant sites, site 7276 (the Kuakini Wall) and site 21176, that remain in the project area. The site 7276, the Kuakini Wall, will be preserved and archaeological data recovery will be implemented for site 21176. *This mitigation plan will be developed and implemented prior to any construction or land disturbing activity commencing on the subject property.*

4. ALTERNATIVES

4.1 No Action

If the proposed project is not developed, the subject property will remain vacant and unused temporarily. Given the State Land Use Urban designation and the General Plan Medium Density designation of the subject property, it is only a question of when and not if the property will be developed. Some type of commercial or residential use will be established on the subject property to provide an economic return to the owners that is consistent with the value of the property.

5. ANTICIPATED DETERMINATION

5.1 Findings

Based on the foregoing information presented, it is determined that the proposed development of a 30-unit elderly affordable housing project on the subject property will not have a significant effect. As such, a determination of a Finding of No Significant Impact for the proposed action is appropriate.

5.2 Reasons Supporting Determination

The nature and scale of the proposed action is such that no significant environmental effects are anticipated. Potential impacts, if any, can be mitigated through archaeological data recovery, sensitive site planning and architectural design, careful construction methods and compliance with all governmental requirements including those of the State Department of Health and the County of Hawaii through the pre-emption process.

REFERENCES

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- Land Study Bureau. 1965. *Detailed Land Classification - Island of Hawaii*. University of Hawaii. Honolulu
- Office of Housing and Community Development (OHCD). 1996. *Consolidated Plan-Program Years 1995-2000*. County of Hawaii. Hilo
- Ogden Environmental and Energy Services Co., Inc. 1996. Draft Report. *Archaeological Inventory Survey of the Proposed Hualalai Elderly Housing Project, Kailua, North Kona District, Hawaii Island (TMK: 7-5-10:10)*. Prep. for: Hawaii Island Community Development Corporation (HICDC). Hilo
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- U.S. Soil Conservation Service. 1973. *Soil Survey of the Island of Hawaii, State of Hawaii*. Washington: U.S.D.A.
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APPENDIX A

Responses Received From Consulted Agencies

Stephen K. Yamashiro
Mayor



Donna Fay K. Kiyosaki
Chief Engineer

Jiro A. Sumada
Deputy Chief Engineer

County of Hawaii

DEPARTMENT OF PUBLIC WORKS
25 Aupuni Street, Room 202 • Hilo, Hawaii 96720-4252
(808) 961-8321 • Fax (808) 969-7138

July 15, 1996

Brian T. Nishimura
101 Aupuni St.
Suite 217
Hilo, HI 96720

SUBJECT: Hualalai Elderly Housing Project
LOCATION: Lanihau, North Kona, HI
TMK: 7-5-10:10

We have performed a preliminary review of your subject project and offer the following comments:

1. All development generated runoff shall be disposed of on site and shall not be directed toward any adjacent properties.
2. Applicant shall be informed that if drywells are included in the subject improvements, an Underground Injection Control (UIC) permit must be applied for from the Department of Health, State of Hawaii.
3. A drainage study should be prepared and a drainage system should be installed meeting with the approval of DPW.
4. All grading and grubbing activities shall comply with Chapter 10 of the Hawaii County Code.
5. The developer shall prepare a solid waste management plan for the development which is to be administered by the Association of Homeowners or by the developer if no association is established.
6. The driveways must conform to County standards. The sight distance must meet the requirements of the Statewide Design Manual.

Letter to Nishimura
July 15, 1996
Page 2

7. Hualalai Road in the vicinity of the parcel is a narrow roadway with no provisions for pedestrians or bicyclists. Hualalai Road should be improved along the property's frontage. Curb, gutter, and sidewalk construction, pavement widening, any necessary transitions and striping, drainage improvements, and relocation of utilities should be performed along this frontage. This work should be coordinated with the improvement plans approved for Hualalai Properties on TMK 7-5-10:13 & 7-5-23:63.

8. Sewer lines should be installed to tie in with the Kealahou Wastewater Treatment Plant.


Galen Kuba, Chief
Engineering Division

cc: Engineering-Hilo
Engineering-Kona

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



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

June 19, 1996

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Ste. 217
Hilo, HI 96720

Dear Mr. Nishimura:

Subject: Hualalai Elderly Housing Project, TMK: 7-5-10: 10
Request for Comments

We have reviewed the subject matter and made a site visit. We have no objections to the proposed project as it will not affect any rare or threatened botanical resources. There may be archaeological concerns and this can be addressed by the Historic Preservation Division of this Department.

Thank you for the opportunity to comment.

Very truly yours,

Michael G. Buck
Administrator

cc: HI DOFAW Branch
Division of Land Management

MICHAEL D. WILSON
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT S. COLOMA-AGARAN

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CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT
c:\wfo\cdue\9596\nishimur.1tr

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



LAWRENCE MIKE
DIRECTOR OF HEALTH

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

In reply, please refer to:

June 19, 1996

96-085/epo

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720

Dear Mr. Nishimura:

Subject: Pre-Consultation
Hualalai Elderly Housing Project
Kailua-Kona, Hawaii
TMK: 7-5-10: 10

Thank you for allowing us to comment on the subject project.
Please address in the Draft Environmental Assessment the
following areas:

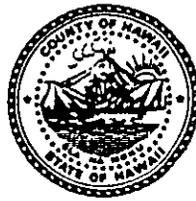
1. Sewage treatment and disposal,
2. Mitigating measures for the control of polluted runoff during construction and until landscaping is established, and
3. The use of recycled materials in the construction of the units and the roadway paving. Also, the location of a possible site in the project for the collection and recycling of cans, bottles and paper.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bruce S. Anderson".

BRUCE S. ANDERSON, Ph.D.
Deputy Director for
Environmental Health

Stephen K. Yamashiro
Mayor



Virginia Goldstein
Director

Norman Olesen
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-9615

June 14, 1996

Mr. Brian T. Nishimura
101 Aupuni Street, Suite 217
Hilo, HI 96720

Dear Mr. Nishimura:

General Inquiry Regarding Proposed Hualalai Elderly Housing Project
Tax Map Key: 7-5-10; 10; Auhukeahe 1st, North Kona, Hawaii

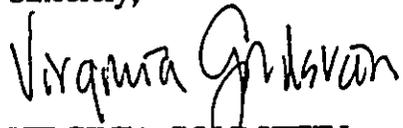
In response to your letter dated May 28, 1996, requesting information and comments regarding the above-referenced matter, we provide the following:

1. The subject property, consisting of 3.10 acres, is situated within an area designated Urban by the State Land Use Commission.
2. The Hawaii County General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the affected area for Medium Density Urban uses, which may consist of village and neighborhood commercial uses and residential uses up to 35 units per acre.
3. The Kona Regional Plan recommends that the subject property be used for residential purposes ranging from 10 to 14 units per acre (RES-10 to 14).
4. The subject property is zoned Agricultural-1 acre (A-1a) by the county, which will not permit the establishment of the proposed elderly housing project.
5. The subject property is not located within the county's Special Management Area.
6. Section 25-73(a)(12) of the Zoning Code requires one and one-quarter (1-1/4) parking stall for each residential unit. A 30-unit residential complex would therefore require 38 parking stalls; one of which shall be for handicapped parking.

Mr. Brian T. Nishimura
Page 2
June 14, 1996

Thank you for allowing our office the opportunity to comment. Please feel free to contact this office should there be any questions.

Sincerely,



VIRGINIA GOLDSTEIN
Planning Director

DSA:pak
LNishi01.dsa

xc w/ltr: West Hawaii Office
Land Use Controls Division

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT COLOMA-AGARAN

AQUACULTURE DEVELOPMENT
PROGRAM
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CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

June 19, 1996

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720

LOG NO: 17416
DOC NO: 9606PM25

Dear Mr. Nishimura:

SUBJECT: Hualalai Elderly Housing Project
Auhaukeae, North Kona, Hawaii Island
TMK: 7-5-10: 10

Thank you for your letter of May 28, 1996, and the opportunity to provide comments prior to the preparation of an Environmental Assessment for the proposed housing project.

It is our understanding, based on your phone conversation with Patrick McCoy on June 12, 1996, that Ogden Environmental and Energy Services has conducted an archaeological inventory survey of the 3.1 acre parcel. We will look forward to receiving a report on the survey for our review and comment.

If you should have any questions about this project please contact Patrick McCoy (587-0006).

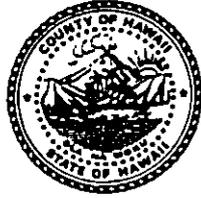
Sincerely,

A handwritten signature in cursive script, appearing to read "Don Hibbard".

for DON HIBBARD, Administrator
State Historic Preservation Division

PM:jk

Stephen K. Yamashiro
Mayor



Wayne G. Carvalho
Police Chief

James S. Correa
Deputy Police Chief

County of Hawaii
POLICE DEPARTMENT

349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2702

June 13, 1996

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720

Dear Mr. Nishimura:

SUBJECT: HUALALAI ELDERLY HOUSING PROJECT

Staff has reviewed the application and conducted a visual inspection of the site. We offer the following traffic safety concerns:

1. The property is located between two curves on Hualalai Road. It would be advisable, if not already done, to have personnel from the Department of Public Works review this proposal and comment on ingress and egress of vehicular traffic.
2. Elderly persons wishing to walk the 1/4 mile into Kailua would have to walk along the unimproved shoulder of Hualalai Road, making their traverse difficult, if not unsafe, especially at night. Only upon reaching Kuakini Highway are there sidewalks for pedestrian traffic.

We would appreciate a copy of the Draft Environmental Assessment upon its completion.

Thank you for allowing us the opportunity to comment.

Sincerely,


WAYNE G. CARVALHO
POLICE CHIEF

JD:lk

cc: Planning Director
Chief Engineer



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3108
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

In Reply Refer To: TR

Brian T. Nishimura
101 Aupuni St.
Hilo, Hawaii 96720

JUN 17 1995

Re: Hualalai Elderly Housing Project

Dear Mr. Nishimura:

The U.S. Fish and Wildlife Service (Service) has received your request for comments on the Hualalai Elderly Housing Project. The purpose of the project is to develop elderly housing in Kailua-Kona, Hawaii. The project sponsors are the Housing Finance and Development Corporation and the Rental Housing Trust Fund.

The Service has reviewed the project details provided with your request and pertinent information in our files, including maps prepared by the Hawaii Heritage Program of the Nature Conservancy of Hawaii. The Service has no records of wetlands, sensitive habitats, or endangered, threatened, proposed, or candidate species at the project site. No significant adverse effects to fish and wildlife resources are expected from the proposed action. The Service, therefore, does not require further notification or consultation on the project.

The Service appreciates the opportunity to provide comments on the proposed project. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Tanya Rubenstein at 808/541-3441.

Sincerely,


for Brooks Harper
Field Supervisor
Ecological Services



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 969-1421 • FAX (808) 969-6996

June 7, 1996

Mr. Brian T. Nishimura, Planning Consultant
101 Aupuni Street, Suite #217
Hilo, HI 96720

WATER AVAILABILITY FOR HUALALAI ELDERLY HOUSING PROJECT
TAX MAP KEY 7-5-10:10

This is in response to your letter of May 28, 1996.

Water for the proposed project can be made available from an existing 8-inch waterline at the intersection of Aloha Kona Drive and Kailua-Holualoa Road, approximately 250 feet from the property.

However, we request that the maximum daily anticipated water demand for the landscaping, as recommended by a professional engineer registered in the State of Hawaii, be submitted for our review and approval.

Please keep in mind that this letter shall not be construed as a water commitment. In other words, unless a water commitment is officially effected, water availability is subject to change depending on the water situation.

Should there be any questions, please call our Water Resources and Planning Section at 969-1421.

Milton D. Pavao, P.E.
Manager

WA

... Water brings progress...

Stephen K. Yamashiro
Mayor



Nelson M. Tsuji
Fire Chief

Edward Bumatay
Deputy Fire Chief

County of Hawaii

FIRE DEPARTMENT

777 Kilauea Avenue • Mail Lane, Room 6 • Hilo, Hawaii 96720-4239
(808) 961-8297 • Fax (808) 961-8296

June 4, 1996

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, HI 96720

Dear Mr. Nishimura:

Subject: Hualalai Elderly Housing Project
Request for Comments

The Fire Department's requirements as stated in the Fire Code are:

"Fire Apparatus Access Roads

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

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

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

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



Mr. Brian T. Nishimura
Page 2
June 4, 1996

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

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

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

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

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

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

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

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

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

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

Mr. Brian T. Nishimura
Page 3
June 4, 1996

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

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

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

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

"INSTALLATION AND MAINTENANCE OF FIRE-PROTECTION, LIFE-SAFETY SYSTEMS AND APPLIANCES

"Installation

"Sec. 10.301. (c) Water Supply. An approved water supply capable of supplying required fire flow for fire protection shall be provided to all premises upon which buildings or portions of buildings are hereafter constructed, in accordance with the respective county water requirements. There shall be provided, when required by the chief, on-site fire hydrants and mains capable of supplying the required fire flow.

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

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

Mr. Brian T. Nishimura

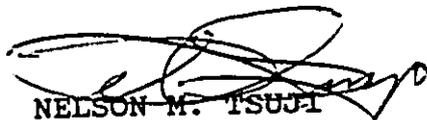
Page 4

June 4, 1996

"(d) Fire Hydrant Markers. When required by the chief, hydrant locations shall be identified by the installation of reflective markers.

"(e) Timing of Installation. When fire protection facilities are to be installed by the developer, such facilities including all surface access roads shall be installed and made serviceable prior to and during the time of construction. When alternate methods of protection, as approved by the chief, are provided, the above may be modified or waived."

Sincerely,



NELSON M. TSUJI
Fire Chief

NMT/mo

APPENDIX B

**Comments Received During the 30-Day Public Review Period and Responses to Those
Comments**

BENJAMIN J. CAYETANO
GOVERNOR



GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

236 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4186
FACSIMILE (808) 586-4186

February 7, 1997

Ms. Ramona Mullahey, Chair
Rental Housing Trust Fund
Housing Finance and Development Corporation
677 Queen Street, Suite 300
Honolulu, Hawaii 96813

Dear Ms. Mullahey:

Subject: Draft Environmental Assessment for the Hualalai Elderly
Housing, North Kona, Hawaii

Thank you for the opportunity review and comment on the subject document. We have the following comments and questions.

1. The Department of Public Works has recommended that the project be connected to the municipal sewer system. However, the developer has indicated that due to the distance and expense involved, an on-site septic system will be installed. What are the costs and benefits of the two wastewater management alternatives? Please provide a complete analysis of the difference between the two systems. Please also justify in detail why the preferred alternative is better.
2. The assessment indicates that the property contains two archaeological sites, #21134 and #7276. The project will destroy site 21134. What is the position of the State Historic Preservation Division on the significance of site 21134 and the proposal to destroy it? How will site 7276 be affected by this project? Will it be preserved? If so, what steps will be taken to ensure its preservation?
3. The assessment does not describe impacts to rare and endangered plants. Was a botanical survey conducted to determine the presence of such plants? If not, we suggest that a botanical survey be conducted.
4. The project will serve an elderly population. Are there any sidewalks and/or crosswalks to help the elderly walk safely

February 7, 1997
Page 2

along and across roadways to reach convenient locations? If not, is any sidewalk or crosswalk proposed?

5. The total cost for the project is \$3.3 million. How much money is being requested from the Rental Housing Trust Fund?

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,



Gary Gill
Director

c: Keith Kato
Brian Nishimura

BRIAN T. NISHIMURA, PLANNING CONSULTANT

101 Aupuni Street
Suite 217
Hilo, Hawaii 96720
Phone: (808) 935-7692 Fax: (808) 935-6126

February 17, 1997

Ms. Ramona Mullahey, Chair
Rental Housing Trust Fund
Housing Finance and Development Corporation
677 Queen St., Ste. 300
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment
Hualalai Elderly Housing Project
TMK: (3) 7-5-10: 10 Kailua-Kona, Hawaii

Dear Ms. Mullahey:

This is in response to comments which you received from the Office of Environmental Quality Control dated February 7, 1997, regarding the above-described matter. These comments are addressed as follows:

1. The developer has initiated further discussions with the Department of Public Works, Wastewater Division regarding sewage disposal options for the subject project. The County is not requiring the proposed project to connect to the county sewer system based on the location of the existing lines. Based on the current distance to the sewer line (approximately 1/4 mile) the approximate off-site sewer cost for the proposed project is \$380,000. A septic system serving the project would cost approximately \$55,000. The added expense of making the off-site sewer connection would make the project cost prohibitive.

In the event that the County is able to accelerate their time frame for extending the existing sewer line from Kuakini Highway mauka along Hualalai Road to where it could service the subject property, the developer will be open to exploring the options for connecting to the county system at that time. The proposed alternative of installing a septic system has been approved by the State Department of Health for other affordable housing projects in the County of Hawaii. The developer must provide a sewage disposal system meeting with the approval of the State Department of Health.

2. The State Historic Preservation Division has reviewed and concurred with the findings and recommendations of the Archaeological Inventory Survey of the Proposed Hualalai

Elderly Housing Project prepared by Ogden Environmental and Energy Services Co., Inc. The State Historic Preservation Division has stated that, "We agree with your significance evaluations. Site 21134 was significant solely for its information content and an adequate amount of that information was recovered during the survey, making this site 'no longer significant'. Site 21176 is significant solely for its information content. The Kuakini Wall is significant under multiple criteria of the Hawaii and National Registers of Historic Places. Thus, 2 significant sites remain in the project area."

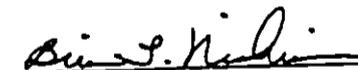
"We also agree with your proposed mitigation commitments -- preservation of the Kuakini Wall and archaeological data recovery of site 21176."

The developer will work with the archaeological consultant and the State Historic Preservation Division to devise and implement a detailed mitigation plan for the two significant sites, site 7276 (the Kuakini Wall) and site 21176, that remain in the project area. The site 7276, the Kuakini Wall, will be preserved and archaeological data recovery will be implemented for site 21176. This mitigation plan will be developed and implemented prior to any construction or land disturbing activity commencing on the subject property.

3. Comments regarding the potential impacts of the proposed project to rare and endangered plants were provided by the State Department of Land and Natural Resources, Division of Forestry and Wildlife, which stated that, "We have no objections to the proposed project as it will not affect any rare or threatened botanical resources." In addition, the United States Department of the Interior, Fish and Wildlife Service, stated that, "The Service has no records of wetlands, sensitive habitats, or endangered, threatened, or proposed, or candidate species at the project site. No significant adverse effects to fish and wildlife resources are expected from the proposed action."
4. There are no sidewalks or crosswalks in the immediate vicinity of the proposed project. Plans for the proposed project do not include any sidewalk or crosswalk improvements. Transportation services for the elderly are provided by social service agencies in the community.
5. The proposed project is requesting \$165,000 from the Rental Housing Trust Fund.

We believe that these responses have addressed the questions raised in the comments from the OEQC. Should you have any questions regarding this matter, please do not hesitate to call me.

Sincerely,


Brian T. Nishimura, Planning Consultant



Okahara & Associates, Inc.

ENGINEERING CONSULTANTS

Fax Memorandum

To: Hawaii Island Community Development Corporation Attention: Keith Kato

Fax No. 935-6916

From: Nancy Burns, P.E.

Project: Hualalai Elderly Housing OA Job No.: 96044 Date: February 12, 1997

Subject: Preliminary Cost Estimate For Hualalai Roadway Improvements

As requested, the following is a preliminary cost comparison between an on-site septic system and an off-site sewer system to serve the Hualalai Elderly Housing project.

Septic System:

30 Bedrooms	
Septic Tank Size: $6,630 + (24 \times 250) = 12,630$ Gal. Tank	\$17,000
Absorption Trenches: Assume 0-5 min/in 125sf/bedroom	
$30 \times 125 = 3,750$ sf	
$(3,750 \times 5) / 27 = 694$ cy	
$694 \text{ cy} \times \$20/\text{cy} =$	\$13,880
Pipe: 750 lf x \$32/lf	\$24,000
Total	\$54,800

Off-site Sewer:

Sewer Pipe: 1,350 lf 8" VC sewer pipe installed, including trench excavation, pavement repair	
$1,350 \times \$180/\text{lf}$	\$243,000
Pump Station with Generator:	\$100,000
Manholes: 11 x \$3225	\$35,475
Total	\$378,475

The cost of the sewer line installation was based on actual costs for sewer line installed by the County of Hawaii.

Please call me at 329-1221 if you have any questions.

Donald K. Okahara, P.E. • Masahiro Nishida, P.E. • Terance Naga, P.E. • Glenn Suzuki, P.E. • Nancy E. Burns, P.E.
200 KOHOLA ST. • HILO, HI 96720 • (808) 961-5527 • FAX (808) 961-5529
470 NORTH NIMITZ HWY., STE. 212 • HONOLULU, HI 96817 • (808) 524-1224 • FAX (808) 521-3151
73-5574 MAIAU STREET, BAY 6B • KAILUA-KONA, HI 96740 • (808) 329-1221 • FAX (808) 329-1006
E-MAIL • HILO okahara@okaha.net • OAHU ocashu@okaha.net • KAILUA-KONA okakona@okaha.net

HAWAII ISLAND COMMUNITY DEVELOPMENT CORPORATION

99 AUPUNI STREET, SUITE 104 • HILO, HAWAII 96720

February 11, 1997

Mr. Peter Boucher
Department of Public Works
Wastewater Division
108 Railroad Avenue
Hilo, Hawaii 96720

Hualalai Elderly Housing Project

Dear Mr. Boucher:

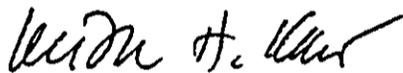
This is to follow up on our meeting earlier this morning concerning the sewer hookup requirements for our proposed project.

Based on those discussions it is my understanding that the Hualalai Elderly Housing Project to be developed on TMK: 7-5-10:10 is not required to connect to the county system based on the location of the existing lines. This applies to the current situation and future extensions of sewer lines along Hualalai Road since the subject property lies below the grade of Hualalai Road.

You indicated that you are considering seeking funding for the Hualalai Road sewer line and if you are successful we will investigate crossing the property adjacent to us to the north. Timing is critical, however, since we are required to occupy this project by the end of 1998.

If this is not your understanding of our conversation please indicate to as soon as possible.

Sincerely Yours,



Keith H. Kato
Executive Director

Stephen K. Yamashiro
Mayor



Donna Fay K. Kiyosaki
Chief Engineer

Riley W. Smith
Deputy Chief Engineer

County of Hawaii
DEPARTMENT OF PUBLIC WORKS
25 Aupuni Street, Room 202 • Hilo, Hawaii 96720-4252
(808) 961-8321 • Fax (808) 969-7138

February 11, 1997

Mr. Keith Kato, Executive Director
Hawaii Island Community Development Corporation
99 Aupuni Street, Suite 104
Hilo, Hawaii 96720

SUBJECT: HUALALAI ELDERLY HOUSING PROJECT
TMK: 7-5-10:10

This confirms our discussions this morning when I indicated that the referenced project would not be required to connect to the county sewer system based on the location of the existing lines. However, the County is planning on extending the existing sewer line from Kuakini Highway up Hualalai Road to where it could service your property within the next ten years. If possible, I would like to accelerate this time frame in order to coordinate our sewer extension plans with yours. I will look forward to exploring this option further with you in the future.

Sincerely,

A handwritten signature in cursive script, appearing to read "P. J. Boucher".

Peter J. Boucher, P.E.
Division Chief, Wastewater

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
DEPUTY
GILBERT COLOMA-AGARAH

AQUACULTURE DEVELOPMENT
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RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

February 14, 1997

Mr. Allan J. Schilz
Ogden Environmental & Energy Services
680 Iwilei Road, Suite 660
Honolulu, Hawaii 96817

LOG NO: 18982 ✓
DOC NO: 9702PM14

Dear Mr. Schilz:

**SUBJECT: Final Report: "Archaeological Inventory Survey of the
Proposed Hualalai Elderly Housing Project
Kailua, North Kona District, Hawai'i Island" (Nees and Williams 1996)
TMK: 7-5-10: 10**

Thank you for the revised pages for the subject report. The revisions, which were done in response to the comments in our last review letter of February 11, 1997, have satisfactorily addressed our earlier concerns. ✓

We believe that the archaeological inventory survey of the roughly 3 acre parcel was adequate, finding a total of 3 sites -- the Kuakini Wall (Site 7276), an agricultural site (21134) and a temporary habitation site (21176). These sites, again, are adequately inventoried.

We agree with your significance evaluations. Site 21134 was significant solely for its information content and an adequate amount of that information was recovered during the survey, making this site "no longer significant". Site 21176 is significant solely for its information content. The Kuakini Wall is significant under multiple criteria of the Hawaii and National Registers of Historic Places. Thus, 2 significant historic sites remain in the project area.

We also agree with your proposed mitigation commitments -- preservation of the Kuakini Wall and archaeological data recovery of site 21176.

The next steps in the historic preservation process are to devise and implement the detailed mitigation plans for these sites. Please advise your client that they need to submit in writing a short preservation plan indicating how the section of the Kuakini Wall on this property will be preserved and maintained. This need only be a short letter. Also, a scope of work (data recovery plan) will need to be submitted and approved prior to the data recovery work at site 21176.

FEB 27 '97 09:13AM OGDEN HONOLULU 808 528 5379

P.3.

A. Schilz
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We will send a copy of this letter to the County, assuming that a County permit will be needed for a development project. Our recommendation to the County is that a condition be attached to any approved permit which requires preservation of the Kuakini Wall and archaeological data recovery of site 21176. The condition should require a preservation plan to be approved by our office and the County for the Kuakini Wall and a data recovery plan to be approved by our office for site 21176. These approved plans would need to be implemented prior to any land alteration in the project area.

If you have any questions please contact Patrick McCoy (587-0006).

Aloha,



DON HIBBARD, Administrator
State Historic Preservation Division

PM:amk

c: Virginia Goldstein, Planning Department, County of Hawaii

APPENDIX C

Archaeological Inventory Survey of the Proposed
Hualālai Elderly Housing Project, `Auhaukea`ē 1-2 *Ahupua`a*, Kailua
North Kona District,
Hawai`i Island (TMK 7-5-10:10)

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July 1996
Revised November 1996

ABSTRACT

This report presents the results of an archaeological inventory survey conducted for the proposed Elderly Community Housing Project, Kailua, North Kona District, Hawai'i Island (TMK 7-5-10:10). The survey was conducted between 25-31 May, 1996 by Ogden Environmental and Energy Services Company, Inc., for Hawaii Island Community Development Corporation.

The housing project site area, approximately 3-acres, contained three archaeological sites: Site 50-10-28-7276 (Great Wall of Kuakini); Site 50-10-28-21134, comprised of 11 features; and Site 50-10-28-21176, comprised of two features. Subsurface testing at Site 21134, Features 1, 2, 7, and 9 indicate that all were related to the post-Contact Period; Site 21176, Features 1 and 2 are related to the *late pre-Contact Period*.

Based on the inventory survey and subsurface testing results, both new recorded sites (Sites 21134 and 21176) are significant under criterion d of the National Register of Historic Places and Chapter 6E of the Hawaii Revised Statutes. Based on the results of the inventory survey it is recommended that data recovery be conducted at Site 21176, Features 1 and 2, to determine the function of the features and the extent of the subsurface deposits. Site 7276, the Great Wall of Kuakini, built in the 1830s, is significant under criteria b, c, and d and should be preserved.

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INTRODUCTION

Archaeologists from Ogden Environmental and Energy Services Co., Inc. (Ogden), under contract to Hawaii Island Community Development Corporation (HCDC), conducted an archaeological inventory survey with subsurface testing within the proposed 3-acre Elderly Housing Project (Figure 1). The proposed project area is located on the *makai* side of Hualālai Road, between the Queen Kaahumanu Highway extension and Kuakini Highway within the *ahupua`a` Auhauea`ē 1-2*. The parcel, covered in grass and trees, is bounded by the Great Kuakini Wall (Site 7276) to the southwest, a barb-wire fence to the northwest, Hualālai Road to the northeast, and the property boundary to the southwest. The upper (northeastern) portion of the parcel contains numerous rock outcrops that extend from the barb-wire fence to the property boundary line in the southeast. The area near the Great Kuakini Wall is relatively level and free of rock.

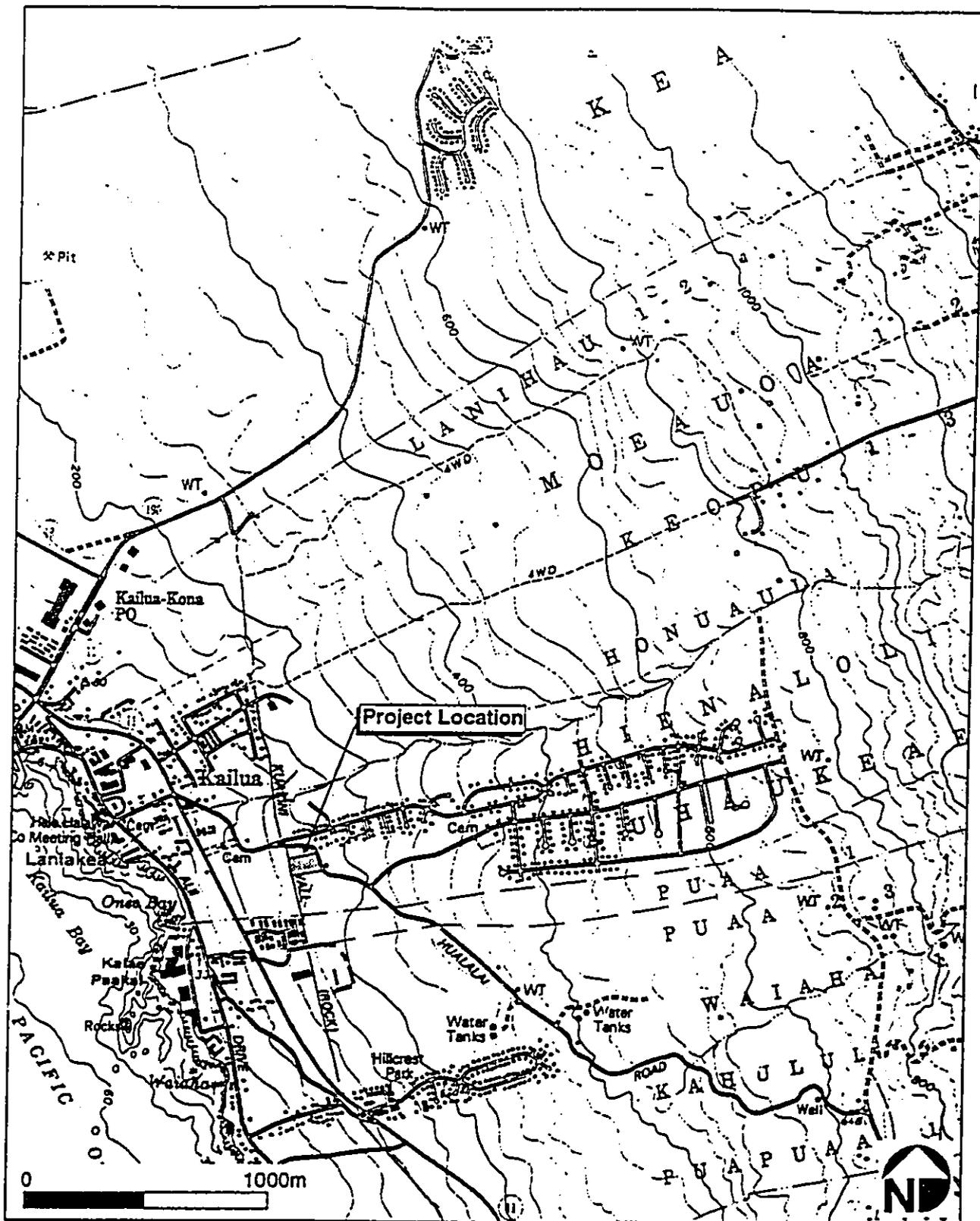
This report details the results of the survey, testing, site significance evaluation, and recommendations, following a brief summary of the background (e.g., environment, historical background, previous archaeological investigations, and settlement patterns) and methods.

BACKGROUND

ENVIRONMENT

There are two soil series, Punaluu (rPYD) and Waiaha (WHC), represented within the project area. The Punaluu series is represented by "well-drained, thin organic soils over pahoehoe lava rock" and are generally used for pasture (Sato et al. 1973:48). The Waiaha series is represented by a "shallow, well-drained silt loam that formed in volcanic ash" (Sato et al. 1973:52). Approximately 99% of the project area falls within the Waiaha extremely stony silt loam (6-12% slopes).

Elevation within the project area ranges from 120-160 ft AMSL (above mean sea level). The elevation rises slightly from west to east. Annual median rainfall within the project area is approximately 30 inches, and the mean temperature is 75 degrees Fahrenheit (Armstrong 1983:63,64).



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Project Location
 (USGS Topographic 1984)

FIGURE

1

Vegetation within the project area consists of exotic grass and trees. The grass is predominantly fountain grass (*Pennisetum purpureum*) and the trees consist of *kiawe* (*Prosopis pallida*), lantana (*Lantana camara*) and *koa-haole* (*Leucaena leucocephala*).

HISTORICAL BACKGROUND

The Kona District, according to early historical accounts and Hawaiian tradition, was the residence of chiefs (e.g., Ehu hui`kai malino, Umi a liloa, Alapa`i nui, Ka lani`o pu`u, and Kamehameha I) and the center of political consolidations in the late pre-Contact and early post-Contact periods (Ii 1959; Kamakau 1961). During the period between A.D. 1100 and 1650 the area from Kailua to Keahou was rich in cultural activity, especially along the coastal areas where numerous settlements were established to exploit the natural marine resources. This period (A.D. 1100-1650), known as the Expansion Period (Kirch 1985), saw Hawaiian settlements moving inland to less favorable environments. During this period "[s]ophisticated agricultural systems were developed to maximize yield by adjusting cropping patterns to elevationally sensitive variation in effective moisture" (Burtchard 1996:34). One such example of these agricultural systems is the Kona Field System.

New beginnings, marked by the arrival of Europeans in Hawai`i, forever changed the political and economic order of Hawaiian society. During this period (early to mid-1800s), the sacred *Kapu* system was abolished, emphasis was placed on whaling and the collection and trading of sandalwood, cattle ranching began, and by 1850 a land redistribution plan, the Great Mahele, was devised.

Another symbol of this change was constructed in the 1830s, the Great Kuakini Wall, "a five mile long barrier separating the coast from Kailua to Keahou from inland pasture land" (Burtchard 1996:41). The wall, intended to prevent cattle from wondering into coastal settlements, also "symbolized the changing character of the region's agricultural and economic base" (Burtchard 1996:41).

NATIVE TESTIMONY

Based on archival research there are no Land Commission Awards (LCA) for the current project area. The LCAs for `Auhaukea`ē *Ahupua`a* appear to be along the coast and will be briefly discussed below. For more detail the reader is referred to Hammatt et al. (1994:8).

Hammatt et al. (1994:8) have identified two LCAs within their project area, located west of the current investigation. The first is LCA 7082, a house lot, belonging to Kekuakoa. This house site was identified as Site 14467 during the survey by Hammatt et al. (1994:8). The second is LCA 7084, a house lot, belonging to Kailikulani. According to the records this claim was never awarded. The house lot of Kailikulani matches the size and location of Site 14460, recording during the survey by Hammatt et al. (1994:8).

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Only two previous investigations have been conducted within the same *ahupua`a* as this investigation (Sinoto 1980 and Allen-Wheeler 1986). The following section summarizes a few of the archaeological investigations conducted in the general vicinity of the current project. The purpose of this review is to aid understanding the development of settlement patterns for the area.

In 1979 a survey was conducted by Soehren (1979) on a parcel of land within the *ahupua`a* of Honua`ula and Hienaloli 1 (TMK: 7-5-04:2) that had been recently bulldozed. There was evidence on the surface, in the form of a midden scatter, of a possible habitation site destroyed during the bulldozing.

In 1980 a reconnaissance survey was conducted on a 1.1 acre lot within the *ahupua`a* of Hienaloli 6 and `Auhaukea`ē 1 (TMK: 7-5-09:31) on Ali`i Drive by Sinoto (1980). Numerous features were recorded within two areas separated by a stone wall. Area A was recorded as a habitation area with platforms, whereas Area B contained structures similar to burial features observed in other parts of Hawai`i (Sinoto 1980:6).

In 1981 an intensive survey (Phase I) and excavations (Phase II) were conducted on the former location of the Kona Sunset Hotel on Ali`i Drive (Allen-Wheeler 1981; 1986). This work was conducted at the same site identified by Sinoto in 1980 (Sinoto 1980). A total of twenty-five archaeological and historic features were recorded. Based on excavation results and historic documents and literature search the site was occupied from around A.D. 1650 to ca. A.D. 1935.

In 1987 archaeological excavations were conducted at two sites in a 28 acre parcel located within the *ahupua`a* of `Auhaukea`ē (Hammatt and Schideler 1987). One of the sites was a modified bluff and the other site was a paved platform. Excavations at the modified bluff revealed a few basaltic glass flakes and cores, and sparse midden. They concluded that the bluff was a short term, or temporary habitation site. Excavations at the platform "yielded artifact and midden

assemblages consistent with its impressive size (40' x 25') and formal nature" (Hammatt and Schideler 1987:42). The excavations yielded 1,670 grams of midden and 220 artifacts. They conclude, based on the results of the excavation, that "both the midden and artifact assemblages suggest that this site was not only utilized intensively or over a long period of time, but that there was high status and/or ritual utilization of this structure" (Hammatt and Schideler 1987:42). The platform was believed to be occupied somewhere around the A.D. 1700's, based on the volcanic glass, but due to the extensive bulldozing that had occurred in the area a settlement pattern for the area could not be determined.

In 1989 an archaeological inventory survey was conducted on a 4-acre lot in Hienaloli 6th (Donham and Kai 1990). A total of 13 sites were recorded, including one previously recorded site (the Great Wall of Kuakini). The features at the 13 sites include habitation, agriculture, and boundary markers. The sites are believed to date to the pre-Contact and post-Contact periods.

In 1990 an archaeological inventory survey was conducted on a 5-acre lot at Hienaloli 4th (TMK: 7-5-10:13) (Barrera 1990). A total of six sites were recorded and one previously recorded site noted (the Great Wall of Kuakini). The sites included three stone walls, two platforms, and one lava bubble. Barrera concluded that the walls were constructed during the post-Contact period and that the platforms are "representative in form and size of typical prehistoric dwellings and undoubtedly contain information of value to the study of Hawaii prehistory" (Barrera 1990:3). The lava bubble was not tested, therefore age and function were not determined.

In 1992 archaeological excavations were conducted on a 5 acre parcel within the *ahupua'a* of `Auhaukea`e (Hammatt et al. 1994). A total of 132 excavations (135.3 m²) were conducted in this parcel yielding more than 5,600 artifacts and 61 kgs of midden. The majority of excavations were conducted in habitation features. Ten carbon samples were submitted for radiocarbon analysis and yielded dates as early as the 15th century to recent time (A.D. 1400-1950).

In 1995 Barrera conducted archaeological data recovery on the three sites previously recorded and one newly recorded site on the 5 acre lot of Hienaloli 4th [TMK: 7-5-10:13] (Barrera 1995). Based on his excavation results he concluded that Site 13670, a stone platform, served a religious function; Site 13673, another platform, was a burial platform; Site 13674, a lava bubble containing numerous artifacts, is typical of work or habitation areas; Site 19038, a lava tube

identified during bulldozing activities, was used for a sleeping area and a place of refuge. The sites are believed to date to the late pre-Contact Period (A.D. 1600 or A.D. 1700) and into the early post-Contact Period.

SETTLEMENT PATTERNS

The current project area is located in the "Middle Zone," one of four environmental zones defined by Cordy et al. (1991:16) or the "Agricultural Zone" as defined by Kirch (1985:4). The Middle Zone is an area "inland from 15 feet (4.5 m) asl to 800-900 foot (244-274 m) elevation and contains a few sites relating to agricultural activities (Cordy et al. 1991:16). The Agricultural Zone is a zone with intermittent occupancy of houses used for the cultivation of taro, sweet potato, and breadfruit (Kirch 1985:4).

The sparse number of archaeological investigations conducted in the inland portion of `Auhaukea`e *Ahupua`a* yielded few sites. The types of sites recorded include modified bluffs, rectangular platforms, and retaining walls. Based on information from previous archaeological investigations conducted in the Kona area many of the sites were occupied between A.D. 1450 and 1910 (Burtchard 1996).

Based on the previous investigations conducted in the inland portions of `Auhaukea`e *Ahupua`a*, the current project area should contain few archaeological features. The assumption that few sites are likely is based on the information provided by previous archaeological investigations. Coastal areas are known for their numerous archaeological features that relate to the exploitation of the natural marine resources. Upland areas contain numerous archaeological features relating to exploitation of natural resources (e.g., trees, fresh water), agricultural activities, and cattle ranching. Middle areas between the two are noted for their general lack of sites.

If this area had not been disturbed by modern activities (e.g., cattle grazing), it was expected that temporary shelters such as C-shapes, lava tubes, or lava blisters, and possibly boundary stone walls dating to the late pre-Contact and early historic periods would be encountered.

METHODS

The inventory survey was conducted with systematic parallel transects by archaeologists walking approximately 5 meters apart. The area was an open grass field with some trees, and had good ground visibility. The survey was conducted following the natural contours and geomorphological

features of the project area, and 100% of the area was examined. The purpose of the survey was to locate surface cultural features and to identify geomorphologic features and areas that had potential to contain buried cultural deposits.

Once the survey was completed and all identified features mapped, features were selected for testing. Testing was conducted either by controlled test units (30 by 30 cm or 50 by 50 cm), small trenches, or test probes to determine the absence or presence of subsurface cultural materials.

All units were excavated with hand tools, with the excavated deposit sieved through nested 1/4- and 1/8-inch mesh screens. In the test units, soil was excavated in natural layers with arbitrary levels set at 10 cm within layers, if needed; trenches and test probes were not excavated by layers. Profiles were drawn in each unit, color photographs were taken, and deposits were described by Munsell color and standard soil survey conventions. Representative photographs of features within the project area in general were also taken.

All notes, photographs, and artifacts are filed at the office of Ogden Environmental and Energy Services in Honolulu.

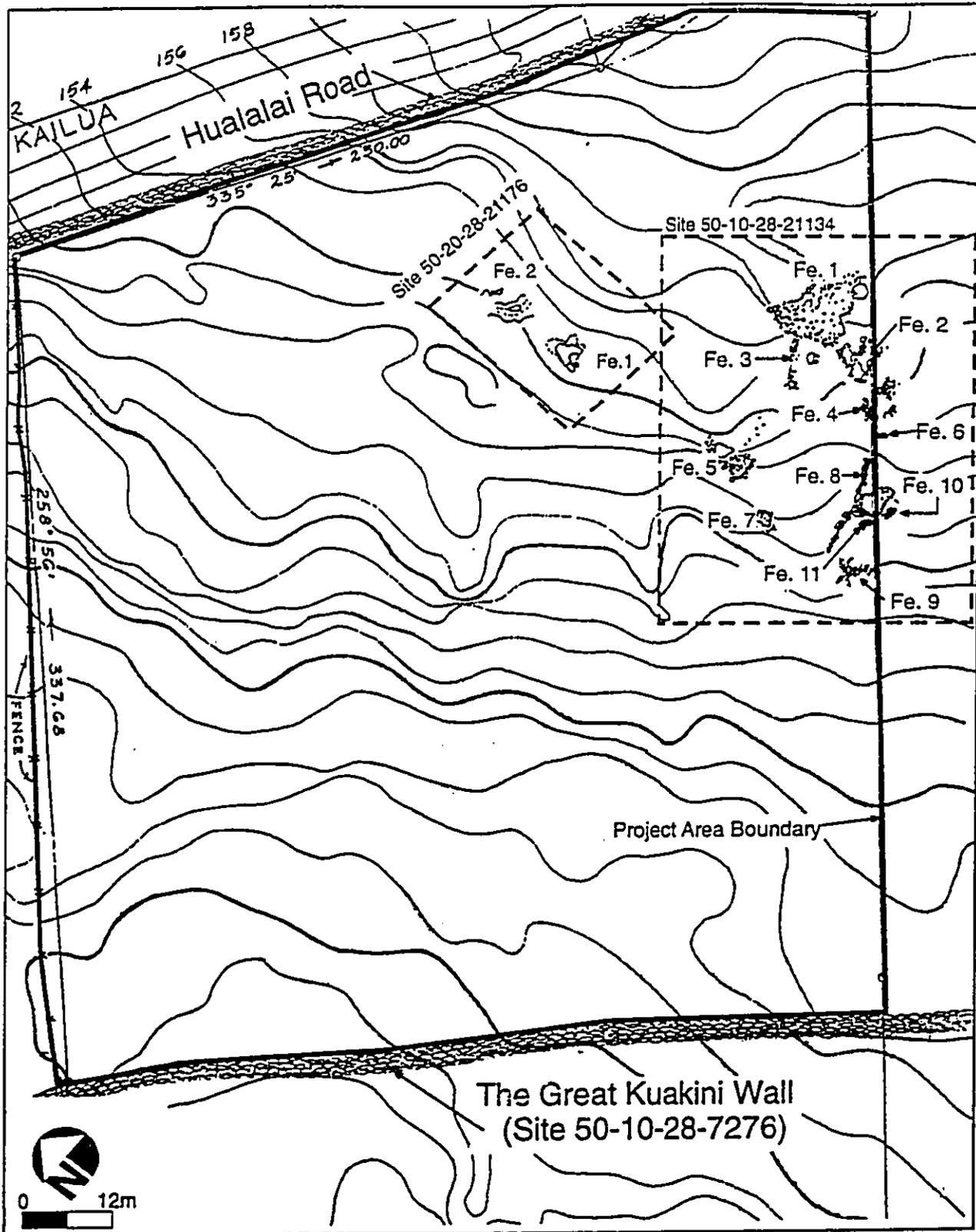
RESULTS

During the survey one previously recorded site (Site 7276, Great Kuakini Wall) and two unrecorded sites (Site 21134 and 21176) were located in the southeastern portion of the survey area. Site 21134 covers an area of approximately 75 meters in width by 100 meters in length and consists of 11 features (Figure 2). Site 21176 covers an area of approximately 60 meters in diameter and consists of two features (Figure 2).

A total of one test unit, two trenches, and four test probes were excavated to determine the absence or presence of subsurface cultural materials.

SITE 50-10-28-21134

Site 21134 contains 11 features, including eight clearing mounds and three walls (Table 1). These features are described below.



FIGURE

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Feature Location Within Project Area
 (Sites 50-10-28-21134 and -21176)

2

Table 1. Feature Description of Site 50-10-28-21134

Feature Number	Feature Type	Size of Feature (m)	Interpreted Function
1	Rock Mound	13.0 by 11.0	Clearing mound
2	Rock Mound	5.2 by 6.5	Clearing mound
3	Wall	11.0 m long	Boundary
4	Rock Mound	4.9 by 5.1	Clearing mound
5	Rock Mound	2.0 by 2.5	Clearing mound
6	Wall	1.4 m long	Boundary
7	Platform	1.6 by 1.1	Clearing Mound
8	Wall	13.5 m long	Boundary
9	Rock Pile	1.5 m diameter	Clearing mound
10	Rock Pile	1.7 by 0.3	Clearing mound
11	Rock Mound	4.0 by 0.8	Clearing mound

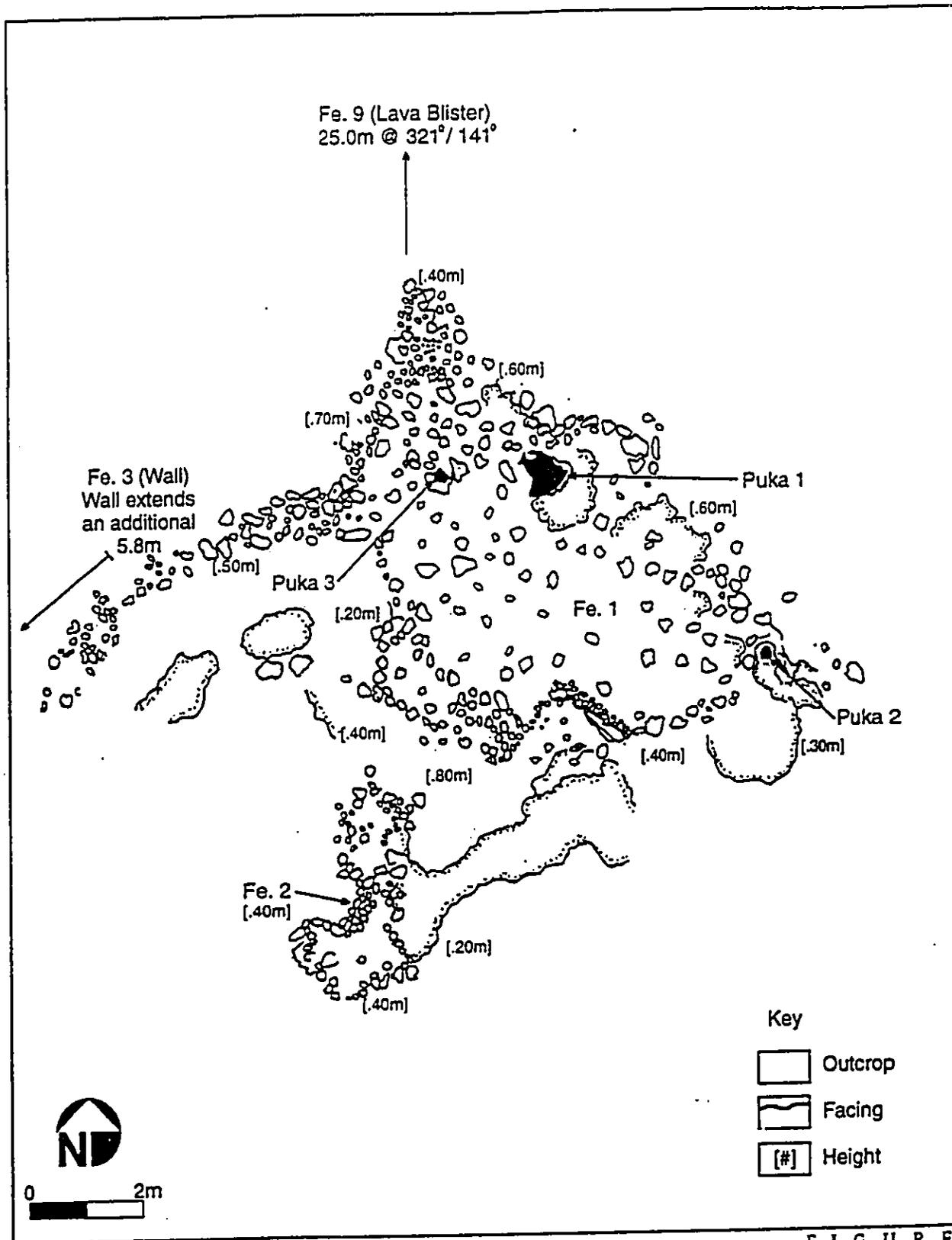
Feature 1

Feature 1 is a rock mound located approximately 50 meters southwest of Hualalai Road. The rock mound measures approximately 13 meters in length by 11 meters in width. The mound is constructed against the natural slope, giving the rock mound a height of approximately 2 meters. The rock mound is constructed of piled sub-angular to angular basalt cobbles and boulders, with the exception of one area along the southeast corner where an area of approximately 1 m in length appears to be stacked.

Within the rock mound are three natural *puka* (holes). *Puka 1* is a lava blister located on the northern side of Feature 1 (Figure 3). It measures, at the opening, approximately 1.1 meters in length by 0.6 meters in height. The interior of the *puka* averages 1.5 meters in length by 0.4 meters in height. There is a soil deposit inside the *puka* that has a depth of approximately 10 cm. No cultural material is present on the surface.

Puka 2 is located approximately 6.0 meters southeast of *Puka 1* (Figure 3). The opening is approximately 0.3 m in diameter and a depth of 0.5 meters, and the interior extends towards *Puka 1* and may have connected with it in the past through a small lava tube that extends between *Puka 1* and 2, which has since collapsed. The cupboard contains a soil deposit approximately 5 cm thick; no cultural material was observed on the surface.

Puka 3 is located approximately 2.0 meters west of *Puka 1* (Figure 3). It measures approximately 0.3 meters by 0.3 meters at the opening and has a depth of 0.5 meters. There was no soil deposit or cultural material noted.



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Site 50-10-28-21134
Features 1, 2, and 3

FIGURE

3

Testing Results

One test probe was placed inside *Puka* 1 to determine the absence or presence of subsurface cultural material. The probe, measuring approximately 10 cm in diameter, was placed approximately 5 cm inside the dripline of the blister. The soil consisted of a brown (10YR 5/3) silt loam, weak, fine to very fine, granular structure; soft, friable, nonsticky, and slightly plastic. No cultural material was present.

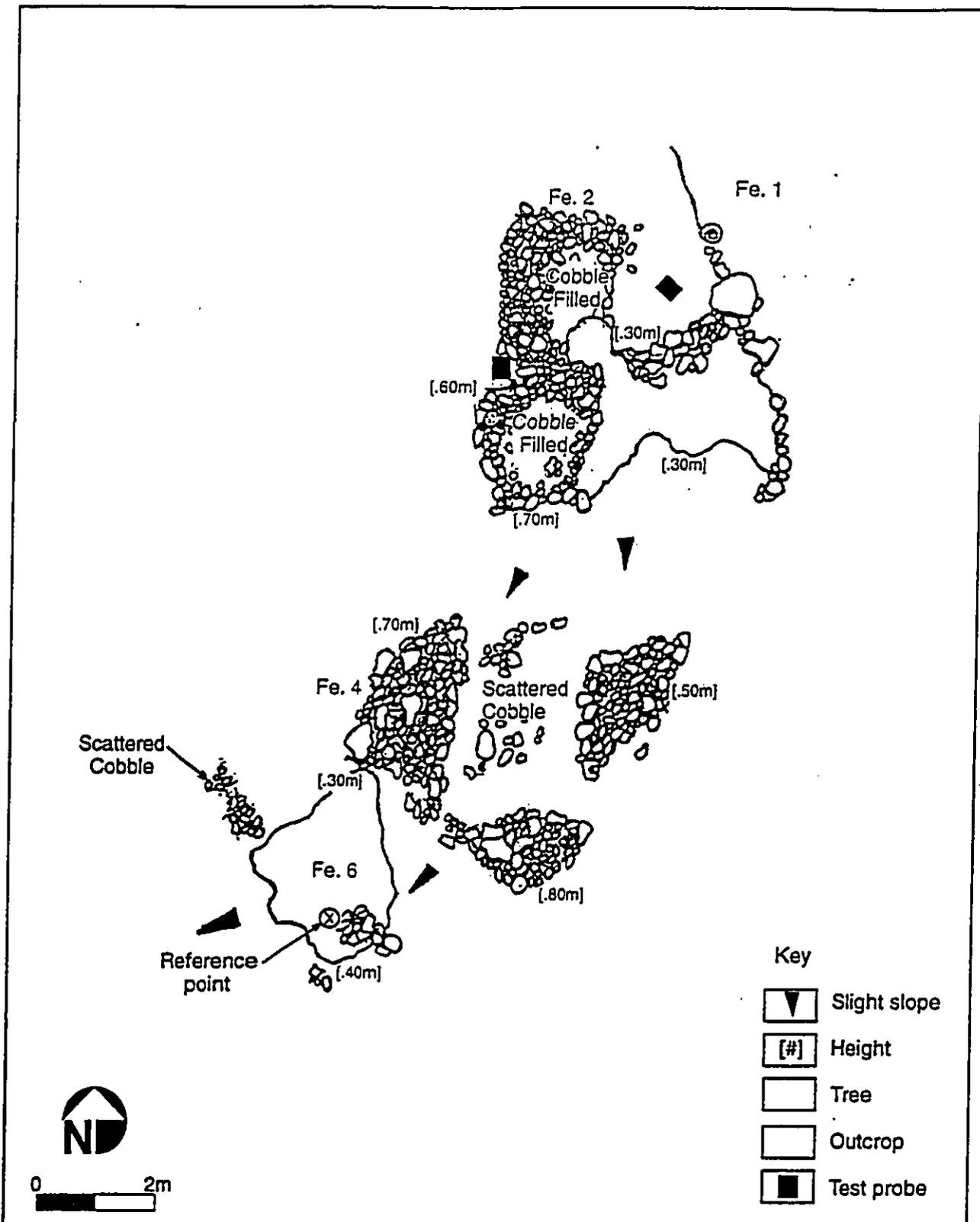
Based on the surrounding area, the construction style, the presence of the *puka* and the lack of cultural material it is believed that this feature is a clearing mound and was designed to keep cattle from wandering too close to the *puka*.

Feature 2

Feature 2 is a rock mound located approximately 2.0 meters from the southwest corner of Feature 1 (Figure 2). The mound measures approximately 5.2 meters in length by 6.5 meters in width and has a maximum height of 0.5 meters (Figures 3 and 4). The mound consists of piled and in some places stacked sub-angular and angular basalt cobbles and boulders. The mound was built against a natural rock outcropping. No cultural material was observed on or within this feature.

Testing Results

Two test probes were excavated within Feature 2 to determine the absence or presence of subsurface cultural materials and possible age. Test Probe 1 was placed in a level area upslope of the mound, in an area with a soil deposit. Test Probe 1, measuring approximately 25 cm in diameter, was excavated to bedrock at a depth of 24.5 cm below surface. One layer was identified, a brown (10YR 5/3) silt loam (same as above). No cultural material was observed.



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Site 50-10-28-21134
Features 2, 4 and 6

FIGURE

4

Test Probe 2 was placed in front of an uncollapsed portion of the facing. The probe measured 25 cm in diameter and was excavated to a maximum depth of 17 cm below the surface. As with Probe 1 the soil was a very fine brown (10YR 5/3) silt loam. No cultural material was observed and excavation was terminated at bedrock.

Similar features were recorded by Burtchard (1996) with similar excavations results. These features were interpreted as clearing mounds.

Feature 3

Feature 3 is a wall segment that extends off the northwest side of Feature 1 (Figure 2). The wall segment extends in a west/southwest direction for approximately 11.0 meters. The wall segment is constructed of piled basalt cobbles and boulders, and in some places it is a single basalt boulder. The wall has a maximum thickness of 0.7 meters and an average height of 0.4 meters. No cultural material was observed along the wall.

This wall served to delineate an area but it is unclear for what purpose. Such features usually represent boundaries or to enclosures areas.

Feature 4

Feature 4 is a rock mound located approximately 4.0 meters south of Feature 1 (Figure 2). The mound measures 4.9 meters in length by 5.1 meters in width and has a height of approximately 0.5 meters. The mound is constructed of piled basalt cobbles and boulders (Figure 4). As with Feature 2, Feature 4 is built against a rock outcrop. No cultural material was observed on the surface.

This feature is similar to Feature 2 and probably represents a clearing mound.

Feature 5

Feature 5 is a rock mound located approximately 11.0 meters southwest of Feature 1 and at the end, or *makai* side, of Feature 3 (Figure 2). The mound, constructed of piled basalt cobbles and boulders, measures 2.0 meters in length by 2.5 meters in width and has an average height of 0.4 meters (Figure 5). No cultural material was observed on the surface. This feature is similar to the above mentioned features and probably represents a clearing mound.

Feature 6

Feature 6 is a wall segment located 1.5 meters southwest of the southwest corner of Feature 4 (Figure 2). The wall, constructed of stacked basalt cobbles and boulders, measures approximately 1.4 meters in length by 0.65 meters in width and has an average height of 0.4 meters (Figure 4). No cultural material was observed on the surface.

This wall is very short in length and it is unclear what functioned it served. It may have been associated with Feature 8, a wall, and functioned in the delineation of an area.

Feature 7

Feature 7 is a platform located approximately 2.0 meters southwest of Feature 5 (Figure 2). The platform is constructed of basalt cobbles and boulders. The platform measures 1.6 meters in length by 1.1 meters on width and has an average height of 0.3 meters (Figure 5). No cultural material was observed on the surface of the feature or in the surrounding area.

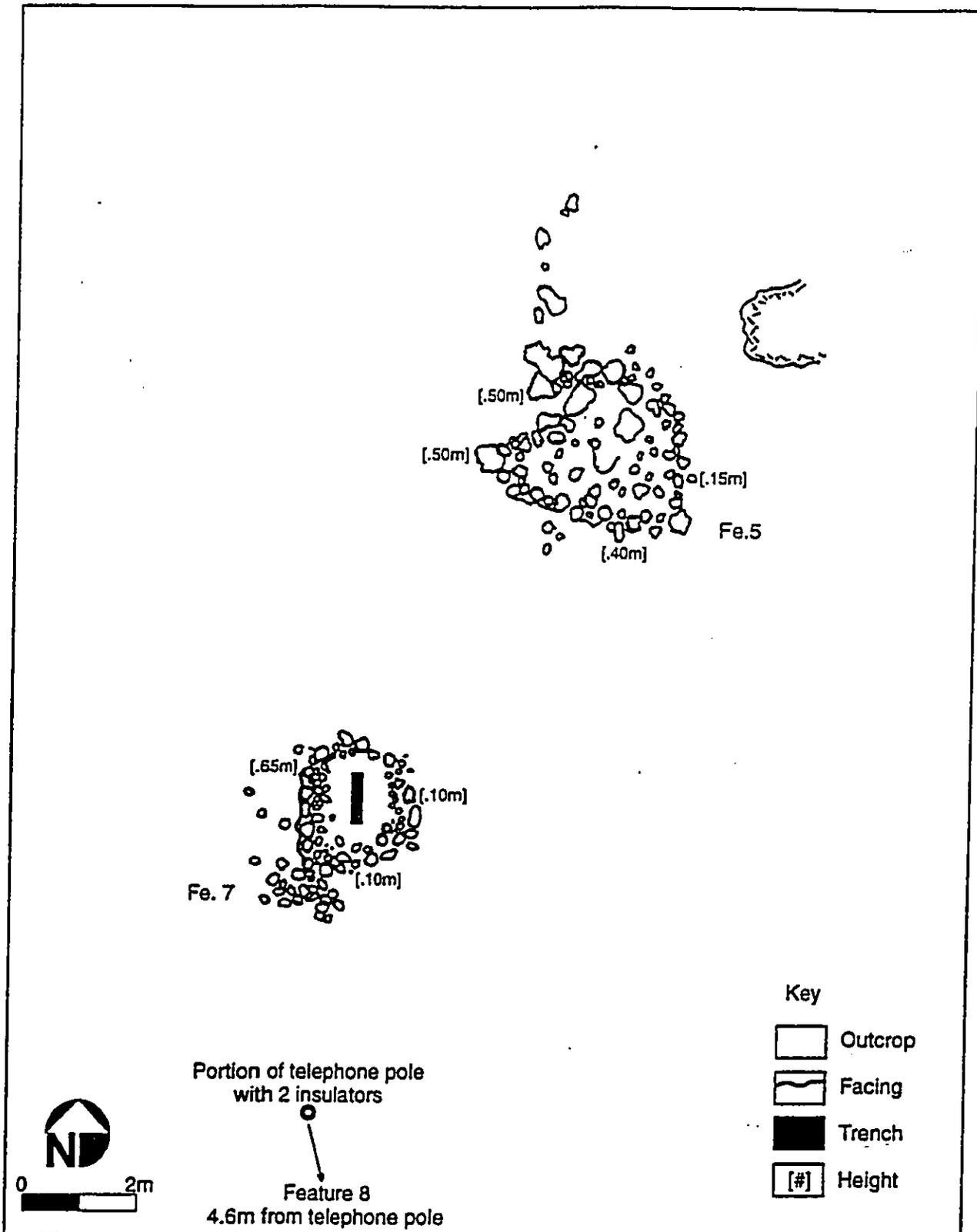
Testing Results

A trench measuring approximately 1.3 meters in length by 0.8 meters in width was excavated by hand through the platform to determine its age and function. The trench profile consisted of rock fill, a brown (10YR 5/3) silt loam, and a more compact, slightly lighter brown (10YR 6/3) silt loam. No cultural material was observed during excavation. Excavation was terminated at a depth of 0.8 meters due to the lack of any cultural materials.

The platform is a variation of the clearing mounds found within the area. The term platform, as used here, is to describe the general shape and that it is free-standing on all sides. The relatively small size, its association with clearing mounds, and the lack of subsurface cultural materials support the interpretation that it a clearing mound.

Feature 8

Feature 8 is a wall located at the north end of Feature 6 (Figure 2). The wall extends west for approximately 13.5 meters (Figure 6). The wall, constructed of stacked (in some places 5 courses

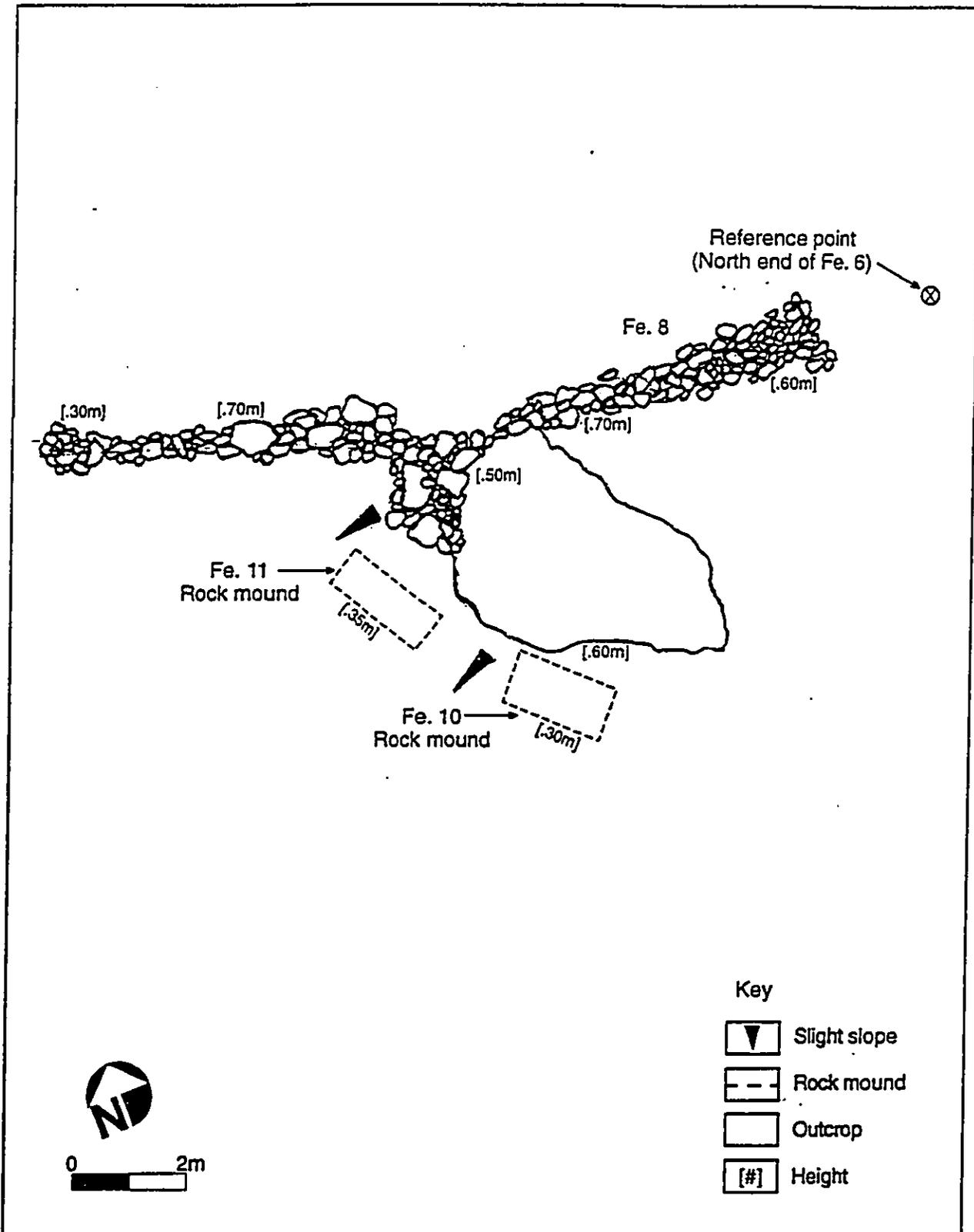


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Site 50-10-28-21134
Features 5 and 7

FIGURE

5



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Site 50-10-28-21134
Features 8, 10, and 11

FIGURE

6

high) and piled basalt cobbles and boulders, has an average width of 0.7 meters and a height of 0.6 meters. A piece of metal wire was found entangled in the wall.

The wall, with the piece of metal tangled between the rocks, was constructed during the historic period and may have represented a boundary of some sort.

Feature 9

Feature 9 is a rock pile located 2.0 meters south of Feature 8. The rock pile, constructed of piled basalt cobbles and boulders, measures approximately 1.5 meters in diameter and has a height of 0.3 meters (Figure 6). No cultural material was observed on the surface.

Approximately 2.3 meters south/southwest of Feature 9 is a wooden crossbeam of a telephone pole. Two ceramic insulators, one broken and one intact, were found with the wooden crossbeam. The wooden crossbeam measures approximately 1.7 meters in length by 0.09 meters in width and has a thickness of 0.08 meters. There are two metal strips, one on each end of the crossbeam that most likely acted as a brace for the crossbeam. On one of the metal strips there is stenciling that reads "Honolulu T.H." and on the other, though only partly readable and faint, reads "Co. Ltd. 3101."

Feature 9 possibly functioned, as most of the others recorded within this area, as a clearing mound or may represent a later use of the area as demonstrated by the historic artifacts found nearby. The rocks may have been placed there during the construction and installation of a telephone pole.

Feature 10

Feature 10 is a rock pile located 0.6 meters north of Feature 9. The rock pile, constructed of piled basalt cobbles and boulders, measures 1.7 meters in length by 0.3 meters in width and has an average height of 0.4 meters (Figure 6). No cultural material was observed.

This feature is similar to Feature 9 and possibly represents the same function.

Feature 11

Feature 11 is a rock mound located approximately 2.3 meters southwest of Feature 9 (Figure 2). The mound measures 4.0 meters in length by 0.8 meters in width and has an average height of 0.7

meters (Figure 7). It is constructed of stacked and piled basalt cobbles and boulders. No cultural material was observed on the surface.

Testing Results

A trench measuring 1.0 meter in length by 0.8 meters in width was excavated through the mound to determine the age and function. The entire mound was rock fill that was placed against a rock outcrop. No cultural material was present.

This mound is probably another clearing mound similar to Features 2, 4, and 7 mentioned above.

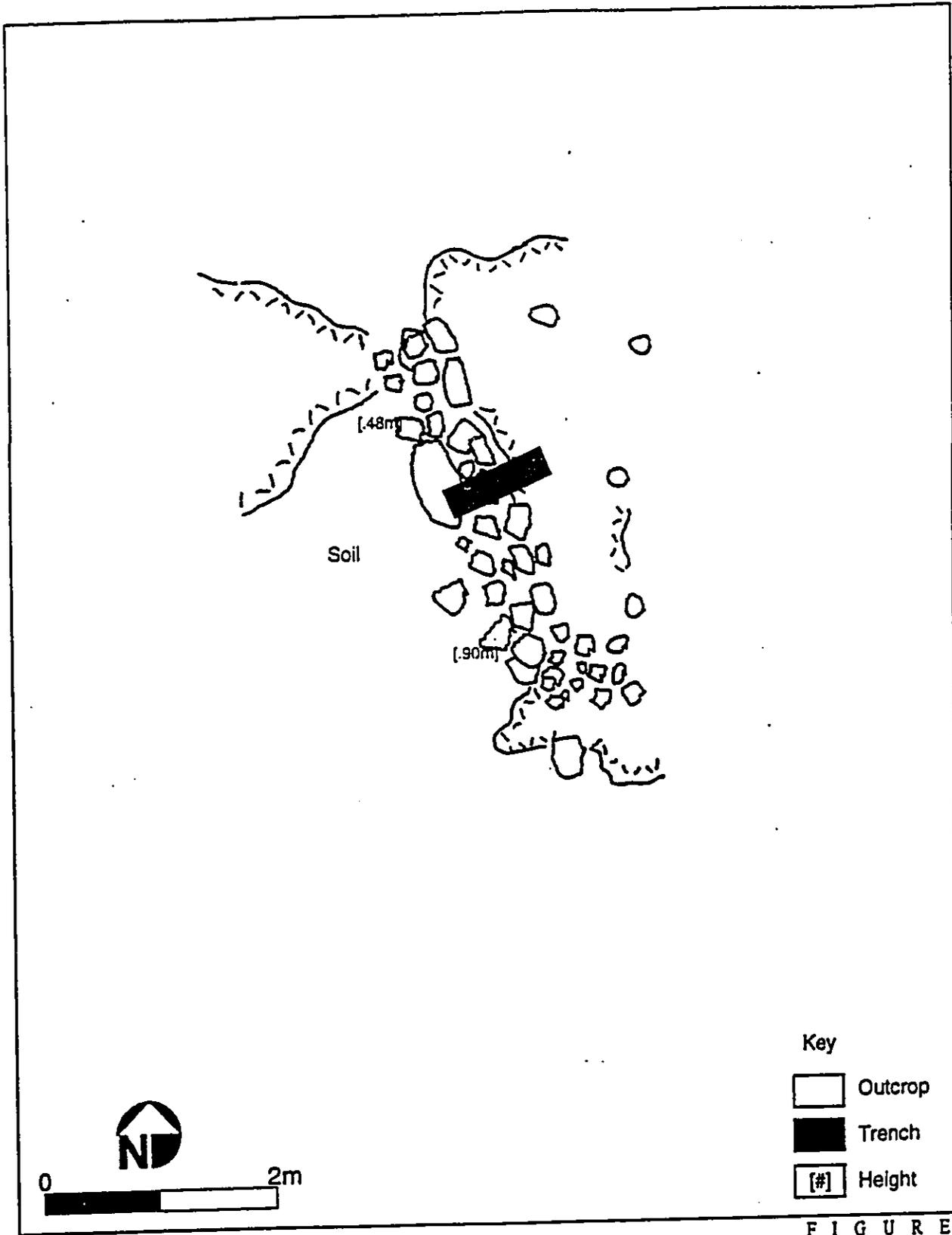
SITE 50-10-28-21176

Feature 1

Feature 1 is a lava blister (small sinkhole) located 25 meters northwest of Site 21134, Feature 1 (Figure 2). The opening to the blister measures approximately 2.4 meters in length by 0.7 meters in width and has an average depth of 0.6 meters. The interior of the blister measures approximately 3.8 meters in length by 2.0 meters in width and has a maximum height of 0.8 meters (at the entrance) (Figure 8). On the west side of the blister, approximately 2.0 meters from the dripline, is a rock pile. The rock pile measures 1.3 meters in length by 0.6 meters in width and has an average height of 0.3 meters. On the east side of the blister, approximately 0.4 meters east of the rock pile, was a waterworn basalt cobble hammerstone (collected).

Testing Results

A 50 cm by 50 cm test unit was placed approximately 0.3 meters inside the blister to determine the presence or absence of any subsurface cultural materials. As with the rest of the excavations conducted at this site the soil was a brown (10YR 5/3) silt loam. Level 1 (0-10 cm b.s.) yielded one volcanic glass flake, one piece of marine shell, and one piece of rodent jaw bone. Level 2 (10-13 cm b.s.) yielded one piece of volcanic glass. At 13 cm b.s. bedrock was encountered and excavation was terminated.

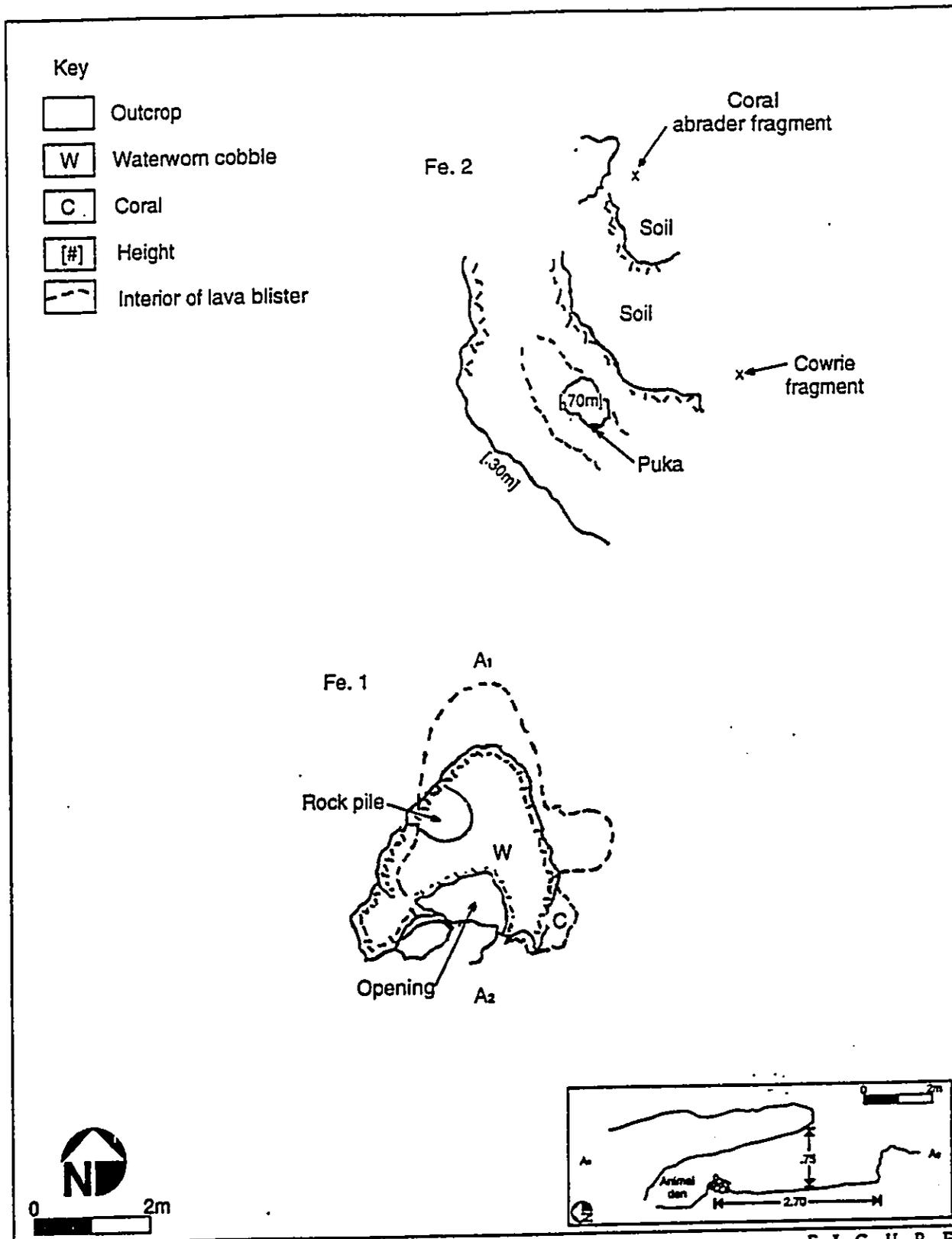


OGDEN
■■■■■

Site 50-10-28-21134
Feature 11

FIGURE

7



OGDEN
■■■■■

Site 50-10-28-21176
Features 1 and 2

FIGURE

8

The lava blister is relatively small in area and contained sparse artifactual evidence. Based on the size and the sparse cultural materials it is believed that the blister was a temporary shelter used either while working in the agricultural fields or as a shelter during travel between the coast and the upland areas.

Feature 2

Feature 2 is a sparse artifact scatter located 8.0 meters north of Feature 1 (Figure 8). On the surface was a piece of a coral abrader, several unmodified pieces of coral, and several small pieces of cowrie. The distribution of artifacts covered an area roughly 10 meters in diameter.

Testing Results

A test probe, measuring 0.3 meters in diameter, was excavated by hand to determine if any subsurface deposits were present. The soil was the same as the rest of the site: a brown (10YR 5/3) silt loam. The probe was excavated in levels to determine the depth, if any, of the cultural material. Level 1 (0-10 cm b.s.) contained two volcanic glass flakes and one piece of unmodified coral. Level 2 (10-20 cm b.s.) contained three volcanic glass flakes and a sparse amount of marine shell fragments, which appeared to come from the first few centimeters of this level. In Level 3 (20-25 cm b.s.) the soil became a compact brown (10YR 5/3) silty clay and contained no artifacts. Excavation was terminated at 25 cm b.s. due to the lack of cultural material.

The location of this feature in relation to Feature 1 suggests that they are associated with one another. The sparse midden and the few volcanic glass flakes found also suggests, as with Feature 1, that the area was used as a work area or for temporary habitation.

ARTIFACTS

A total of eight artifacts were recovered during excavations from Site 50-10-28-21176 (Table 2). Seven of the eight artifacts are volcanic glass, and the remaining artifact is a waterworn basalt hammerstone. One piece of a coral abrader was observed on the surface, but not collected.

Table 2. Artifacts from Site 50-10-21176

Feature	Provenience	Artifact Type
1	Surface	1 waterworn basalt hammerstone
1	TU1/Level 1	1 piece of volcanic glass shatter
1	TU1/Level 2	1 volcanic glass flake
2	Test Probe/Level 1	2 volcanic glass flakes
2	Test Probe/Level 2	3 volcanic glass flakes

Of the seven pieces of volcanic glass, six are diagnostic flakes and one is shatter. The six flakes measure, on average, 1.4 cm in length by 0.8 cm in width and 0.3 cm in thickness. The piece of shatter measures 1.0 cm in length by 0.6 meters in width and has a thickness of 0.4 cm.

The waterworn basalt hammerstone is a light grey, fine-grained basalt that measures approximately 11.2 cm in length by 5.9 cm in width and has a thickness of 3.8 cm. Both ends of the cobble exhibit signs of battering.

CONCLUSION

Based on the field observations and excavation results, Features 1 through 11 from Site 21134 are the result of clearing the area for use during the Historic Period. Many of the rock mounds were built up against natural rock outcrops. The presence of the metal wire through Feature 8, the remnants of the telephone pole, and the lack of pre-Contact surface and subsurface cultural material support this conclusion.

Based on the number of artifacts and types of artifacts recovered during excavations at Features 1 and 2 from Site 21176, it is believed that the site relates to temporary use of the area during the pre-Contact Period. Feature 1, a temporary shelter, contained a small number of surface and subsurface traditional Hawaiian artifacts and may have been used as a sleeping area rather than a work area. Feature 2, an artifact scatter, is probably related to Feature 1 and may have served as a temporary work area.

RECOMMENDATIONS

Based on the data recovered during excavations, Sites 21134 and 21176 are significant under criterion D of the National Register of Historic Places; criterion D applies to sites that contain data significant for understanding the past. Based on the results of the inventory survey no further work is necessary at Site 21134. However, it is recommended that data recovery be conducted at Site 21176, Features 1 and 2, to better define the function, through wider excavations, of the features and the total extent of the subsurface deposit.

Site 7276, the Great Kuakini Wall built in the 1830s, represents a period of political and economic transition for the island of Hawai'i. It is recommended that the site be preserved and no construction activities be conducted within 10 meters of the wall.

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CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

- Kamakau, Samuel
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