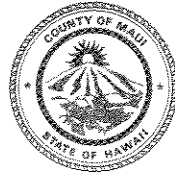


ALAN M. ARAKAWA
Mayor
MICHAEL W. FOLEY
Director
WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

April 27, 2005

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

Dear Ms. Salmonson:

RE: Final Environmental Assessment Prepared for the Proposed
Papaanui Rural Subdivision located at TMK: 2-1-007: 009,
Makena-Keoneoio Road, Island of Maui, Hawaii (EA 2004/0011)
(DBA 2004/0008) (CPA 2004/0008) (CIZ 2004/0016)
(SM1 2004/0023)

The Maui Planning Commission at its regular meeting on April 26, 2005, accepted the Final Environmental Assessment (FEA) for the subject project, and issued a Finding of No Significant Impact (FONSI). Please publish the FEA in the May 8, 2005, Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed a completed OEQC Publication Form and four (4) copies of the FEA. If you have any questions, please call Ms. Kivette Caigoy, Environmental Planner, of our office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
Enclosures

c: Kivette A. Caigoy, Environmental Planner
Robyn Loudermilk, Staff Planner
Rory Frampton, Chris Hart & Partners
EA Project File
General File
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2005-05-08 FONSI
PAPAANUI 7-LOT SUBDIVISION

MAY 8 2005

FINAL
ENVIRONMENTAL ASSESSMENT
Prepared in Support of

PAPAANUI

Prepared for
Maui Planning Commission
County of Maui
250 South High Street
Wailuku, HI 96793

TMK: (2) 2-1-007:009
Makena • Maui • Hawai'i



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QUALITY CONTROL

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March 2005

FINAL
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Prepared in Support of

PAPAANUI

Prepared for
Maui Planning Commission
County of Maui
250 South High Street
Wailuku, HI 96793

Prepared by
Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Maui, Hawaii 96793



March 2005



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Figure No. 9	Water Service Map
Figure No. 10	Concept Subdivision Plan
Figure No. 11	Preliminary Grading and Drainage Plan

APPENDICES

Appendix A	Pre-Consultation <ul style="list-style-type: none">• Response Letter dated November 15, 2004, to Department of Planning• Planning Department Letter dated September 3, 2004• Pre-Consultation Letter dated July 14, 2004, to Department of Planning• Meeting Summary - Makena Homeowners Association Meeting, June 10, 2004
Appendix B	Biologic and Fauna Resources Survey
Appendix C	Archaeological Inventory Survey
Appendix D	Preliminary Engineering and Drainage Report
Appendix E	Traffic Assessment Letter
Appendix F	Cultural Impact Assessment
Appendix G	Agency Comment and Response Letters



I. PROJECT INFORMATION

A. PURPOSE OF THE REQUEST

This environmental assessment has been prepared in order to assess the potential environmental impacts associated with the subdivision of approximately 3.93-acres into seven (7) single-family residential lots on property located in Makena, Maui, Hawaii; identified as TMK Nos. (2) 2-1-007:009 and 060 (portion of Makena Keoneoio Road) and TMK: No (2) 2-1-008:por. of 100 (portion of Old Ulupalakua Roadway). The project also involves an approximate 0.346-acre portion of TMK No. (2) 2-1-7: 094, which is owned by Makena Aina Corporation, and will be developed as a drainage detention basin to accommodate runoff from the subject project as well as future runoff from Makena Aina Corporation lands.

The project will also require the concurrent processing of a State Land Use Commission District Boundary Amendment (DBA) from Agricultural to Urban, County Change in Zoning (CIZ) from Interim to R-3 Residential, Community Plan Amendment from Multi-Family to Single-Family, and a Special Management Area (SMA) Use Permit. Approval of the entitlement requests would establish consistency and conformity between the Community Plan, State Land Use District, and County Zoning.

B. PROJECT PROFILE

Proposed Project:	7-lot single-family residential subdivision with associated on- and off-site infrastructure
Lot Sizes:	16,600 SF - 23,600 SF
Existing Land Use:	Single-Family Residential
Project Area:	3.93 acres (includes portions of Makena Keoneoio Road and Old Ulupalakula Road 0.346 acres (includes TMK No. (2) 2-1-7: portion of 094 for drainage purposes)

Access: Makena-Keoneoio Road; Old Ulupalakua Road

C. IDENTIFICATION OF THE APPLICANT

Land Owner: Papaanui, LLC
Contact: Frampton and Ward, LLC
Address: 2073 Wells Street, Suite 101
Wailuku, HI 96732
Phone/Fax: Phone: (808) 893-2300, Fax: (808) 893-0043

D. CONSULTANT

Land Use Planners: Chris Hart & Partners, Inc.
1955 Main Street, Suite 200
Wailuku, Maui, Hawaii 96793-1706
Phone/Fax: Phone: 808-249-2444, Fax: 808-249-2333
Contact: Mr. Rory Frampton

E. ACCEPTING AGENCY

Agency: Maui Planning Commission
C/O Department of Planning, County of Maui
250 South High Street
Wailuku, Maui, Hawaii 96793
Phone/Fax: Phone: 808-270-7735, Fax: 808-270-7634

F. REQUIRED LAND USE AND DEVELOPMENT PERMITS

The following land use, development permits and approvals are required for the project:

- Special Mangement Area (SMA) Permit
- Change in Zoning from Interim to R-3, Residential



- State Land Use Commission District Boundary Amendment from Agricultural to Urban
- Community Plan Amendment from Multi-Family to Single-Family
- National Pollution Discharge Elimination System (NPDES) Permit
- Final Subdivision Approval

G. PRE-CONSULTED AGENCIES & PRIVATE INTERESTS

A. STATE OF HAWAII

1. Department of Land and Natural Resources, Burial Council
2. Department of Land and Natural Resources, State Historic Preservation Division
3. Department of Health, Maui District Health Office

B. COUNTY OF MAUI

1. Department of Planning
2. Department of Public Works and Environmental Management Engineering and Wastewater Divisions

B. PRIVATE INTERESTS

1. Makena Homeowners Association
2. Neighboring property owners

■

II. DESCRIPTION OF THE PROPERTY AND PROPOSED ACTION

A. PROPERTY LOCATION

The subject property is located within Makena, approximately 3/4-mile south of the intersection of Makena-Keoneoio Road and Makena Alanui Road, Makena, Honuaula, Hawaii; identified as TMK Nos: (2) 2-1-007:009 and 060 (portion of Makena-Keoneoio Road), TMK No. (2) 2-1-008:por 100 (portion of Old Ulupalakua Roadway), and TMK No. (2) 2-1-7: portion of 094 (proposed drainage detention basin). See Figure Nos. 1 and 2, "Regional Location" and "Tax Map Key".

B. EXISTING LAND USE

The subject property contains three older residential structures and accessory structures. The bulk of the property is undeveloped and overgrown with Kiawe trees, cactus, weeds, and grasses.

C. LAND USE DESIGNATIONS

State Land Use Classification:	Agricultural (See: Figure No. 4, "Land Use Designations")
Kihei-Makena Community Plan:	Multi-Family (See: Figure No. 4, "Land Use Designations")
County Zoning:	Interim (originally A-2 on LZM No. 5) (See: Figure No. 4, "Land Use Designations")



Flood Zone Designation: C
(See: Figure No. 5, "Flood Insurance Rate Map")

Special Designations Special Management Area (SMA)

D. DESCRIPTION OF PROPOSED ACTION

The Applicant proposes to subdivide approximately 3.93-acres into seven (7) residential lots, which will range in size from approximately 16,600 square feet to 23,600 square feet. It is anticipated that each lot will allow for the construction of one (1) single-family residential dwelling and one (1) ohana unit. A conceptual grading plan is shown on Figure 11. The lots will be sold with minimal grading and grubbing and will be improved by individual lot owners. Access to the project will be from Makena-Keoneoio Road and the Old Ulupalakua Road. Four (4) of the lots will have access directly onto Makena-Keoneoio Road. The remaining three (3) lots will have access onto Old Ulupalakua Road and then onto Makena-Keoneoio Road.

A primary design objective is to maintain the rural residential feel of Makena-Keoneoio Road. As such the project incorporates relatively large lot sizes as well as rural design standards for the proposed road improvements. Lot configurations were developed by identifying preferred house sites based on existing topography with the goal of respecting existing landforms.

The applicant intends to establish a minimum set of architectural design guidelines through the establishment of Protective Covenants, Conditions and Restrictions (CC&Rs). The architectural design standards will encourage the use of traditional Hawaiian architectural elements such as large roof overhangs, covered lanais, and split pitch roofs. Reflective roof materials and siding will be prohibited. Landscape architecture guidelines will incorporate the use of large shade trees and landscaped open spaces. In addition to design controls, the CC&R's will include a prohibition on future subdivision of the parcels.

Associated infrastructure and site improvements include paved roadways; underground utilities; drainage improvements, and water distribution and fire protection system improvements. The County's Department of Public Works and Environmental Management (DPWEM) is requesting that frontage improvements along Makena-



Keoneoio Road be developed to the standards of urban designation with 48 feet of right-of-way. The applicant, however, is proposing to provide a Rural standard roadway with 30-feet of right-of-way, 20-feet of pavement width, and a 5-foot wide grassed swale along Makena-Keoneoio Road fronting the project site. There are two (2) primary reasons for the applicant's proposal. First, the Kihei-Makena Community Plan states that the traditional rural scale and character of existing portions of old Makena Road should be protected and preserved in a manner similar to that existing at Keawalai Church. Second, there are severe topographical constraints, i.e. steep topography and rock outcrops on the mauka side and a steep drop-off on the makai side of the road, which make it costly and impractical to comply with urban requirements. The applicant and the DPWEM will continue to work towards determining the appropriate right-of-way requirements through the entitlement and development permitting process.

The land area encompassing the proposed right-of-way improvements is currently owned by the applicant and will be dedicated to the County upon subdivision approval. The applicant proposes a terraced embankment for retaining purposes, consisting of a 3-foot high lava rock wall and 6-foot high lava rock wall to be constructed along the mauka side of the right-of-way along a portion of Makena Keoneoio Road, within the applicant's property. Urban designation requirements would require a significantly higher retaining wall with heights up to 16-feet. A shared drainage basin will be constructed on TMK No. (2) 2-1-7: portion of 094 in association with the property owner, Makena Aina Corporation. The drainage basin will have a capacity of 39,000 cubic feet, of which 5,000 cubic feet will be allocated to the proposed project and 34,000 cubic feet to Makena Aina Corporation. Driveway access to lot nos. 6 and 7 will also be provided through TMK No. 2-1-7: portion of 094 (See: Figure No. 10, "Concept Subdivision Plan").

It is anticipated that improvements will be initiated during the spring of 2006 and completed within six months.

E. ALTERNATIVES

1. No action

Analysis. Urban use of the subject property has been anticipated since the site was originally zoned for multi-family residential use in the late 1960'. Surrounding properties are either developed, being developed, or are zoned and community planned for residential, hotel, commercial, or multi-family residential use.



In consideration of the subject property's physical and locational characteristics the proposed uses are appropriate for the site. Maintaining the property in its largely undeveloped state would deprive the community of the property tax revenues generated by the project, as well as, short-term employment during the construction phase.

In addition, the No Action alternative would leave the landowner with little reasonable use of the property, since economically feasible non-residential uses are inappropriate due to the property's physical and locational characteristics discussed above. Moreover, under this alternative, the inconsistency between land use designations would not be resolved.

2. Alternative uses, size, and configuration

Analysis. Various alternative uses and configurations were considered during the design phase of the project. A summary of these alternatives is presented below:

Multi-Family Residences. The applicant analyzed the feasibility of developing a 40-unit condominium project on the subject property. A multi-family residential project would be consistent with the Kihei-Makena Community Plan Map, but would require considerable more density to support the high costs associated with multi-family residential development. The additional density associated with a multi-family development is inconsistent with the applicant's desire to maintain the traditional rural character and lifestyle of the immediate area.

More Lots. Increasing the number of lots would result in smaller lot sizes and therefore greater density on the subject property. However, the applicant desires to maintain, to the extent practical, the rural residential character and lifestyle that exists along Makena-Keoneoio Road and therefore desires to maintain an overall density of nearly one single-family dwelling and ohana unit per one-half acre.

Fewer Lots. Increasing the lot sizes or maintaining more land area in open space would produce fewer lots; thereby, minimizing the project's impact on infrastructure and services. However, decreasing the number of lots would require that certain fixed development costs, i.e. land costs, planning and design studies, and on-site infrastructure improvements, be amortized over fewer lots thus increasing the cost per lot. As per the applicant's objective, a 7-lot subdivision provides a settlement pattern that will neither compromise the area's rural/residential character nor over-burden the area's off-site infrastructure.



Additional Driveways. The applicant is proposing a shared driveway for lot nos. 6 and 7 and individual driveways for lots 1 through 5. A shared driveway was considered for lot nos. 4 and 5, but is not proposed because the benefits associated with a shared driveway are minimal given the size, density, and traffic associated with the proposed lots.





III. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Land Use

Existing Conditions. The subject property is located on the leeward facing shore of Maui, in Makena, approximately 2 miles south of Wailea. A patchwork of undeveloped urban-zoned land, intermixed with high-end visitor oriented development that includes condominiums, hotels, golf courses, and residential beach estates characterizes the Makena area. Development generally occurs in a linear pattern between the shoreline and Makena Alanui Road, a major County roadway connecting Makena and Wailea. Zoning throughout Makena, and in the immediate vicinity of the subject property, is predominantly urban with a significant amount of land community planned for apartment, hotel, commercial, residential, and recreational uses (See: Figure No. 4, "Land Use Designations"). Beyond the urban-zoned areas are arid agricultural lands being used for low intensity cattle grazing. Makena is still significantly undeveloped and therefore a considerable amount of urban-zoned land remains undeveloped.

The subject property is situated proximate to a range of land uses including multi- and single-family residential, hotel, and park use. To the north is a largely undeveloped 5.63-acre parcel that contains a single-family residence. Further north, are the Na Hale O Makena multi-family residential project, Makena Place single-family residential subdivision, and the Makena Surf resort. To the south is undeveloped land community planned and zoned for park, multi-family, and residential (Interim) use. To the west, across Makena-Keoneoio Road, are single-family residences, and the Makena Landing. To the east is undeveloped land community planned and zoned for multi-family residential use.




The Community Plan map presents an illustration of the range of potential future land uses planned within the immediate area (See: Figure No. 4, "Land Use Designations"). The following is a description of zoning, community plan designations, and existing land uses adjacent to the subject property:

North:	<u>Zoning:</u> A-2, Apartment District; Interim <u>Community Plan:</u> Multi-Family <u>State Land Use:</u> Agriculture; Urban Existing uses. Single-Family Residence; Na Hale O Makena Multi-Family Residences
South:	<u>Zoning:</u> A-2, Apartment; Interim; Park <u>Community Plan:</u> Multi-Family; Park; Single-Family <u>State Land Use:</u> Urban; Agricultural; Rural Existing uses. Undeveloped land; Makena Landing
East:	<u>Zoning:</u> A-2, Apartment District <u>Community Plan:</u> Multi-Family <u>State Land Use:</u> Urban Existing uses. Undeveloped land
West:	<u>Zoning:</u> Interim <u>Community Plan:</u> Single-family <u>State Land Use:</u> Agricultural; Rural Existing uses. Single-Family Residences; Makena Landing

Potential Impacts and Mitigation Measures. From a regional planning perspective, urban land uses should occur within areas that offer compatible land uses, as well as, proximate infrastructure and services capable of serving the development.

The proposed 7-lot single-family project is located within an area that offers a mixture of lower density single-family residential, multi-family residential further to the north, and



park uses. Supporting urban infrastructure is proximate to the subject property and capable of servicing the proposed development.

2. Topography and Soils

Existing Conditions. The developed portion of the site slopes in an east to west direction ranging in elevation from approximately 80 feet to 52 feet above mean sea level, with an average slope of approximately 6.4%. The undeveloped portion of the site slopes in a north to south direction ranging in elevation from approximately 74 feet to 10 feet above mean sea level, with an average slope of approximately 27.8%.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Makena loam, stony complex. It is characterized as having moderately rapid permeability, slow to medium runoff, and a slight to moderate erosion hazard.

Potential Impacts and Mitigation Measures. The topographic and soil analysis suggests that the proposed land uses are suitable for the site, including roadways and housing.

3. Flood and Tsunami Zone

Existing Conditions. According to Panel Number 15003 0330 B of the Flood Insurance Rate Map, June 1, 1981, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone C. Flood Zone C represents areas of minimal flooding.

Potential Impacts and Mitigation Measures. Thus, the proposed project should not be affected by or have adverse impacts upon its neighbors or downstream properties with regards to flood hazard potential.

4. Terrestrial Biota (Flora and Fauna)

Existing Conditions. Robert W. Hobdy, Environmental Consultant, of Kokomo, Maui, conducted a Biological and Fauna Resources Survey of the subject property in June 2004 (See: Appendix B, "Biological and Fauna Resources Survey"). The botanical survey provided the following conclusions:



- The vegetation throughout the project site is totally dominated by just two species, Kiawe and buffelgrass that together comprise at least 95% of the biomass.
- Most of the rest of the forty one plant species found are ephemeral annuals that all but disappear during the hot, dry summer and fall seasons.
- Only three native plant species were found within the project area. All of these are common lowland species in Maui County. No officially listed threatened or endangered plants (U.S. Fish and Wildlife Service 1999) are found on the site, nor do any plants proposed as candidate for such status occur on the property.
- No wetlands occur on the site. Nothing remotely approaching the three essential criteria that define a Federally recognized wetland, namely 1) hydrophytic vegetation 2) hydric soils and 3) wetland hydrology occur within this dry project area.
- Because the vegetation on the site is dominated by primarily by non-native plants and because there are no rare or protected native species within the project area, there is little of botanical concern and the proposed project is not expected to have a significant negative impact on the botanical resources.

A fauna survey was also conducted on the subject property. The study concludes that the property is ideal for many types of non-native animals but that the habitat is not suitable in its present state for most native animals, and is far removed from remnant populations. No endangered mammal, bird or insect species were observed in the project area during the course of the survey. No unique or special habitats were found on the property. The proposed changes in land use should have no significant impact on the fauna in this part of Maui.

Potential Impacts and Mitigation Measures. There are no known significant habitats of rare, endangered or threatened species of flora and fauna located on the subject property. Thus, rare, endangered, or threatened species of flora and fauna will not be impacted by the proposed project. However, the study does make the following two recommendations:

- That special care be exercised during the construction phase of the project to prevent soil movement into the ocean; and



- That all significant outdoor lighting in the development be hooded to direct the light downward. This measure is necessary to protect some seabirds such as the Endangered dark rumped petrel and the commoner wedge-tailed shearwater. These birds can become attracted to and confused by bright lights, crash and be killed by vehicles or cats and dogs that find them.

5. Air Quality

Existing Conditions. Air quality refers to the presence or absence of pollutants in the atmosphere. It is the combined result of the natural background and emissions from many pollution sources. The impact of land development activities on air quality in a proposed development's locale differs by project phase (site preparation, construction, occupancy) and project type. In general, air quality in Makena is considered relatively good. Non-point source emissions (automobile) are not significant to generate a high concentration of pollutants. The relatively high quality of air can also be attributed to the region's exposure to wind, which quickly disperses concentrations of emissions. The Makena area is currently in attainment of all criteria pollutants established by the Clean Air Act, as well as, the State of Hawaii Air Quality Standards.

Potential Impacts and Mitigation Measures. Air quality impacts attributed to the proposed project could include dust generated by the short-term construction related activities. Site work such as grading and building construction, for example, could generate airborne particulate. Adequate dust control measures that comply with the provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust, will be implemented during all phases of construction. Some of these mitigation measures will include:

- Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular routes, and locating potentially dusty equipment in areas of least impact.
- Providing an adequate water source on site prior to start-up of construction activities so that the project site can be regularly sprinkled to keep dust down.
- Onsite dirt piles or other stockpiled particulate matter will be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind blown dust emissions.



- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase.
- Installation of temporary silt screens and dust fences around the perimeter of the project site as necessary.
- Controlling of dust from shoulders, project entrances, and access roads.
- Providing adequate dust control during weekends, after hours, and prior to daily start-up of construction activities. Controlling of dust from debris hauled away from project site.

6. Noise Characteristics

Existing Conditions. The noise level is an important indicator of environmental quality. In an urban environment, noise is due primarily to vehicular traffic, air traffic, heavy machinery, and heating, ventilation, and air-conditioning equipment. Ramifications of various sound levels and types may impact health conditions and an area's aesthetic appeal. Noise levels in the vicinity of the project area are generally low. Traffic noise from Makena-Keoneoio Road and park users at Makena Landing are the predominant sources of background noise in the vicinity of the subject property.

Potential Impacts and Mitigation Measures. In the short-term, the proposed project could generate some adverse impacts during construction. Noise from heavy construction equipment, such as bulldozers, front-end loaders, and material-carrying trucks and trailers, would be the dominant source of noise during the construction period. To minimize construction related noise impacts to the surrounding neighbors, the developer will comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control", which requires that construction related activities occur during normal daylight hours and that the project not exceed maximum permissible sound levels as established by the DOH. In the longer-term, the proposed project should not significantly impact existing noise conditions in the area due to the relatively small increase in traffic generated by the project.

7. Archaeological/Historical Resources

Existing Conditions. Guerin Tome, B.A., and Michael Dega, Ph.D., Scientific Consulting Services, conducted an Archaeological Inventory Survey of the subject property in September 2004 (See: Appendix C, "Archaeological Inventory Survey").



The 3.51-acre project area occurs between c. 30-60 feet above mean sea level (amsl) along the leeward coast of Maui. The northern flank of the subject property abuts Old Ulupalakua Road; the western flank extends to existing residential properties; the southern flank is adjacent to Makena-Keoneoio Road, with a small section crossing the road to the south near Makena Landing (State Site No. 50-50-14-1585) and State Site No. 50-50-14-5123, a traditional-historic period site documented in 2001 (Tome and Dega 2001; 2002). The Makena Landing is a preserved example of ranching associated structures utilized as a staging area for cattle from the mid 1800's through the early 1900's. The entire eastern flank of the subject project area is adjacent to undeveloped land. The western flank of the parcel contains a precipitous drop that borders several existing houses, with rock walls defining boundaries between interior residential parcels.

The Archaeological Inventory Survey was conducted to systematically examine and record features previously noted during a reconnaissance survey of the parcel in 2003. Subsurface testing of these features and adjacent deposition areas was accomplished during this research to assess the presence/absence of associated archaeological materials and to provide additional data on feature function and chronology. The Inventory Survey led to the documentation and recordation of four sites composed of six features. Three sites were assessed as traditional-period sites and one was associated with historic times.

Sites -5542, -5543, and -5544 are interpreted as having been constructed and/or utilized during pre-contact times. Site -5545 was interpreted as a historic-period boundary wall. The following summarizes each site:


- Site -5542. Feature B (rockshelter) is suggested to have been occupied on an intermittent basis during prehistoric through modern times. Based on recovered cultural deposits, the rockshelter was occupied at some juncture during pre-contact times and has recently been utilized as a trash deposition area. Based on the excavation results of Site -5542, the Feature A stacked rock alignment is interpreted as a remnant terrace utilized in prehistoric times for habitational purposes.
- Site 5543. Subsurface testing of Features C and D within Site -5543 suggest that the site was a temporary habitation loci, with the Feature C overhang and C-shape being utilized during two prehistoric episodes and the lithic quarry being used as a quick source of raw material for lithic tool manufacture, also during prehistoric times (radiocarbon dates pending).



- Sites -5544 appeared to be a temporary occupation feature that may have been constructed during pre-Contact times. However, no subsurface archaeological deposits were found during testing to more firmly support this interpretation. As a result, Site -5544 is tentatively interpreted as a temporary occupation feature that may have been a rest area exclusive of activities such as food processing or tool manufacture. Intensive landscape modifications in this portion of the project area may have deleted more firm archaeological interpretations of this feature.
- Site -5545 was interpreted as a boundary wall constructed during historic times. The wall runs due course across the northern flank of the parcel and defines a topographical change from flatter, plateau-like land above the fairly steep topographical movement within the project area toward the coastline. Site -5545, a long, well-constructed wall, was interpreted as a boundary wall that was constructed during Makena's ranching period and as it exactly parallels the northern perimeter of the 3.51-acre tax map key.

All four sites were considered significant under Criterion D, i.e. significant for the data they contain or contained. Site -5543, Feature C was also considered as significant under Criterion E, i.e. significant to an ethnic group, due to the presence of a single human tooth commingled in feature midden deposits. Based on the level of recordation and excavation during this project, however, all four sites are no longer considered significant under Criterion D. Site -5543, Feature C is no longer considered significant under Criterion E as further testing failed to demonstrate the presence of a burial at the feature.

Potential Impacts and Mitigation Measures. Four archaeological sites were identified on the Makena property and were documented during the Archaeological Inventory Survey. All four sites have been subject to data collection, documentation, and limited excavation (minus the Site -5545 wall). As noted, these sites are no longer significant. Per the request of the Department of Land and Natural Resources, Burial Council, the most significant site, Site -5543, was subject to additional testing beyond the scope of the Inventory Survey to confirm the presence or absence of a human burial. It is recommended that no further work be required for this project area. The ambiguous nature of Site -5542 and -5544 has been created through modern disturbance. Further testing in these areas would not yield undisturbed contexts. Site -5543 has been subject to additional testing and is pending radiocarbon dating, the results of which will be included in this report when received. The Site -5545 wall is not readily amenable to



testing and dates to historic times. Archaeological Monitoring is not recommended during ground altering activities on this parcel primarily due to the complete absence of sand in the project area and due to the documentation occurring of all project area features during this Inventory Survey.

8. Cultural Resources

Leann McGerty, B.A., and Robert L. Spear, Ph.D., Scientific Consulting Services, Inc., conducted a Cultural Impact Assessment of the proposed development in October 2004 (See: Appendix F, "Cultural Impact Assessment"). The purpose of the Cultural Impact Assessment is to evaluate the probability of negative impact on cultural values and rights within the project area and its vicinity as a result of the project.

The Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the *Guidelines for Assessing Cultural Impacts* (OEQC 1997). The report contains archival and documentary research, as well as consultation with individuals or organizations within knowledge of the project area, its cultural resources, and its practices and beliefs.

Individuals and organizations, including the OHA and O'ahu, the OHA Community Resource Coordinator on Maui, Central Maui Hawaiian Civic Club, a Cultural Resource Planner in the Maui Planning Department were contacted by SCS in order to obtain information concerning cultural activities occurring at or in the vicinity of Parcel 9. Ms. Ester Nae'ole, granddaughter of the original landowner, and one of the inheritors of the project area consulted with SCS.

Based on community response, information provided by a consultant, and archival research it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by renovations on Parcel 9. Because there were no activities identified, there are thus no adverse effects.

9. Visual Resources

Existing Conditions. The subject property is located within the destination resort area of Makena, which is renowned for its significant views of the Pacific Ocean and Haleakala. The Pacific Ocean and the islands of Molokini and Kaho'olawe are visible from the property.



The project site is visible from Makena-Keoneoio Road and Old Ulupalakua Road. The mauka portion of the property contains two single-family residential dwellings and offers sweeping ocean views. The makai portion of the property is undeveloped and contains views of Makena Landing and the Pacific Ocean beyond. Mauka views from Makena-Keoneoio Road do not exist fronting the project due to the steepness of the topography, which obstructs all mauka views. There are no significant views available from Old Ulupalakua Road.

Numerous scenic resources have been identified in the Kihei-Makena area, which are identified and discussed in the Maui Scenic Coastal Resources Study, August 1990 (See Figure 7). The resource/inventory map in this report, does not identify any significant view occurring across the subject property that will be affected by the development.


Potential Impacts and Mitigation Measures. As discussed, no unique public scenic resources will be impacted by the development. Private view corridors will also be protected through the establishment of CC&R's. The applicant has agreed to restrict the height of future residences to a maximum of 75-feet amsl for lot nos. 5, 6, and 7 via CC&R's. This will protect view planes to the ocean from mauka properties owned by Makena Aina Corporation. In return, Makena Aina Corporation will restrict the height of any future structures located on TMK No. 2-1-07:094 to a maximum elevation of 25-feet amsl which will protect views for Papaanui lots. As such, the proposed project is not anticipated to significantly impact public or private view corridors.

10. Agricultural Resources

In May 1967 the Land Study Bureau (LSB) established a five-class rating system to determine the relative productivity of agricultural lands in the County, using the letters A, B, C, D, and E, with A representing the class of highest productivity and E the lowest. The LSB ratings have become the standard by which the productivity of agricultural land is measured in the State.

Approximately half of the property affected by the subdivision maintains an overall productivity rating of "E" by the LSB, indicating a low productive agricultural capacity. The remaining portion of the property has not been assigned a rating but is likely to be of poor agricultural quality in consideration of the suitability of adjacent property. The property is not designated on the ALISH Maps.

Potential Impacts and Mitigation Measures. The proposed action will not displace or conflict with land currently being utilized for active agricultural purposes and will occur



on property with a low agricultural productivity. As such, the proposed project will not impact the State's agricultural resources.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

Existing Conditions. Maui County experienced relatively strong population growth during the past decade with the 2000 resident population expanding to 128,241, an 80.6% increase over the 1980 population of 70,991 (United States Department of the Census, 2000). Population growth is projected to continue with the year 2020's resident population projected to reach 175,136 (SMS Research and Marketing Services, Inc., June 2002). Similarly, visitor growth has increased significantly in the County over the last decade with the average daily visitor count increasing from 15,363 in 1980 to 43,854 in 2000, a 285% increase in visitors per day. Thus, the County's defacto population, defined as all persons physically present in an area, grew to 168,544 in 2000, an 88% increase over 1990 levels (SMS Research and Marketing Services, Inc., June 2002).

Likewise, Kihei-Makena experienced high growth rates as the population grew to 22,870 in 2000, up from 15,365 in 1990, and 7,263 in 1980 (SMS Research and Marketing Services, Inc., 2002). The anticipated 2020 population of the Kihei-Makena region is projected to reach 31,576. The average daily visitor population of the region in 1990 was 16,079 and is anticipated to reach 19,161 in 2020, a 19% increase over 1990 levels (SMS Research and Marketing Services, Inc., June 2000).

Potential Impacts and Mitigation Measures. Residential population growth based on the proposed seven lot residential lot subdivision is anticipated to be minimal.

2. Economy

Existing Conditions. The Kihei-Makena economy is based primarily upon the visitor industry. Visitor accommodations are located along the shoreline along with various support facilities, multi-family, and single-family residential developments. Kihei and Wailea have developed into important visitor destination anchors. Makena is significantly less developed. Much of the region's economic activity is derived directly or indirectly from tourism. In addition to tourism, high technology promises to be an increasingly important component of the Kihei-Makena economy. Most existing and projected employment in high technology will occur at the Maui Research and



Technology (R&T) Park located in North Kihei, which is likely to become a major employment center.

Countywide, unemployment has decreased from a recent high of 7.5% in 1997 to a rate of 5.7% in 1999 and 4.4% in 2002 (County of Maui, Office of Economic Development, April 1999). Full employment in an economy generally occurs at a rate of approximately 5%.

Potential Impacts and Mitigation Measures. The project will generate construction-phase economic impacts that are generally short-term effects. They include employment, income, and expenditure impacts that are created by on-site and off-site construction employment, on-site and off-site trade/transportation/service employment, and manufacturing employment in support of construction.

C. PUBLIC SERVICES

1. Recreational Facilities

Existing Conditions. Kihei-Makena has a wide reputation as a recreational destination, particularly for ocean related activities. Ocean sports and recreation available in the region include golfing, swimming, fishing, surfing, scuba diving, snorkeling, sailing, and kayaking. As of October 2003 there were 27 State and County parks in South Maui providing approximately 189 acres of developed and undeveloped parkland. Currently, Kihei-Makena has 16 regional parks (64 acres), 16 of which are beach parks, and 11 Sub-Regional Parks (125 acres).

State and County beach parks within close proximity to the project area include the Makena Landing, Maluaka Beach Park and Makena State Park further to the south.

According to the County's Public Facilities Assessment Update, July 15, 2002, there are over 5.2 acres of total park land per 1,000 residents in the community. Using park planning standards, in 2000 the community plan region was in need of 3 tennis courts and 10 sports courts and an additional 109.1 acres of park land.

Potential Impacts and Mitigation Measures. The proposed development will produce a relatively small increase the population of the immediate area and will therefore produce a marginal increase in the use of neighborhood and regional park facilities.



The applicant is currently consulting with the Department of Parks and Recreation regarding improvements to Makena Landing. These improvements include trimming, irrigation, and planting of native plant species that will be undertaken in cooperation with Makena Aina Corporation. In addition, the owners of the project will be required to comply with the requirements for Parks and Playgrounds, pursuant to Maui County Code Section 18.16.320, in order to satisfy park assessment requirements. The park assessment requirements are designed to mitigate the incremental impact that new development places upon the region's park facilities. The current park fees are \$7,595.00 per subdivided lot. The first three lots are exempt. As such, the project will be required to contribute \$30,380 towards regional park improvements.

2. Police and Fire Protection

There are two fire stations serving this community. The first fire station is located at 11 Wamahaihai Street at Kalama Park, which is about two miles north of the subject site. The Kihei Fire Station is equipped with a 1,500-gallon pumper, and is staffed by one captain and five firefighters per twenty-four hour shift. The second fire station is located in Wailea on Kilohana Street. This station provides coverage in the northern portion of the Kihei-Wailea-Makena area.

Patrol officers on assignment provide police services for the Kihei-Makena sub district from a new police sub-station at Kihei Town Center. According to the County's Public Facilities Assessment Update, July 15, 2002, in 2001 there were 31 budgeted uniformed patrol officers and an estimated 10 investigative officers working from the Kihei sub-station. Based on population, Kihei District's current need is estimated at approximately 75 officers, which is 34 more officers than are currently available in the District. At present, the Kihei Substation facilities are inadequate to accommodate a staff this size. A large portion of policing responsibilities must continue to be met by officers dispatched from the Central Station, resulting in excessive response times to calls for service from outlying areas.

Potential Impacts and Mitigation Measures. In the context of the overall projected population growth for the Kihei-Makena region, the proposed project will not result in an overall significant increase in population; thus, the proposed project is not anticipated to have an adverse impact upon existing police and fire protection services.



3. Schools

Existing Conditions. There are two public elementary schools and one public intermediate school in the area. Kihei and Kamalii Elementary and Lokelani Intermediate Schools serve North Kihei. In addition, Montessori Hale O'Keiki provides private education for grades PreK-4. Until recently, Kihei students attended H.P. Baldwin High School in Wailuku but are now required to attend Maui High School in Kahului. The newly constructed Kamalii Elementary School is the closest elementary school to the project site, and is located about five miles from the project. According to the County's Public Facilities Assessment Update, July 15, 2002, the enrollment, capacity, and future status of Kihei schools is as follows:

	Rated Capacity	2001 Enrollment	Ratio of Enrollments
Kihei Elementary School	1054	774	73%
Kamalii Elementary School	1051	841	80%
Lokelani Intermediate	555	718	129%
Maui High	1,379	1,673	121%

The assessment indicates that capacity is sufficient to accommodate existing enrollments of elementary students. However, existing enrollments justify the need for an additional intermediate school and high school beginning in 2005.

Potential Impacts and Mitigation Measures. Using State of Hawaii, Department of Education, multipliers for standard housing types of school aged children the proposed project could increase the student population of the affected schools by approximately:

Grade	Students
K-5	1.953
6-8	1.001
9-12	1.078

It is not anticipated that the proposed project will significantly impact public education facilities, given the projected demographic profile of prospective purchasers and given the minimal population increase generated by the project.



4. Medical Facilities

Existing Conditions. The Wailuku based Maui Memorial Medical Center (MMMC) provides centralized medical services for the Island. Medical and dental offices are located in Kihei and Wailea to serve the Makena region's residents.

According to the County's Public Facilities Assessment Update, July 15, 2002, the status of hospital facilities on Maui in 2000 is as follows:

- **Obstetric and Pediatric Beds** are significantly underutilized throughout the County of Maui, with a maximum actual occupancy rate of 31% compared to the desirable rate of 85%.
- **Critical Care Beds**, available only at Maui Memorial Medical Center, stayed occupied at a fairly favorable 64% rate in 2000, compared to the desirable rate of 75%.
- **Acute Care Beds** appeared to be undersupplied at MMMC. This could be because non-acute patients were occupying acute care beds while they waited for long-term care beds at Hale Makua and Kula Hospital.
- **Long-term Care Beds** at Hale Makua and Kula Hospital appeared to be inadequate to handle demand in 2000, with occupancy rates consistently exceeding the desired rate of 95%.
- **Specialty Care Beds** were generally underutilized in hospitals of the County of Maui in 2000.

As for the existing capacity of Emergency Medical Services, the County's Public Facilities Assessment Update, July 15, 2002, notes that the Kihei-Makena area is currently served by one ambulance. However, there is a present need for two ambulances.

Potential Impacts and Mitigation Measures. The proposed project will produce a small increase in the population of the immediate area. The increase in population will produce a marginal increase in demand for physicians, dentists, nurses, mental health personnel, and hospital beds. However, in the context of the overall population growth for the island, the proposed project will not produce an overall significant impact to the island's medical facilities.



5. Solid Waste

Existing Conditions. Only two landfills are currently operating on Maui, the Central Maui Landfill in Puunene, and the Hana landfill. Residential solid waste collection is provided by the County and taken to the Central Maui Landfill, which also accepts waste from private refuse collection companies.

According to the County's Public Facilities Assessment Update, July 15, 2002, existing capacity and planned expansion of the Central Maui Landfill will accommodate the Kihei-Makena Community Plan Region's waste disposal needs beyond the year 2020.

Potential Impacts and Mitigation Measures. Based upon figures provided by the County of Maui, Curbside Refuse Collection System Plan, September 2000, the subject project will generate approximately 1.72 tons per household per year, which is equivalent to 3,440 pounds/year of solid waste. Thus, the project is anticipated to generate approximately 24,080 pounds/year or 66 pounds per day of solid waste. The County of Maui will conduct solid waste collection for the proposed project. Green waste from initial clearing of the site will be either mulched on site or deposited at the Central Maui landfill's green waste recycling facility. It is envisioned that some of the green waste may also be used as mulch for other projects in South Maui.

D. INFRASTRUCTURE

A Preliminary Engineering and Drainage Report was prepared by Otomo Engineering, Inc., which analyzes existing infrastructure systems accessible to the subject property and proposed improvements to accommodate the proposed development. The report addresses water, sewer, drainage, flooding, roadway, and electrical and telephone systems (See: Appendix D, "Preliminary Engineering and Drainage Report").

1. Water

Existing Conditions. Domestic water and fire flow will be provided by the County's water system. There is an 8-inch waterline along Makena-Keoneoio Road. A 1.5 million gallon concrete water tank on Kaukahi Street provides storage for the area. The tank is known as the Diamond Resort Tank (elevation 220 feet) and is located approximately 6,000 feet to the north of the project site. The source for the water system is the Mokuhaui wells located in Happy Valley.



Potential Impacts and Mitigation Measures. According to the Department of Water Supply's December 9, 2004, comment letter, water demand for single-family residential development of the subject property would be about 11,790 gpd based on system per acre standards and 14,640 gpd based on empirical consumption data of single-family residences in the Makena Area. Fire flow demand for single-family residential development is 1,000 gallons per minute for a 2 hour duration. Fire hydrants will be installed with a minimum spacing of 350 feet.

Presently, there are seven ¾-inch water meters on the subject parcel. Each water meter will be relocated to its correct location upon completion of the subdivision water improvements to service each lot.

The applicant will incorporate water conservation measures during the construction phase of the project. Future homeowners will be required to install water conserving, low flow fixtures. Future lot owners will be encouraged to:

- Incorporate water efficient landscaping (xeriscaping) into the landscape design.
- Utilize properly planned and efficient irrigation systems; and
- Select appropriate plants for the Makena area, thereby minimizing the need for irrigation.

2. Sewer

Existing Conditions. There is no County sewer system in close proximity of the project site. The nearest County-owned sewer system is located approximately 1,400 feet to the north of the project site. The facility consists of a wastewater pump station located at the intersection of Wailea Alanui Road and Makena-Keoneoio Road. The Hale O Makena project, located south of the Wailea Alanui Road and Makena-Keoneoio Road intersection, installed a private sewer system, which connected to said County sewer pump station. Any sewer system expansion along this section of Makena-Keoneoio Road may need to coordinate connection to this private system. The Makena Resort, situated to the north of the subject property, maintains its own private system. Wastewater collected from the Makena area is transported to the Kihei Wastewater Treatment Plant located above Piilani Highway and south of the Silversword Golf Course.

Potential Impacts and Mitigation Measures. The proposed 7-lot subdivision will generate approximately 2,450 gallons per day of wastewater when all homes are constructed. Since there is no existing sewer system in close proximity of the project



site, each lot will install an individual wastewater system for sewerage disposal pursuant to State Department of Health Rules and Regulations. The use of individual waste water systems has been approved by the State Department of Health for the project (See: Appendix G, "Comment and Response Letters"). The lots will connect to the County system in the future as it becomes available.

3. Drainage

Existing Conditions. There are no County drainage systems in the vicinity of the subject parcel. Runoff from the developed portion of the project site presently sheet flows in an east to west direction onto Makena-Keoneoio Road. Runoff from the undeveloped portion of the subject parcel sheet flows in a north to south direction. Ultimately, all runoff from the project sheet flows onto Makena-Keoneoio Road and into the ocean.

It is estimated that the present 50-year, 1-hour runoff from the developed portion of the project site is 1.8 cfs and 4.6 cfs from the undeveloped portion. The total runoff from the project site is 6.4 cfs.

Potential Impacts and Mitigation Measures. After the development of the proposed subdivision improvements and buildout of the property, it is estimated that the 50-year storm runoff will be 11.5 cfs, with an increase of 5.1 cfs (See: Figure No. 11, "Preliminary Grading & Drainage Plan" and Appendix D, "Preliminary Engineering and Drainage Report").

Runoff from Lots 1, 2 and 3 (developed portion of the property) will be collected by grated catch basins and conveyed to an onsite underground perforated pipe drainage system which will be located on Lot 1. Runoff from Lots 4 to 7 will be conveyed to a detention basin which will be constructed on Lots 5 and 6 and the adjoining parcel owned by Makena Aina Resort T.M.K.: (2) 2-1-007; portion of 094. The required storage volume to accommodate the increase in runoff from Lots 4 to 7 is 1,929 cubic feet. The proposed detention basin will have a storage volume of approximately 39,000 cubic feet of which Papaanui will have reserved 5,000 cubic feet. Thus, the available drainage capacity allocated to Papaanui is approximately 159% more than the volume required to accommodate drainage from lots 4 to 7 during a 50-year storm event. The remaining capacity of the detention basin, i.e. 34,000 square feet, will be allocated to Makena Aina Corporation for the future development of the adjacent properties.

The increase in runoff from Lots 1, 2 and 3 will be conveyed to an underground-perforated drainline which will be appropriately sized to accommodate runoff from a

50-year storm event. With the incorporation of the proposed mitigation measures, there will be no increase in runoff sheet flowing from the project site onto Makena-Keoneoio Road or adjacent properties. The proposed drainage plan is in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui.

Construction Phase Best Management Practices

The project will incorporate Best Management Practices (BMP's) designed specifically to reduce the potential for non-point sources of pollution from impacting nearshore water quality. Short-term measures to minimize construction related runoff from the property will include:

- Installation of temporary silt screens fronting the makai side of the project side and within drainage swales along the project limits.
- Installation of temporary silt screens within or around the on-site detention basins.
- Rapid covering and stabilization of topsoil stockpiles.
- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase;
- Proper disposal of sediment and debris from construction activities; and
- Cement products, oil, fuel, and other toxic substances will be prevented from falling or leaching into the water.

4. Roadways and Traffic

Existing Conditions. A Traffic Assessment Letter was prepared by Phillip Rowell & Associates which assesses the impact of the project (See: Appendix E, "Traffic Assessment Letter").

The project is bounded by Makena-Keoneoio Road along the south and west, and by Old Ulupalakua Road along the north. Makena-Keoneoio Road is a two-way roadway. In the vicinity of the project, the width does not provide two full width travel lanes. The roadway is narrow and winding. There are signs warning of limited sight distances. Adjacent development is residential. The posted speed limit is 15 miles per hour.



Old Ulupalakua Road is an "unimproved" road intersecting Makena-Keoneoio Road and providing access to several residences. Two-way traffic is allowed even though the width is not sufficient for two-full width travel lanes. There is no posted speed limit signs.

Potential Impacts and Mitigation Measures. A trip generation analysis was performed for the project. The analysis assumed the maximum build-out scenario for the project, which could include seven (7) single-family detached units and that each single-family unit may have one (1) ohana unit. Therefore, the maximum build-out of the project could be seven (7) single-family plus seven (7) ohana units.


The trip generation analysis is summarized in Table 1, Traffic Assessment Letter, located in Appendix E. The project will generate 8 trips during the morning peak hour, 2 inbound and 6 outbound. During the afternoon peak hour, the project will generate 7 inbound and 4 outbound trips for a total of 11 trips. The conclusion of the trip generation analysis is that the project will generate a minimal amount of traffic.

A Level-of-Service Analysis was performed for the project driveway. It was assumed that there would be just one driveway to assess a worst-case condition. All delays are estimated to be less than nine (9) seconds, which corresponds to Level-of-Service A, the highest level-of-service. The conclusion is that the driveways will operate at Level-of-Service A, without a separate left turn lane into the project, and that the traffic impact of the project will be negligible. A full TIAR would have the same conclusion.

Even though the estimated impacts are negligible, the project's civil engineer should perform a sight distance analysis to insure that adequate sight distance is provided at the project driveways along Makena-Keoneoio Road.

The Institute of Transportation Engineers recommends that a traffic impact study should be performed if, in lieu of another locally preferred criterion, development generates an additional 100 vehicle trips in the peak direction (inbound or outbound) during the site's peak hour. Based on the criterion, a traffic impact study is not warranted.

Planned Roadway Improvements. The right-of-way of Makena-Keoneoio Road is established to the north and south of the subject parcel. Although the existing roadway improvements physically traverses through a portion of the southerly section of the property, there is no established right-of-way. The developers will provide for a roadway lot within the property for Makena-Keoneoio Road to match the northerly and southerly ends. The roadway lot will be dedicated to the County. Makena-Keoneoio



Road and Ulupalakua Road will be improved with grassed shoulders fronting the project site and improved to County Rural standards in accordance with the provisions of the Kihei-Makena Community Plan. The implementation of rural design standards for roadway improvements is also strongly endorsed by the Makena Home Owners Association (See Appendix A). The Association specifically stated that they do not support the establishment of on-street parking on this section of roadway. Nor would they support the erection of street lights.

5. Electrical and Telephone

Existing Conditions. The proposed electrical, telephone and cable TV distribution systems in the subject subdivision will be installed underground from the existing overhead facilities traversing the project site.

Potential Impacts and Mitigation Measures. Existing electrical and telephone facilities will serve the development.



IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE LAW

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes four major land use districts into which all lands in the State are placed. These districts are designated Urban, Rural, Agricultural, and Conservation. The subject property is within the Agricultural District. The applicant is proposing a district boundary amendment from Agricultural to Urban, in order to allow for the creation of the proposed lots, and to bring consistency between the State Land Use Classification and the County's zoning.

Pursuant to § 15-15-18, Land Use Commission Rules, Subchapter 2, Standards for Determining "U" Urban District Boundaries, the proposed request is consistent with the following standards:

- 1) It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services, and other related land uses.

Analysis: The subject property is located on the leeward facing shore of Maui, in the resort area of Makena, approximately 2 miles south of Wailea. A patchwork of undeveloped urban-zoned land, intermixed with high-end visitor oriented development that includes condominiums, hotels, golf courses, and residential beach estates characterizes the Makena area. Zoning throughout Makena, and in the immediate vicinity of the subject property, is predominantly urban with a significant amount of land community planned for multi-family, residential, and recreational uses (See Figure No. 4). Beyond the urban-zoned areas are arid agricultural lands being used for low intensity cattle grazing. Makena is still largely undeveloped and therefore a significant amount of urban-zoned land remains in open space.



The subject property is within close proximity to the Na Hale O Makena multi-family project, which is in the Urban District, and a range of other land uses including Hotel, Multi-Family, Single-Family Residential, Rural Residential, and Park Uses.

In consideration of the above, the proposed project is located in an area characterized by "city-like" concentrations of people, structures, streets, urban level of services, and other related land uses

2) It shall take into considerations the following specific factors:

- A. Proximity to centers of trading and employment except where the development would generate new centers of trading and employment;
- B. Substantiation of economic feasibility by the petitioner;
- C. Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection; and
- D. Sufficient reserve areas for foreseeable urban growth.

Analysis: The proposed development will not generate new centers of trading and employment. The property is in close proximity to Makena Resort which is a center of employment in the Makena area. Further, basic infrastructure and services capable of servicing the development are available at the site.

3) It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil condition, and other adverse environmental effects.

Analysis: As discussed in Section III.A of the Report, the property has satisfactory topography, drainage, and is reasonably free from the danger of floods, tsunami, unstable soil conditions, and other adverse environmental effects.

4) Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans.

Analysis: The proposed development is contiguous to urban designated lands to the northeast, east, and south and rural designated lands to the west. Agricultural designated lands abut the northern boundary. As noted, the project site is proximate



to a range of land uses including single-family residential, multi-family, hotel, and park related uses.

- 5) It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the State and County general plans.

Analysis: Within the vicinity of the project site lands are either developed with existing urban uses or are designated for urban uses in the Kihei-Makena Community Plan.

- 6) It may include lands which do not conform to the standards in paragraphs (1) to (5):

- A. When surrounded by or adjacent to existing urban development; and
- B. Only when those lands represent a minor portion of this district;

Analysis: Not Applicable

- 7) It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services; and

Analysis: The subject property is situated within close proximity to existing urban development and basic services are currently available to the site. As such, urbanization of the property will not contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.

- 8) It may include lands with a general slope of twenty percent or more if the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction controls, as adopted by any federal, State, or county agency, are adequate to protect the public health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.

Analysis: A portion of the site has a slope that exceeds twenty percent. Individual lot owners will be required to file grading plans with the County for review and approval.



B. GENERAL PLAN OF THE COUNTY

The General Plan of the County of Maui (1990 update) provides long-term goals, objectives, and policies directed toward improving living conditions in the County. The following General Plan Themes, Objectives and Policies are applicable to the proposed project:

I.B. Land Use

Objective No. 1: To preserve for present and future generations existing geographic, cultural and traditional community lifestyles by limiting and managing growth through environmentally sensitive and effective use of land in accordance with the individual character of the various communities and regions of the County.

Policies:

(b). *Provide and maintain a range of land use districts sufficient to meet the social, physical, environmental and economic needs of the community.*

III. Housing and Urban Design

A. HOUSING

Objective No. 1: To provide a choice of attractive, sanitary and affordable homes for all our residents.

Policies:

(b). *Encourage the construction of housing in a variety of price ranges and geographic locations.*

B. URBAN DESIGN

Objective No. 1: To see that all developments are well designed and are in harmony with their surroundings.



Policies:

- (a) *Require that all appropriate principles of urban design be observed in the planning of all new developments.*

Objective No. 2: To encourage developments which reflect the character and the culture of Maui County's people.

Policies:

- (a) *Establish urban design guidelines and standards which will reflect the unique traditional architectural values of each community plan area.*
- (b) *Encourage community design which establishes a cohesive identity.*

C. KIHEI-MAKENA COMMUNITY PLAN

Nine community plan regions have been established in Maui County. Each region's growth and development is guided by a community plan, which contains objectives and policies in accordance with the Maui County General Plan. The purpose of the community plan is to outline a relatively detailed agenda for carrying out these objectives.

The subject property is located within the Kihei-Makena Community Plan region. The Community Plan was recently adopted by ordinance No. 2641 on March 6, 1998.

The Kihei-Makena Community Plan designation for the subject property is Multi-Family. The applicant is requesting a Community Plan Amendment from Multi-Family to Single-Family in order to allow for the property to be subdivided into seven (7) single-family residential lots.

The following Kihei-Makena Community Plan goals, objectives, and policies are applicable to the proposed action:

Goal: Land Use. A well-planned community with land use and development patterns designed to achieve the efficient and timely provision of



infrastructure and community needs while preserving and enhancing the unique character of Ma`alaea, Kihei, Wailea and Makena as well as the region's natural environment, marine resources and traditional shoreline uses.

Objectives and Policies:

- c. Upon adoption of this plan, allow no further development unless infrastructure, public facilities, and services needed to service new development are available prior to or concurrent with the impacts of new development.*
- p. Prevent urbanization of important agricultural lands*
- q. Allow ohana units only where sufficient infrastructure is available.*


Analysis. Section III of this report addresses the impact that the proposed project will have upon existing public infrastructure, facilities, and service systems. Based upon the analysis, public infrastructure and services currently have, or will have in the foreseeable future, adequate capacity to serve the development and will therefore not be significantly impacted by the project. Thus, the necessary infrastructure, public facilities, and services will be available prior to and/or concurrent with development of the site.

In addition, the proposed residential development requires less public infrastructure, facilities and services than the potential future development of multi-family residences on the property. The property is designated for future urban development and does not involve important agricultural lands.

Goal: Environment. Preservation, protection, and enhancement of Kihei-Makena's unique and fragile environmental resources.

Analysis: As described in Section III of this report, Kihei-Makena's unique and fragile environmental resources, including its shoreline, near and off-shore water quality, drinking water, visual resources, archeological resources, and endangered species of flora and fauna, will not be significantly impacted by this project.

Goal: Cultural Resources. Identification, preservation, enhancement, and appropriate use of cultural resources, cultural practice, and historic sites that:

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- a. Provides a sense of history and defines a sense of place for the Kihei-Makena region.

Objectives and Policies:

- a) *Identify, preserve, protect and restore significant historical and cultural sites.*

Implementing Actions:

- b) *Require development projects to identify all cultural resources located within or adjacent to the project area, prior to application, as part of the County development review process.*
- e) *Formulate and adopt rural and historic district roadway standards for the old Makena Road to promote the maintenance of historic landscapes and streetscapes in character with the region, so long as these standards are for public roadway purposes, and do not obstruct or interfere with the rights of the public for the use and enjoyment of the area. Makena Road shall be kept open for public use.*

Analysis: Leann McGerty, B.A., and Robert L. Spear, Ph.D., Scientific Consulting Services (SCS) Inc., conducted a Cultural Impact Assessment of the proposed development in October 2004 (See: Appendix F, "Cultural Impact Assessment"). The purpose of the Cultural Impact Assessment is to evaluate the probability of negative impact on cultural values and rights within the project area and its vicinity as a result of the project.

SCS concluded that based on community response, information provided by a consultant, and archival research it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by renovations on Parcel 9. Because there were no activities identified, there are thus no adverse effects.

Further, in recognition of the rural character of the area, the applicant proposes rural non-urban standard roadway improvements fronting the project site.

Goal: Physical and Social Infrastructure. Provision of facility systems, public services and capital improvement projects in an efficient, reliable, cost effective, and environmentally sensitive manner which accommodates the needs of the Kihei-Makena community, and fully support present



and planned land uses, especially in the case of project district implementation.

Allow no development for which infrastructure may not be available concurrent with the development's impacts.

Objectives and Policies:

- (e) *Formulate and adopt rural and historic district roadway standards for the Old Makena Road to promote the maintenance of historic landscapes and streetscapes in character with the region, so long as these standards are for public roadway purposes, and do not obstruct or interfere with the rights of the public for the use and enjoyment of the area. Makena Road shall be kept open for public use.*

Analysis: Section III of this report addresses the impact that the proposed project will have upon existing public infrastructure, facilities, and service systems. Based upon the analysis, public infrastructure and services currently have, or will have in the foreseeable future, adequate capacity to serve the development and will therefore not be significantly impacted by the project. As discussed, the developer will contribute the pro rata share required by the State and County for sewer and park facilities and services in order to minimize the incremental impact of the subject development upon public finances. Thus, the necessary infrastructure, public facilities, and services will be available prior to and/or concurrent with development of the site.

Further, the applicant proposed non-urban standards for roadway improvements consisting of a grassed shoulder area.

Goal: Water Distribution

Objectives and Policies

- (d) *Encourage the use of non-potable water for irrigation purposes and water features. Prohibit the use of potable water in large water features or require substantial mitigation fees.*
- (e) *Encourage the use of plants which have a relatively low need for water.*

Analysis: The Applicant proposes to connect to the County Water System for domestic, fire flow, and irrigation purposes. To reduce the demand for water, xeriscaping and drought tolerant plants will be incorporated into the landscape concept plans.

Goal: Drainage

Objectives and Policies

- (a) Design drainage systems that protect coastal water quality by incorporating best management practices to remove pollutants from runoff. Construct and maintain, as needed, sediment retention basins and other best management practices to remove sediments and other pollutants from runoff.

Analysis. As discussed in the Preliminary Engineering and Drainage Report (See Appendix D), the increase in impervious surfaces created by ultimate development of the entire property will result in increased runoff estimated at 5.1 cfs. Presently, there is no drainage system in the vicinity of the project site. The post development runoff from the project site will be intercepted by catch basins and/or a swale and conveyed to perforated pipe for lots 1 to 3 and to a detention basin for lots 4 to 7. No increase in runoff will be sheet flowing from the project site onto Makena-Keoneoio Road after the development of the subdivision. This is in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui (See: Appendix D, "Preliminary Engineering and Drainage Report").

In addition, the following measures will be taken to control erosion during the construction period.

- Installation of temporary silt screens fronting the makai side of the project side and within drainage swales along the project limits.
- Installation of temporary silt screens within or around the on-site detention basins.
- Rapid covering and stabilization of topsoil stockpiles.
- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase;
- Proper disposal of sediment and debris from construction activities; and



- Cement products, oil, fuel, and other toxic substances will be prevented from falling or leaching into the water.

In consideration of the above-referenced mitigation measures, the proposed project is consistent with the community's goal to insure that new development will not adversely affect the marine environment and/or nearshore and offshore water quality.

D. MAUI COUNTY ZONING

Although the subject property had previously been shown as A-2 Apartment District on the County's Land Zoning Map No. 5, it was determined that the property must comply with the standards in the Interim District since the A-2 Apartment District designation was improperly applied when the property was within the State Agricultural District. The Interim District allows for single-family residential dwelling units, which may be built on lots with a minimum lot size of 6,000 square feet. However, pursuant to § 18.32.010.E, MCC, Interim zoned lands cannot be subdivided.

The applicant is requesting a Change in Zoning from County Interim to R-3 Residential, in order to allow for the subject property to be subdivided and developed with seven (7) single-family residences. A request for a "Change in Zoning" must meet the following criteria as found in MCC § 19.510.040.4:

1. The proposed request meets the intent of the general plan and the objectives and policies of the community plans of the county;

Analysis. As described in Section IV.B and C, the proposed action meets the intent of the general plan and the objectives and policies of the Kihei-Makena Community Plan.

2. The proposed request is consistent with the applicable community plan land use map of the county;

Analysis. The Kihei-Makena Community Plan, adopted on March 6, 1998, through ordinance No. 2641, identifies the subject parcel as Multi-Family. Single-family uses are allowed in the Multi-Family District. The proposed use is consistent with the Community Plan Land Use Map. In order to establish conformity between the Zoning and the Community Plan, the applicant is requesting a change in the Community Plan from Multi-Family to Single-Family.



3. The proposed request meets the intent and purpose of the district being requested;

Analysis. Pursuant to MCC Section 19.08.010, the Residential District was "established to provide for a harmonious residential neighborhood without the detraction of commercial and industrial activities."

The proposed Change in Zoning accomplishes these objectives and will allow for a land use that is in harmony with the rural and residential character of the area.

4. The application, if granted, would not adversely affect or interfere with public or private schools, parks, playgrounds, water systems, sewage and solid waste disposal, drainage, roadway and transportation systems, or other public requirements, conveniences and improvements;

Analysis. As described in Section III.C and D, the proposed Change in Zoning will not significantly impact schools, parks, playground, water, sewage, solid waste, drainage, traffic, or other public infrastructure and services.

5. The application, if granted would not adversely impact the social, cultural, economic, environmental, and ecological character and quality of the surrounding area; and

Analysis. As discussed in Section III, the proposed action will not adversely impact the social, cultural, economic, environmental, and ecological character and quality of the surrounding area.

6. If the application change in zoning involves the establishment of an agricultural district with a minimum lot size of two acres, an agricultural feasibility study shall be required and reviewed by the Department of Agriculture and the U.S. Soil Conservation Service.

Analysis. Not Applicable



E. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES

The subject project is located within the Special Management Area (SMA). As such, the proposed subdivision will require an SMA Use Permit. Pursuant to Chapter 205A, Hawaii Revised Statutes, and the Rules and Regulations of the Planning Commission of the County of Maui, projects located within the SMA are evaluated with respect to SMA objectives, policies, and guidelines. This section addresses the project's relationship to applicable coastal zone management considerations, as set forth in Chapter 205A and the Rules and Regulations of the Planning Commission.

1. Recreational Resources

Objective: Provide coastal recreational resources accessible to the public.

Policies:

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



- (vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing;
- (viii) Encourage reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

Analysis. Makena-Keoneoio Road, as well as, existing single-family residences and Makena Landing, separate the subject property from the ocean. Therefore, the proposed project will have no direct impact on the public's use or access to the shoreline area. In order to protect the recreational value of nearshore resources, Best Management Practices will be employed during construction activities to minimize the potential of erosion and silt movement. Moreover, with the incorporation of the proposed drainage improvements, which includes considerably more drainage capacity than what is required for the development, the post development peak flow volumes will be kept at predevelopment levels and sediments and/or pollutants will be prevented from migrating into the coastal waters. As such, there will be minimal impact to nearshore water quality due to runoff or other potential sources of non-point sources of pollution.

2. Historical/Cultural Resources

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

Policies:

- (a) Identify and analyze significant archeological resources;
- (b) Maximize information retention through preservation of remains and artifacts or salvage operations; and
- (c) Support state goals for protection, restoration, interpretation, and display of historic structures.

Analysis. Guerin Tome, B.A., and Michael Dega, Ph.D., Scientific Consulting Services, conducted an Archaeological Inventory Survey of the subject property in September 2004 (See: Appendix C, "Archaeological Inventory Survey").



Four archaeological sites were identified on the Makena property and were documented during the Archaeological Inventory Survey. All four sites have been subject to data collection, documentation, and limited excavation (minus the Site -5545 wall). As noted, these sites are no longer significant. The most significant site, Site -5543, was subject to additional testing beyond the scope of the Inventory Survey to assess the presence/absence of a human burial. It is recommended that no further work be required for this project area.

In addition, Leann McGerty, B.A., and Robert L. Spear, Ph.D., Scientific Consulting Services, Inc., conducted a Cultural Impact Assessment of the proposed development in October 2004 (See: Appendix F, "Cultural Impact Assessment").

SCS concluded that based on community response, information provided by a consultant, and archival research it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by renovations on Parcel 9. Because there were no activities identified, there are thus no adverse effects.

3. Scenic and Open Space Resources

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

Policies:

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

Analysis. As discussed in Section III of this report, the project site is visible from Makena-Keoneoio Road and Old Ulupalakua Road. The mauka portion of the property contains two single-family residential dwellings and offers sweeping ocean views. The makai portion of the property is undeveloped and contains views of Makena Landing and the Pacific Ocean beyond. Mauka views from Makena-Keoneoio Road do not exist

fronting the project due to the steepness of the topography, which obstructs all mauka views. There are no significant views available from Old Ulupalakula Road.

Numerous scenic resources have been identified in the Kihei-Makena area, which are identified and discussed in the Maui Scenic Coastal Resources Study, August 1990 (See Figure 7). The resource/inventory map in this report, does not identify any significant public view occurring across the subject property that will be affected by the development.

As discussed in Section III.A.9, private view corridors will also be protected through the establishment of CC&R's. The applicant has agreed to restrict the height of future residences to a maximum of 75-feet amsl for lot nos. 5, 6, and 7 via CC&R's. This will protect view planes to the ocean from mauka properties owned by Makena Aina Corporation. In return, Makena Aina Corporation will restrict the height of any future structures located on TMK No. 2-1-07:094 to a maximum elevation of 25-feet amsl which will protect views for Papaanui lots. As such, the proposed project is not anticipated to significantly impact public or private view corridors.

4. Coastal Ecosystems

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

Policies:

- (a) Improve the technical basis for natural resource management;
- (b) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
- (c) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
- (d) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

Analysis. As described in Section III of this report, the project will not have a significant direct impact on the region's coastal ecosystem, and with the incorporation of appropriate mitigation measures during construction, there should be no significant adverse impacts to nearshore waters from point and non-point sources of pollution.



5. Economic Uses

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

Policies:

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

Analysis. The project will support short-term construction and construction-related jobs and provide for long-term residential housing units in the Makena area. The project does not affect coastal development necessary to the State's economy.

6. Coastal Hazards

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

Policies:

- (a) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;
- (b) Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and non-point pollution hazards;
- (c) Ensure that developments comply with requirements of the Federal Flood Insurance Program;
- (d) Prevent coastal flooding from inland projects; and
- (e) Develop a coastal point and nonpoint source pollution control program.



Analysis. As discussed in Section III of this report, the project site is situated in Flood Zone C. Flood Zone C represents areas of minimal flooding. As such, the proposed project should not be affected by or have adverse impacts upon its neighbors or downstream properties with regards to flood hazard potential.

7. Managing Development

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

Policies:

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

Analysis. Through the proposed land use amendments and SMA permit process agency review and public participation will occur. The applications are being reviewed concurrently and will require approval of the County Council (land use amendments) and the Maui Planning Commission (SMA permit).

8. Public Participation

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

Policies:

- (a) Maintain a public advisory body to identify coastal management problems and to provide policy advise and assistance to the coastal zone management program.
- (b) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and
- (c) Organize workshops, policy dialogues, and site-specific medications to respond to coastal issues and conflicts.



Analysis. Through the SMA permit process public participation in the form of testimony will be solicited. Further, informal meetings have been conducted by the applicant with the Makena community and neighboring property owners.

9. Beach Protection

Objective: Protect beaches for public use and recreation.

Policies:

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

Analysis. Makena-Keoneoio Road, along with single-family residences and Makena Landing, separates the subject property from the beach. Accordingly, the project will not involve construction of any structures within the shoreline area and the subject property will not have a direct physical impact upon any public beaches, due to its separation from the coastline.

10. Marine Resources

Objective: Implement the State's ocean resources management plan.

Policies:

- (a) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
- (b) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
- (c) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;
- (d) Assert and articulate the interest of the state as a partner with federal agencies in the sound management of the ocean resources within the United States exclusive economic zone;



- (e) Promote research, study, and understanding of ocean processes, marine life, and other ocean development activities relate to and impact upon the ocean and coastal resources; and
- (f) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Analysis. The proposed project does not involve the direct use or development of marine resources. In addition, with the incorporation of erosion and drainage control measures during construction and after construction as identified in this report, there should not be significant adverse impacts to nearshore waters from point and non-point sources of pollution. Therefore, the subject project will not produce any significant impacts on any coastal or marine resources.

F. ENVIRONMENTAL ASSESSMENT SIGNIFICANCE CRITERIA

In accordance with Title 11, Department of Health, Chapter 200 and Subchapter 6, Section 11-200-12, Environmental Impact Statement Rules, and based on the detailed analysis contained within this document, the following conclusions are supported:


1. The proposed action will *not* result in an irrevocable commitment to loss or destruction of natural or cultural resources.

Analysis. As documented in this report, and with the incorporation of the proposed mitigation measures, the proposed project will not involve the loss or destruction of any natural or cultural resources (See Section III.A).

2. The proposed action will *not* curtail the range of beneficial uses of the environment.

Analysis. Although the subject property is currently situated within the State Agricultural District, the property maintains an overall productivity rating of "E" by the Land Study Bureau (LSB). The subject property was once used for low intensity cattle ranching and pig farming but hasn't been used for that purpose for many years.

The County's current land use policies support urbanization of the parcel as is indicated by the Kihei-Makena Community Plan's identification of the parcel for Multi-Family development. In consideration of the above, the proposed action will not curtail the range of beneficial uses of the environment.

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3. The proposed action will *not* conflict with State or County long-term environmental policies and goals as expressed in Chapter 344, HRS, and those which are more specifically outlined in the Conservation District Rules.

Analysis. The project is being developed in compliance with the State's long-term environmental goals. As documented in this report, the proposed project will not cause negative impact to the environment, including near and off-shore coastal waters, potable water resources, flora and fauna, archeological and cultural resources, and scenic resources.

4. The proposed action will *not* substantially affect the economic or social welfare and activities of the community, county or state.

Analysis. Short-term economic impacts will result from the increase in activity associated with the construction of the project. A small number of jobs will be created during the construction phase of the development.

5. The proposed action will *not* substantially affect public health.

Analysis. There are no special or unique aspects of the project that will have a direct impact on public health. It is anticipated that occupants of the project will utilize existing medical facilities located in Kihei, Kahului, and Wailuku and that these facilities will not be significantly impacted by the project.

6. The proposed action will *not* result in substantial secondary impacts.

Analysis. There will be a slight affect on local population levels upon buildout of the project with the addition of 7 single-family residences. Secondary impacts characteristic of population growth include an increase in demand for commercial land uses, recreational resources, public infrastructure and services, as well as, impacts to air and water quality. However, the projected increase in population is not significant in relation to existing population levels and projected population growth for Kihei-Makena and will therefore not result in substantial secondary impacts that are not already anticipated in relationship to the planned growth of the region.

7. The proposed action will *not* involve substantial degradation of environmental quality.



Analysis. Mitigation measures will be implemented during the construction phase in order to minimize negative impacts on the environment, especially with regards to construction runoff. Also, the design of the project has incorporated mitigation measures to minimize impacts to nearshore waters that could arise from an increase in runoff generated on the site as a result of the project (See Section III.D.3 for a discussion of drainage). Other environmental resources such as endangered species of flora and fauna, air and water quality, and archeological resources will not be significantly impacted by the subject project.

8. The proposed project will not produce cumulative impacts and does *not* have considerable effect upon the environment or involve a commitment for larger actions.

Analysis. The proposed project does not involve a commitment for larger action on behalf of the applicant or any public agency. The subject property is community planned for urban development, and as such, the proposed development is consistent with the planned future growth of the region. As described in this report, the project will not significantly impact public infrastructure and services including roadways, drainage facilities, water systems, sewers, educational facilities, and parks. In addition, the project is not anticipated to significantly induce population growth beyond what is generated by the project and will therefore not produce considerable effect on the environment nor require a commitment for larger actions by governmental agencies.

9. The proposed project will *not* affect a rare, threatened, or endangered species, or its habitat.

Analysis. As described in Section III.A.4 of this report, there are no rare, threatened, or endangered species of flora and fauna at the project site.

10. The proposed action will *not* substantially or adversely affect air and water quality or ambient noise levels.

Analysis. As described in Section III.A of this report, there is a potential for negative impacts to air quality and ambient noise levels related to short-term construction activities. Air, noise and dust impacts will be mitigated through implementation of standard mitigation measures as identified previously in this report. It is not anticipated that there will be significant long-term impacts to air quality and ambient noise levels due to the operation phase of the development.



11. The proposed action will *not* substantially affect or be subject to damage by being located in an environmentally sensitive area, such as flood plain, shoreline, tsunami zone, erosion-prone areas, estuary, fresh waters, geologically hazardous land or coastal waters.

Analysis. As discussed in Section III.A.3 of this report, the project site is situated within Zone C. Zone C is designated as an area that is subject to minimal flooding.

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

Analysis. As discussed in Section III.A.8 of this report, the proposed project is not anticipated to significantly impact public view corridors and will not produce significant adverse impact upon the visual character of the site and its immediate environs (See Section III.A.8). In addition, private view corridors will be protected through the establishment of CC& R's, which restrict building heights on certain lots.

13. The proposed action will not require substantial energy consumption

Analysis. Upon build-out of the project, energy consumption will be increased, however, given existing levels of usage in the area the increase is considered insignificant. In addition, it is not anticipated that the resultant increase in energy consumption by automobiles will be significant in the context of existing levels of vehicular energy usage within the region, and on Maui.



V. FINDINGS AND CONCLUSIONS

This Environmental Assessment examines the environmental and socio-economic impacts associated with the Applicant's proposal to develop seven (7) single-family residential lots on approximately 3.93-acres located along Makena-Keoneoio Road, Makena, Maui, Hawaii.

The proposed development is not anticipated to result in significant environmental impacts to surrounding properties, nearshore waters, natural resources, and/or archaeological and historic resources on the site or in the immediate area. Public infrastructure and services including roadways, sewer and water systems, parks, and schools are not anticipated to be significantly impacted by the project. The proposed project is not anticipated to impact public view corridors and is not anticipated to produce significant adverse impact upon the visual character of the site and its immediate environs. With the incorporation of the proposed drainage plan, the project will have substantially more drainage capacity than what is required.


The subject property is situated within the State's Agricultural District and is County zoned Interim and community planned for Multi-Family development. The Applicant's proposal to change the Land Use District Boundary from Agricultural to Urban, the Community Plan Designation from Multi-Family to Single-Family, and the County zoning from Interim to R3-Residential in order to develop a low density residential subdivision supports the existing mixture of rural, residential, and resort land uses that characterizes the immediate area. As such, the proposed action is consistent with the objectives and policies contained within the Kihei-Makena Community Plan, as well as, Chapter 205A, HRS, and the Rules and Regulations of the Planning Commission of the County of Maui.

In light of the foregoing, the proposed project will not result in significant impacts to the environment and a Finding of No Significant Impact (FONSI) is warranted.



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U.S. Department of Agriculture, Soil Conservation Service in Cooperation with the University of Hawaii, Agricultural Experiment Station. 1972. *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. Washington, D.C.

FIGURES

Project Location

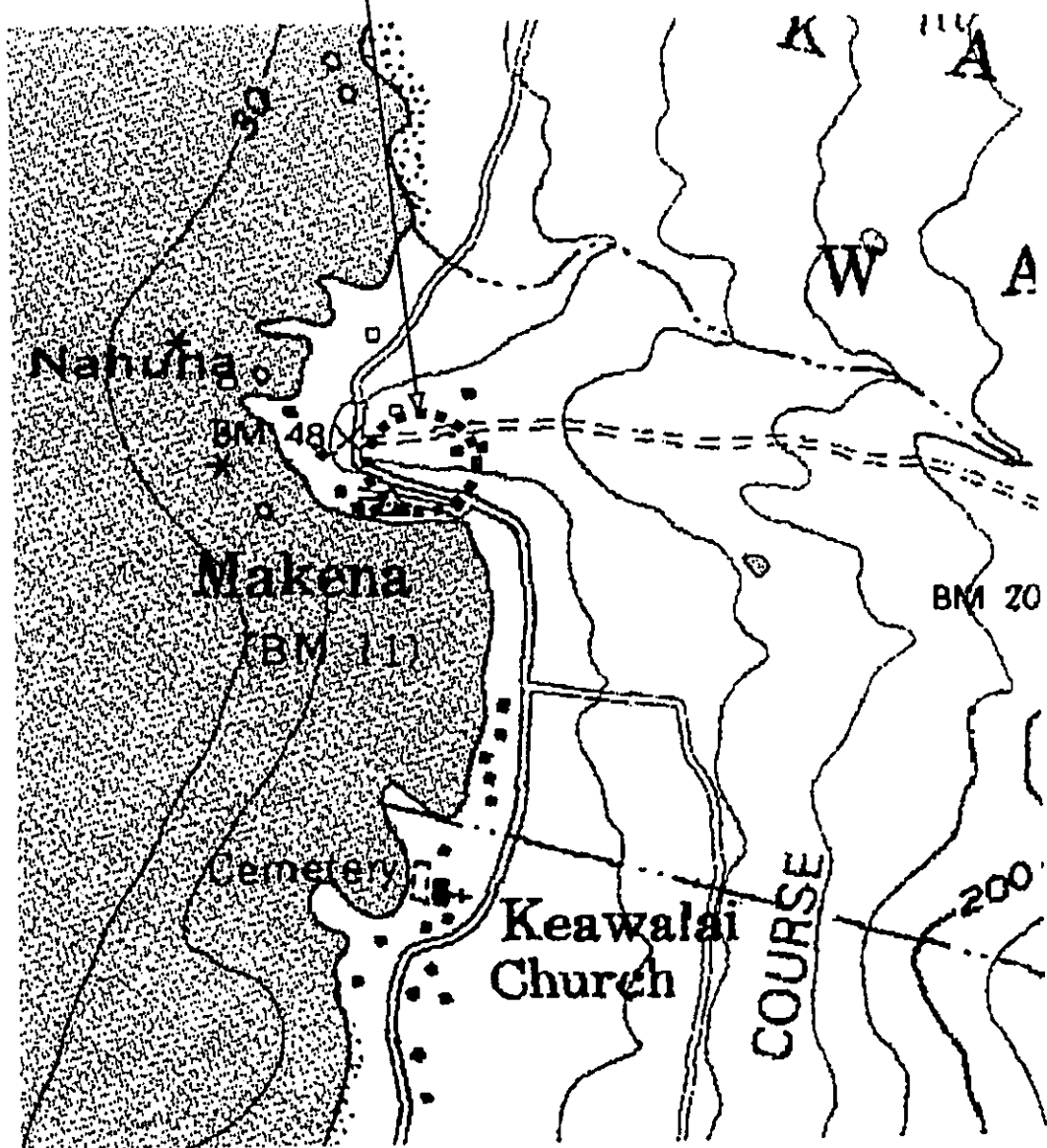


Figure 1

Regional Location



Papaanui

07/2004

NOT TO SCALE

**CHRIS
HART**
& PARTNERS

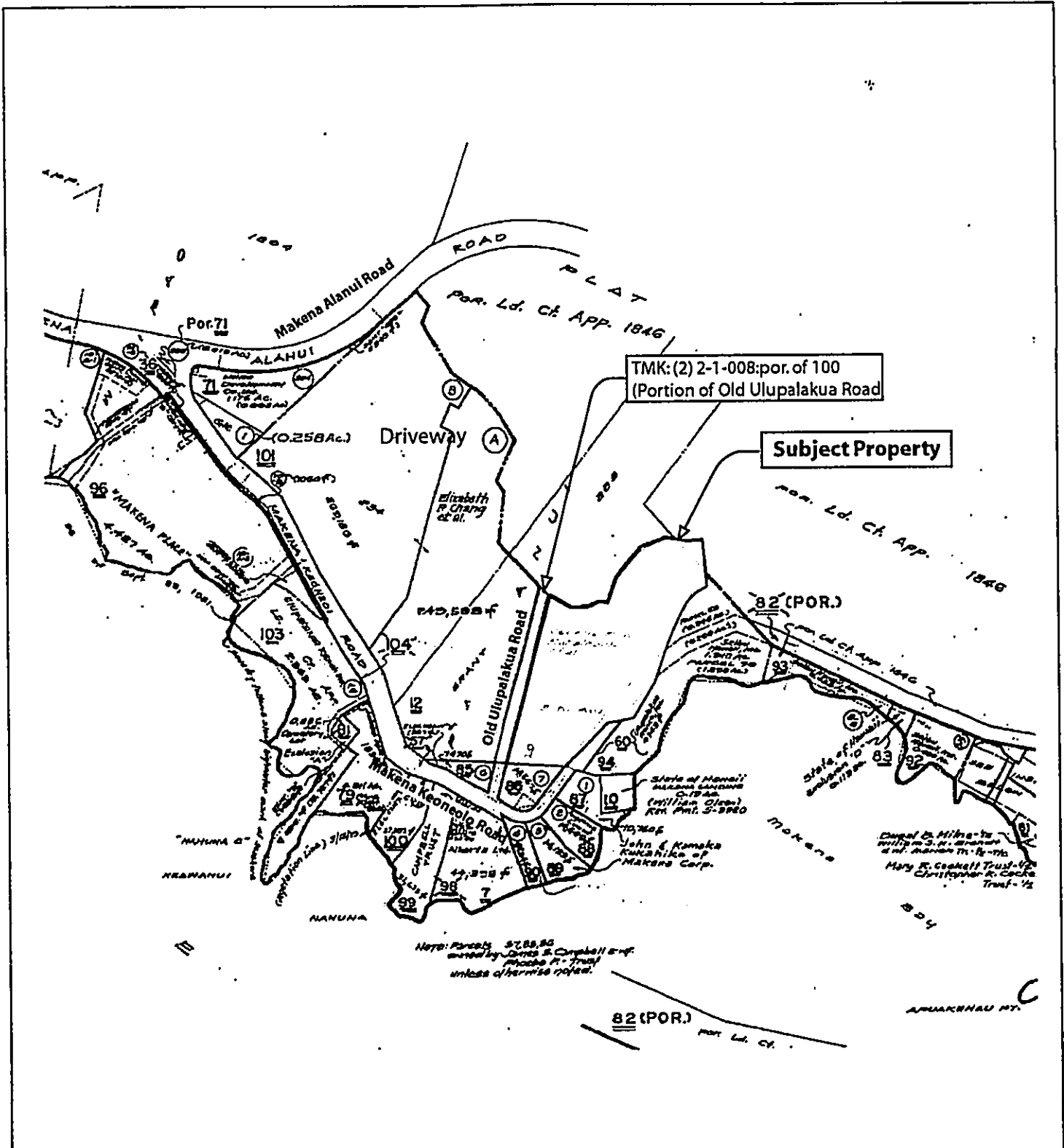


Figure 2

TMK Map
 TMK Nos. (2) 2-1-007:009,060
 TMK No. (2) 2-1-008:por 100
 (Por. of Old Ulupalakula Road)

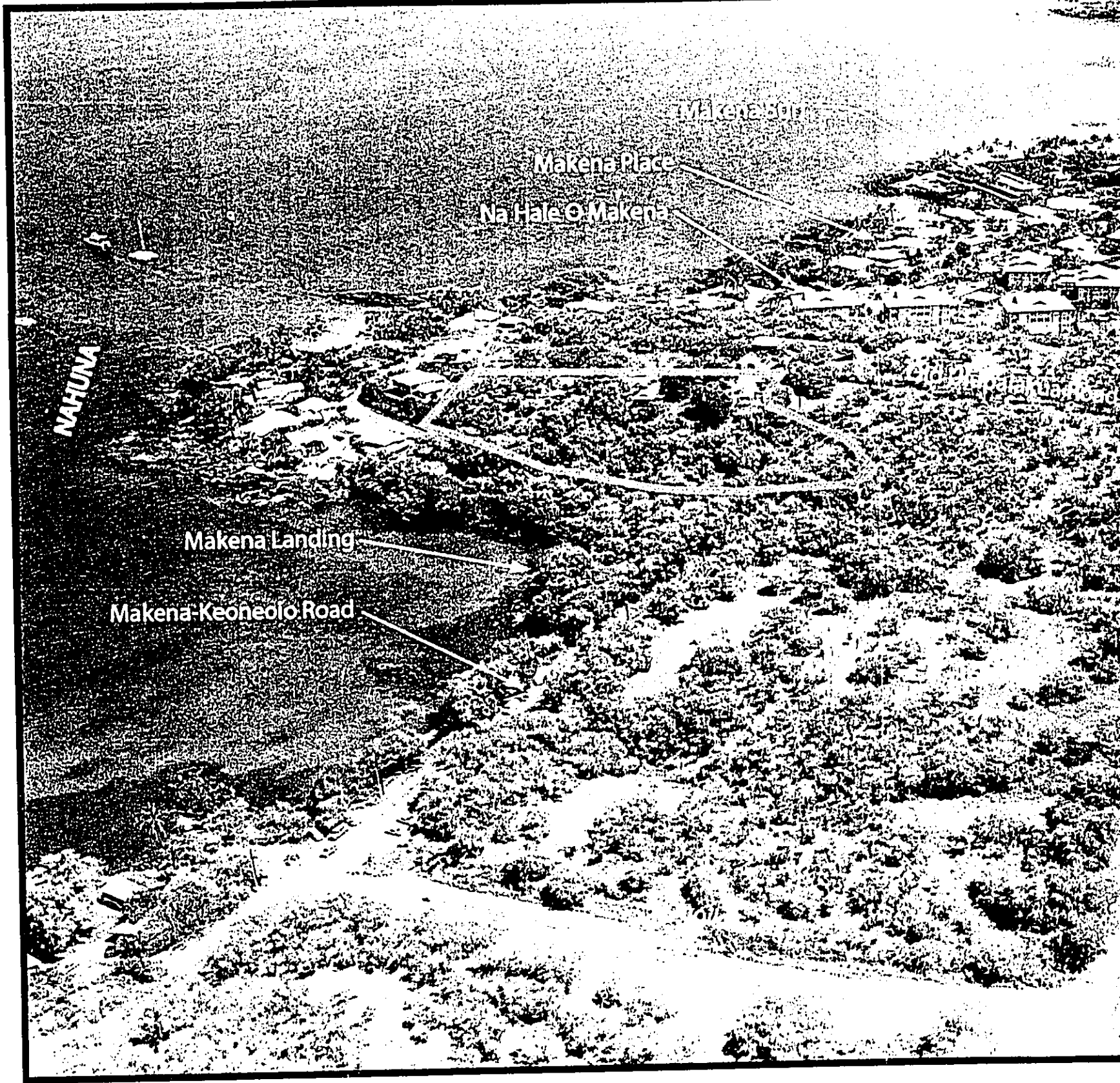


Papaanui

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 HART
 & PARTNERS**

07/2004

NOT TO SCALE



Looking in a northerly direction at the subject property.

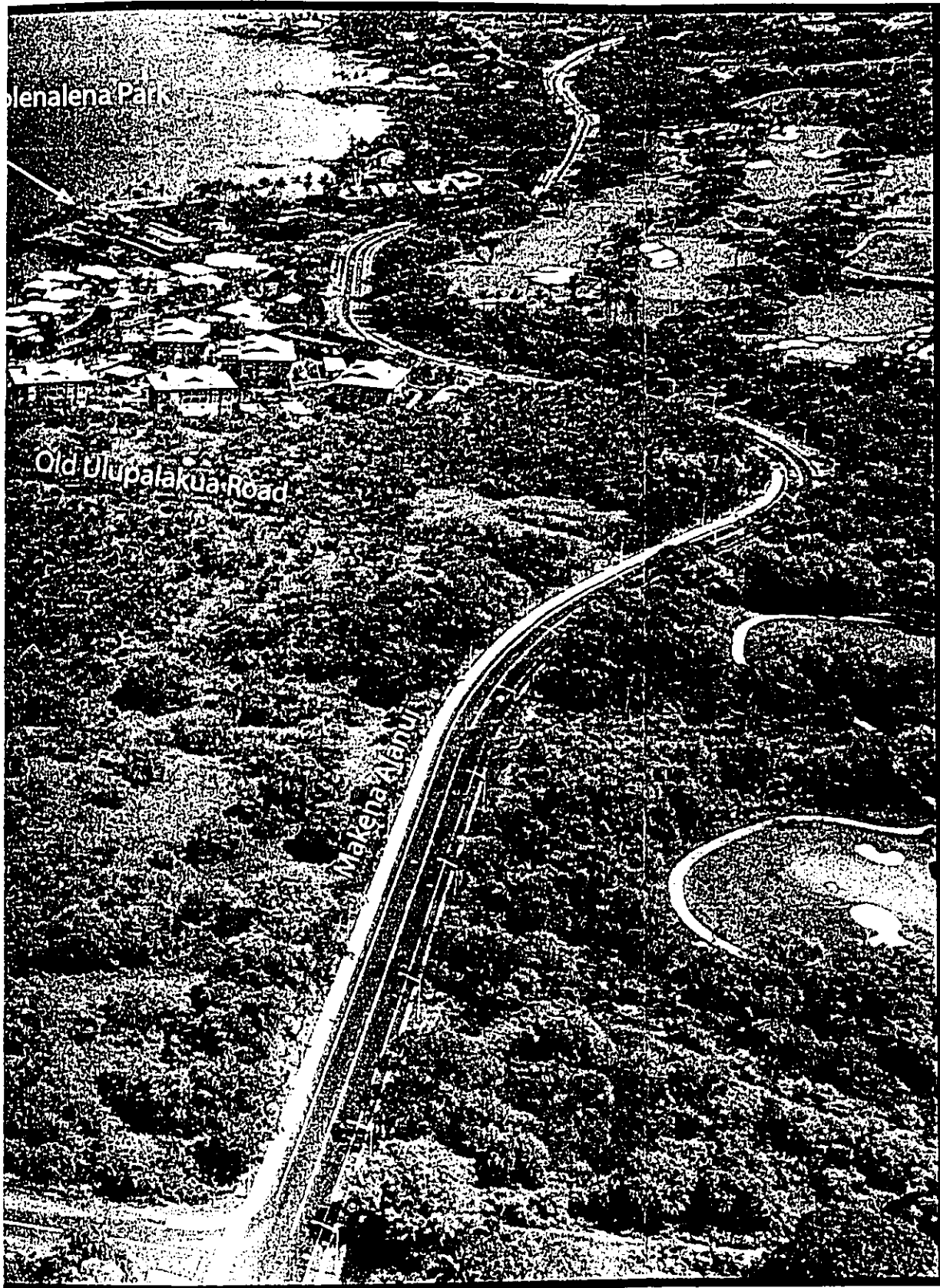


Figure 3

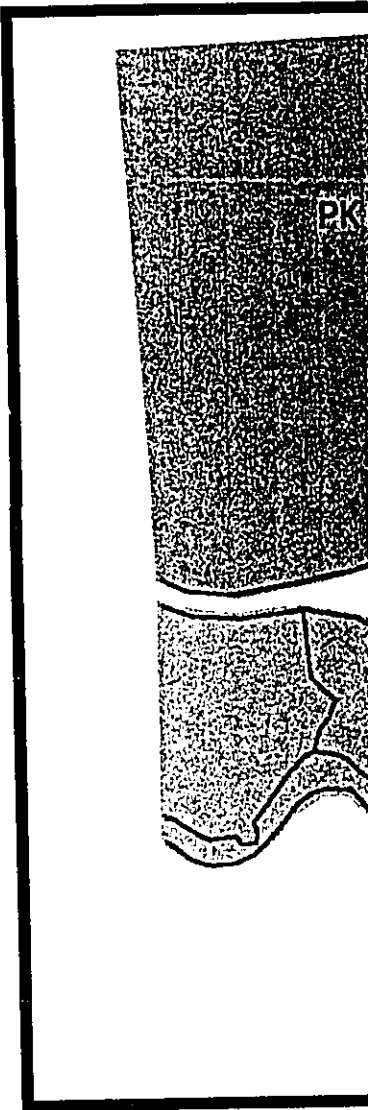
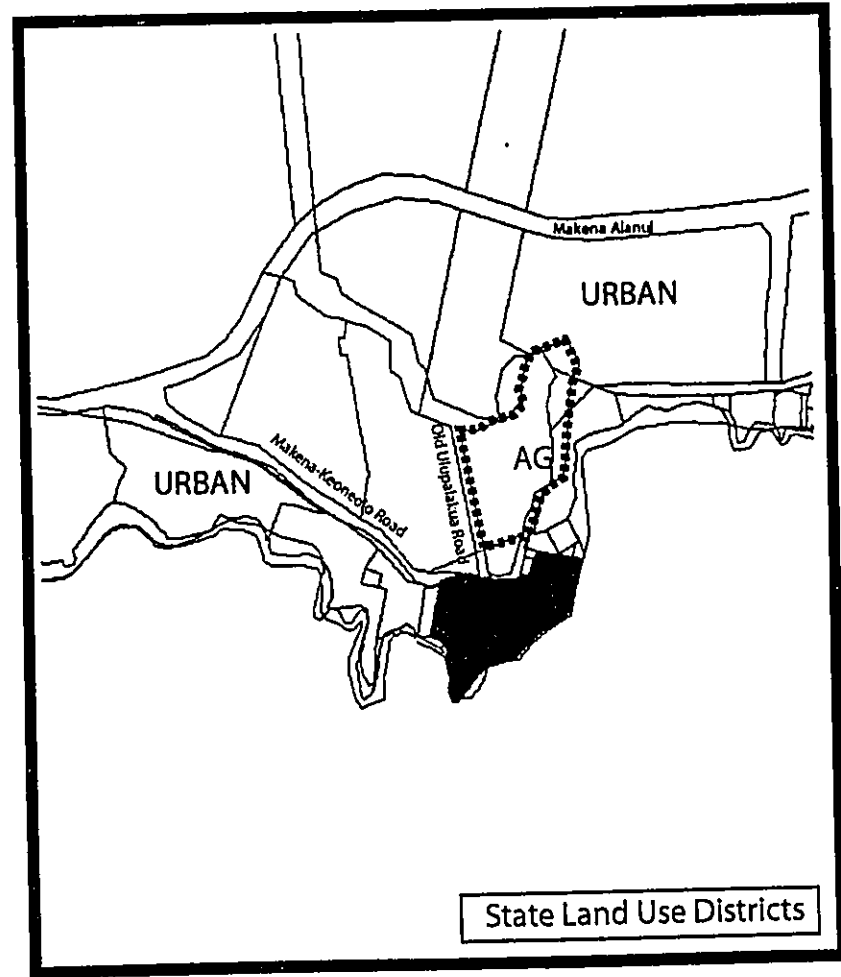
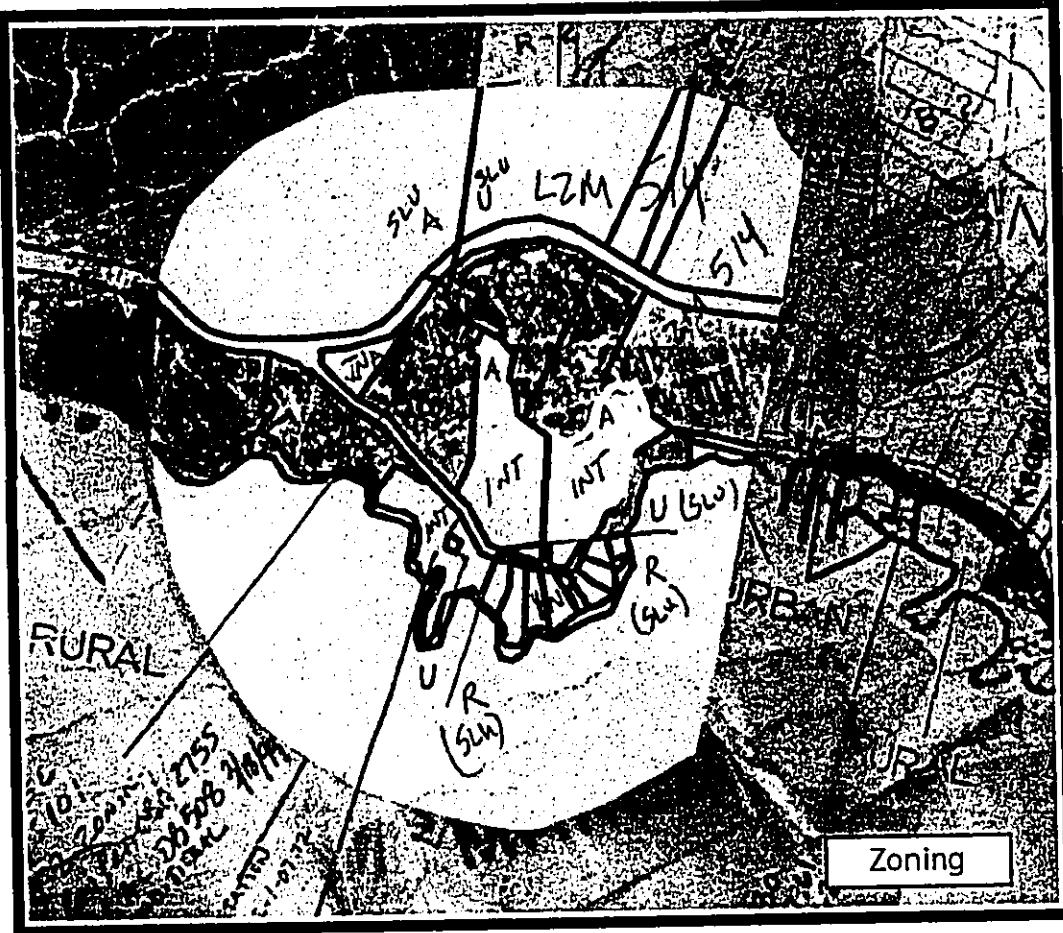
AERIAL PHOTOGRAPH

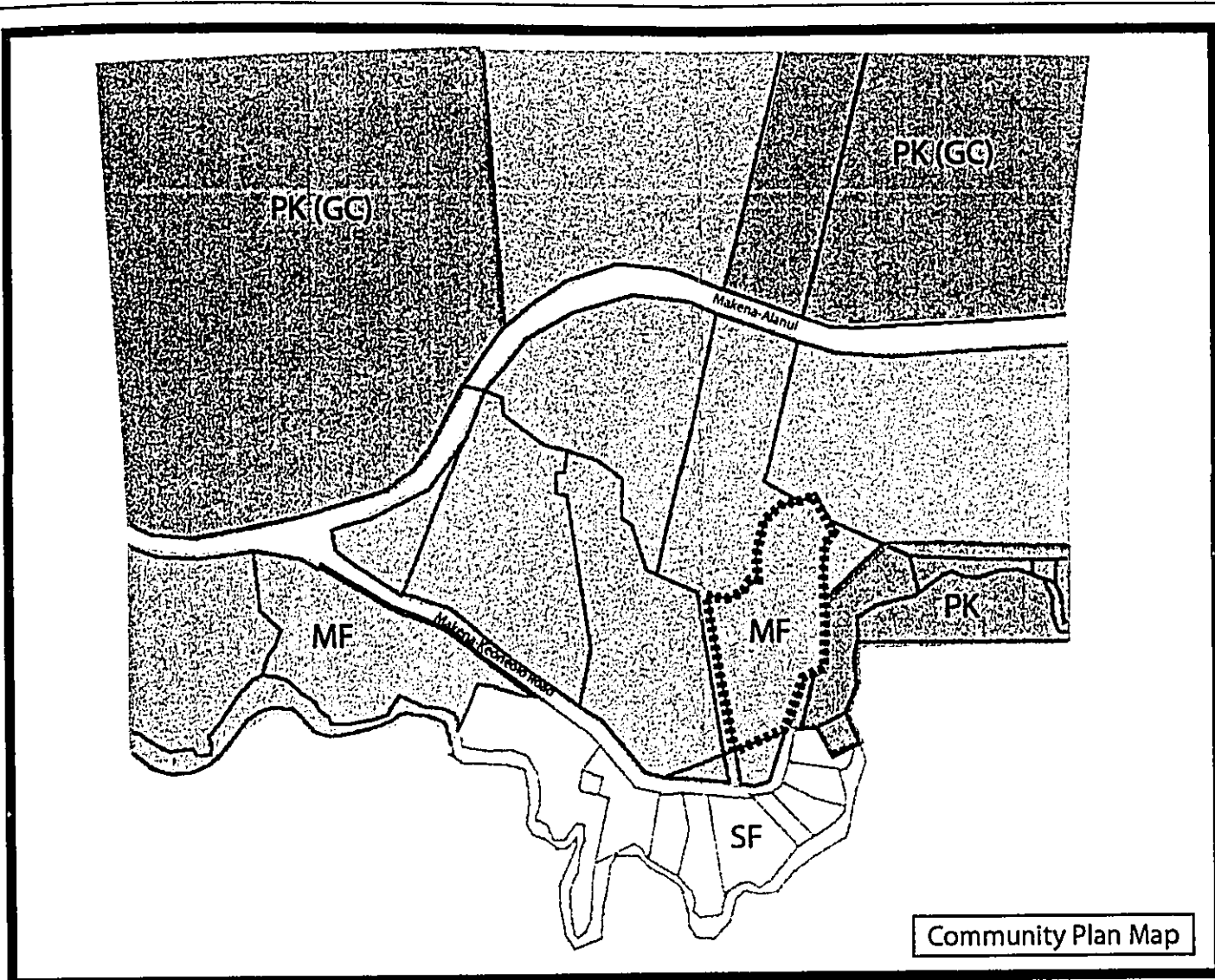
Papaanui




07/2004

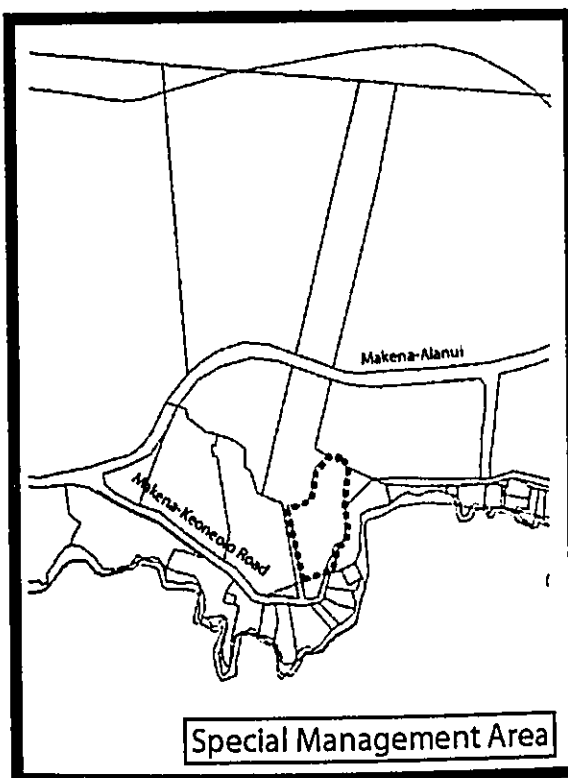


**CHRIS
HART
& PARTNERS**





-  Park
-  Multi-Family
-  Single-Family




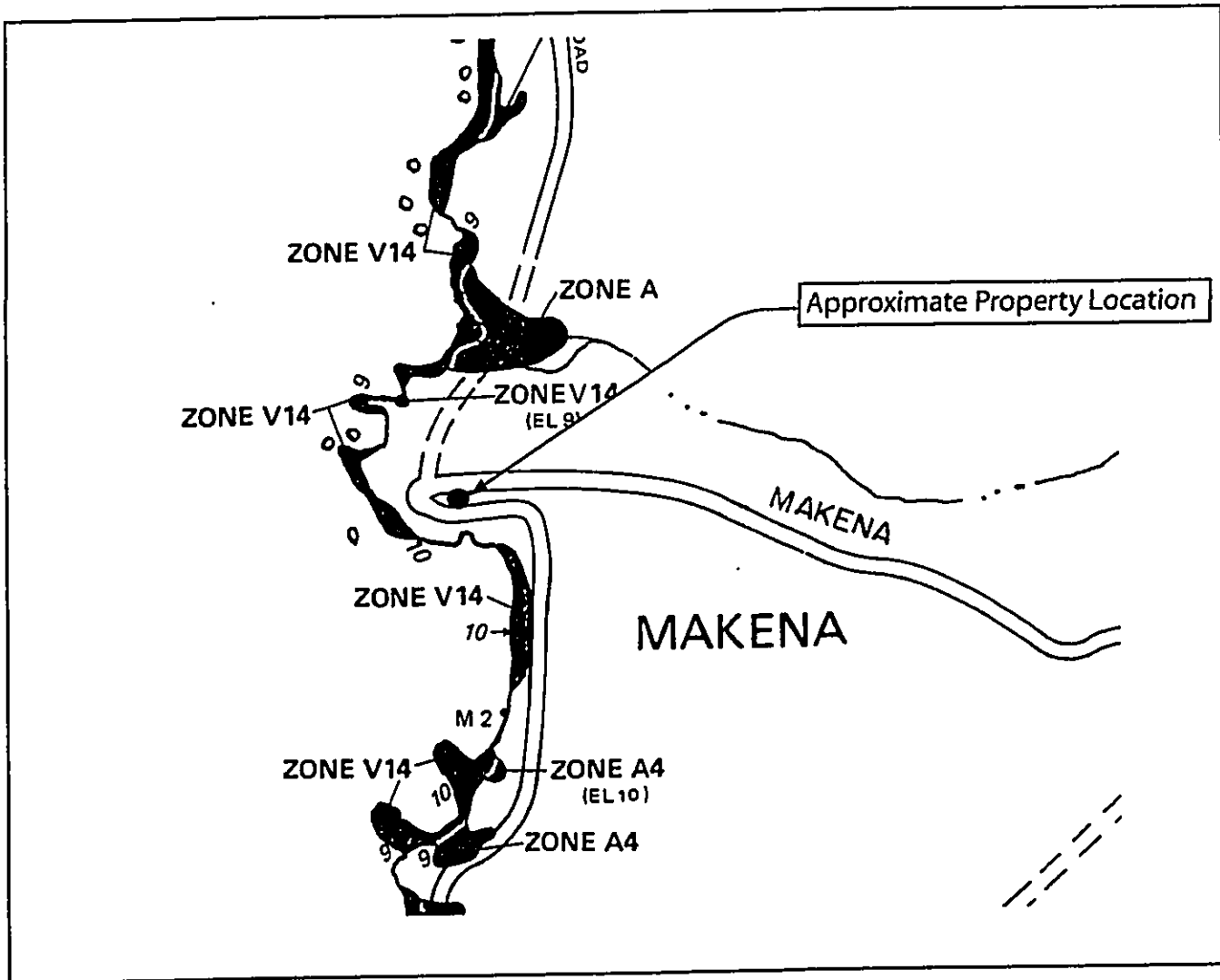
 SMA Boundary

Figure 4
Land Use Designations

Papaanui

07/2004





Flood Insurance Rate Map
 Community-Panel Number
 150003 0330 B
 Effective Date: June 1, 1981

Figure 5

Flood Insurance Rate Map

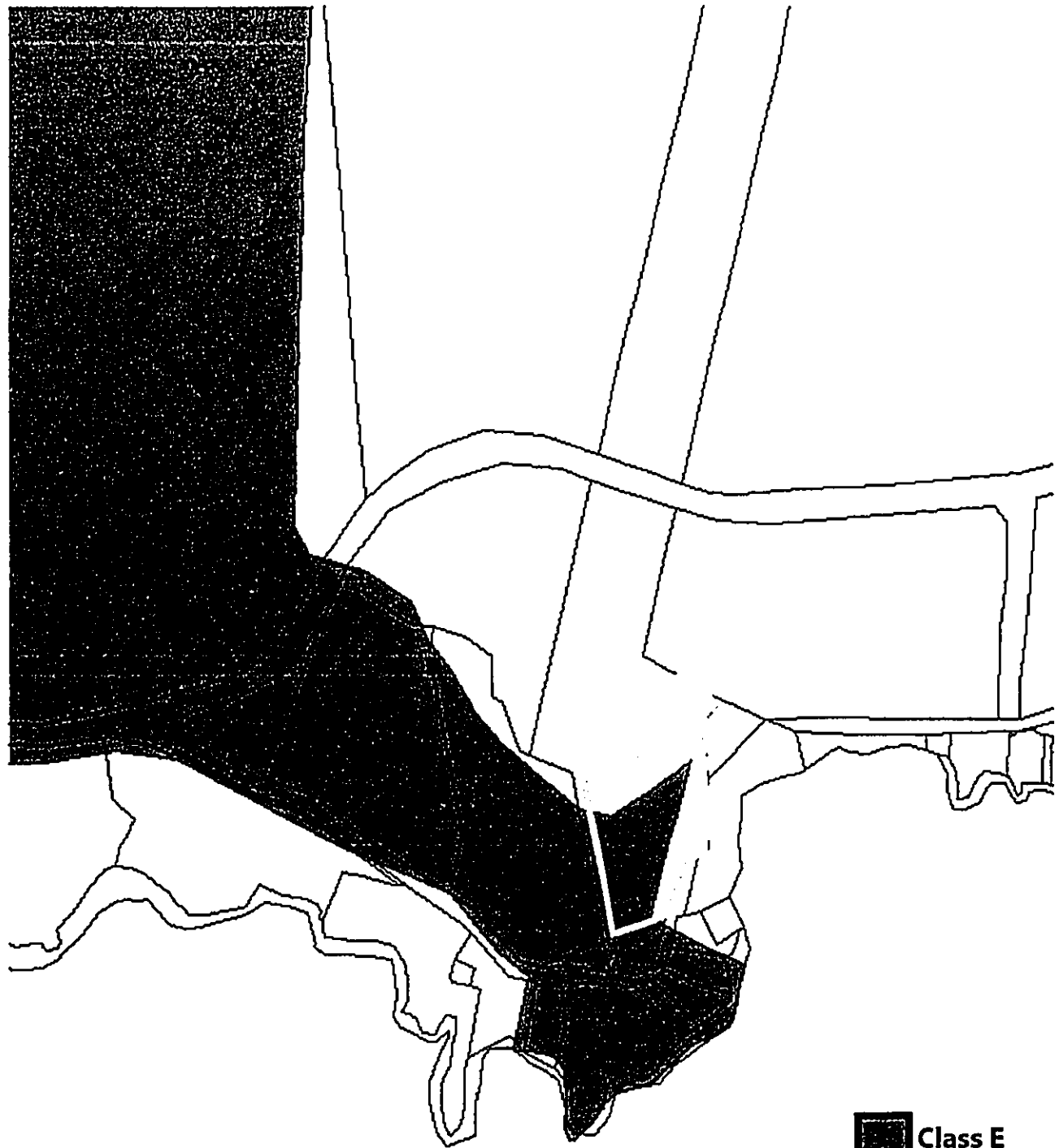


Papaanui

07/2004

NOT TO SCALE

**CHRIS
 HART
 & PARTNERS**





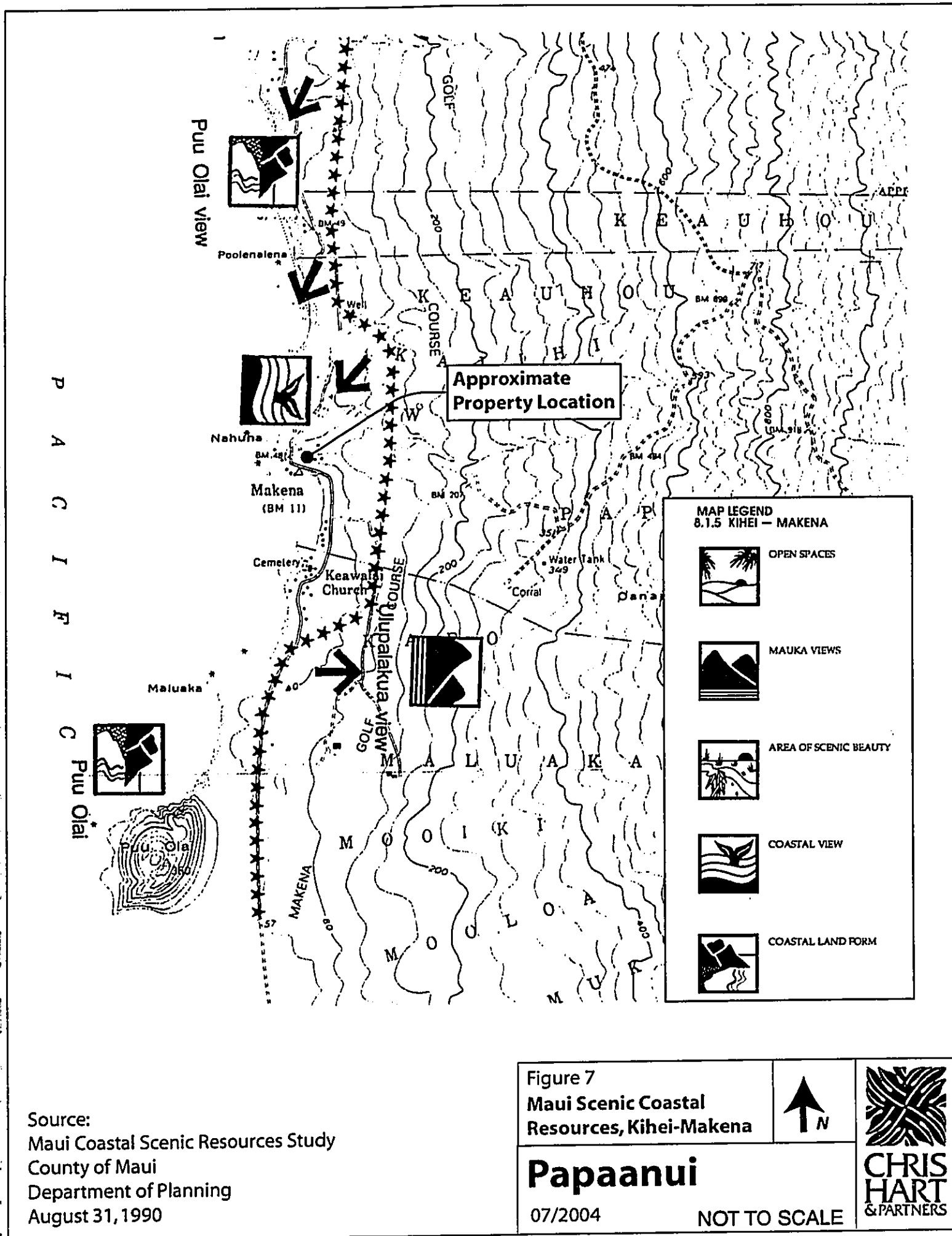
-  Class E
-  Not Rated

Figure 6
Land Study Bureau



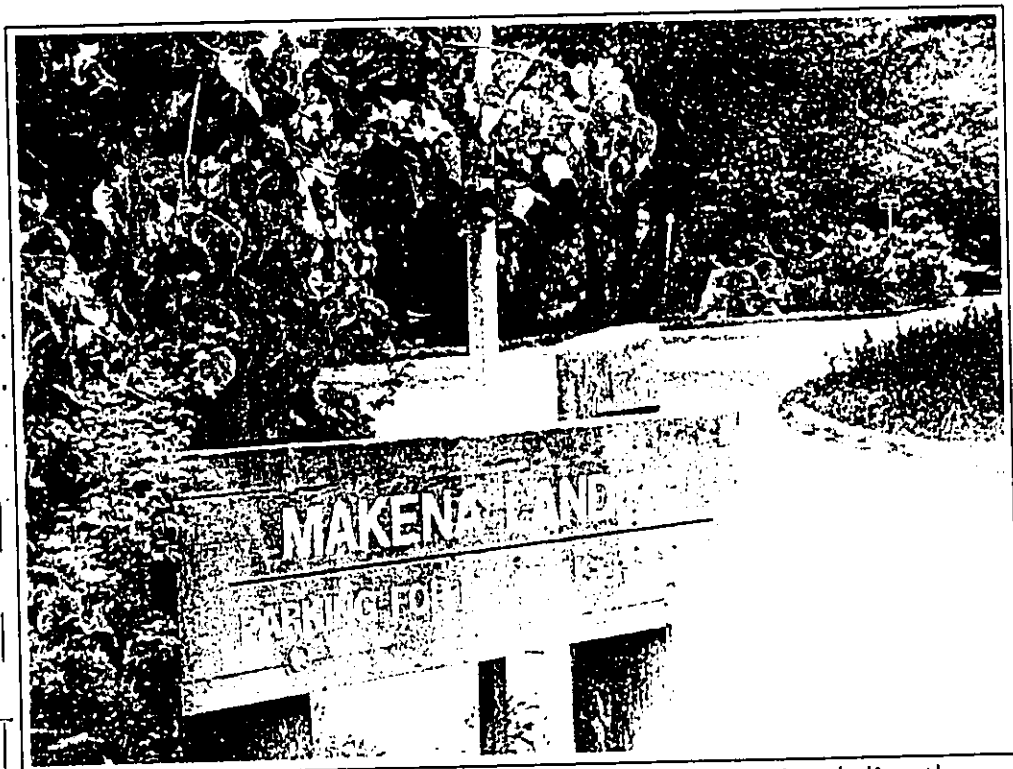
Papaanui
07/2004 NOT TO SCALE

**CHRIS
HART
& PARTNERS**





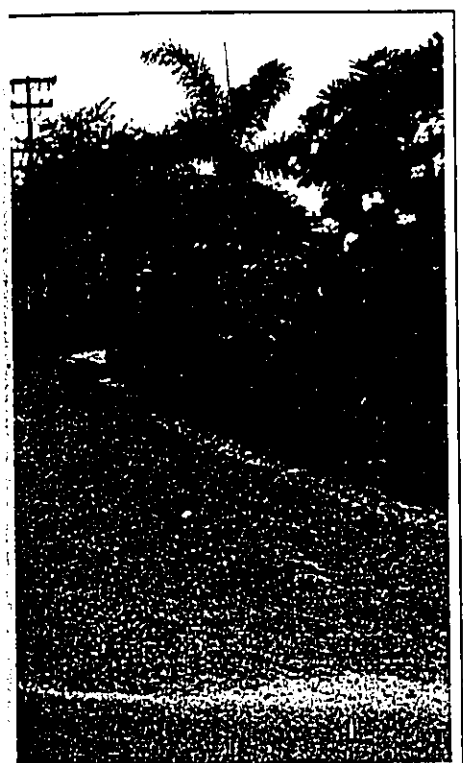
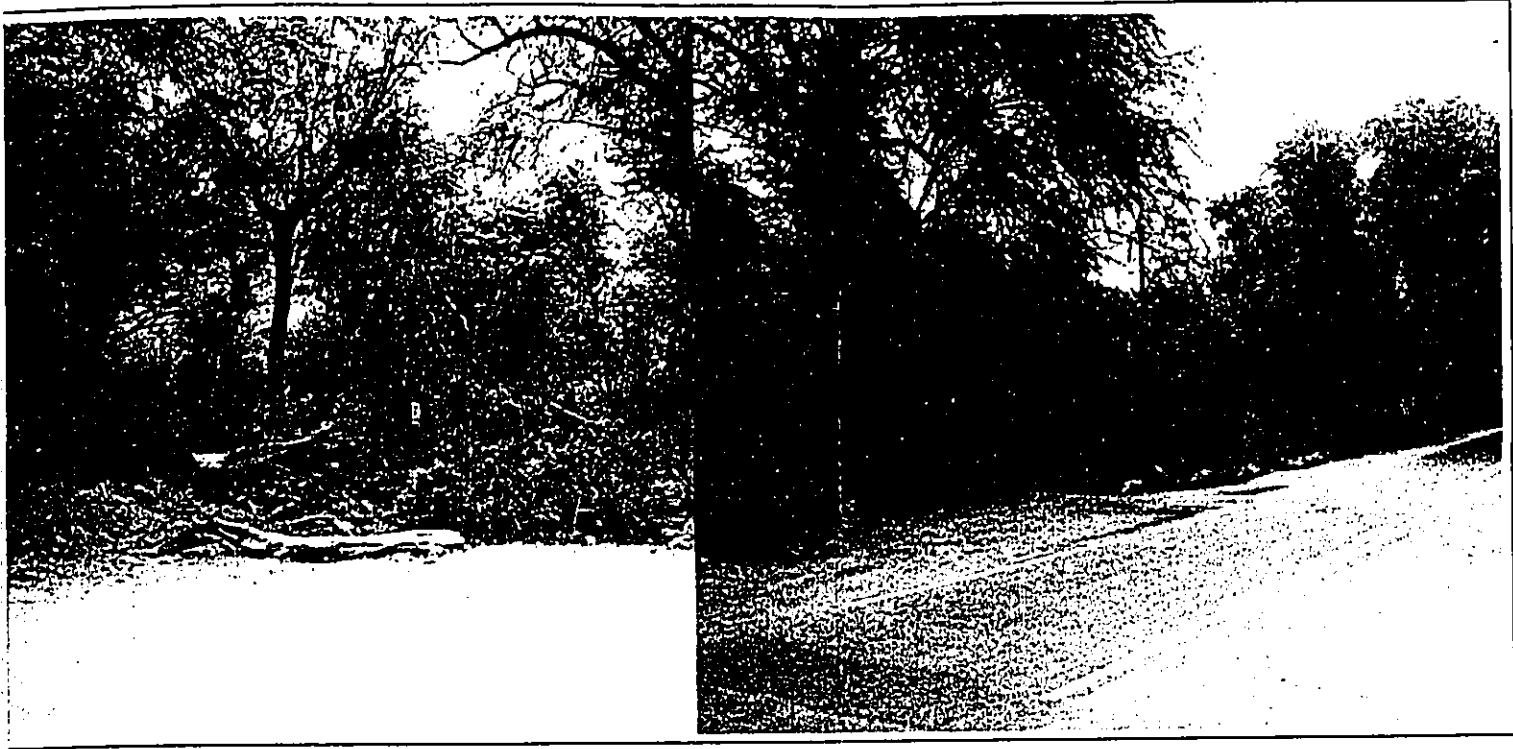
1. The frontage of the property along Makena-Keoneoio Road.



2. Makena Landing is situated along Makena-Keoneoio Road, directly across from the subject property.



3. Looking mauka along Old Ulupalakua Road.



Road.

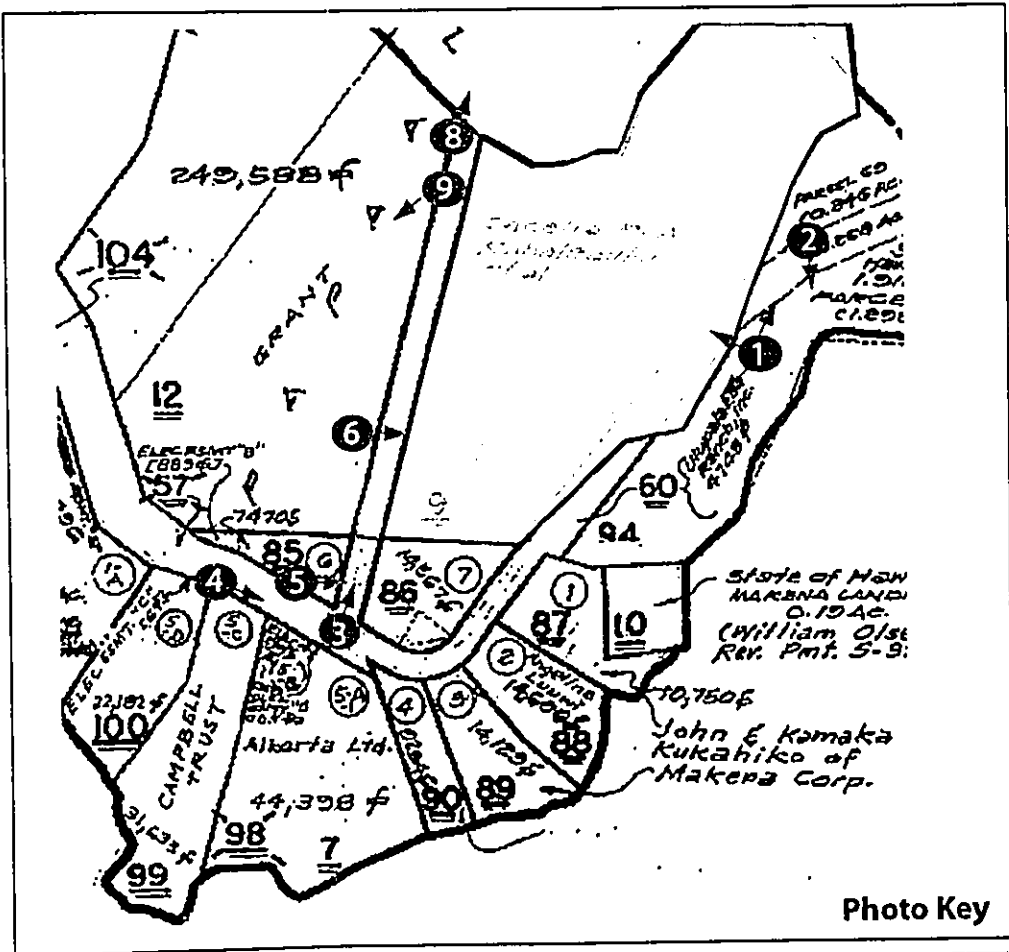
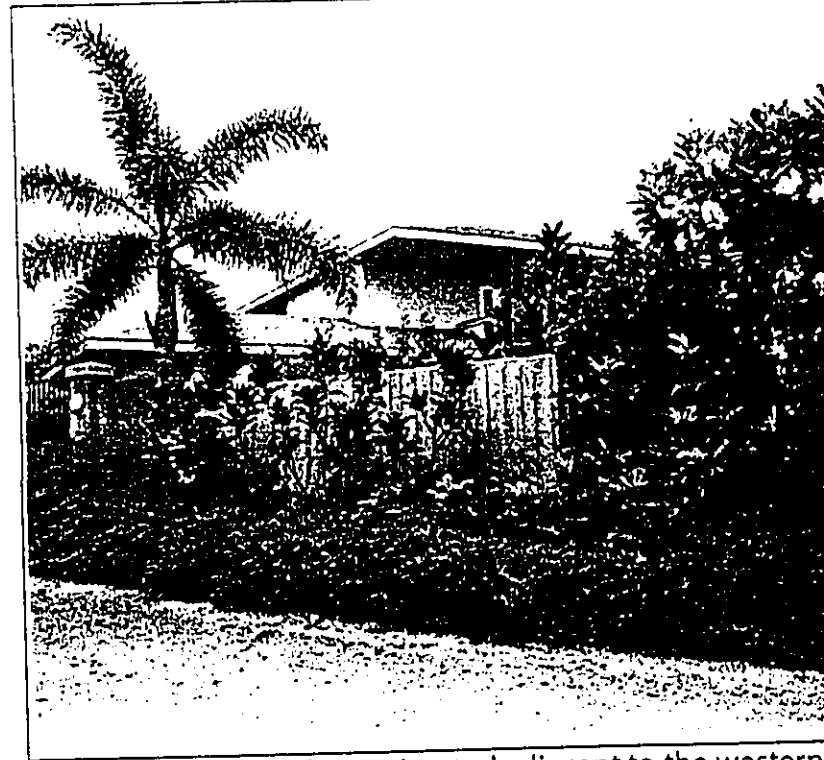


Figure 8A
SITE PHOTOGRAPHS
Papaanui
 07/2004

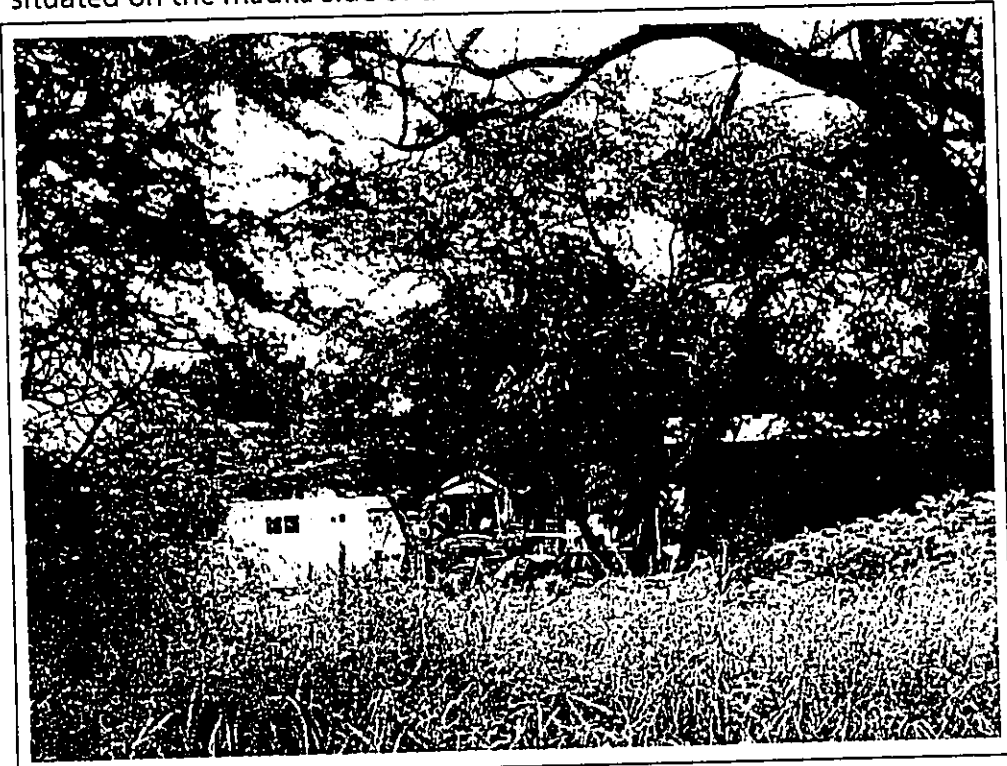




4. Looking south along Makena-Keoneoio Road. Old Ulupalakua Road is situated on the mauka side of the road.



5. Single-family residence situated adjacent to the western boundary of the subject property.



7. Existing residence situated on the subject property.



8. Undeveloped land situated mauka of the subject property.



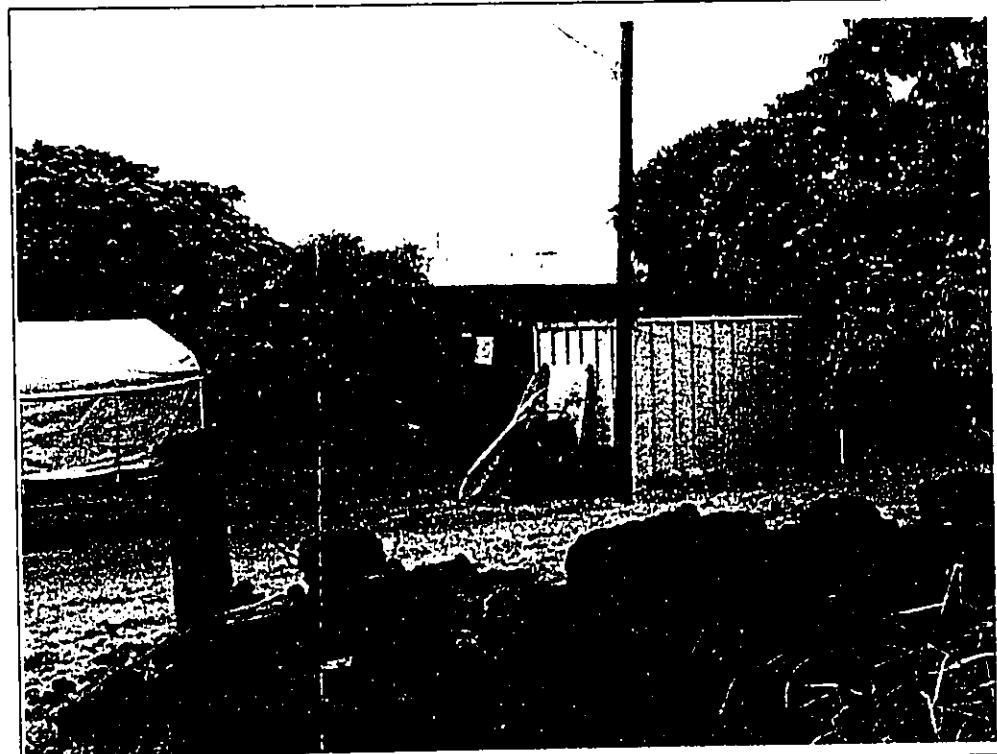
adjacent to the western (makai)



6. Looking across the property's frontage from Old Ulupalakua Road.



a of the subject property.



9. Single-family residence situated to the north of the subject property.

Figure 8B

SITE PHOTOGRAPHS

Papaanui

07/2004



**CHRIS
HART
& PARTNERS**

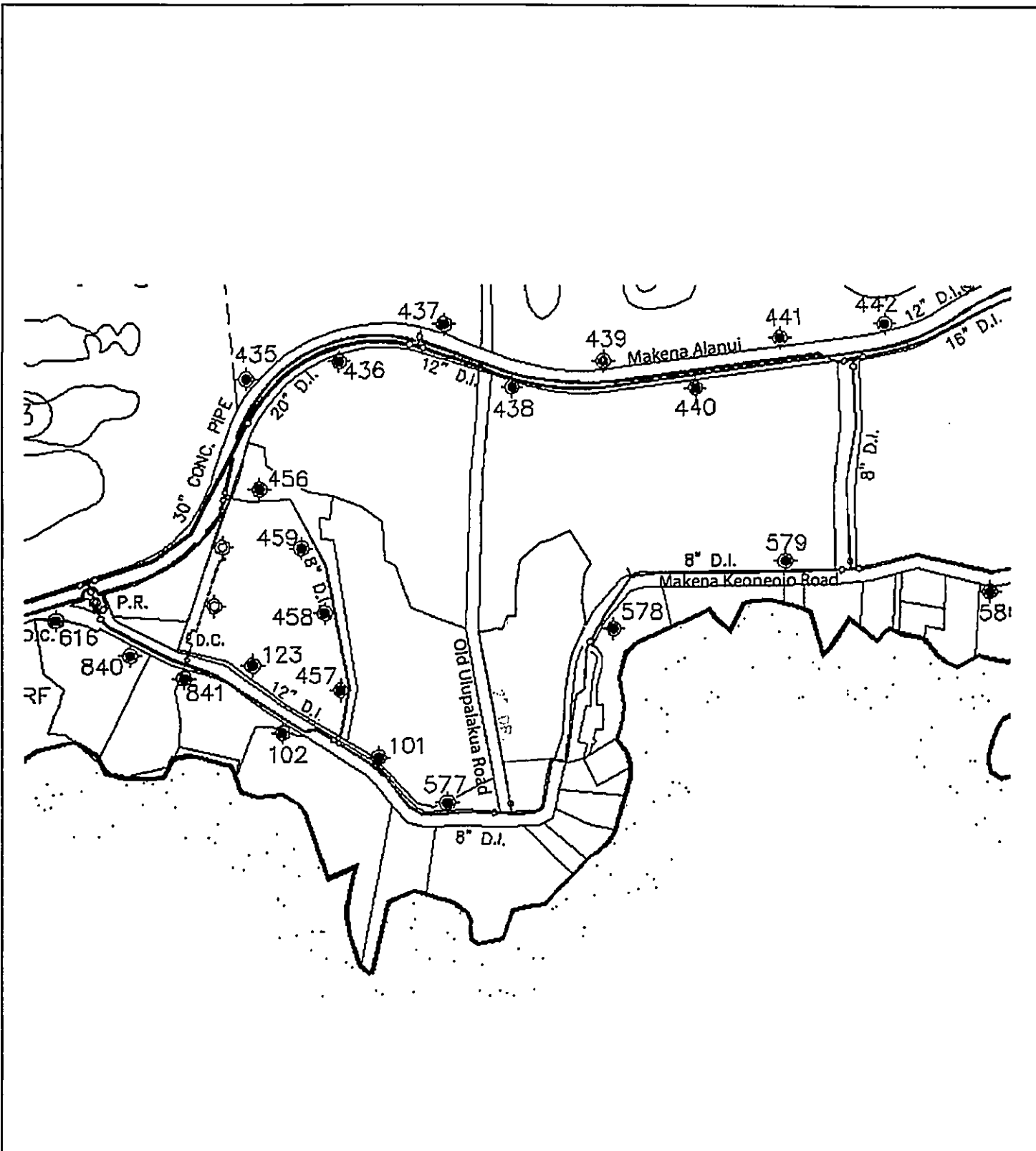
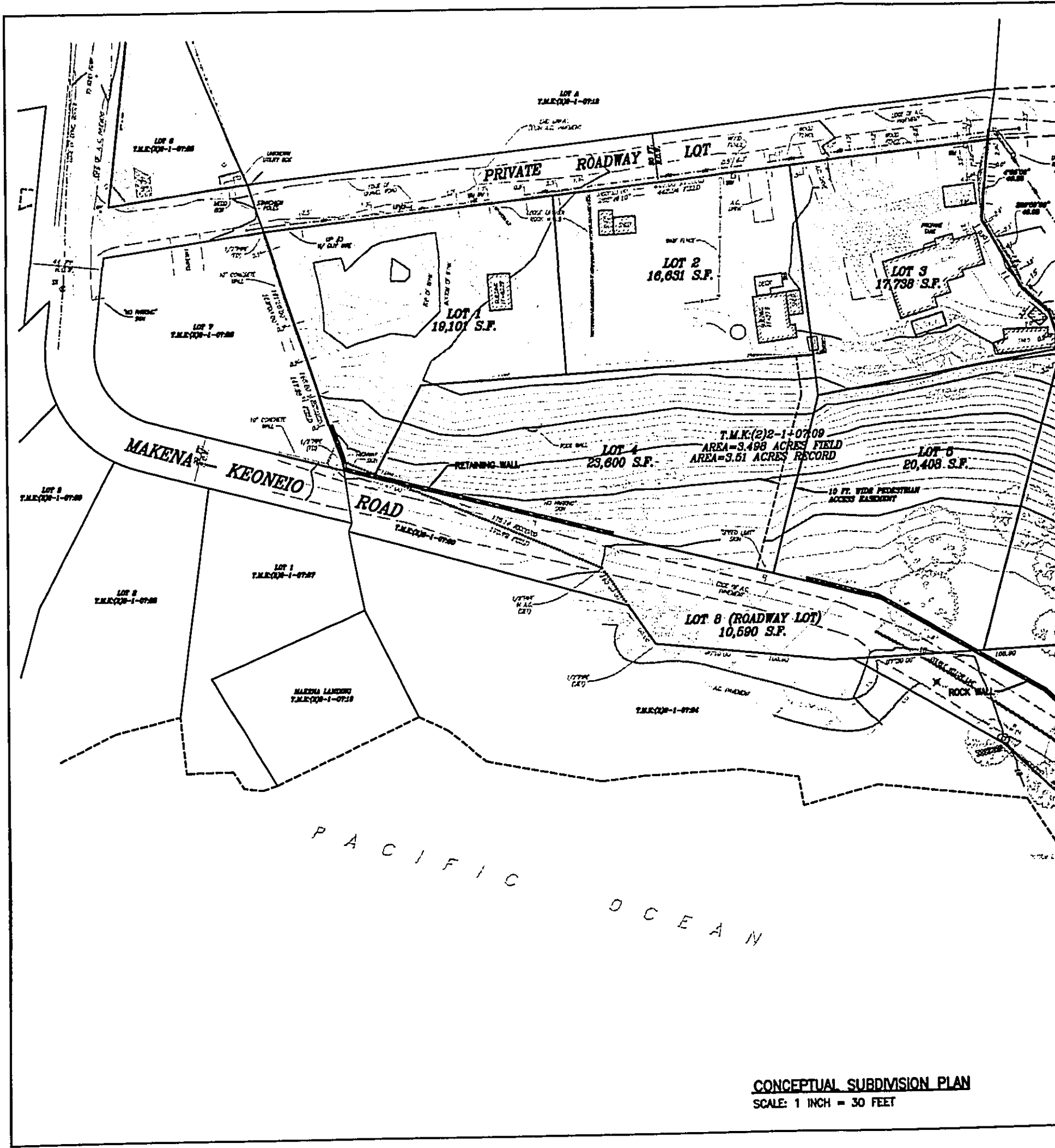
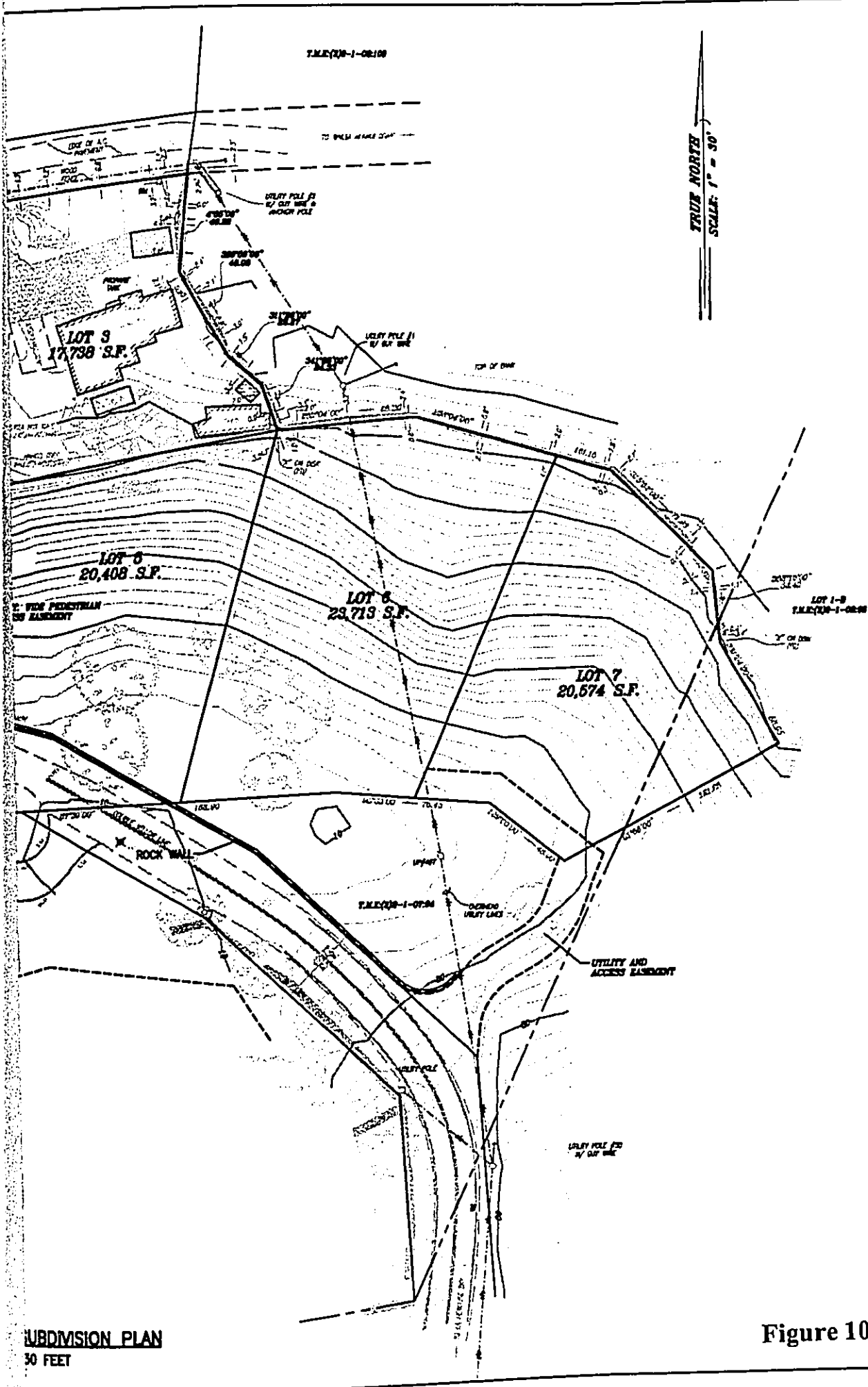


Figure 9		
Water Service Map		
Papaanui		CHRIS HART & PARTNERS
07/2004	NOT TO SCALE	



CONCEPTUAL SUBDIVISION PLAN
 SCALE: 1 INCH = 30 FEET



OTOMO
 ENGINEERING, INC.
 CONSULTING CIVIL ENGINEERS
 305 S. HIGH STREET, STE. 100
 HAWAII, HONOLULU, HAWAII
 PHONE: (808) 243-8822
 FAX: (808) 243-8778



STACY A. OJIMA
 LICENSED PROFESSIONAL ENGINEER
 No. 5118-C
 HAWAII, U.S.A.

SIGNATURE: _____ DATE: _____

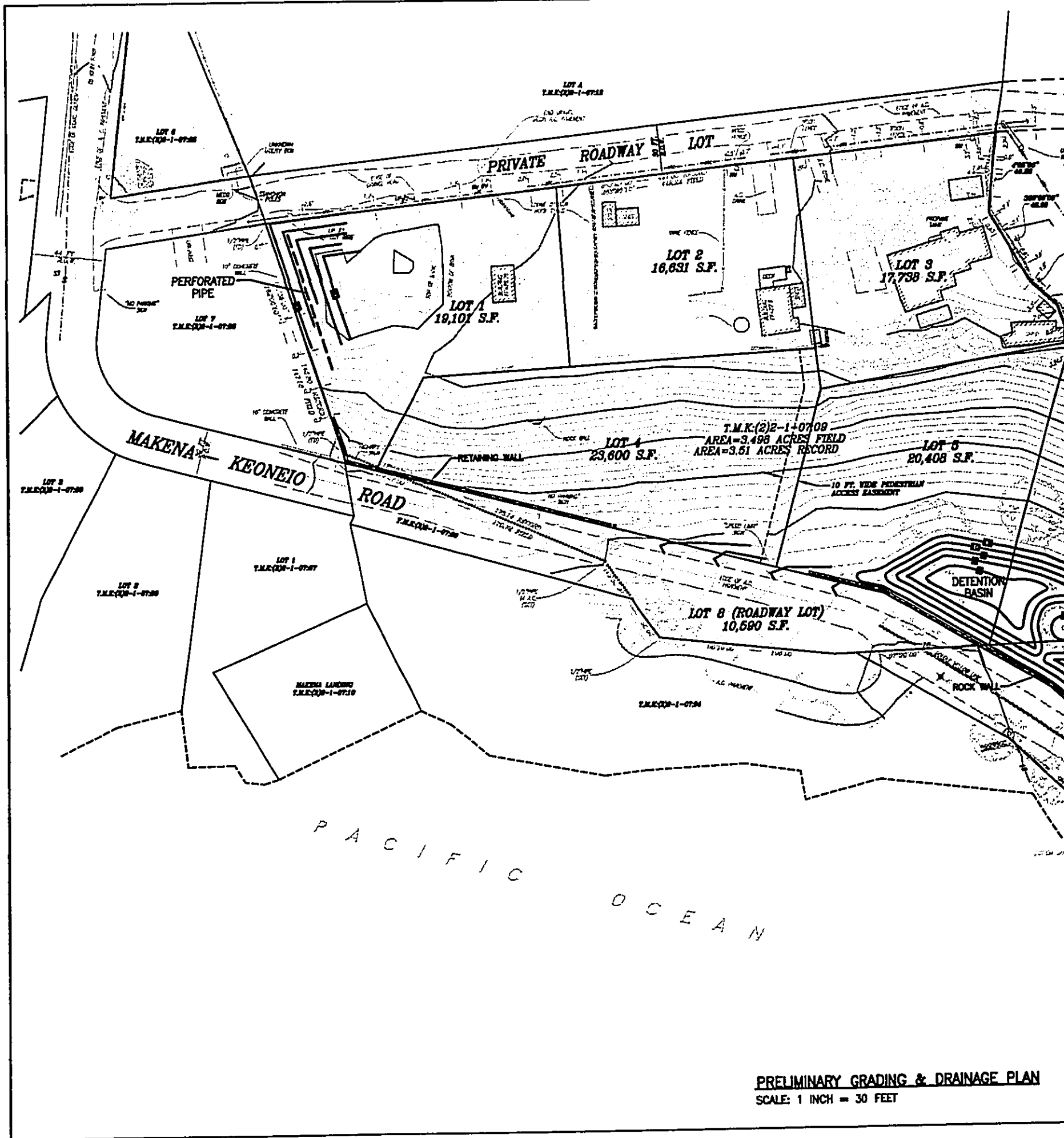
PAPAANUI LLC SUBDIVISION
 TMK: (2) 2-1-007: 008, 080, & POR. 084
 & TMK: (2) 2-1-008: POR. 100
 MAKEHA, MAUI, HAWAII
 CONCEPTUAL SUBDIVISION PLAN

REVISION	DATE	NOTE
▲		
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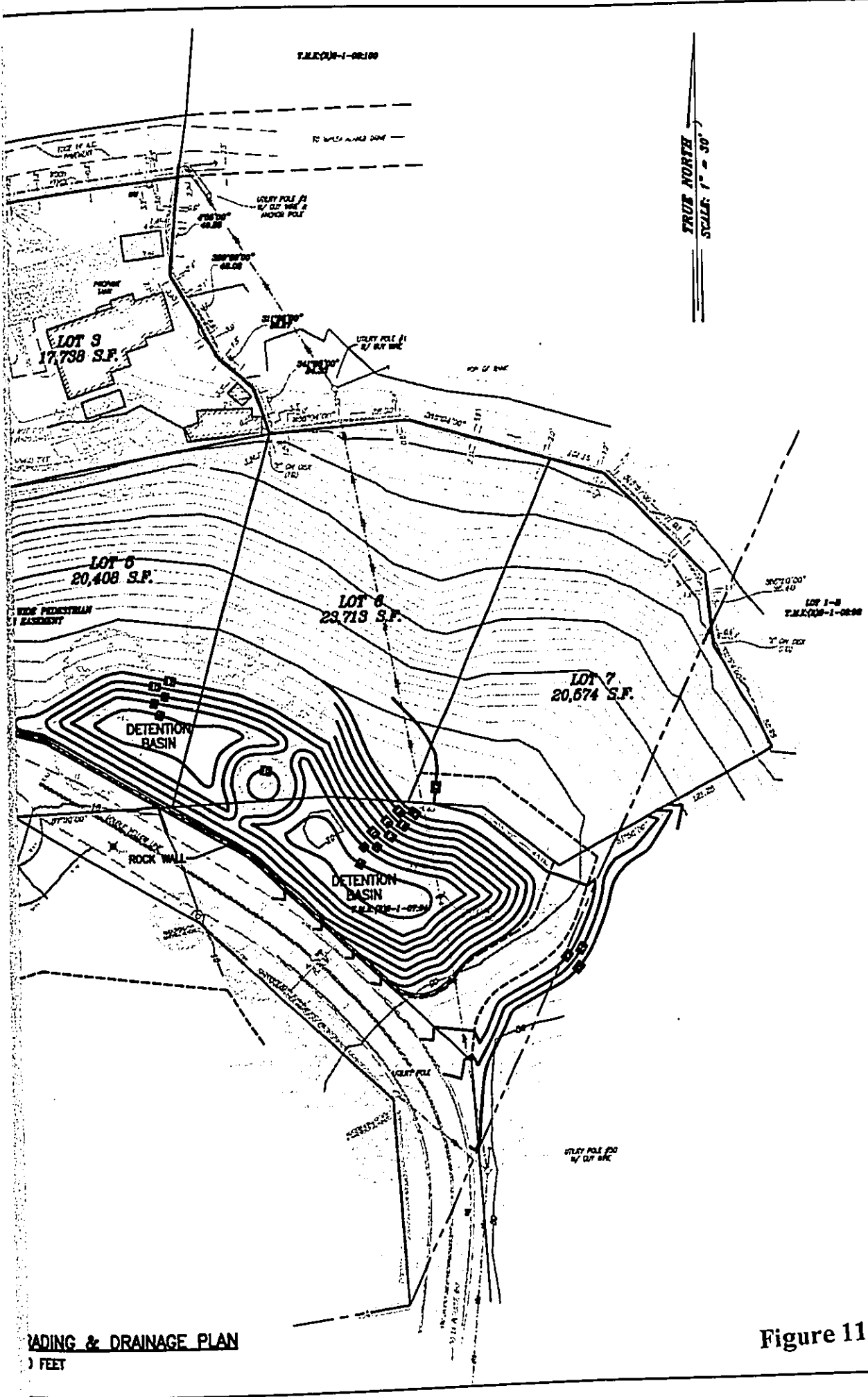
DESIGNED BY: S.A.O.
 DRAWN BY: S.A.O.
 PROJECT NO.: 2004-29
 DRAWING NAME: CONCEPTSUBD
 DATE: 3-14-05

SHEET NO.
1
 OF SHEETS

Figure 10



PRELIMINARY GRADING & DRAINAGE PLAN
 SCALE: 1 INCH = 30 FEET



OTOMO
ENGINEERING, INC.
CORPORATE OFFICE
200 S. HIGH STREET, SUITE 100
HONOLULU, HAWAII 96813
PHONE: (808) 242-8333
FAX: (808) 242-8770



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SIGNATURE _____ DATE _____
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PAPANUI LLC SUBDIVISION

TMK: (2) 2-1-007: 009, 080, & FOR 094
 & TMK: (2) 2-1-008: FOR 100
 MAKENA, MAUI, HAWAII

PRELIMINARY GRADING & DRAINAGE PLAN

REVISION	DATE	NOTE
▲		
▲		
▲		
▲		

DESIGNED BY: S.A.D.
 DRAWN BY: S.A.D.
 PROJECT NO.: 2004-29
 DRAWING NAME: PRELIM GRADING
 DATE: 3-8-05

SHEET NO.
1
 OF SHEETS

Figure 11

APPENDICES

Appendix - A
Pre-consultation



November 15, 2004

Mr. Michael W. Foley
Planning Director
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

Attention: Ms. Kivette Caigoy

Dear Mr. Foley:

RE:

RE: Draft Environmental Assessment Prepared for the Proposed Papaanui Rural Subdivision located at TMK: 2-1-007:009, Makena-Keoneoio Road, Island of Maui, Hawaii.

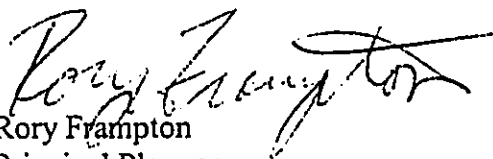
This is in response to your letter dated September 3, 2004, regarding the above-referenced project. The following letter addresses your concerns:

1. The Cover of the Draft EA has been retitled to state "Draft EA prepared in support of Papaanui".
2. A Cultural Impact Assessment is attached in Appendix F and summarized in Section III.A.8 of the report.
3. A list of required land use and development permits is provided on page 2 of the report.
4. A Final Traffic Assessment Letter is attached in Appendix E. There were no significant changes made to the Draft letter.
5. The ALISH designation of the property is provided on page 17, Section III.A.10, of the report.
6. The developments construction schedule is discussed on page 6, Section II.D, of the report.

Mr. Thorne Abbott, Senior Planner
November 15, 2004
Page 2

Thank you again for your consideration of our request. Should you have any questions, please contact myself, or Mr. Michael Summers, at 242-1955.

Sincerely yours


Rory Frampton
Principal Planner

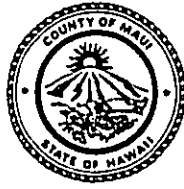
Attachment

cc. Project File

ALA'I M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

September 3, 2004

SEP - 0 2004

Mr. Rory Frampton
Chris Hart & Partners
1955 Main Street, Ste 200
Wailuku, HI 96793

Dear Mr. Frampton;

RE: Draft Environmental Assessment Prepared for the Proposed
Papaanui Rural Subdivision located at TMK: 2-1-007: 009,
Makena-Keoneoio Road, Island of Maui, Hawaii (EA 2004/0011)
(DBA 2004/0008) (CPA 2004/0008) (CIZ 2004/0016)
(SM1 2004/0023)

The Maui Planning Department (Department) has reviewed the preliminary Draft Environmental Assessment (DEA) and requires the following prior to transmittal:

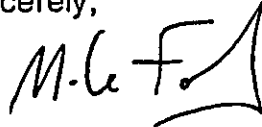
1. Retitle the Cover to state "Draft EA prepared in support of ..."
2. Include a discussion of any potential impacts the proposed action may have on cultural resources.
3. Include a list of permits, variances, and approvals required by the proposed project.
4. The Traffic Assessment Letter attached in Appendix E is labeled "Draft." Include the "Final" letter and, if there are any significant changes, amend the analysis in Section III.D.
5. In Section III.A.9, provide the ALISH designation of the property.
6. Discuss anticipated timeframes of development.

Mr. Rory Frampton
September 3, 2004
Page 2

Once the foregoing revisions are completed, please consult with Ms. Kivette A. Caigoy, Environmental Planner, at 270-7735 to determine the total number of copies required for concurrent transmittal of the DEA and permit applications. The Department will reserve any additional comments regarding the DEA during the 30-day public comment period.

Thank you for your cooperation. If additional clarification is required regarding the environmental review process, please contact Ms. Caigoy.

Sincerely,



MICHAEL W. FOLEY
Planning Director

MWF:KAC:dm

c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Kivette A. Caigoy, Staff Planner
Robyn Loudermilk, Staff Planner
Project File
General File
K:\WP_DOCS\PLANNING\EA\2004\11_PapaanuiSubd\preDEAcomments.wpd



July 14, 2004

Mr. Michael Foley
Director
Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Foley:

RE: Pre-Consultation for an Environmental Assessment in support of Papaanui, a single-family residential subdivision located in Makena, Maui, Hawaii; TMK No. (2) 2-1-007:009.

Chris Hart & Partners, Inc. is preparing an environmental assessment in order to assess the potential environmental impacts associated with the subdivision of a 3.51-acre parcel into seven (7) single-family residential lots on property located in Makena, Maui, Hawaii; TMK No. (2) 2-1-007:009 (See: Figure Nos. 1, 2, and 3, "Regional Location, "Tax Map Key", and "Aerial Photograph"). The project will also require the concurrent processing of a State Land Use Commission District Boundary Amendment (DBA) from Agricultural to Urban, County Change in Zoning (CIZ) from A-1 Apartment/Interim to R-3 Residential, Community Plan Amendment from Multi-Family to Single-Family, and a Special Management Area (SMA) Use Permit.

The Applicant is proposing to subdivide the subject property into seven (7) approximate ½-acre residential lots, which will allow for the construction of seven (7) single-family residential dwellings and seven (7) ohana units. Access to the project will be from Makena-Keoneio Road and the Old Ulupalakula Road. Four (4) of the lots will have access directly onto Makena Keoneio Road. The remaining three (3) lots will have access onto Old Ulupalakua Road and then onto Makena Keoneio Road.

A primary design objective is to maintain the rural residential feel of Makena-Keoneio Road. As such the project incorporates relatively large lot sizes as well as rural design standards for the proposed road improvements. Lot configurations were developed by identifying preferred house sites based on existing topography with the goal of respecting existing land forms.

Mr. Michael Foley

July 14, 2004

Page 2

The applicant intends to establish a minimum set of architectural design guidelines through the establishment of Protective Covenants, Conditions and Restrictions (CC&Rs). The architectural design standards will encourage the use of traditional Hawaiian architectural elements such as large roof overhangs, covered lanais, and split pitch roofs. Landscape architecture guidelines will incorporate the use of large shade trees and expansive lawns.

Associated infrastructure and site improvements include paved roadways, underground utilities, water distribution and fire protection systems, and a drainage collection and retention system.

Topics to be addressed by the Environmental Assessment include:

Physical Environment, including:

- Land Use
- Topography / Landforms / Soils
- Air Quality
- Noise Characteristics
- Biological Resources
- Flood and Tsunami Hazard
- Archaeological / Cultural Resources
- Visual Resources

Public Services, including:

- Solid Waste Disposal
- Police and Fire Protection
- Educational Resources
- Medical Services

Social/Economic Environment, including:

- Population and Economy

Local Infrastructure, including:

- Water
- Drainage
- Wastewater
- Electrical and Telephone Systems
- Transportation

State and County Land Use Laws and Policies, including:

- HRS, Chapter 205A
- HRS, Chapter 343
- Kihei Makena Community Plan
- Title 19, MCC

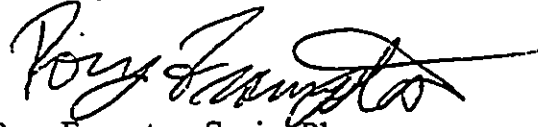
The EA will also contain a summary of pre-consultation with neighbors and community groups. Qualified professionals will prepare the following specific impact assessments:

- Engineering, Drainage, and Erosion Control;
- Traffic;
- Archeological;
- Cultural; and
- Biological Resources.

Should you have any additional issues that you would like to see addressed in the EA or have comments or concerns regarding the project, please contact myself, or Mr. Michael Summers, in writing or by telephone at 242-1955.

Mr. Michael Foley
July 14, 2004
Page 2

Sincerely,

A handwritten signature in cursive script, appearing to read "Rory Frampton".

Rory Frampton, Senior Planner
Chris Hart & Partners, Inc.

cc: Mr. Bill Frampton, Frampton & Ward, LLC.



Memorandum

June 16, 2004

To: Project File

By: Rory Frampton, Senior Planner, Chris Hart & Partners

Re: Papa'anui – Seven Lot Subdivision in Makena
Meeting Summary - Makena Homeowners Association Meeting, June 10, 2004

Bill Frampton of Frampton and Ward presented the project to the Homeowners Association. The history of the design of the project was described as an evolution of alternatives ranging from Multi-Family or an Apartment (consistent with the Community Plan designation) to Single Family development of a variety of densities. After analyzing the alternatives from a number of perspectives, a seven lot subdivision with approximately 1 lot per ½ acre was chosen as the preferred alternative. The lots will be sold undeveloped and the future purchaser will be responsible for the design and construction of the individual homes. The developer will establish design guidelines which will be incorporated into project's CC&R's.

Comments made by members of the Association as summarized as follows:

- The roadway improvements should be designed with sensitivity to Makena's rural/residential character. There should be no street lights. Urban style curbs, gutters and sidewalks and wide pavement widths are not desired.
- There should be no public parking along Makena-Keoneoio Road. This could lead to over use of Makena Landing. This position was supported by the County Council in the Land Use Committee's deliberation over Makena Resort.
- Single Family homes are preferred over Multi-Family units, especially since it will dramatically reduce the density of living units on the property.
- Responding to a question, Mr. Bill Frampton responded that future subdivision of the lots would be prohibited. Ohana units would be allowed.
- The members voiced appreciation of the intent to establish design guidelines.

At the end of the meeting, a commitment was made to keep the Homeowner's Association apprised of the project's progress through the County's review process.

Appendix - B
Biologic and Fauna Resources Survey

BIOLOGICAL RESOURCES SURVEY
for the
PAPA'ANUI, LLC 7-LOT RESIDENTIAL SUBDIVISION
MAKENA, MAUI, HAWAII

by

ROBERT W. HOBDY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
June 12, 2004

Prepared for: FRAMPTON & WARD, LLC.

**BIOLOGICAL RESOURCES SURVEY
PAPA'ANUI, LLC 7 LOT RESIDENTIAL SUBDIVISION**

INTRODUCTION

The Papa'anui, Makena, Maui Project lies on a 3.51 acre parcel of land near the bottom of the old Makena-Ulupalakua Road. It is bordered on the north by this old roadway, on the west by a residential property, on the south by the old Makena Road and Makena Landing, and on the east (mauka) side by undeveloped land. It is part of the old rural village of Makena. Two old residential structures are situated along the ridge top but the bulk of the area is undeveloped.

SITE DESCRIPTION

The lower portion of the property begins behind Makena Landing at an elevation of about 10 feet and extends into a broad bowl where there are the remains of an old pig pen. The property slopes upward to a rocky ridge top at about 75 feet elevation where the old homes are situated. The lower elevations are a dense kiawe forest while the upper slopes are an open grassy woodland. The Makena coast has hot, dry summers and gets most of its 15-20 inches of annual rainfall (Armstrong, 1983) during the winter and spring. Soils are of the Makena Loam Stony Complex, slightly alkaline and about 40 inches deep with many surface and subsurface stones (Foote, et al. 1972).

BIOLOGICAL HISTORY

In pre-contact times this area would have supported a diverse dry forest/grassland with many species of native trees, shrubs, vines and grasses and a few seasonal herbs and ferns, as well as a complement of native birds and insects. We can still observe fragments of this diversity in relictual pockets of native vegetation in a few places between Kihei and Makena. This diversity of native species was drastically reduced by over a century of browsing and grazing by feral and domesticated herbivores and their replacement by aggressive non-native plant species. The project area now contains only some of the commoner native species that have proven to be stronger competitors and more resistant to disturbance.

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna survey of the proposed Papa'anui, Makena, Maui Project which was conducted in late May 2004. The objectives of the survey were to:

1. Document what plant, bird and mammal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.

3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the native flora and fauna in this part of the island.
5. Note which aspects of the proposed development pose significant concerns for plants or for wildlife and recommend measures that would mitigate or avoid these problems.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey method was used following a route to ensure maximum coverage of the area. Areas most likely to harbor native or rare plants such as gulches or rocky outcroppings were more intensively examined. Notes were made on plant species, distribution and abundance as well as terrain and substrate.

DESCRIPTION OF THE VEGETATION

The dominant vegetation throughout the project area is kiawe (*Prosopis pallida*) forest. These non-native trees form a dense canopy in the bowl and on the lower slopes where their roots are able to reach groundwater. There is a sparse understory of herbaceous plants and vines. On the upper slope and ridge top the kiawe trees are sparse and smaller allowing more light to reach the ground. Here the buffelgrass (*Cenchrus ciliaris*) forms a dense ground cover with a few other herbaceous species and vines. Only six other species were relatively common on the property: hedgehog gourd (*Cucumis dipsaceus*), balsam pear (*Momordica charantia*), 'anunu (*Sicyos pachycarpus*), basil (*Ocimum basilicum*), 'ilima (*Sida fallax*) and wild cherry tomato (*Solanum lycopersicum var. cerasiforme*). Only three native species were found: 'anunu, 'ilima and 'uhaloa (*Waltheria indica*). The forty non-native species are for the most part considered to be weeds, species that have taken over the site over the past two centuries following anthropogenic disturbances. Seven species of common ornamental plants were observed growing around the old residences on the ridge top.

DISCUSSION AND RECOMMENDATIONS

The vegetation throughout the project area is totally dominated by just two species, kiawe and buffelgrass that together comprise at least 95% of the biomass. Most of the rest of the forty one plant species found are ephemeral annuals that all but disappear during the hot, dry summer and fall seasons.

Only three native plant species were found within the project area. All of these are common lowland species in Maui County. No officially listed threatened or endangered plants (U.S. Fish and Wildlife Service 1999) are found on the site, nor do any plants proposed as candidate for such status occur on the property.

No wetlands occur on the site. Nothing remotely approaching the three essential criteria that define a Federally recognized wetland, namely 1) hydrophytic vegetation 2) hydric soils and 3) wetland hydrology occur within this dry project area.

Because the vegetation on the site is dominated primarily by non-native plants and because there are no rare or protected native species within the project area, there is little of botanical concern and the proposed project is not expected to have a significant negative impact on the botanical resources.

It is recommended, however, due to the proximity of the project area to outstanding and popular marine resources, that special care be exercised to prevent soil movement into the ocean during the construction phase.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within each of two groups: Monocots and Dicots. Taxonomy and nomenclature of the flowering plants (Monocots and Dicots) are in accordance with Wagner et al. (1999).

For each species, the following information is provided:

1. Scientific name with author citation
2. Common English or Hawaiian name.
3. Bio-geographic status. The following symbols are used:
 - endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.
 - indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).
 - non-native = all those plants brought to the islands intentionally or accidentally after western contact.
 - polynesian = brought by the Hawaiians during Polynesian migrations.
4. Abundance of each species within the project area:
 - abundant = forming a major part of the vegetation within the project area.
 - common = widely scattered throughout the area or locally abundant within a portion of it.
 - uncommon = scattered sparsely throughout the area or occurring in a few small patches.
 - rare = only a few isolated individuals within the project area.

<u>SCIENTIFIC NAMES</u>	<u>COMMON NAMES</u>	<u>STATUS</u>	<u>ABUNDANCE</u>
<u>MONOCOTS</u>			
AGAVACEAE (Agave Family)			
<i>Aloe vera</i> L.	<i>aloe vera</i>	non-native	uncommon
POACEAE (Grass Family)			
<i>Cenchrus ciliaris</i> L.	buffelgrass	non-native	abundant
<i>Digitaria insularis</i> (L.) Mez ex Ekman	sourgrass	non-native	rare
<i>Eragrostis amabilis</i> (L.) Wight & Arnott	-----	non-native	rare
<i>Panicum maximum</i> Jacq.	guinea grass	non-native	uncommon
<i>Setaria Verticillata</i> (L.) P. Beauv.	bristly foxtail	non-native	rare
<u>DICOTS</u>			
AMARANTHACEAE (Amaranth Family)			
<i>Amaranthus spinosus</i> L.	spiny amaranth	non-native	uncommon
<i>Amaranthus viridis</i> L.	slender amaranth	non-native	uncommon
ANACARDIACEAE (Mango Family)			
<i>Mangifera indica</i> L.	mango	non-native	rare
ANNONACEAE (Custard Apple Family)			
<i>Annona squamosa</i> L.	sugar apple	non-native	rare
APOCYNACEAE (Dogbane Family)			
<i>Plumeria rubra</i> L.	plumeria	non-native	rare
ASTERACEAE (Sunflower Family)			
<i>Agreratum conyzoides</i> L.	<i>maile hohono</i>	non-native	uncommon
<i>Emilia fosbergii</i> Nicolson	<i>red pualele</i>	non-native	rare
<i>Parthenium hysterophorus</i> L.	false ragweed	non-native	rare
<i>Pluchea carolinensis</i> (Jacq.) G. Don	sourbush	non-native	uncommon
<i>Sonchus oleraceus</i> L.	<i>pualele</i>	non-native	rare
<i>Synedrella nodiflora</i> (L.) Gaertn.	nodeweed	non-native	uncommon
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.	golden crown beard	non-native	uncommon

<u>SCIENTIFIC NAMES</u>	<u>COMMON NAMES</u>	<u>STATUS</u>	<u>ABUNDANCE</u>
CHENOPODIACEAE (Goosefoot Family)			
<i>Chenopodium carinatum</i> R.Br.	-----	non-native	uncommon
CONVOLVULACEAE (Morning Glory Family)			
<i>Merremia aegyptia</i> (L.) Urb.	hairy merremia	non-native	uncommon
CUCURBITACEAE (Gourd Family)			
<i>Cucumis dipsaceus</i> Ehrenb. Ex Spach	hedgehog gourd	non-native	common
<i>Momordica Charantia</i> L.	balsam pear	non-native	common
<i>Sicyos pachycarpus</i> Hook. & Arnott	'anunu	endemic	common
EUPHORBIACEAE (Spurge Family)			
<i>Aleurites moluccana</i> (L.) Willd.	kukui	Polynesian	rare
<i>Chamaecyce hirta</i> (L.) Millsp.	hairy spurge	non-native	rare
<i>Euphorbia cyathophora</i> J.A. Murray	Mexican fire plant	non-native	rare
<i>Ricinus communis</i> L.	castor bean	non-native	rare
FABACEAE (Pea Family)			
<i>Desmanthus pernambucanus</i> (L.) Thellung	slendor mimosa	non-native	rare
<i>Leucaena leucocephala</i> (Lam.) de Wit	kōa haole	non-native	uncommon
<i>Prosopis pallida</i> (Humb.&Bonpl.Ex.Willd.) Kunth	kjawe	non-native	abundant
LAMIACEAE (Mint Family)			
<i>Ocimum basilicum</i> L.	basil	non-native	common
MALVACEAE (Mallow Family)			
<i>Abutilon incanum</i> (Link) Sweet	hoary abutilon	non-native	uncommon
<i>Abutilon grandifolium</i> (Willd.) Sweet	hairy abutilon	non-native	uncommon
<i>Malvastrum coromandelianum</i> (L.) Garcke	false mallow	non-native	uncommon
<i>Sida fallax</i> Walp.	'ilima	indigenous	common
MORACEAE (Mulberry Family)			
<i>Ficus elastica</i> Roxb. ex Hornem.	rubber tree	non-native	rare
<i>Ficus microcarpa</i> L. fil.	chinese banyan	non-native	rare

SCIENTIFIC NAMES

COMMON NAMES STATUS ABUNDANCE

NYCTAGINACEAE (Four - O'clock Family)

Boerhavia coccinea Mill.

non-native rare

SOLANACEAE (Nightshade Family)

Capsicum frutescens L.

chili pepper

non-native rare

Nicandra physalodes (L.) Gaertn.

apple of Peru

non-native rare

Nicotiana glauca R.C. Graham

tree tobacco

non-native rare

Solanum lycopersicum L. var. *cerasiforme*

wild cherry tomato

non-native common

(Dunal) Spooner, G. Anderson & Jansen

STERCULIACEAE (Cacao Family)

Waltheria indica L.

'uhaloa

indigenous rare

FAUNA SURVEY REPORT

SURVEY METHODS

A walk-through survey method was conducted in conjunction with the botanical survey. All parts of the project area were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species abundance, activities and location as well as observations of trails, tracks, scat and signs of feeding. In addition an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

RESULTS

MAMMALS

Only two species of feral mammals were observed in the project area during two site visits. Taxonomy and nomenclature follow Tomich (1986).

Axis deer (*Axis axis*) - Numerous trails, tracks and scat were evident throughout the area as well as significant sign of feeding, all attesting to the frequent use of the area. Deer bed down for the day in this undeveloped area. These animals are nocturnally active, mobilizing around dusk to feed within this area and likely within nearby golf courses and lush landscaped areas under cover of darkness.

Common cat (*Felis domestica*) - Several cats, one obviously a pet and the others wild were seen on the property. These cats beg for food and scavenge in rubbish cans at Makena Landing and are predators of birds and rodents in this and surrounding areas.

Deep, dense grass cover prevented good visibility of other ground dwelling animals, but a significant population of mongoose, rats and mice would be expected. Mongoose feed on rats and mice as well as ground nesting birds. Mice and rats were not seen but their presence is virtually guaranteed by the abundant food supply in the form of grass seed and herbaceous vegetation.

A special effort was made to look for the native Hawaiian hoary bat by making an evening survey of the area. When present in an area these bats can be easily identified as they forage for insects, their distinctive flight patterns clearly visible in the glow of twilight. No evidence of such activity was observed though visibility was excellent and plenty of flying insects were seen. The area is not considered to be good habitat for these bats and none have been recorded here.

BIRDS

There was moderate birdlife diversity in this normally dry area. An ample supply of grass and herbaceous plant seeds were available following a good winter wet season. Adult insects and caterpillars were also seen especially on the kiawe trees. Eleven species of non-native birds were seen, most taking advantage of this seasonal food supply. Taxonomy and nomenclature follow American Ornithologist's Union (1988), Berger (1981), Pratt et al. (1987) and Hawaii Audubon Society (1989).

Domestic chicken (*Gallus gallus*) – A great many wild chickens occupy the kiawe forest near Makena Landing. All ages can be found feeding in the open understory. These birds are descendants of domesticated fowl within the old Makena Village.

Common mynah (*Acridotheres tristis*) – Many individuals and pairs of mynahs were seen throughout the area, feeding in the kiawe trees or transiting the area high above the trees. They are confident and assertive birds.

American cardinal (*Cardinalis cardinalis*) – Both sexes of this species were seen individually or in pairs throughout the area. Their bright color and distinctive calls are unmistakable.

Gray francolin (*Francolinus pondicerianus*) – Many francolins were heard throughout the property. Their loud calls are distinctive.

House sparrow (*Passer domesticus*) – Small flocks were seen throughout the area feeding in the kiawe trees. Their persistent chirping is distinctive.

Cattle egret (*Bubulcus ibis*) – Several of these large white birds were seen transiting the area at sunset to roost in trees near some natural ponds near Pu'u Ola'i. There is no habitat for these birds on the proposed development area.

Warbling silverbill (*Lonchura malabarica*) – Two large flocks of these small pale-brown birds was seen flying through the property.

Japanese white-eye (*Zosterops japonica*) – Several white-eyes were seen feeding in the kiawe and their high pitched calls were frequently heard.

Barred dove (*Geopelia striata*) – Several barred doves were seen and heard in the kiawe trees. Their smaller size and striated body distinguish this species from the spotted dove.

Spotted dove (*Streptopelia chinensis*) – A few of these large doves were seen within the area and transiting overhead. Their smooth flight and cooing are distinctive.

House finch (*Carpodacus mexicanus*) – A few of these moderately-sized, light brown finches were seen in the kiawe trees.

Other bird species I could possibly expect to see in this area but which were not present include the black francolin (*Francolinus francolinus*) and the barn owl (*Tyto alba*). No native bird species were seen.

INSECTS

While insects in general were not tallied, they were abundant throughout the area and fueled the elevated bird activity observed. One native Sphingid moth, Blackburn's sphinx moth (*Manduca blackburni*) has been put on the Federal Endangered species list and this designation requires special focus (USFWS 2002).

Blackburn's sphinx moth occurs on Maui although it has not been found in this area. Its native host plants are species of 'Aiea (*Nothocestrum*) and a non-native alternative host plant is tree tobacco (*Nicotiana glauca*). There are no 'aiea on or near the project area and only two tree tobacco plants were seen. These two plants were carefully examined and no Blackburn's sphinx moth or their larvae were observed.

CONCLUSIONS

Fauna surveys are seldom comprehensive due to the short window of observation, the seasonal nature of animal activities and the unpredictable nature of their daily movements. This survey, however, should be considered fairly representative due to the abundance of food resources present throughout the area. While ideal for many types of non-native animals the habitat is not suitable in its present state for most native animals, and is far removed from remnant populations. No endangered mammal, bird or insect species were observed in the project area during the course of the survey. No unique or special habitats were found on the property. The proposed changes in land use should have no significant impact on the fauna in this part of Maui.

RECOMMENDATIONS

Some seabirds such as the Endangered dark rumped petrel (*Pterodroma phaeopygia sandwichensis*) and the commoner wedge-tailed shearwater (*Puffinus pacificus chlororhynchus*), nesting on the summit of Haleakala and coastal sites (Wailea Point, Molokini) respectively, leave their burrows before dawn and return after sunset. These birds can become attracted to and confused by bright lights, crash and be killed by vehicles or cats and dogs that find them. Young birds are especially vulnerable when they fledge in late fall and take their first tentative flights. It is recommended that all significant outdoor lighting in the development be hooded to direct the light downward.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within two groups: Mammals and Birds. For each species the following information is provided:

1. Common name
2. Scientific name
3. Bio-geographical status. The following symbols are used:
 - endemic = native only to Hawaii; not naturally occurring anywhere else in the world.
 - indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).
 - non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.
4. Abundance of each species within the project area:
 - abundant = many flocks or individuals seen throughout the area at all times of day.
 - common = a few flocks or well scattered individuals throughout the area.
 - uncommon = only one flock or several individuals seen within the project area.
 - rare = only one or two seen within the project area.

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS</u>	<u>ABUNDANCE</u>
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MAMMALS

Axis deer	<i>Axis axis</i>	non-native	common
Common cat	<i>Felis domestica</i>	non-native	common

BIRDS

Domestic chicken	<i>Gallus gallus</i>	non-native	abundant
Common mynah	<i>Acridotheres tristis</i>	non-native	common
American cardinal	<i>Cardinalis cardinalis</i>	non-native	common
Gray francolin	<i>Francolinus pondicerianus</i>	non-native	common
House sparrow	<i>Passer domesticus</i>	non-native	common
Cattle egret	<i>Bubulcus ibis</i>	non-native	common
Warbling silverbill	<i>Lonchura malabarica</i>	non-native	uncommon
Japanese white-eye	<i>Zosterops japonica</i>	non-native	uncommon
Barred dove	<i>Geopelia striata</i>	non-native	uncommon
Spotted dove	<i>Streptopelia chinensis</i>	non-native	uncommon
House finch	<i>Carpodacus mexicanus</i>	non-native	rare

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Appendix - C
Archaeological Inventory Survey

SCS Project 435-1

**AN ARCHAEOLOGICAL INVENTORY SURVEY REPORT
ON 3.51-ACRES OF LAND IN MAKENA,
PAPA'ANUI AHUPUA'A, HONUA'ULA DISTRICT,
ISLAND OF MAUI, HAWAII
[TMK 2-1-07:09]**

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September 2004**

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ABSTRACT

Scientific Consultant Services (SCS), Inc. conducted Archaeological Inventory Survey on an undeveloped land parcel totaling 3.51-acres in Makena, Papa'anui Ahupua'a, Honua'ula District, Island of Maui, Hawai'i (TMK:2-1-07:09). Four sites, known as Sites 50-50-14-5542, -5543, -5544, and -5545 and composed of six features were documented and all but one site (ranch wall) was subject to testing during this research. Several time periods of land use are evident across the subject parcel in the form of built environment and landscape modifications. A majority of the natural structures (shelters) were utilized during pre-contact times and represent intermittent-use locales associated with food preparation/consumption and lithic manufacturing. Constructed architecture spanned a time range of pre-contact (Site -5542, Feature C alignment) to historic times (Site -5545). Modern intrusions in the form of landscape disturbance (-Site 5544) and trash deposition (Site -5542, Feature B) have altered the sites themselves and befuddled site function and temporal affiliation.

All four sites were considered significant under Criterion D. Site -5543, Feature C was also considered as significant under Criterion E, due to the presence of single human tooth commingled in feature midden deposits. Based on the level of recordation and excavation during this project, however, all four sites are no longer considered significant under Criterion D. Site -5543, Feature C is no longer considered significant under Criterion E as further testing failed to demonstrate the presence of a burial at the feature. No further work is required for this project area.

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INTRODUCTION

At the request of Frampton and Ward, LLC., Scientific Consultant Services (SCS), Inc. conducted Archaeological Inventory Survey on an undeveloped land parcel totaling 3.51-acres in Makena, Papa'anui Ahupua'a, Honua'ula District, Island of Maui, Hawai'i (TMK:2-1-07:09). Fieldwork was conducted in two phases by SCS personnel M. Dega, J. Risedorf and G. Tome, B.A., under the direction of the Principle Investigator Michael Dega, Ph.D. The first phase of work was conducted intermittently over a seven day period (16–25 February 2004) while the second phase of work to further investigate one feature was completed on August 24, 2004. The results of both phases are coterminously described below. Chris Monahan, Ph.D. was also present for a portion of one field/lab day during the initial phase of research.

Archaeological Inventory Survey was conducted to systematically examine and record features previously noted during a reconnaissance survey of the parcel in 2003 (Dega 2003). Subsurface testing of these features and adjacent deposition areas was accomplished during this research to assess the presence/absence of associated archaeological materials and to provide additional data on feature function and chronology.

Inventory Survey led to the documentation and recordation of four sites composed of six features. Three sites were assessed as traditional-period sites and one site is associated with historic times. Each site and its component features are further described below, after the project area has been placed in archaeological, environmental, and historic context.

GEOGRAPHICAL SETTING

The 3.51-acre project area occurs between c. 30-60 feet above mean sea level (amsl) along the leeward coast of Maui (Figures 1 and 2). The northern flank of the subject property abuts Old Ulupalakua Road; the western flank extends to existing residential properties; the southern flank is adjacent to Mākena-Keoneoi Road, with a small section crossing the road to the south near Makena Landing (State Site No. 50-50-14-1585) and State Site No. 50-50-14-5123, a traditional–historic period site documented in 2001 (Tome and Dega 2001; 2002); and the entire eastern flank of the subject project area is adjacent to undeveloped land. The western flank of the parcel contains a precipitous drop that borders several existing houses, with rock walls defining boundaries between interior residential parcels. Likely due to its location near these existing structures and heavily trafficked Mākena-Keoneoi Road, the basin of the project area

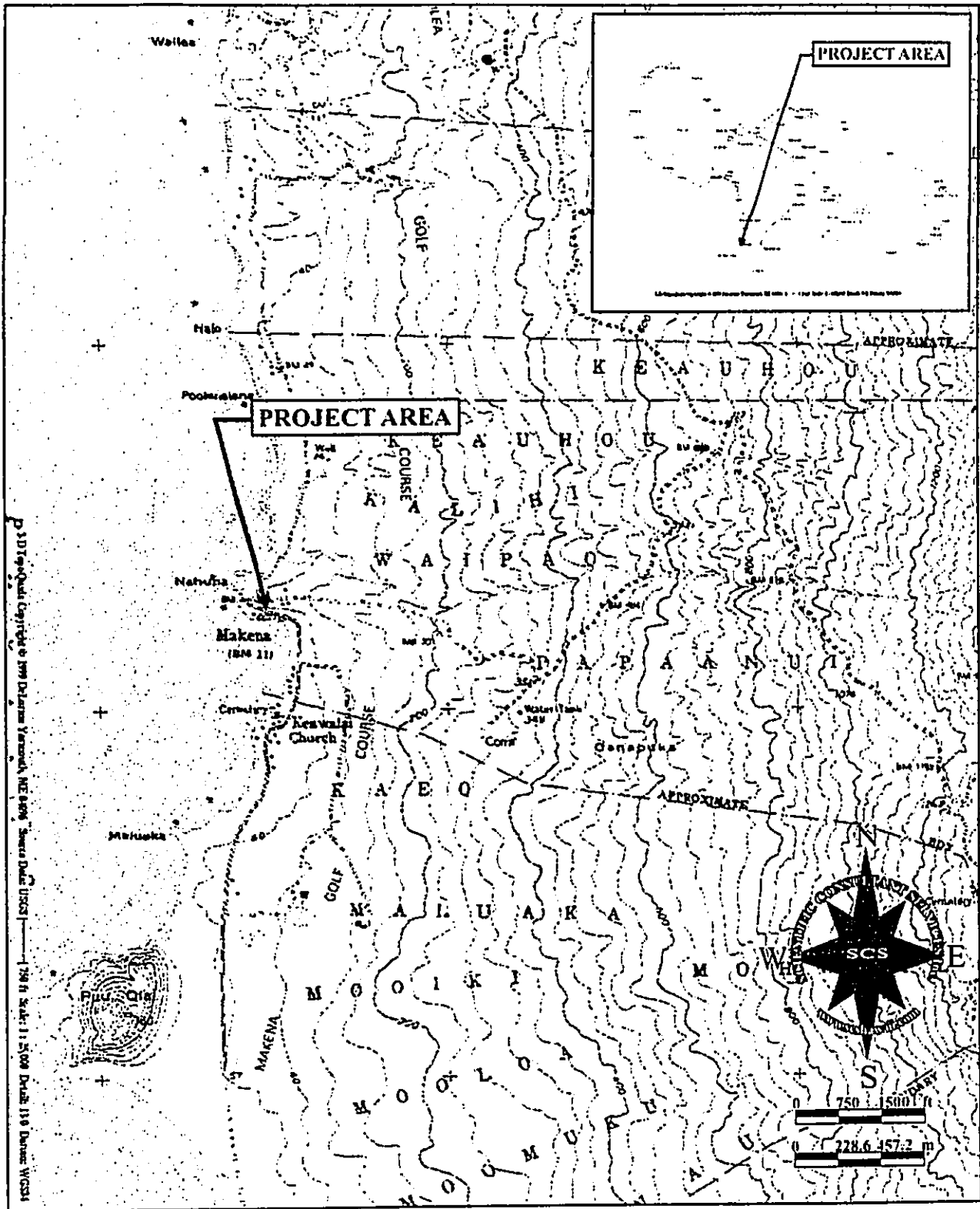


Figure 1: USGS Map of Project Area Location.

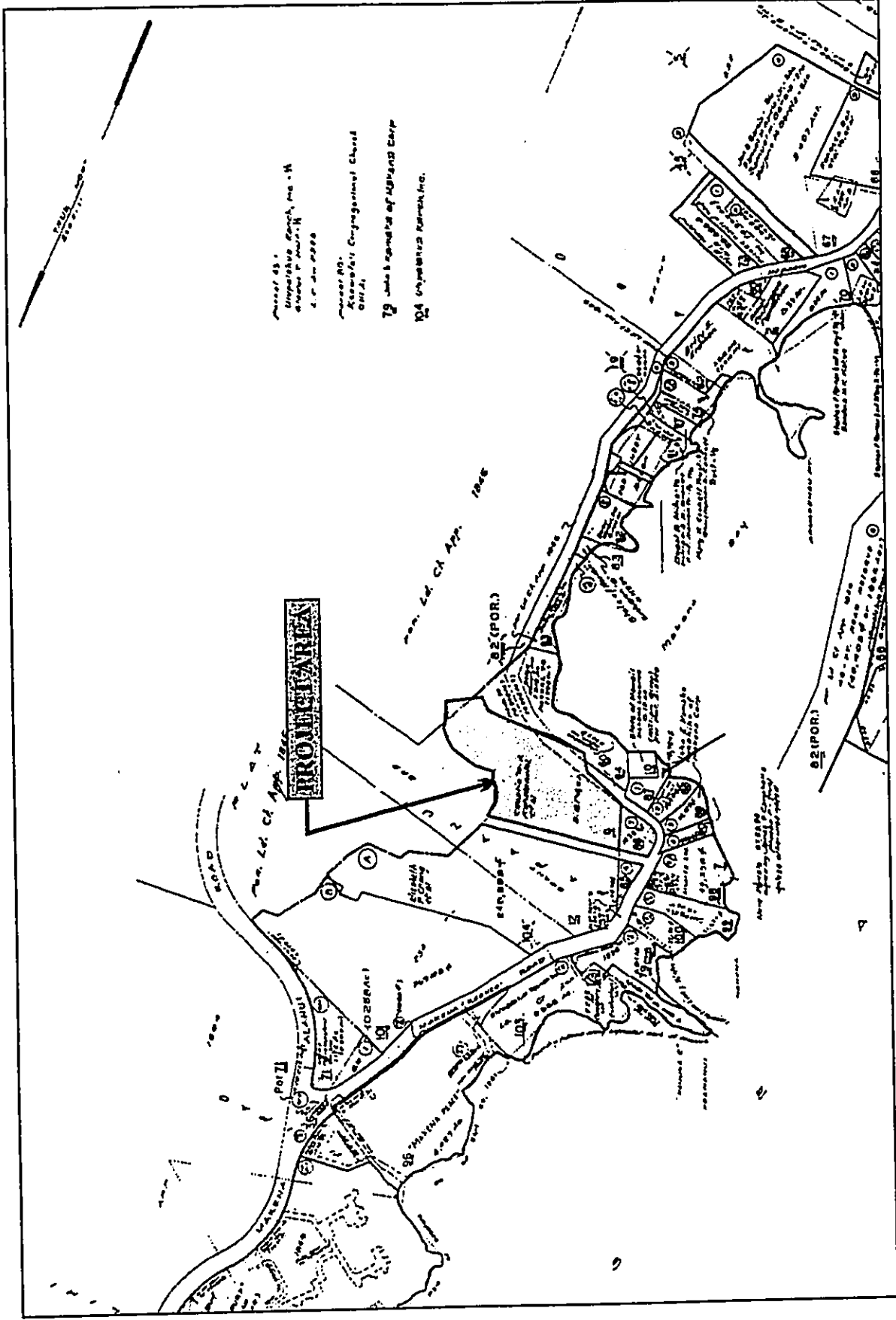


Figure 2: Tax Map Key [TMK] Showing Project Area Location.

has been intensively modified through the accumulation of modern debris, soil and rock deposition (from construction of Mākena-Keoneoi Road), and natural erosion.

PROJECT AREA SOILS

According to Foote *et al.* (1972:91), soils within the project area consist of the Mākena loam stony complex (MXC). This type of soil is well-drained and developed in volcanic ash. These soils typically accumulate on gentle to moderate slopes at elevations ranging from near sea level to 500 feet amsl. The Mākena soil series permeability is moderate, with runoff being slow to moderate, except in times of torrential rains (Foote *et al.* 1972:91).

Subsurface testing in this project area and on an adjacent parcel (TMK: 2-1-07:87) revealed the dominant presence of silt and silty clay strata (see Tome and Dega 2001). The silty clay identified during these excavations is primarily derived from the *in situ* decomposition of underlying igneous rock. Various sizes of clastics occur in the strata. Silty sand, found to a lesser degree and more towards the coastline, reflected a combinative of *in situ* decomposition of underlying igneous rock and rapid deposition of unfiltered sediments from upland erosion. Silt was identified across the current parcel as a duff layer from the surface to c. 10 meters below the surface. Cultural materials were present in both types of sediment. Similarly, surface observations revealed that the present parcel contains silt, silty-clay, and *a`a* bedrock outcrops. Silty sediment overlaying bedrock was more common in rockshelter or overhang features where deposition is posited at a slower rate the sediment is much fine in granular size and texture.

PROJECT AREA VEGETATION

Vegetation in the project area generally consists of non-native species such as *kiawe* (*Prosopis pallida*), *koa haole* (*Leucaena leucocephala*), oleander (*Cascabela thevetia*), hibiscus (*Hibiscus L.*), hairy abutilon (*Abutilon grandifolium*), false mallow (*Malvastrum coromandelianum*), castor bean (*Ricinus communis*), bitter melon (*Momordica charantia L.*), currant tomato (*Lycopersicon pimpinellifolium* Mill.), basil (*Ocimum sp.*), and various introduced grasses. The only native vegetative species observed in the project area was *`ilima* (*Sida fallax*). Much of the vegetation has been cleared from the parcel and secondary growth shrubs and grasses are commonplace.

CLIMATE

Rainfall in this lowland, coastal, leeward environment is very modest. The project area receives an average annual rainfall of only 15 to 20 inches (Price 1983:63), with most of this rainfall occurring during winter months (November-April). Seasonal variation in rainfall

amounts follows normal orographic patterns for leeward areas of Maui. At higher elevations within the *ahupua`a* the amount of rainfall doubles and triples that of the coast. Water flows from these upland watersheds to coastal reaches. As such, the project area receives some water from secondary water sources (upland slope wash).

This leeward side of the island does not receive much annual rain or direct water. As a result, the project area and environs were not typically conducive to large-scale agricultural endeavors in the traditional past. Crops such as sweet potato would have thrived much more readily than taro, both being traditional dietary staples. No freshwater streams or springs occur within the project area. Erosion through the rapid gravitational flow of upland water during heavier rains likely provided a secondary water resource for coastal occupants.

TRADITIONAL AND HISTORIC SETTING

The *ahupua`a* of Papa`anui is located on the southwestern side of Maui in the district of Honua`ula. The project area is situated on a coastal region that is located on the lower, southwestern slope of Maui's largest volcano, Haleakala, which rises to over 10,000 feet amsl. This coastal area on which the project area lies is current referred to as "Makena", which translates to the word "abundance" in the Hawaiian language" (Pukui *et al.* 1976:142).

TRADITIONAL TIMES

Documented oral accounts of prehistoric activities and events occurring in the Mākena area are limited in terms of area usage. One oral tradition repeatedly used in historical and archaeological contexts concerns the use of Mākena as a canoe landing in 1776 for the Hawaii Island chief Kalani`opu`u:

In the year 1776 Kalani`opu`u and the chiefs returned to war on Maui, and in the battle with Kahekili's forces at Wailuku were completely overthrown. The army landed at Keone`o`io, their double canoes extending to Mākena at Honua`ula. There they ravaged the countryside, and many of the people of Honua`ula fled to the bush" [Kamakau 1992:85].

Kalani`opu`u, the son of Ka`u ruling chief Kalaninuiiamamao, intended to defeat Maui's paramount chief Kahekili and his military forces, thereby claiming Maui. However, Kalani`opu`u forces were no match for Kahekili's powerful warriors and the conquest was averted (Day 1984:65).

Although not documented to a specific time frame, Handy and Handy (1972) state that during traditional times, utilization of upland areas within Papa`anui Ahupua`a consisted of cultivating crops such as potatoes. This practice was done along the dry coastline as well. As Handy and Handy (1972:130) state, "The ancient Hawaiians planted potatoes in mounds (*pu`e*). Where soil is powdery and dry, as at Ulupalakua and Mākena on Maui, the earth is heaped up carelessly into low mounds spaced with no particular precision or care."

Handy and Handy (1972:272) also imitate that fishing was an important component of the *ahupua`a* subsistence strategy: "On the south coast of East Maui, from Kula to Ulupalakua, a consistently dry and lava-strewn country, Mākena and Ke`oneo`io were notable for good fishing; this brought many people to live by the shore and inland." Sterling (1998) compiled a list depicting a total of ten offshore fishing grounds that were supposedly utilized in the Honua`ula District during pre-Contact times. Of these ten offshore fishing grounds, four were located within the Waipao portion of Papa`anui Ahupua`a, three were located within the general Mākena area, and the three remaining fishing grounds were located south of Honua`ula.

Thus, in traditional times, the Mākena area was recognized for its politics and subsistence base, the latter including "good fishing" and "noteworthy" subsistence agriculture [sweet potato] (Handy and Handy 1972:272). As is explained in some detail below, traditional habitation and use of the Mākena lands prior to Western Contact has some time depth and carried an important role in the overall functioning of the *ahupua`a* in terms of habitation and subsistence resources.

HISTORIC TIMES

Even as traditional activities continued into the early post-Contact period, historical documentation of Mākena places an 1828 missionary intervention with the spread of western religious activities. Mākena Church, built c.1828, was constructed as a missionary outpost. In 1855, Keawalai Congregational Church (State Site No. 50-50-14-1584) was built. During the early 1830s, local missionaries conducted a census of the Mākena population and discovered a population decline. Between the 1840s and the 1850s, the Mākena population experienced further population decreases due to introduced diseases (see Chaffee and Spear 1994:4).

Following Contact, one of the greatest historic events impacting the population of the Hawaiian Islands was the Great *Māhele* of 1848. Thought to have been created under pressure from foreigners, Kamehameha III enacted the Great *Māhele*, which altered the system of land transactions and legal land ownership processes for the entire population of the islands:

By mid-century, the fledgling [Hawaiian] Kingdom undertook the single most significant inducement to cultural change, the Great *Māhele* or division of lands between the king, chiefs, and government, establishing land ownership on a Western-style, fee-simple basis. From this single act, an entire restructuring of the ancient social, economic, and political order followed [Kirch 1985:309].

It was in December of 1845 that a statute [The Great *Māhele*] was enacted creating The Board of Commissioners to Quiet Land Titles, commonly known as The Land Commission. The act also granted unto said Land Commission the authority to accept claims for land received prior to the enactment of the statute, to investigate said claims and to grant awards to the successful claimants. This statute paved the way for private ownership of lands [Land Commission Awards] in Hawaii. Since the enactment of said statute thousands of Land Commission Grants, Kamehameha Deeds, Public Works Grants, Land Patent Grants and other documents have been issued by the Hawaiian Government for lands sold and conveyed to individuals (Chinen 1961:3).

In retrospect, it appears that some of the only people who profited from the Great *Māhele* were those who were informed of the process and understood the requirements imposed by the new statute. The rest of the claimants failed to support their claims and lost lands that had been utilized by their lineal ancestors for generations.

The present project area does not contain Land Commission Awards (LCAs). However, one LCA does exist (LCA 8071) does exist within coastal Papa`anui Ahupua`a and, in combination with LCAs in Waipao Ahupua`a, provide some insight on Proto-historic land use for the Makena area. Chaffee and Spear (1994:4) note that "all of these [LCAs within the Waipao Ahupua`a] were houselots ranging in size from 0.013 to 0.250 acres and that these awards all appear to be well inland. One awardee, Kiniakua (LCA 2658) testified in the Native Register that his houselot was bequeathed by his parents at the time of Kamehameha I." LCA 8071 was less than 10-acres and was utilized for crops such as taro (*Colocasia esculenta*), sweet potato (*Ipomea batatas*), Irish potato (*Solanum tuberosum* L.) and *hala* (*Pandanus tectorius*).

Other LCAs were awarded for coastal properties in neighboring Kaeo, an *ahupua`a* located south of the project area (Figure 3). LCA 4292B *apana* 2 consisted of a houselot (Native Testimony v7:137-138). LCA 2399, located above Mākena-Keoneoi Road (the old government road), also consisted of a houselot (Native Register v3:482). Due to inconsistencies in reporting,

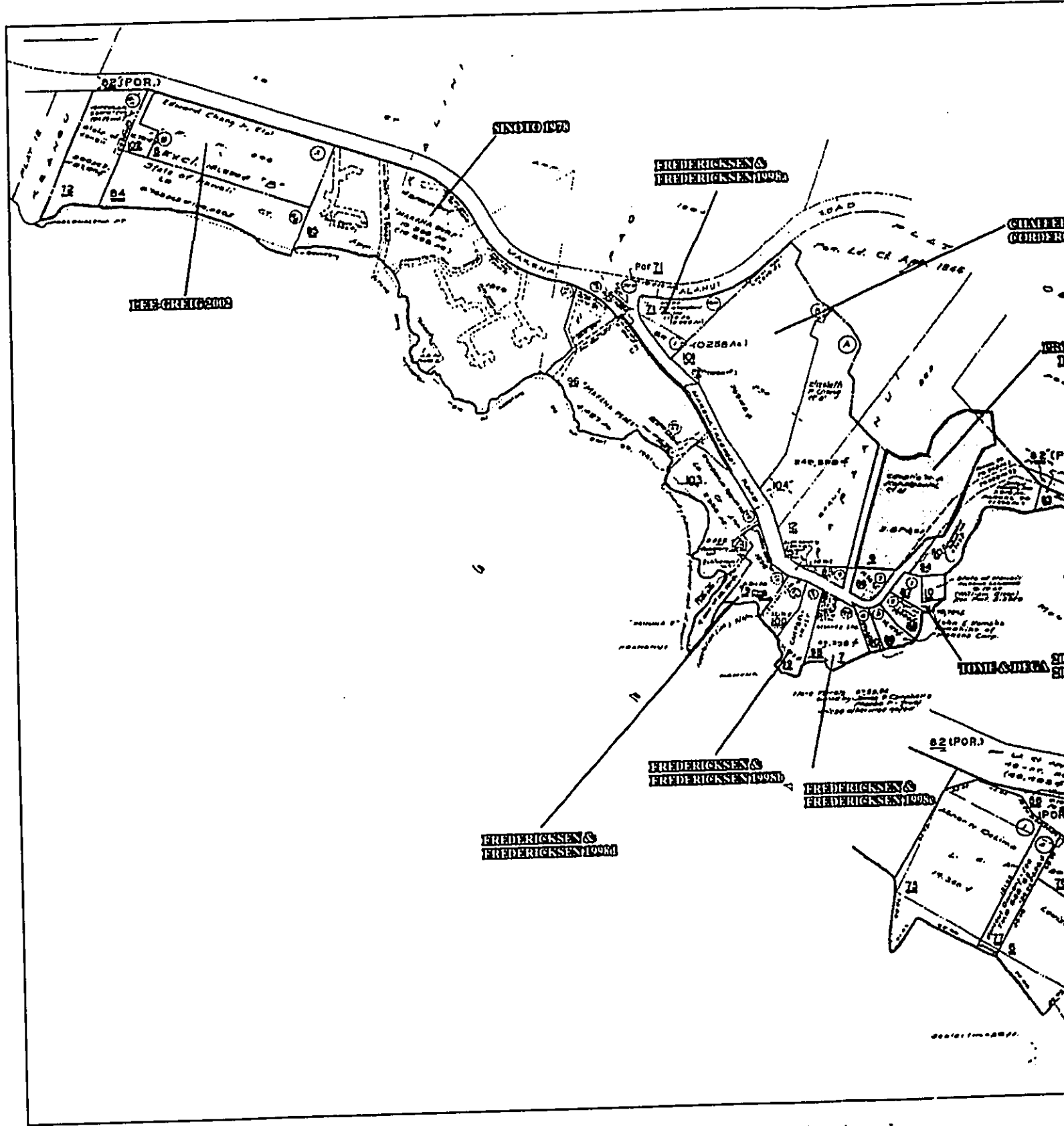
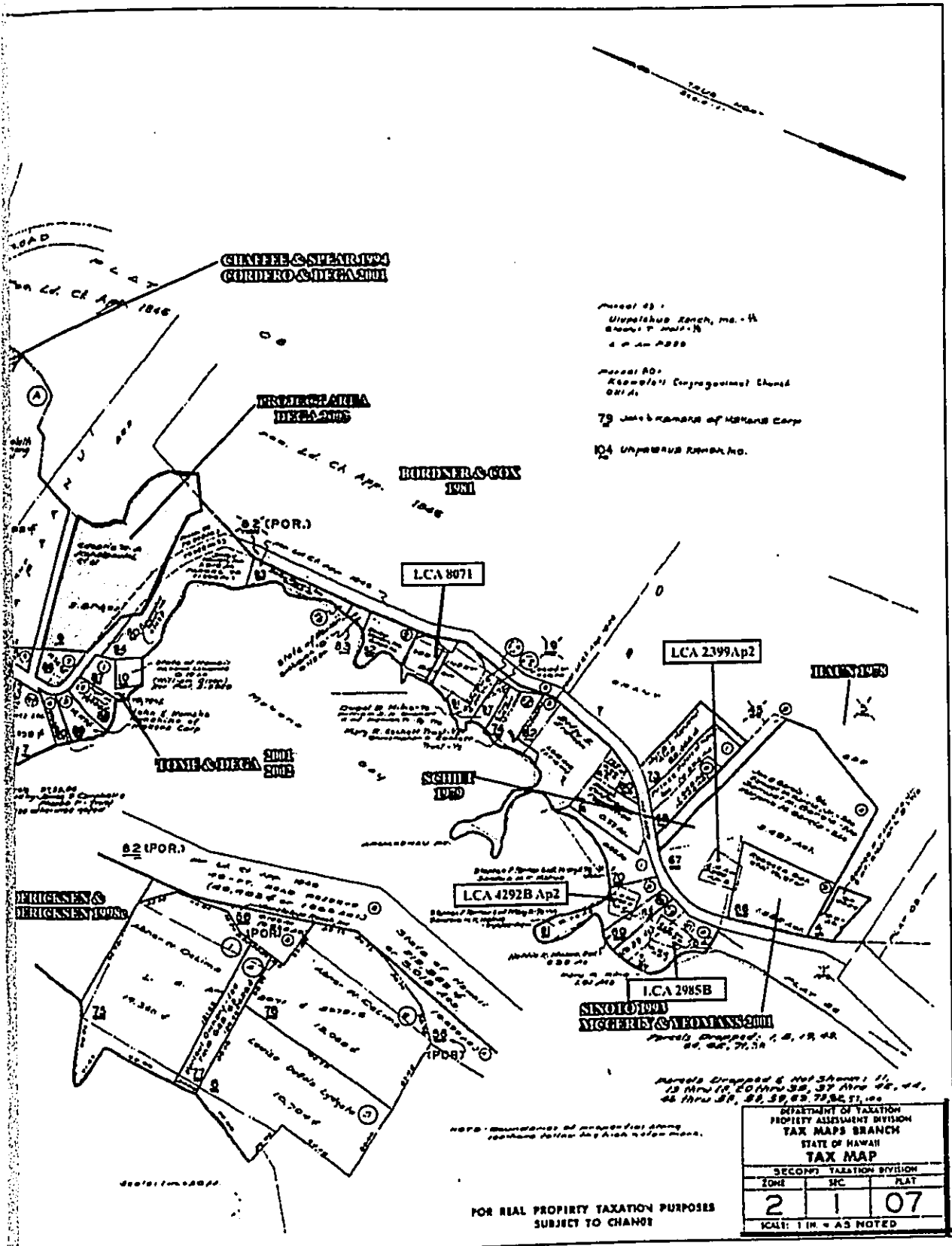


Figure 3: Tax Map Key Sheet with Previous Archaeological Projects and Land Commission Awards.



Parcel 80:
 Ulupelehua Ranch, no. 14
 4 in 1988

Parcel 80:
 Keowala Congregational Church
 0414

79 Improvement of HAWAII Corp

104 IMPROVED LANDA NO.

DEPARTMENT OF TAXATION
 PROPERTY ASSESSMENT DIVISION
 TAX MAPS BRANCH
 STATE OF HAWAII
TAX MAP

SECOND TAXATION DIVISION		
ZONE	HC	PLAT
2	1	07

SCALE: 1 IN. = AS NOTED

FOR REAL PROPERTY TAXATION PURPOSES
 SUBJECT TO CHANGE

Awards.

"LCA 2985-B. . . could not be located, but LCA 2395 appears to describe the correct location for the property. This piece of land was given to Kaili by Kalama, his neighbor, in 1845, and it consisted of a house lot" (McGerty and Yeomans 2001:7).

Although the current project area does not contain LCAs, the project area is part of Grant 223 that was made to Linton L. Tolbert sometime during 1849 and 1850. This grant allowed Tolbert access from upland Ulupalakua to the sea (Fredericksen and Fredericksen 1998c:2). Fredericksen and Fredericksen continue to state that the labeling of "Grant 223" may be incorrect as Grant 234, awarded also to Tolbert around the same time, allowed him the same access.

Given the minimal amount of LCA within coastal Papa'anui Ahupua'a and in the neighboring *ahupua'a* of Kaeo, the overall LCA pattern for the Mākena area suggests that a permanent residence was one land use strategy in the area during historic times (see McGerty and Yeomans 2001 for a more detailed discussion of area LCAs). Accompanying plots for the cultivation of sweet potato and use of the coastline for fishing likely accompanied such occupation. A prime example of historic era cultivation in Makena occurred during the California gold rush of 1848 when the Irish potato was cheaper to import from Hawaii as opposed to localities within the continental United States (Fredericksen and Fredericksen 1998b:9). Hawaiians and company-owned plantations quickly filled roles as producers of the crop. As discussed below, permanent and temporary occupation of the Mākena has some time depth, with the earliest permanent habitation sites having been constructed and occupied from the A.D. 1200s (Cordero and Dega 2001).

From the mid-1800s through the early 1900s, ranching activities employed many Makena residents and as a result, lessened time for traditional activities. The previously mentioned Makena Landing, a preserved example of ranching associated structures, was utilized as a staging from where cattle were transported to ships awaiting offshore. The many cattle walls and enclosures visible in the Makena area today attest to the importance of ranching to the local economy, which continues today in areas such as Ulupalakua. Following the ranching period (c.1925 to current), the major foci of Makena became oriented toward the construction of residential homes and tourist destinations (Chaffee and Spear 1994:5). These undertakings still dominate present-day land use in the area.

PREVIOUS ARCHAEOLOGY

Prior to the current archaeological investigations, the present project area had been subject to archaeological reconnaissance survey (see Dega 2003). In addition, several archaeological projects were conducted on nearby land parcels within the Waipao portion of Papa'anui Ahupua'a and within the neighboring *ahupua`a* of Kaeo. Many projects were also conducted nearby, along the Mākena coastline.

W. M. Walker, between 1929 and 1930, conducted one of the earliest archaeological surveys of the Mākena area and inventoried both coastal and upland sites of the *ahupua`a*, including fishponds, *heiau*, and house sites. Although some of the sites Walker documented were destroyed, he nonetheless assigned site numbers. Of the destroyed sites, four were *heiau* located in Ulupalakua (see Sterling 1998:229, 231-232). Also within Ulupalakua, Walker recorded a platform that had been converted into a house site; T. Thrum, another early surveyor, interpreted the structure as a sacrificial platform.

During the late 20th and continuing into the 21st century, Mākena was subject to more drastic land alterations caused by the influx of construction in which residential homes and tourist hotel destinations were quickly built. Supplemental to the major construction boom was the concomitant increase in associated archaeological work in the area. Several archaeological projects were conducted nearby the present project area and illuminate data important in determining the settlement pattern of the Mākena area (see Figure 3).

In Waipao Ahupua'a, Fredericksen and Fredericksen (1998a) conducted Inventory Survey of a c. 1-acre land parcel occurring near the coast (TMK: 2-1-07:71). Survey led to the identification of an enclosure (State Site No. 50-50-14-4504), an overhang shelter (50-50-14-4505), and a pre-Contact habitation area (50-50-14-4506). Based on construction methods, the Fredericksens (1998a:29) placed construction of the rock enclosure to early post-Contact times. The function of the rock shelter was determined to be a low use activity area, due to the limited amount of recovered cultural material; due to the absence of historic artifacts, use of the shelter was placed during pre-Contact times, (*Ibid.* 31). Based upon the recovery of traditional artifacts and midden, as well as the absence of historic artifacts, Site 4506 was also designated as a pre-Contact site (*Ibid.* 34).

Also in Waipao Ahupua'a, Chaffee and Spear (1994) conducted Inventory Survey on a land parcel (TMK: 2-1-07:12). Six sites consisting of temporary and permanent habitation

structures, activity areas (lithic scatters), and agricultural features were documented and assigned State Site Nos. 50-14-3513 through 50-14-3518 respectively. Construction and utilization of all six sites was placed in pre-Contact times. One radiocarbon sample from Site 3513, a large house site, produced a date of 90 ± 80 B.P. Calibrated with OxCal, the returned date, at 2 Sigma, was A.D. 1660 to 1950 (Chaffee and Spear 1994:45). Remaining sites, although not subject to radiocarbon analysis, were dated to pre-Contact times based on the overwhelming presence of traditional-period artifacts (*Ibid.* 41). Three of the six sites documented by Chaffee and Spear (1994) were later subject to Data Recovery investigations.

Cordero and Dega (2001) provide additional evidence in which to evaluate the temporal placement and nature of Site 3513 Feature 2A (enclosure), Site 3514 Features 1–3 (modified outcrops-agricultural), and Site 3516 Feature 4 (surface lithic scatter). Briefly, block excavations within the Site 3513 enclosure yielded 64 subsurface features related to food preparation and habitation (postmolds) with various concentrations of lithic, faunal, and midden remains. Initial construction and occupation of the enclosure (house site) was dated to c. A.D. 1280–1460, a time period somewhat earlier than posed by Cordy and Athens (1988), yet, supported by the work of Gosser *et al.* (1996). Formalization of the structure (*'ili`ili* pavement) occurred in late traditional/early historic times. Overall, the *hale* was utilized for habitation, food preparation and consumption, and lithic manufacturing on a continuous basis from the A.D. 13th century through 17th century. Intra-feature patterns regarding secular areas of domestic activity were identified.

The agricultural site (Site 3514) yielded a date range of A.D. 1420–1700, a time period contemporaneous with occupation of the house site. No dates were acquired from Site 3516 (lithic scatter) but the nature and manufacture of the tools implied a traditional time frame. The pattern of these six sites shows long-term use of the Mākena landscape for various purposes, in a location only c. 500 m removed from the present study area.

Sinoto (1978) conducted pedestrian survey of the Papa`anui Ahupua`a uplands that led to the identification of agricultural features. These features were assessed as pre-Contact in origin. In a model posed by Cordy and Athens (1988), these features, and possibly associated habitation areas, could have been constructed from the A.D. 1600s.

In neighboring Kaeo Ahupua`a, Haun (1978) conducted Inventory Survey that led to the identification of multiple agricultural features. Utilizing volcanic glass hydration dating, the features were dated to A.D. 1606–1705 and A.D. 1600 (Haun 1978; see also McGerty and

Yeomans 2001:12). Additionally, Bordner and Cox (1982) surveyed the uplands of Kao Ahupua`a. The survey led to the identification of habitation structures and associated agricultural features. Upland of Mākena-Keoneoi Road and the present project area, a survey by Schilt (1979) yielded several traditional features, including habitation enclosures and modified natural outcrops, with scatters of marine midden and historic artifacts. Excavation of a habitation site on the parcel produced a radiocarbon date of A.D. 1410 to 1660, intimating pre-Contact occupation of the area (see McGerty and Yeomans 2001:18).

In 1993 Inventory Survey was conducted on another coastal Makena property (TMK: 2-1-7:66; Sinoto 1993). Altogether, the survey identified six archaeological features. Feature 1 was a trash deposit containing traditional and historic cultural materials; Features 2 and 3 were both walls of which one (Feature 2) was core-filled. Feature 4 was a sweet potato mound identified by oral accounts. Feature 5 was a small enclosure utilized for animal husbandry, which may have had an alternate, unknown primary function due to its well-stacked walls and general appearance. Feature 6 was a historic well constructed of mortar and brick. Subsurface testing of selected feature and non-feature areas revealed traditional midden—sometimes intermingled with archaeologically historic debris.

A few years later in the *ahupua`a* of Papa`anui, multiple surveys (reconnaissance and inventory-types) were reported by Fredericksen and Fredericksen (1998b and c). The results of an Inventory Survey on TMK: 2-1-07:99 (1998b) identified multiple archaeological sites that included a World War Two shoreline gun footing (50-50-14-4673), a rock overhang shelter (50-50-14-4674), a modified rock structure remnant (50-50-14-4675), and a rockshelter (50-50-14-4676). Of the four sites, excavations yielded modern debris and beach-type materials (marine shellfish, coral, etc.). On TMK: 2-1-07:7 and 98 (1998c) an Inventory Survey located four more sites that included a fishing shrine (-4524), small rock overhang shelters (-4525 and -4526) and a portion of the Old Government Road retaining wall (-4527). The fishing shrine was thought to have been previously identified by Winslow Walker and subsurface testing revealed a subsurface pit feature, an *ili`ili* pavement and traditional cultural material. Subsurface testing at Site -4525 revealed only historic cultural materials such as bottle glass sherds while the same type of testing at Site -4526 yielded modest amounts of marine invertebrates, charcoal and waterworn pebbles. No radiocarbon samples were submitted for this survey.

Another Inventory Survey reported by Fredericksen and Fredericksen (TMK:2-1-07:79;1998d) reported another archaeological site (50-50-14-4544) comprising of a rock shelter and an subsurface pavement of *ili`ili* stones and coral. Subsurface testing of selected areas

within the site yielded the presence of several subsurface features (a historic post-hole and refuse pits) and traditional artifacts (coral abraders, sea urchin files, lithic debitage) recovered from lower stratum while upper stratum revealed modern debris. As these sites were located along the coast and subject to extreme sea conditions, no suitable radiocarbon samples were obtained.

In July 2000, Archaeological Inventory Survey-level investigations were conducted on a small land parcel also located near the Mākena coastline in neighboring Kaeo Ahupua`a (McGerty and Yeomans 2001). Thirteen features composing State Site No. 50-50-14-4986 were recorded and tested. Representative shovel probes placed within the features yielded marine shell midden intermingled with historic artifacts. Carbon samples were not obtained due to the almost complete absence of charcoal and other organic matter. This situation inhibited absolute dating and thus, relative dating was utilized for this particular survey. A manufacturer's stamp dated "1901" on a bullet casing was recovered from one shovel probe and provided the only solid date. The existence of historic artifacts at all the features did not preclude them from solely relating to historic times; the features occurred in a close proximity to Kalani *Heiau*, a traditional site (McGerty and Yeomans 2001:40-41). Overall, Site -4986 consisted mainly of historic features, yet, sampling methods may have precluded the identification of traditional components.

In 2001, Inventory Survey was conducted on yet another coastal Makena property that identified a temporary habitation site (50-50-14-5123) comprised of two features (see Tome and Dega 2001). Based on site location, feature architecture, and recovered traditional cultural materials (marine shell beads, volcanic glass and basalt flakes, cut bone, basalt flakes with polish), Feature 1 was identified as an alignment or truncated terrace and interpreted as a remnant temporary habitation terrace or agricultural terrace-retaining wall. Feature 2 was identified as a rock-filled terrace fronted by a soil-terrace interpreted as a temporary habitation locus. A radiocarbon sample obtained from Feature 2 produced a radiocarbon date of A.D. 1410-1530 thus reinforcing that both features were utilized during traditional times.

A few months later, the same parcel was subject to Archaeological Monitoring and resulted in the addition of a historic component being that excavation revealed artifacts—mainly glass bottles—associated with Makena's military occupation (see Tome and Dega 2002). A few traditional type artifacts were also collected during the Monitoring that included traditional artifacts such as coral abraders, marine shell beads, lithic debitage (volcanic glass and basalt), a basalt hammerstone, and a basalt *ulu`maika*.

Finally, in 2002 Lee-Greig (2002) conducted an Inventory Survey of 3.19-acres (TMK: 2-1-07: 08), also in coastal Makena. The combinative of pedestrian and subsurface testing located four historic properties that included a historic fence line, a traditional cultural deposit, a traditional human burial and a previously identified site consisting of two historic rock walls (State Site Number 50-50-14-4818; Roberts *et al.* 2000). Two radiocarbon samples were submitted—one each from the traditional cultural deposit and the commingled cultural deposit (traditional and historic) found in one of the excavation units (Test Unit 7). At 2 sigma, those samples revealed dates of A.D. 1660 to 1950 and A.D. 1550 to 1630, respectively. Although both radiocarbon dates reflected times of traditional occupation, the commingled radiocarbon sample was thought to be the result of agricultural activity or the “old wood problem (see Kirch 1985:49-50).”

Previous archaeological research near the present project area has revealed a long history of habitation and agricultural endeavors in the coastal Mākena area. A range of site types and associated midden and artifacts have been recovered at both traditional and historic sites. As is discussed below, the settlement pattern of coastal Mākena has some time depth. The present data set can be utilized to refine the settlement pattern model of the area.

SETTLEMENT PATTERN

The settlement pattern for the district of Honua`ula is varied, with several competing models being proposed (see Cordy 1981; Kolb *et al.* 1997; Cordy and Athens 1988; Cordero and Dega 2001). For the purposes of this report, the focal point is the coastal area of Mākena.

Cordy (1981) suggests that prehistoric permanent housing in the Mākena area dates to ca. A.D. 1600 or “no farther back than the mid-AD 1500s” (Cordy and Athens 1988:10). Conversely, Gosser *et al.* (1996) and Cordero and Dega (2001) provide evidence that permanent habitation initially appeared in the Mākena area from approximately A.D. 1200s, with increased (read: more intensive) settlement in the form of a more heavily built landscape by A.D. 1650.

As a majority of the sites recorded in the Mākena area have been permanent habitation and agricultural sites, there is a slight lacunae in knowledge concerning temporary habitation sites such as those occurring in the present project area. As such, we wish to measure the current data set against the model posed by Cordy and Athens (1988), the latter stating that temporary habitation loci associated with fishing and agricultural sites occurring in upper areas of Mākena date to no earlier than the A.D. 1500. Given the new evidence that permanent residences were

established in the area by A.D. 1200 (Cordero and Dega 2001), one would naturally expect temporary habitation sites to pre-date or, at the least, be contemporaneous with permanent sites.

Employing archaeological data from around the island, it appears that the settlement pattern in Mākena suggests that as the population increased in the earlier settled areas of windward Maui, inhabitants began emigrating to leeward sides. This pattern is consistent with time periods suggesting early occupation of Windward Maui by A.D. 300-600 and population spreading to more marginal areas by c. A.D. 1000-1200. Within comparatively marginal zones such as Mākena, even these zones could be subject to micro-divisions. As such, directly coastal and more upland areas would have been more amenable to habitation and/or cultivation than the drier areas in between.

The elevation model proposed by Cordy and Athens (1988) suggests that certain site types may be associated with specific elevation zones and time periods. For instance, Cordy and Athens (1988) propose that permanent housesites in Mākena were situated within .25 miles of the coastline and agricultural lands and temporary housesites were located over .25 miles inland from the coast. Permanent housing settlements scarcely occurred beyond .25 miles from the coast (Ibid.). This may be true, with the data in hand, yet, there are, as noted above by several projects in the area, also pre-Contact temporary habitation sites (shelters) that occur within 0.25 miles from the coastline. The present project seeks to further confirm this hypothesis and to analyze the relationship between permanent and temporary habitation sites occurring within the 0.25 mile zone of coastal Mākena.

In brief, the settlement pattern of coastal Mākena shows the presence of both temporary and permanent habitation sites beginning from about A.D. 1200, and agricultural features, —mainly sweet potato mounds —beginning from the early 14th century. Formalization of architecture, added structures for habitation and agriculture, and lithic workshops have been documented from the A.D. 14th century yet, were more paramount from the A.D. 17th century. Occupation and land utilization of the area continued through Post-Contact times, as evidenced by the area's many LCAs denoting house sites. Ranching activities in the late 1800s dominated much of Mākena's marginal areas while coastal habitation and fishing remained constant. While the influx of residences and hotels in the area during modern times covered much of the former traditional lands, evidence to refine existing settlement pattern models for the area is still amenable to evaluation. The present project aims to contribute to this growing database.

FIELD METHODOLOGY

Multiple field tasks were completed during this Archaeological Inventory Survey. First, the five features identified during the reconnaissance survey were formally recorded on graph paper as well as standard 8.5 by 11 inch paper during this Inventory Survey project. Notes from the reconnaissance on the 3.51-acre parcel's landscape modification were utilized as primary references. However, for purposes of the current Inventory Survey, these features were re-assessed, re-labeled and assigned sequential alphabets to prevent replication of feature designations. Each site was plotted on an overall project area plan view map, recorded, described, and photographed. Vegetation within the project area was identified using Neal (1965), Kepler (1997), and Pratt (1998).

Second, three types of excavation units were employed to assess feature architecture and construction methods, in addition to assessing the presence/absence of associated archaeological deposits. The units allowed for more accurately characterizing subterranean architecture, rockshelter deposits, and topographical changes indicative of earlier land use. Shovel probes (SP) were utilized to ascertain only the presence/absence of archaeological deposits; no soils were screened when this excavation method was being used, and opportunistic collection of cultural materials was necessitated for unit representation. Test units (TU) were employed when a more controlled excavation was preferred. Test units were also utilized when shovel probes confirmed the presence of archaeological deposits. Stratigraphic trenches (ST) were employed when it was likely that subterranean feature architecture required exposition and spatial reference was needed to explicate subsurface archaeological deposits. Both test units and stratigraphic trenches soils were 100 percent screened for cultural material (archaeological and modern debris). As with feature designations, excavation units were also given sequential designations to prevent replication that may cause confusion. Finally, digital photographic documentation of the entire parcel was accomplished, particularly of identified features.

LABORATORY METHODOLOGY

All samples collected during the project, excluding human remains, have undergone analysis at the SCS laboratory in Honolulu. Pre-sorting analysis was undertaken at the SCS laboratory on Maui. One human tooth was identified on Maui during the midden sorting process. State Historic Preservation Division-Burial Sites Program and Maui/Lana'i Islands Burial Council representatives were notified of the find both by telephone and in a short letter

report seeking a determination (Appendix A). Appendix A provides a copy of the submitted letter and all information pertaining to the identification of the single human tooth.

Photographs, illustrations, and all notes accumulated during the project have been curated at the SCS laboratory in Honolulu. All stratigraphic profiles have been drafted for presentation within this report. Representative plan view sketches showing the location and morphology of identified sites/features/deposits were compiled and illustrated. All retrieved artifact and midden samples were cleaned, sorted, and analyzed. Historic artifact information for glass bottles were gleaned using Toulouse (1971). Marine gastropods and bivalves were identified using Kay (1979). Significant artifacts were scanned or photographed and classified for qualitative analysis. All metric measurements and weights were also recorded for quantitative analysis. All data is presented in tabular form within the appendices of this report. Midden samples were minimally identified to the lowest possible taxonomic classification (e.g., bivalve, gastropod mollusk, echinoderm, fish, bird, and mammal). All data was clearly recorded on standard laboratory forms that included numbers and weights (as appropriate) of each constituent category. These counts were also included in this report.

Samples amenable to dating were collected from significant cultural deposits, prepared at the SCS laboratory in Honolulu, and submitted to Beta Analytic for specialized radiocarbon analysis. Once processed, conventional dates were run through the OxCal (v.3.5) program for calibration.

INVENTORY SURVEY RESULTS

A total of four sites composed of six features were identified during Inventory Survey (Figure 4). These sites were also tested during the present project. Each site is described below. Overall, the project area has undergone large-scale landscape modifications, particularly where existing residences occur along the northern flank and in the south-central portion where dumping and traffic has been significant. Debris piled along the base of shallow cliffs in the central portion of the area intensively covered the ground surface and disturbed subsurface contexts, thereby making subsurface testing of some areas problematical.

Inventory Survey led to the documentation of four archaeological sites consisting of both single and multi-component features, these including a remnant terrace, rockshelter, rock overhang with C-shape, lithic scatter, rough surface paving, and an historic-period free-standing rock wall.

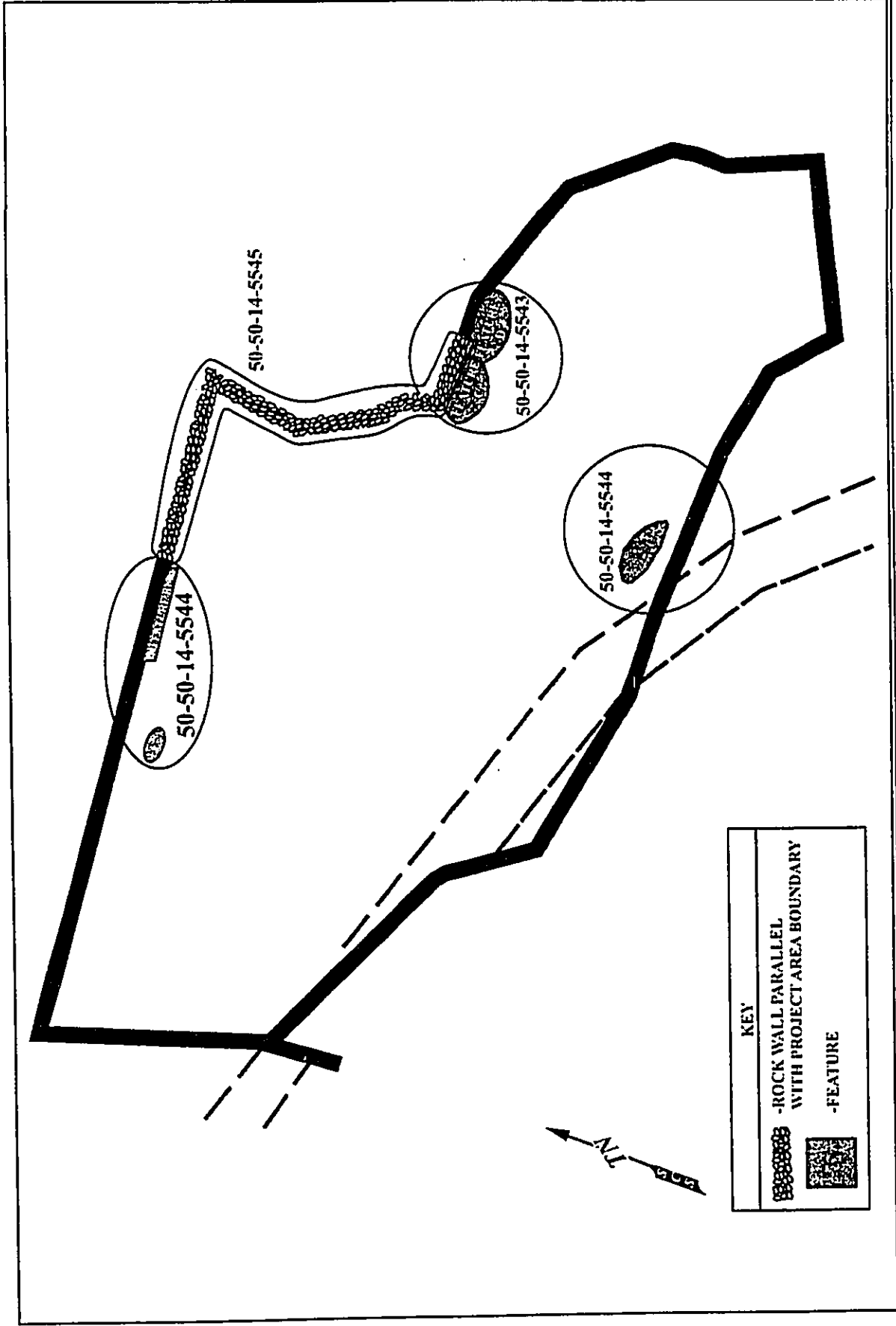


Figure 4: TMK 2-1-07:09 Showing General Locations of Archaeological Sites.

SITE 50-50-14-5542

Site -5542 encompassed an area of 85.75 m² and consisted of two features (Features A and B). The site is located along the northern boundary of the parcel. Feature A is a remnant terrace located approximately 10 meters (m) to the west of a rockshelter, the latter designated as Feature B. Four excavation units (SP-5, SP-6, SP-7 and TU-8) were placed within the confines of Site -5542 to evaluate the presence/absence of associated cultural deposits and to aid in feature temporal interpretations.

FEATURE A

Feature A is a very small structure located on the slope to the south of a pre-existing building ("FF=27.91"). The feature occurred 27 m to the north of a "Speed Limit" sign along Makena-Keoneoi Road. The structure measured 1.4 by 1.4 m and was oriented on an east/west axis at 90°/270°. The feature consisted of several basalt cobbles stacked on a bedrock (Figures 5 and 6). The front of the feature was approximately 0.40 meters (m) high while the backside of the feature was stacked flush to the slope. Aluminum beer cans were observed on the feature's surface. One excavation unit (SP-7) was placed in the feature.

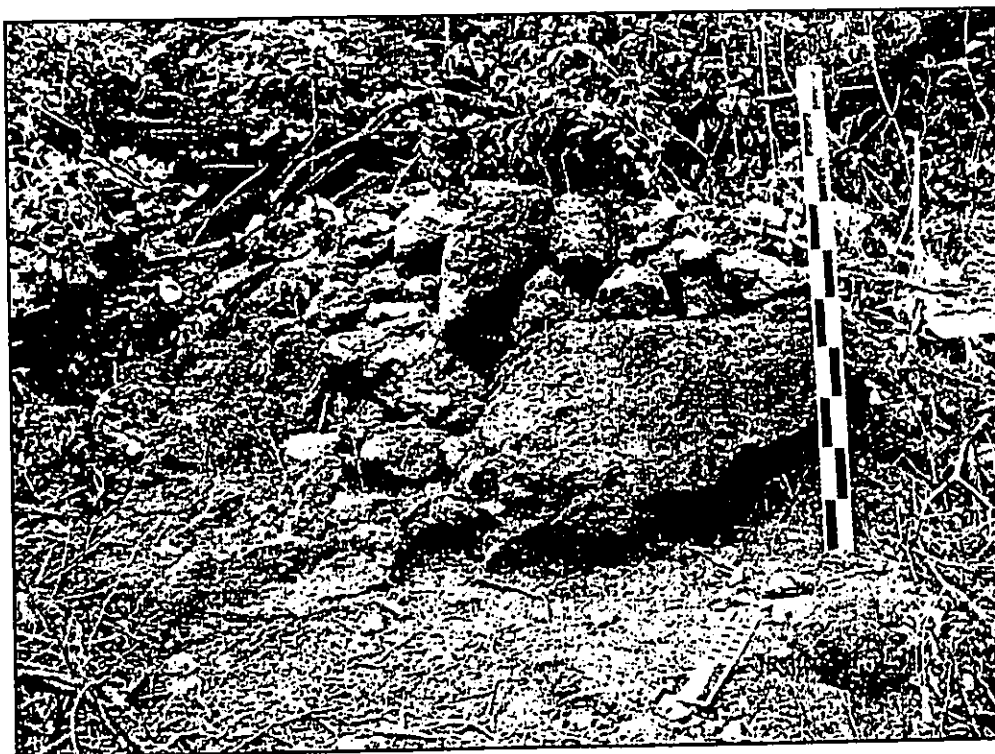


Figure 5: Site -5542, Feature A Remnant Habitation Terrace Pre-excitation Plan View. View to Northwest.

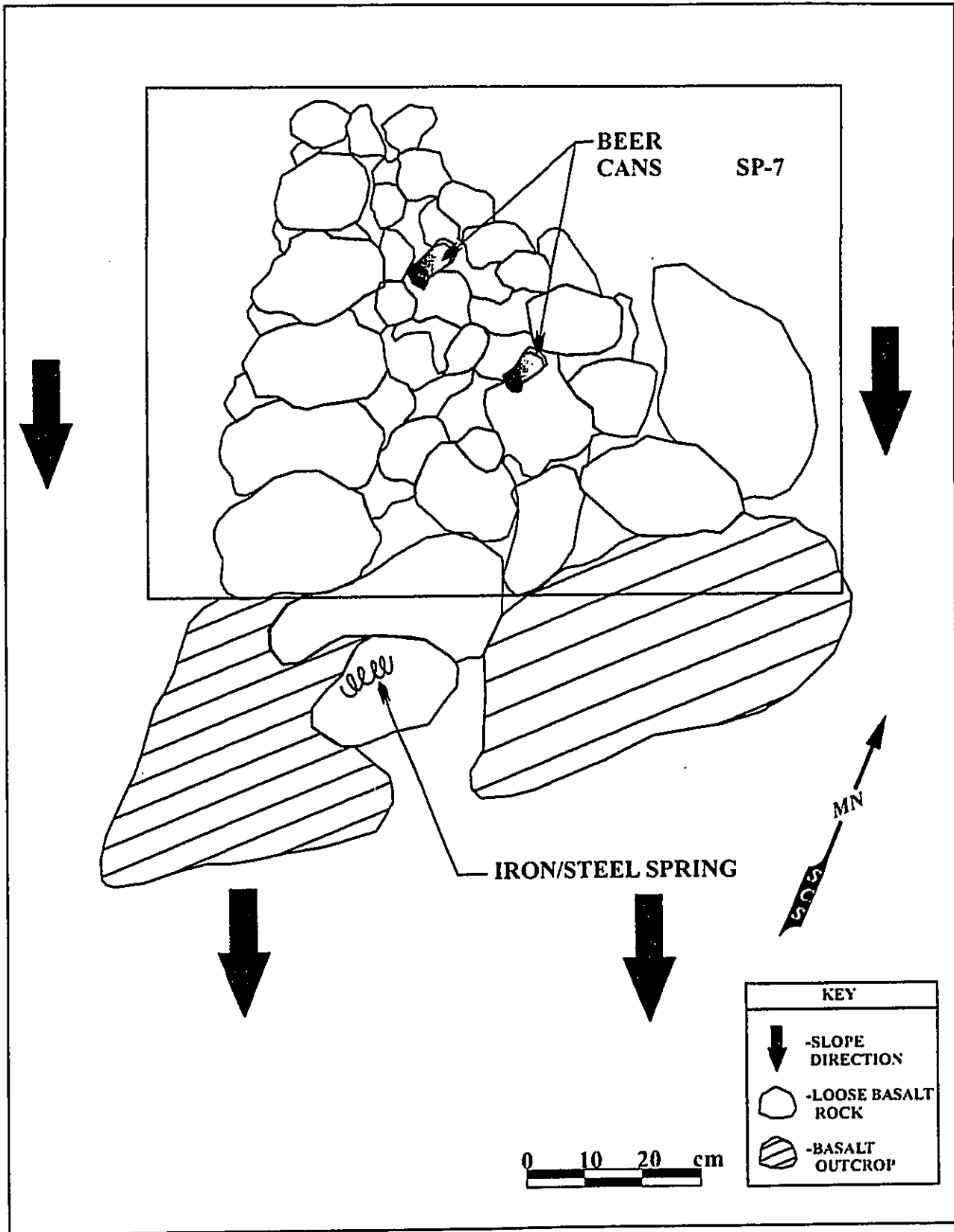


Figure 6: Site -5542, Feature A Remnant Habitation Terrace Plan View Drawing Showing Location of Shovel Probe 7.

SP-7 comprised an excavation area of 0.90 m by 1.20 m and was placed on the feature. Excavation revealed that the feature was composed of stacked architecture (extending to 0.40 m above the surface) of sub-angular basalt cobbles placed on *a'a* bedrock (Figure 7). Modern debris such as cigarette butts, bottle caps, bed spring frame connectors, plastic and aluminum beer cans were found on and within the feature's architecture. Excavation only revealed the presence of a soil layer that eroded from the base of the cliff facing. Layer I (0–0.08 mbs) consisted of dark yellowish-brown (10YR 3/3) silt. This layer terminated on bedrock. Based on the results of excavation, its close proximity to the cliff facing, and construction methods, the feature was interpreted as a possible temporary use activity area for habitation suggestive of a prehistoric association. The feature may have been utilized as a rest area or something to that effect. Support of this notion is the lack of an adequate soil deposit which suggests the function of the feature was not agriculturally associated. Additionally, soil retention would have been difficult given the grade of the slope. The modern trash found on and within the feature architecture is the result of dumping actions by nearby residents living to the north of the feature.

FEATURE B

Feature B was a single-chamber rockshelter located along at the base of a small cliff along the northern flank of the project area (Figure 8). The rockshelter's long axis (entry) was oriented east/west at 80°/260° and measured approximately 13 m. The opening occurred along the base of the cliff, the main interior chamber intruding a maximum 2.5 m into the cliff from the drip line. Prior to excavation, it was observed that the rockshelter's interior chamber contained both disturbed and undisturbed soil deposits. Decomposing vegetation, early twentieth century glass bottles, and modern debris from residential dumping were also observed strewn on the surface of the rockshelter. Three excavation units (SP-5, SP-6, and TU-8) were placed within and in front of Feature B (the talus area) to assess the presence/absence of cultural deposits, assess the horizontal and vertical extent of any deposits, and determine if previous excavation had occurred in the rockshelter (Figure 9). (Note: a square-looking excavated area was noted inside the shelter and appeared to have been a formalized unit; no authorized archaeological work had been done on the parcel prior to the present research).

SP-5 measured 0.90 m by 1.20 m and was placed on the talus of Feature B. The excavation of SP-5 revealed three soil layers (Figures 10 and 11). Layer I [0–0.15 meters below surface (mbs)] was composed of compact, dark yellowish-brown (10YR 3/3) silt with few subangular basalt cobbles, modern debris, and bird bone. Layer II (0.15–0.44 mbs) consisted of compact, very dark brown (10YR 2/2) silty clay with subangular cobbles. Burnt *Bos taurus*

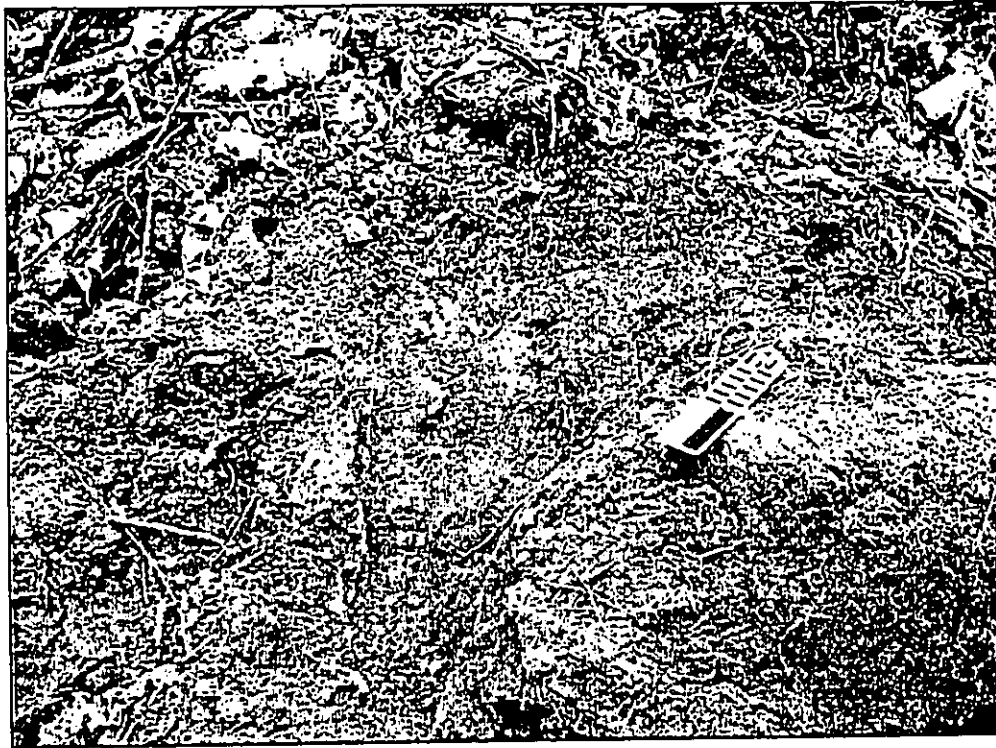


Figure 7: Shovel Probe 7, Bottom of Excavation. View to Northwest.

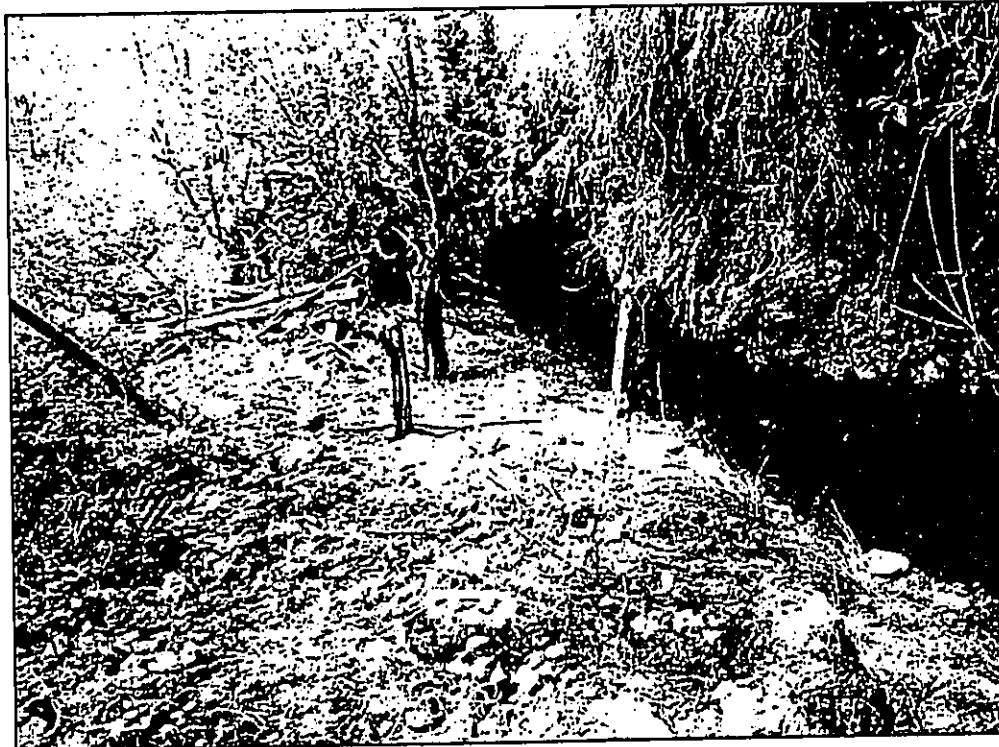


Figure 8: Site -5542, Feature B Rockshelter. View to West.

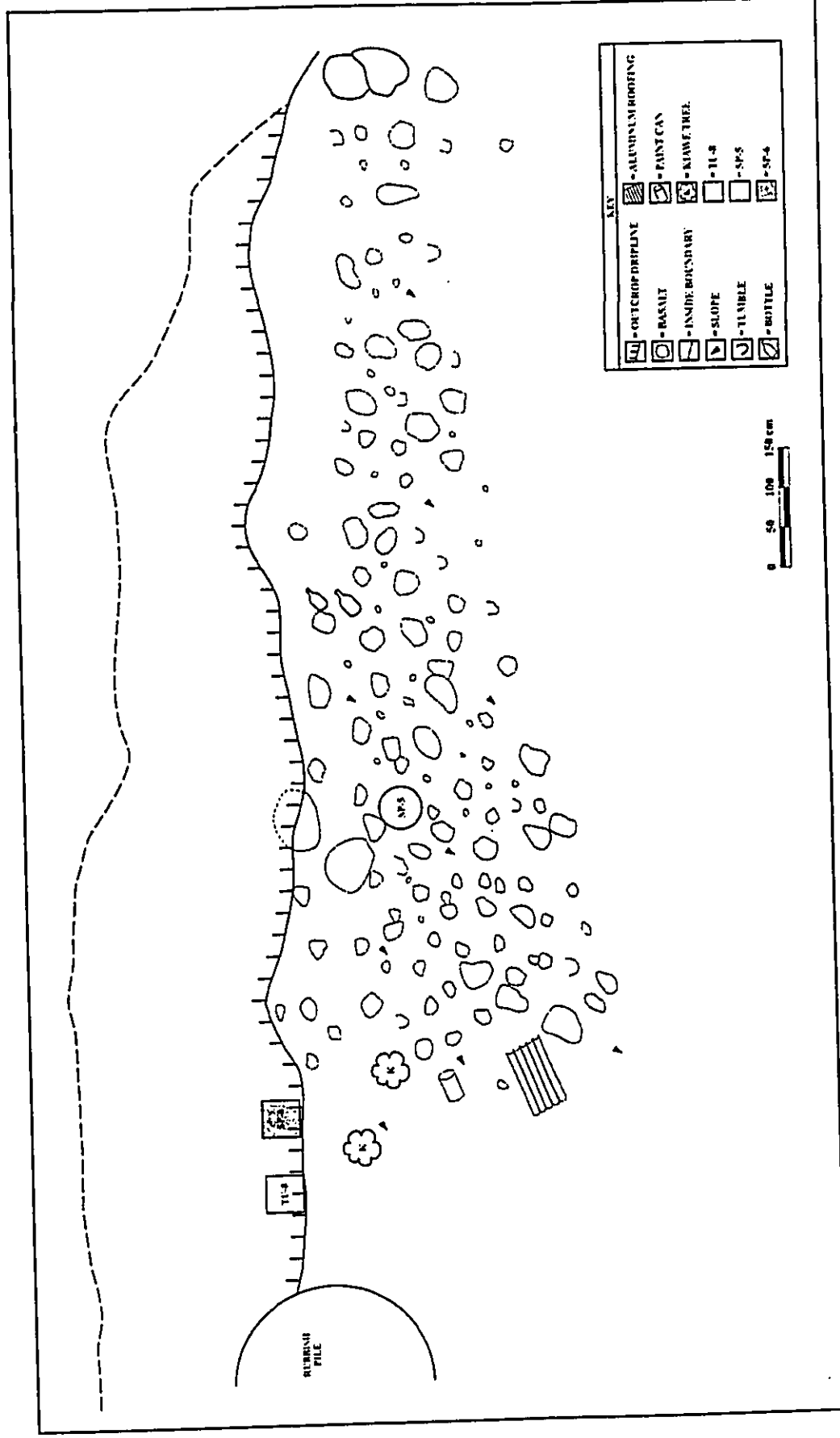


Figure 9: Site -5542, Feature B Rockshelter Plan View Drawing Showing Locations of Shovel Probes 5, 6, and Test Unit 8.

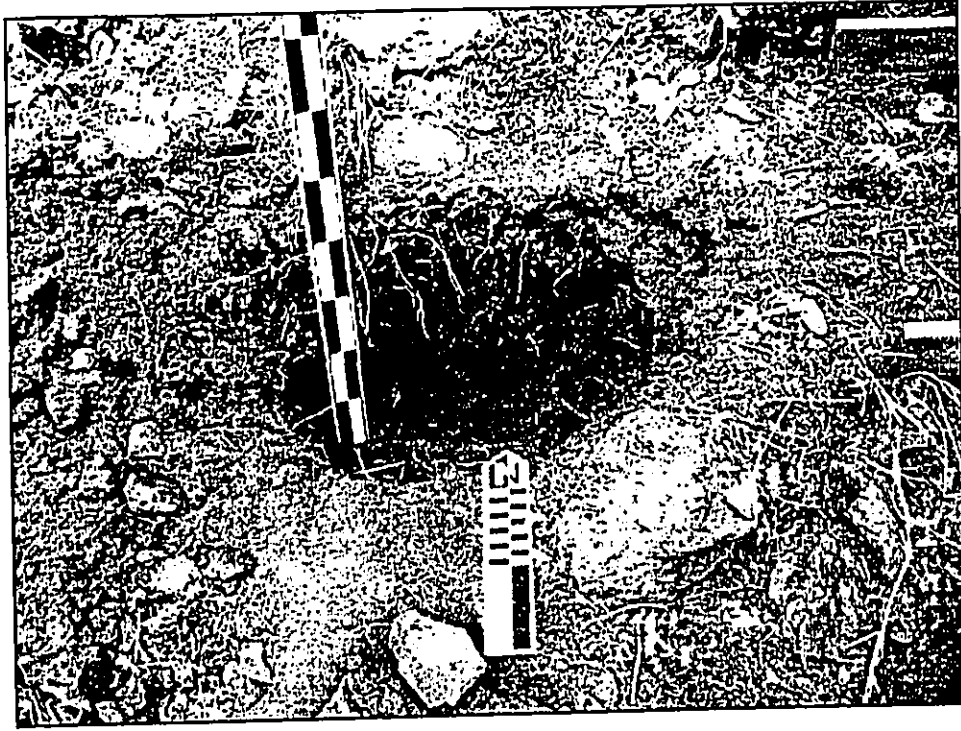


Figure 10: Shovel Probe 5 North Wall Stratigraphic Profile. View to North.

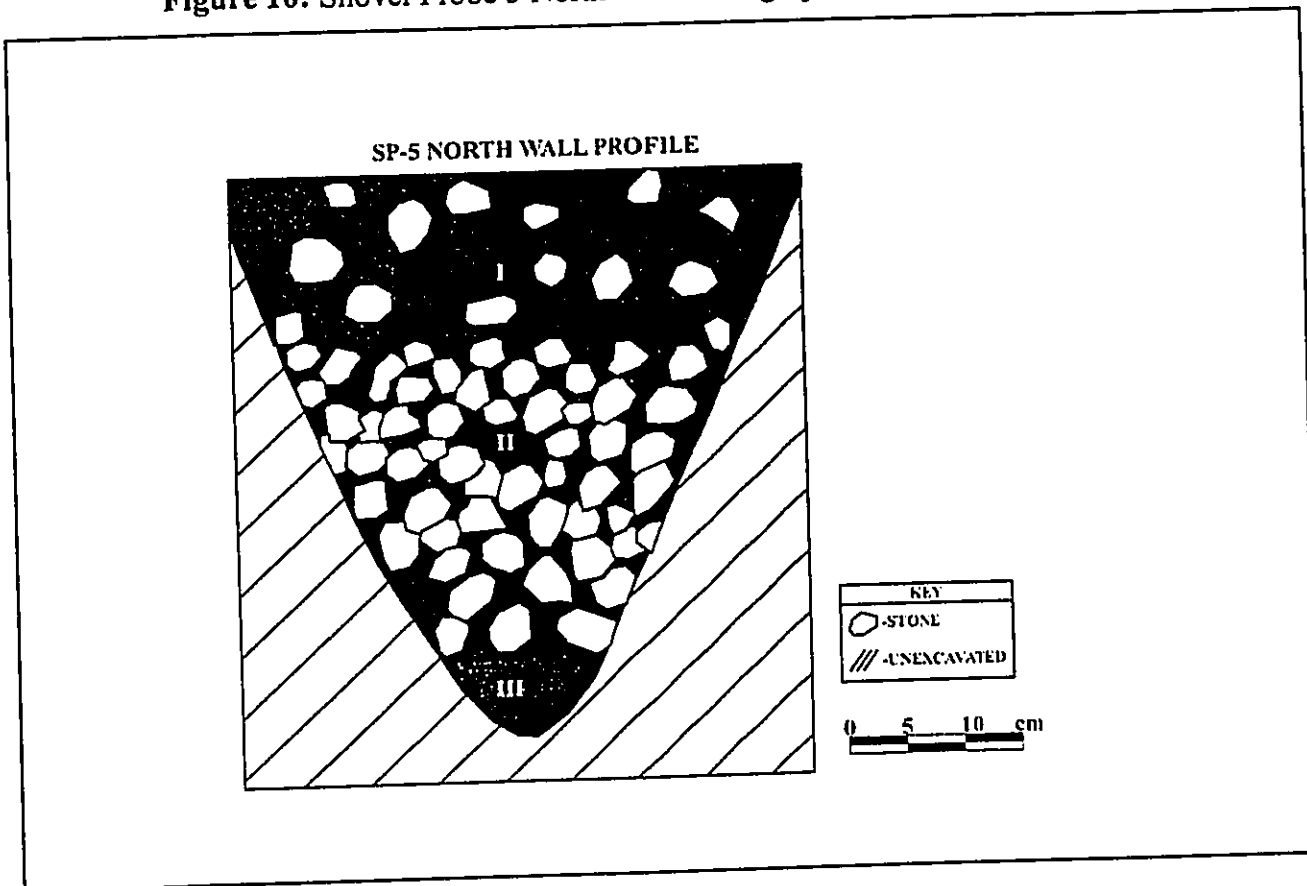


Figure 11: Shovel Probe 5 North Wall Stratigraphic Profile Drawing.

(cow) bones were also present. A few pieces of marine invertebrates and a cold cream jar were also found within Layer II. Layer III (0.44–0.51 mbs) was composed of very dark grayish-brown (10YR 3/2) granular, silty clay mixed with decomposing bedrock. Few, subangular cobbles were present. No cultural material was obtained from Layer III. Layer III terminated upon contact with decomposing bedrock. Based on the results of SP-5, the presence of modern debris and traditional food midden commingled in Layers I and II, we suggest that the talus of the rockshelter was utilized as a waste deposition area (e.g., toss zone) and that modern dumping occurred from the residential area to the north. The mixing of cultural materials also yielded evidence for disturbance in the area.

SP-6, a 0.50 by 0.50 m unit, was placed within the interior chamber of the rockshelter to investigate the presence/absence of subsurface deposits and determine if previous excavation had occurred in the shelter. The surface of Layer I contained modern debris and decomposing vegetative matter (e.g., mango; *Mangifera* sp.). The excavation of SP-6 revealed two soil layers (Figure 12). Layer I (0–0.20 mbs) was composed of loose, very fine (less than 1 mm diameter) granular structured, very dark brown (10YR 2/2, moist) silt with small *a`a* pebbles and cobbles (0.10 m in diameter or less). Fine roots were also present. Layer II (0.20–0.60 mbs) consisted of semi-loose, very fine (less than 1 mm diameter) granular structured, black (10YR 2/1, moist; non-charcoal infused hue) silt with small *a`a* pebbles, cobbles, and large vegetative roots. This layer denoted an increase in cultural material with depth. Following contact with bedrock, Layer II was terminated. Cultural material recovered from SP-6 included marine invertebrates, coral, vertebrates, traditional artifacts (i.e., basalt debitage and cut bone), and aluminum foil. Charcoal was observed but not collected from SP-6 as the context was obviously disturbed. Based on the results of SP-6, in conjunction with the piled basalt rocks located in the rear of the rockshelter that appeared to have a subsurface origin, the immediate area in which SP-6 was placed, appeared to have been previously excavated. The presence of aluminum foil is also questionable as foil is typically used by archaeologists to curate charcoal samples taken during excavations. However, since the contents of SP-6 were not screened, an *in situ* confirmation of the aluminum foil location was not forthcoming.

TU-8 was placed near SP-6 to further investigate the interior of the rockshelter in a less disturbed context. TU-8, measuring 0.50 by 0.50 m, was placed 0.50 m to the west of SP-6. (Figure 13). The excavation of TU-8 revealed three sedimentary layers (Figure 14). Like SP-6, the surface of Layer I was covered with decomposing vegetative matter and modern debris. Layer I (0–0.17 mbs) was composed of loose, fine (1–2 mm and below in diameter) granular structured, very dark grayish brown (10YR 3/2, dry) silt with *a`a* cobbles (0.10 m and greater in

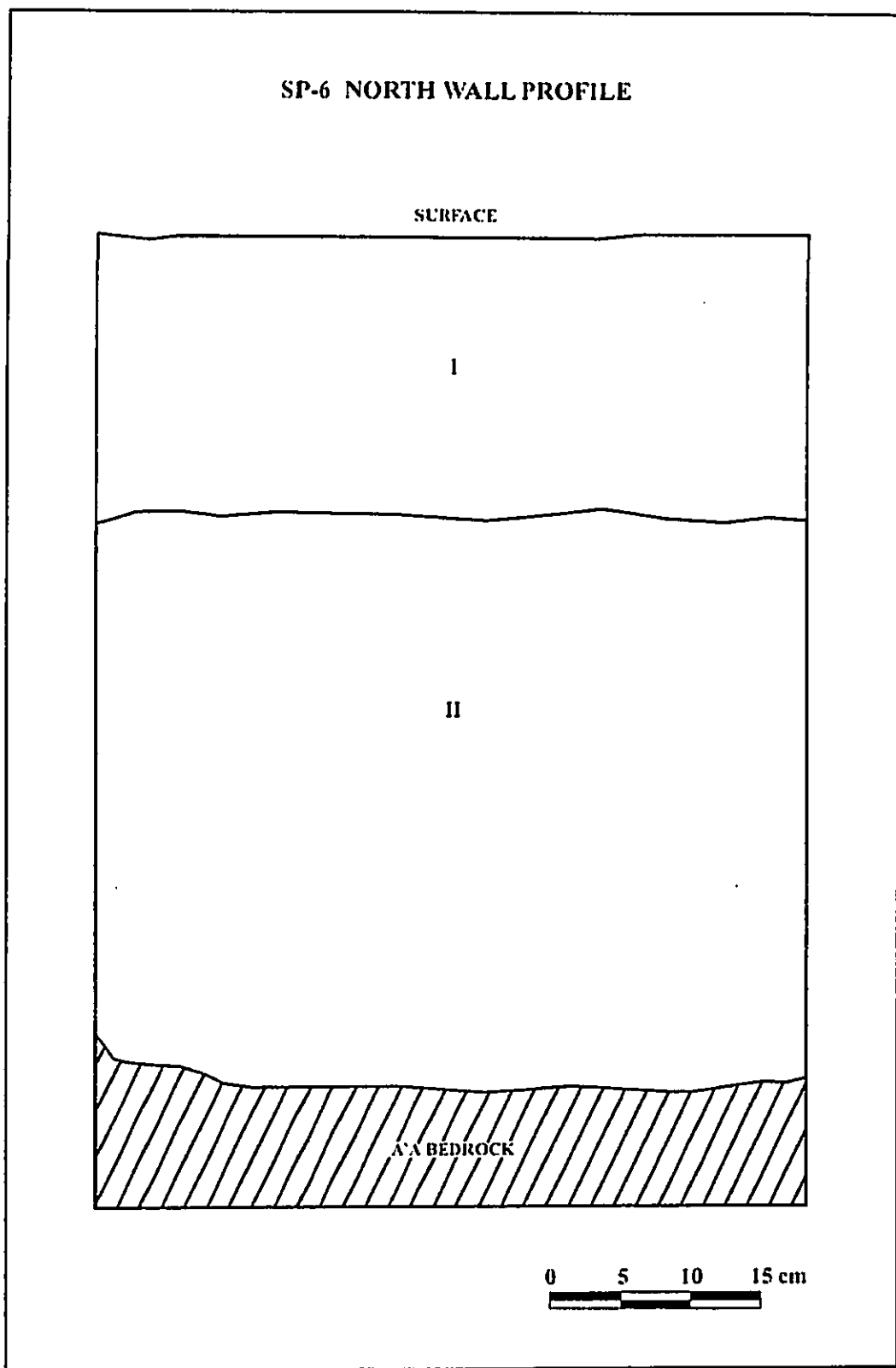


Figure 12: Shovel Probe 6 North Wall Stratigraphic Profile Drawing.



Figure 13: Test Unit 8 (left) and Shovel Probe 6 (right) Post-excavation. View to West.

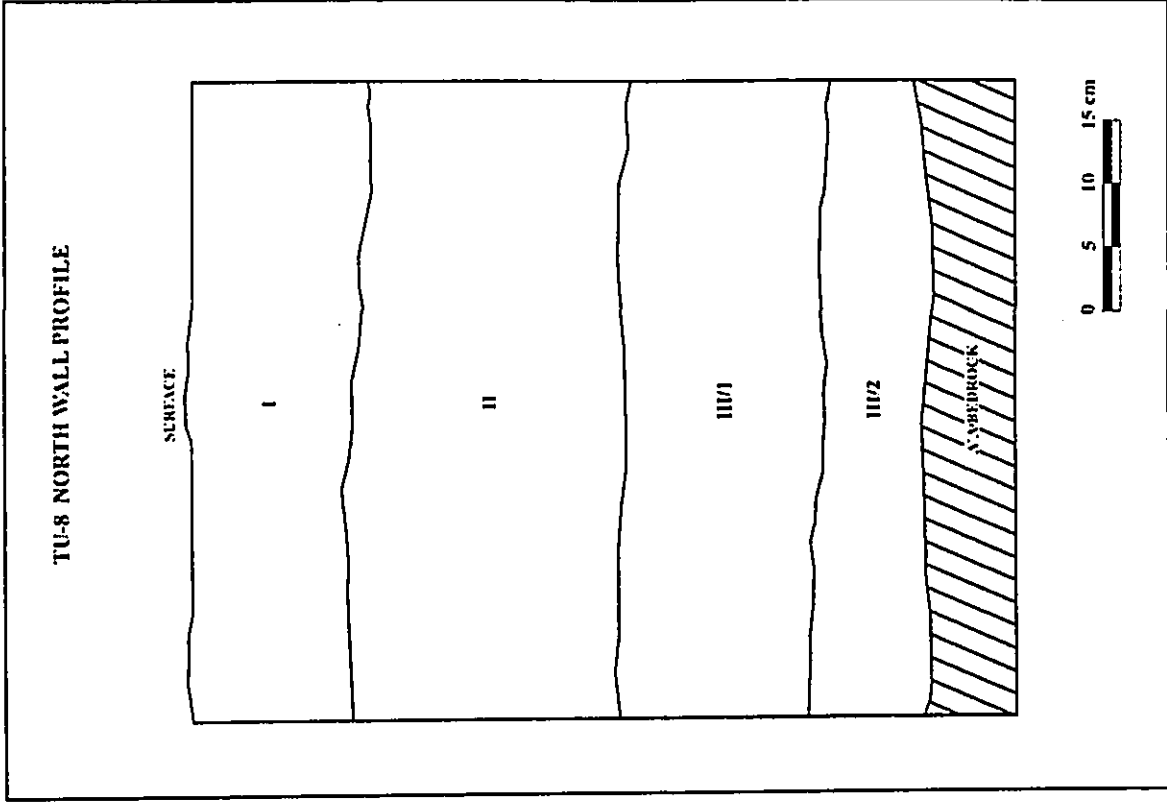


Figure 14: Test Unit 8 North Wall Stratigraphic Profile Drawing.

diameter). Modern debris, sawn large mammal bones (e.g., *Bos taurus*), and marine invertebrates (*opihi*; *Cellana* sp.) that appeared to have been consumed recently due to the "fresh" appearance of the shells' interior were recovered from this layer. Layer II (0.17–0.30 mbs) consisted of loose, very fine (less than 1 mm diameter) granular structured, very dark brown (10YR 2/2, moist) silt with small *a`a* cobble inclusions and rootlets (less than 1 mm diameter). Traditional cultural material, including invertebrates, vertebrates, and possible basalt flakes were recovered in a commingled context with modern debris such as aluminum foil and non-diagnostic iron. The combination of traditional cultural materials with modern debris either suggests that Layer II was completely disturbed.

In response to the recovery of modern debris within SP-6, Layer III was split into Layer III/1 and III/2 so as to increase controlled excavation and further isolate the provenience of any modern debris, if present. Layer III/1 (0.30–0.54 mbs) consisted of semi-compact, very fine (less than 1 mm diameter but coarser contrast to Layer I) granular structured, black (10YR 2/1, moist) silt with small *a`a* cobble inclusions and rootlets. Recovered within Layer III/1 were traditional cultural materials, including marine invertebrates, coral, vertebrates, charcoal and modern debris such as aluminum foil and plastic. As in Layer II, modern debris was commingled with the traditional cultural material. Layer III/2 (0.54–0.60 mbs) consisted of loose, also very fine granular structured as Layer III/1, black (10YR 2/1, moist) silt with a few *a`a* cobbles and small to large roots. As in Layer III/1, modern debris was recovered in association of traditional cultural materials. Layer III/2 was terminated upon contact with creviced bedrock.

Despite an increase in the controlled excavation of Layer III, the combination of modern debris recovered with traditional cultural materials further suggests contamination of the traditional cultural deposit. Also, as rocks appeared to have been removed from surrounding soils (screening?), the appearance that previous excavation had occurred here was more apparent. An alternative explanation for the commingled cultural deposits may be that the clandestine excavation unit's wall collapsed. The presence of traditional midden, including non-formal tools (*i.e.*, basalt flakes), suggest that an intact traditional cultural layer was present prior to any unauthorized excavation.

A charcoal sample from TU-8, Layer III/2 was submitted to Beta Analytic for processing. This was the lowest depth of the unit yielding cultural deposits. The returned date was modern and again reflects the heavily disturbed context of the feature.

SITE 50-50-14-5543

Site -5543 encompassed an area of 102 m² and consisted of two features (Feature C and Feature D). The site is located near the northeastern corner of the parcel. Feature C consists of a rock overhang and small internal cavity with a partially collapsed, low C-shape wall on the talus flank of the overhang (Figure 15). Feature D is composed of a lithic scatter and small portion of overhang/cliff face located to the east of Feature C. These two activity areas are only separated by a c. 5 foot ridge of bedrock outcrop. Three excavation units (ST-2, ST-2b, TU-9) were placed at Feature C and two units (TU-1, TU-3) were placed at Feature D. The two additional test units (Feature C; ST-2b and TU-9) were excavated in August, 2004 to explore the presence/absence of an intact human burial (see also Appendix A).

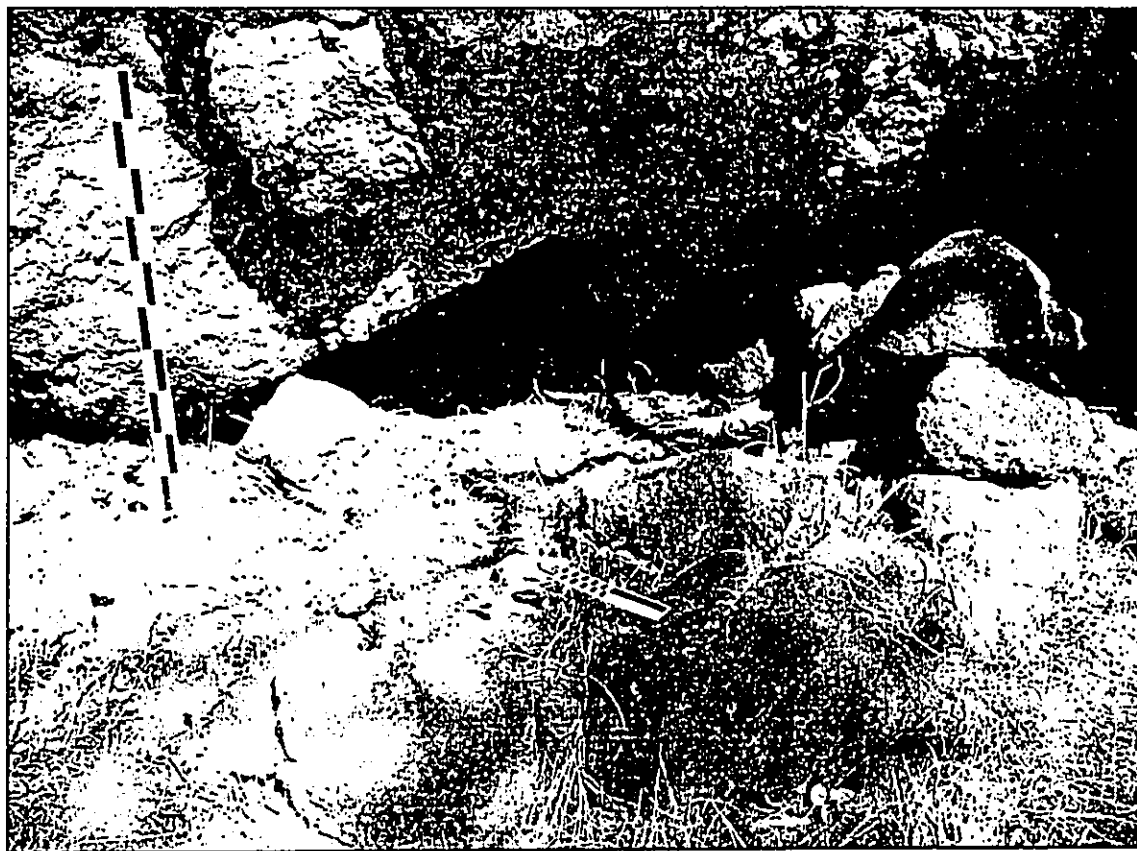


Figure 15: Site -5543, Feature C Rock Overhang with C-shaped structure. View to Northeast.

FEATURE C

The Feature C rock overhang with the small internal cavity and C-shape alignment was oriented on a north/south axis at 152°/332°. The interior height of the internal cavity was approximately 0.50 m while the basalt boulder C-shape wall in front on the talus was stacked three courses high (to 0.70 m above ground surface) (Figure 16). This C-shape wall was partially collapsed on both its north (interior) and south (exterior) flanks. The stacked basalt boulders occurring on the exterior flank of the internal cavity show formalization of the feature. Scattered midden, consisting of pig bone and several marine shells, was identified on the surface of the feature. Flaking marks were evident on the Feature C cliff facing but did not display traditional flaking characteristics (e.g., bulb of percussion and flaking patterns). However, while not preferable high density basalt, some flakes were procured from the cliff facing of Feature D (see below).

ST-2, measuring 0.50 m by 1.0 m, was horizontally placed through the C-shape of Feature C to assess feature construction methods and simultaneously reveal the presence/absence of archaeological deposits. The C-shape architecture was not dismantled during testing. In planview, the architecture divided the interior (closer to the overhang) and exterior (talus) portions of the excavation unit. ST-2 revealed three sedimentary layers (Figure 17). Layer I (0–0.08 mbs) was composed of semi-compact, very fine (less than 1 mm diameter), very dark brown (7.5YR 2.5/3, moist) silt with only a minimal amount of eroding *a`a* pebbles. Marine invertebrates and possible basalt flakes were recovered. No charcoal was observed in the modest Layer I deposit. Layer II (0.08–0.30 mbs) consisted of semi-compact, very fine, very dark brown (10YR 2/2, moist) rocky and coarse silt with small roots (less than 1 mm diameter). Only traditional cultural materials were recovered from Layer II and consisted of marine invertebrates, vertebrates, charcoal, basalt and volcanic glass debitage. A human tooth was recovered in association of these materials. Layer II was the primary cultural stratum of the site.

One subsurface feature (SSFE-1), a rough, basin-shaped charcoal stain, was encountered within Layer II at 0.20 mbs. The stain vertically terminated at 0.26 mbs. Based on the contents of the feature (predominantly charcoal) and its morphology (bowl-shaped), the stain was interpreted to represent a portion of a hearth (Figure 18). An *in situ* sample of charcoal, as well as a soil sample, was retrieved from this subsurface feature for radiocarbon and soil analyses. A single human tooth was recovered from a midden sample of this feature (see Appendix A). Layer III (0.30–0.36 mbs) was composed of semi-compact, very fine, dark brown (7.5YR 3/4, moist) silt with eroding *a`a* pebbles and small roots. Layer III was culturally sterile. ST-2 was terminated at the base of Layer III.

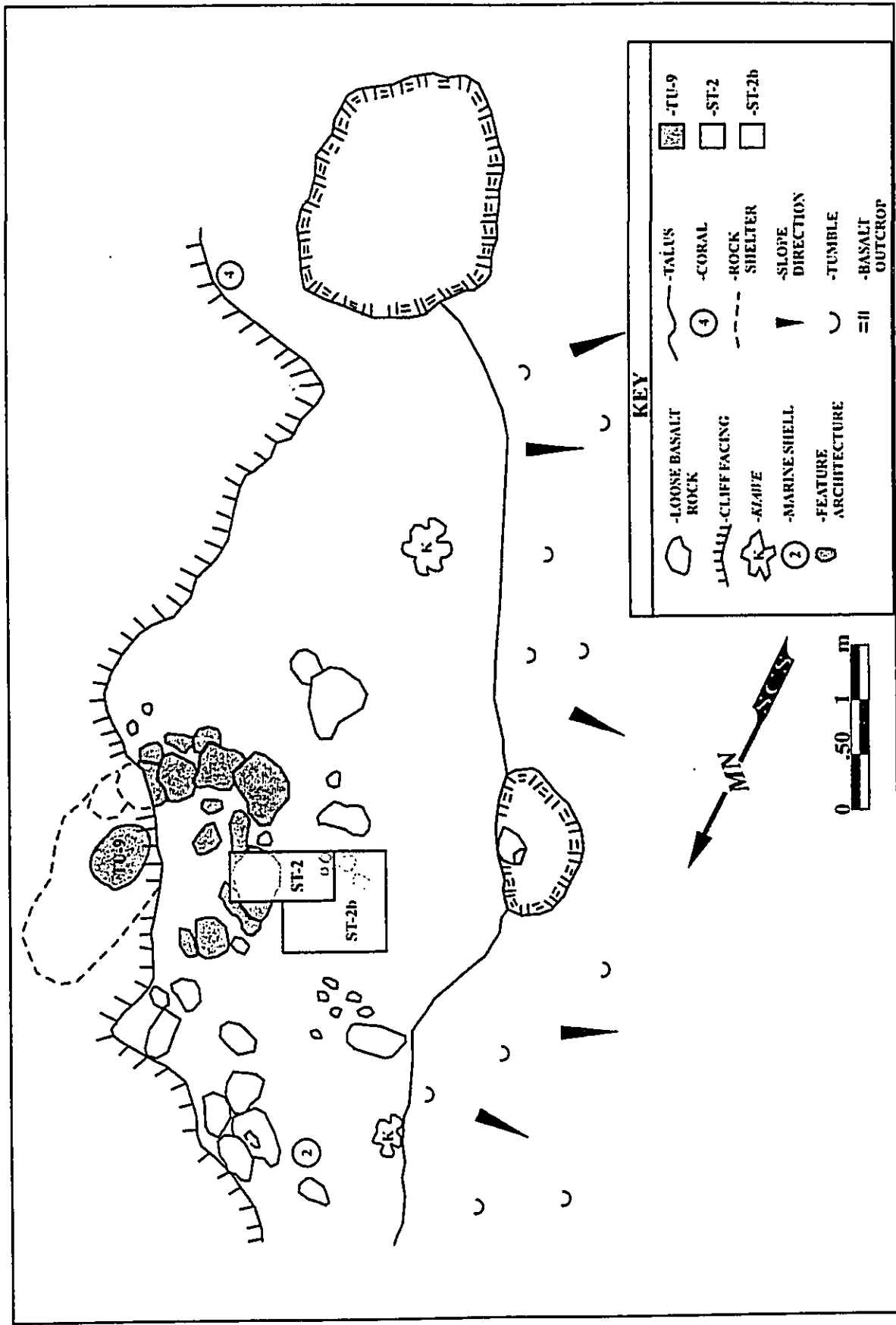


Figure 16: Site -5543, Feature C Rock Overhand with C-shaped Structure Plan View Drawing and Locations of Stratigraphic Trench 2, 2b, and Test Unit 9.



Figure 17: Stratigraphic Trench 2 Crossing Feature C Architecture. View to Southeast.

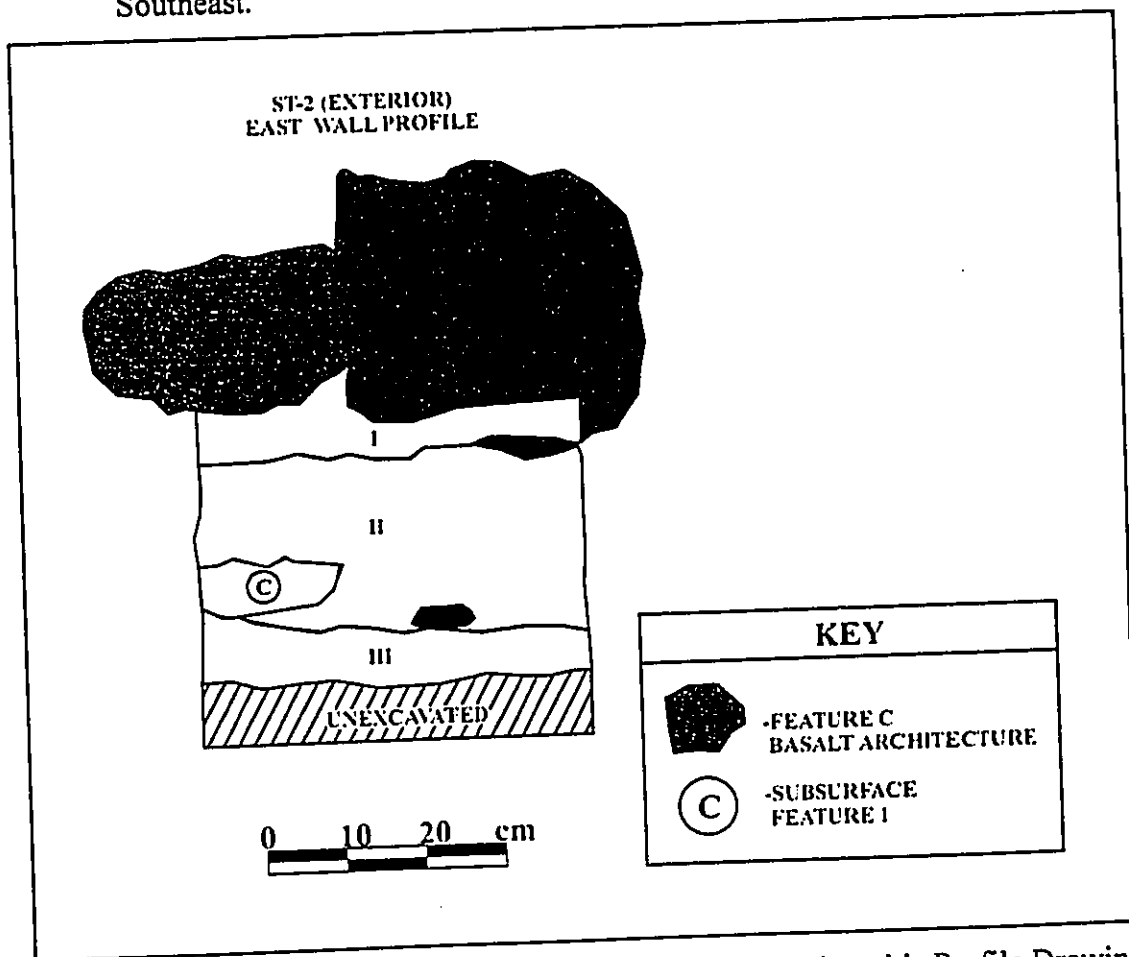


Figure 18: Stratigraphic Trench 2 (exterior) East Wall Stratigraphic Profile Drawing.

Based on the excavation results and stratigraphic profile drawings of ST-2, Layer II was interpreted to represent traditional-period occupation of Feature C. This occupational layer extended beneath the C-shaped wall (see Figure 18). Essentially, the C-shape architecture was based in Layer I near the surface and was not associated with the Layer II cultural deposit. Layer III was sterile while Layer I represented the terminus of occupation at the feature. Utilizing metric weights and species counts from both the interior and exterior of ST-2 (C-shape architecture being in the center), it was revealed that the exterior portion of the unit contained far more cultural material than the interior of the unit (see Appendix B). This patterning is common as most cultural resources are recovered from talus proveniences of overhangs or small rockshelters.

The single human tooth of discussion was acquired from a bulk sample of Layer II, ST-2. This bulk sample was acquired from the exterior portion of ST-2 and was not in direct relationship with the C-shape architecture. Importantly, the tooth was recovered in direct association of the Layer II cultural deposit. Based on stratigraphy, the C-shape architecture was constructed at a time near the terminus of feature occupation or after feature occupation. Layer II represented the most intensive time for use of the overhang area, as seen by the presence of faunal materials, lithics, charcoal, and the presence of a subsurface feature (possible hearth).

Based on location (the exterior of the C-shape), stratigraphic positioning (in the Layer II traditional cultural deposit), and the absence of additional human remains, a burial pit, stained soil commonly associated with burials, or any other empirical indicators, the tooth was interpreted to represent an isolated human remain. The age of deposition was interpreted to be during traditional use of the overhang area as it was identified in direct association (in the same bulk sample derivative) with traditional cultural materials. There were no cultural indicators for any historic period occupation of Feature C from any examined strata. Further, there were no empirical indicators, such as wood demarcating a coffin, historic cultural materials, or a headstone indicating that a historic burial was present. Additional testing in this location (ST-2b and TU-9) was completed in the direct vicinity of the unit yielding the one tooth, as was recommended by the Maui/Lana'i Island Burial Council (MLIBC).

One trench (ST-2b) was placed directly abutting ST-2 to explore whether the tooth was an isolated find or was a component of an *in situ* burial. A second test unit (TU-9) was placed directly in the Feature C cavity to assess the presence/absence of a burial.

ST-2b was irregular in shape as it was excavated along the western and southern flanks of ST-2 [see Figure 16 and Figure 19]. The unit was basically a 1 x 1 m unit, minus the previously excavated portion of ST-2 (western flank). Excavated to a depth of 0.35 mbs, three layers were encountered in this unit. Layer I (0–0.10 mbs) was composed of non-compact, very fine (less than 1 mm diameter), very dark brown (7.5YR 2.5/3, moist) silt (read: duff) with 10% eroded *a`a* pebbles. A modest assemblage of marine invertebrates and basalt flakes were recovered. Layer II (0.10–0.18 mbs) consisted of semi-compact, very fine, very dark brown (10YR 2/2, moist) rocky and coarse silt with small roots (less than 1 mm diameter). Only traditional cultural materials were recovered from Layer II and consisted of marine invertebrates, vertebrates (*i.e.*, fish, bird, mammal), charcoal, coral, a bone fishhook, basalt and volcanic glass lithics. One charcoal sample from Layer II was submitted for dating. The date of this sample is pending analysis at Beta Analytic. When the date is returned, it will be placed in this report. Layer III (0.18–0.35 mbs) was composed of semi-compact, very fine, dark brown (7.5YR 3/4, moist) silt with eroding *a`a* pebbles and small roots. Layer III was culturally sterile. ST-2 was terminated at the base of Layer III wherein red silty clay and eroding saprolite were encountered.

No human remains or evidence of a burial pit were identified in ST-2b. This additional excavation work supported the original interpretation that the single tooth was indeed an isolated find and not part of an *in situ* burial. The shallow deposits were another reason to suspect that this was an isolated find.

TU-9 was placed on the interior cavity of Feature C to assess the presence/absence of a burial such that the Feature C alignment could have enclosed the cavity to protect a burial (Figure 20). TU-9 measured 0.50 x 0.58 m in size and was excavated in two layers to basal at 0.35 mbs (Figure 21). Three layers were present in this unit. Layer I (0–0.08 mbs) was composed of non-compact, very fine (less than 1 mm diameter), very dark brown (7.5YR 2.5/3, moist) silt with 10% eroded *a`a* pebbles. Layer II (0.08–0.35 mbs) consisted of semi-compact, very fine, dark brown (7.5YR 3/4, moist) silt with eroding *a`a* pebbles and small roots. Traditional cultural materials recovered from Layers I and II included a small amount of marine invertebrates and vertebrates (*i.e.*, fish, small mammals). Layer III (0.35+ mbs) was composed of a roof fall (angular saprolite) and eroding bedrock. While a very modest traditional cultural deposit was identified in the Feature C cavity, no archaeological signatures for a burial were present.

Overall, Feature C is argued to represent a traditional-period activity area (Note: one radiocarbon date is pending analysis). The overhang and internal cavity of Feature C, combined



Figure 19: Stratigraphic Trench 2b Post-excavation. View to East.

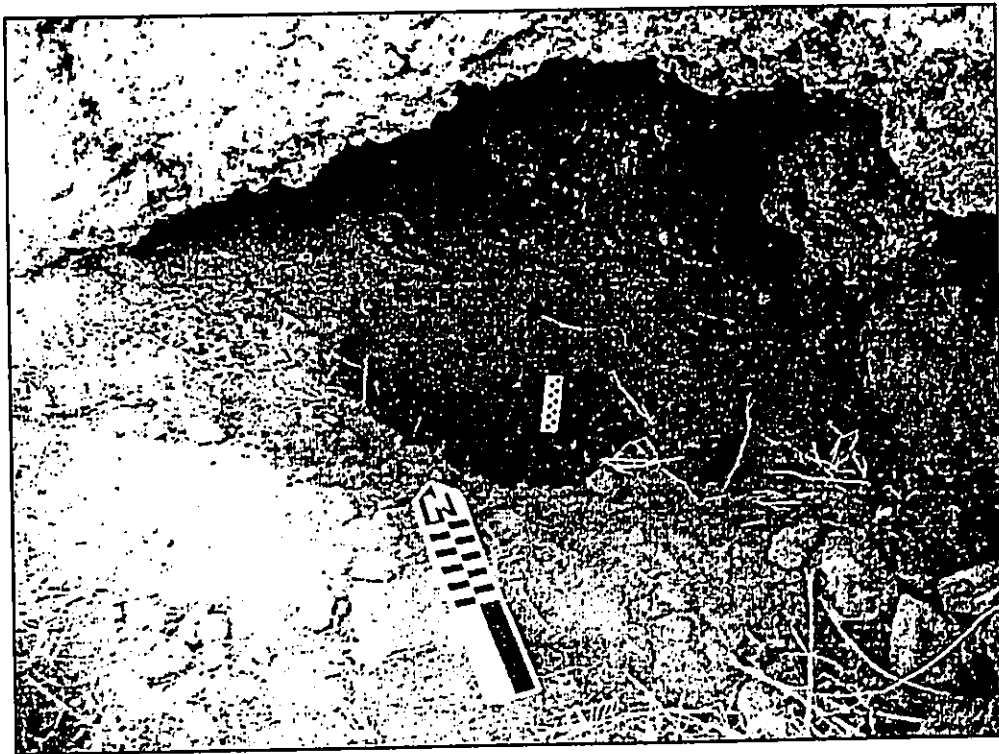


Figure 20: Test Unit 9 with Feature C Rock Overhang, Post-excavation. View to Northwest.

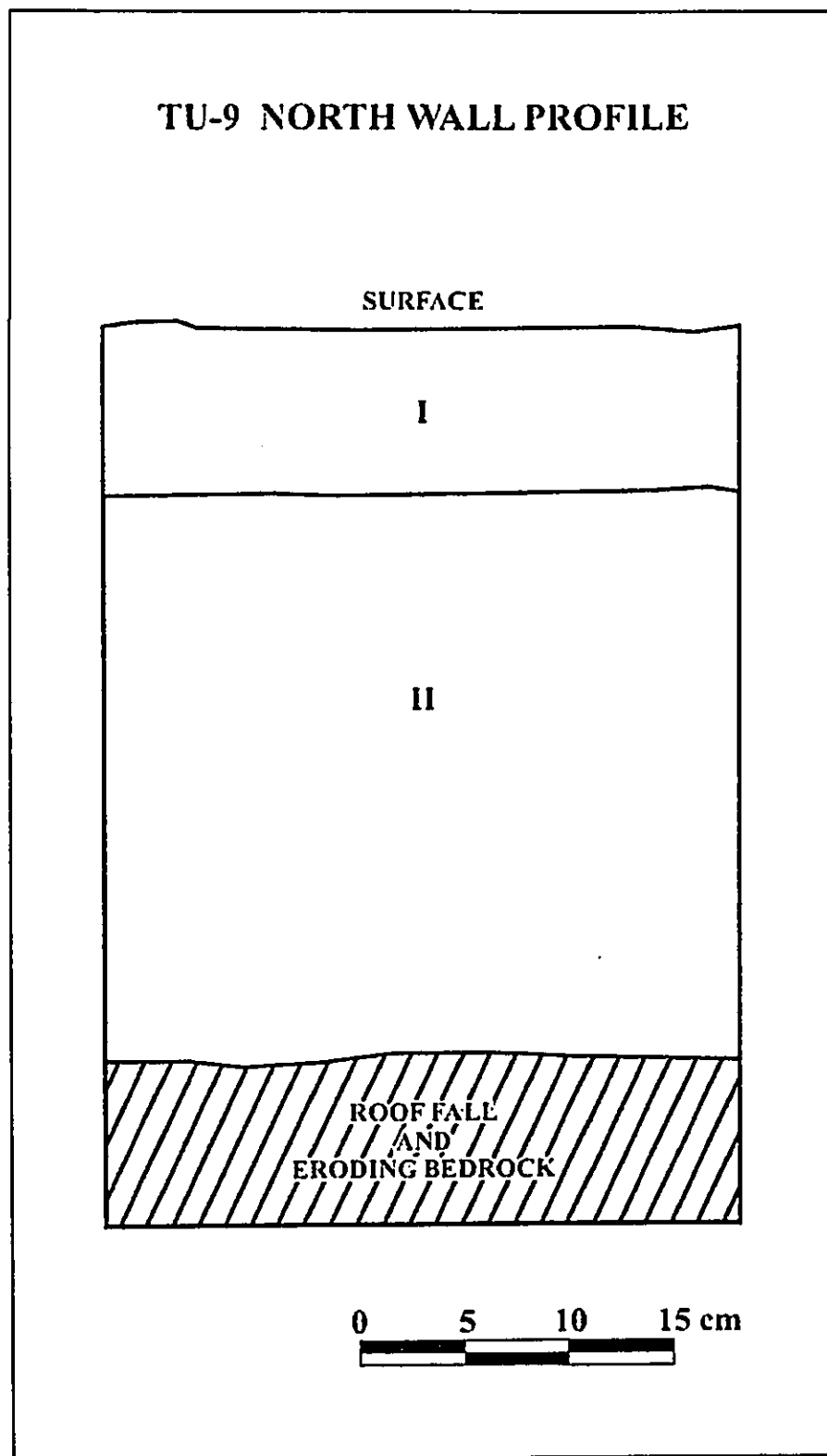


Figure 21: Test Unit 9 North Wall Stratigraphic Profile Drawing.

with the modest cultural deposit, appear to reflect an intermittent use area where lithic material acquisition and manufacturing, as well as small-scale food preparation and consumption, were completed. The C-shape is interpreted to represent formalization of an intermittently-used habitation locale. The single human tooth recovered during testing denotes an isolated find. The tooth presumably dates to traditional times as it was recovered in concert with the feature's traditional cultural deposit (Layer II).

FEATURE D

Feature D at Site -5543 was identified as a lithic quarry/workshop occurring on a fairly level soil area approximately 1.5 m to the east of the Feature C rock overhang. Further, the Feature D lithic quarry/workshop was located at the base of the small cliff. A soil talus with basalt outcrops was visible as well. Basalt flakes and flaked basaltic cores were predominantly recovered on the top of the slope nearer the cliff face. The long axis of Feature D measured 15 m and was oriented in a northwest/southeast direction at 124°/304°. Intentional flaking of the cliff facing indicated that quarrying activities occurred on-site, which inevitably produced a portion of the lithic scatter, particularly the debitage (Figure 22). Two excavation units (TU-1 and TU-3) were placed within the confines of the Feature D lithic quarry/workshop to assess the presence/absence of associated subsurface cultural deposits and to provide further context to the surface finds.

TU-1, a 0.50 by 0.50 m unit, was placed on the western half of what appeared to be a U-shaped "hearth" (Figure 23). The U-shaped "hearth" had an opening to the northwest. Like the dimensions of TU-1, the U-shaped "hearth" was also 0.50 by 50 m, in addition to being located directly in front and under the cliff facing that displayed quarrying marks. Based upon the location of TU-1, it was surmised that basalt flake debitage would be present within the soil layers of the test unit. Excavation results, however, proved otherwise. The excavation of TU-1 revealed one sedimentary layer. Layer I (0–0.30 mbs) consisted of a semi-compact, very fine (less than 1 mm diameter), dark yellowish brown (10YR 4/4, dry) silty clay with small roots (2 cm and below in diameter) and eroding *a`a* cobbles (10 cm and less in diameter). Excavation was terminated upon contact with a dramatic increase in eroding *a`a* as the unit reached toward bedrock. Very little traditional cultural material was produced from the excavation. This included a marine invertebrate, charcoal, and basalt flakes (see Appendix B for complete details). The test unit yielded no evidence to support that a hearth was present in this locale. However, there was confirmation that flake scars on the cliff face were anthropogenic, as was reflected in the basalt flakes recovered below the scarring.



Figure 22: Site -5543, Feature D Lithic Quarry/Workshop Showing Quarry Scars. View to Northeast.



Figure 23: Test Unit 1 Post-excavation. View to Southeast.

A second test unit, TU-3, was placed approximately 2 m to the southeast of TU-1 to investigate associated subsurface archaeological deposits. TU-3 measured 0.50 by 0.50 m and was placed partially under the dripline of a small overhang of the cliff facing. Excavation revealed two sediment layers. Layer I (0–0.33 mbs) was composed of fine textured, non-blocky, slightly sticky (when wet), dark brown (7.5YR 3/2, dry) silt with a few, small roots. Traditional cultural material was recovered from this layer to a depth of 0.12 m below the ground surface and included small mammalian bone, a marine invertebrate, and a basalt flake. Layer II (0.33–0.44 mbs) consisted of coarse-grained, dark yellowish brown (10YR 3/3, dry) silt with eroding saprolitic inclusions and few, small roots. Layer II produced no cultural material and was terminated upon contact with bedrock. The lack of a substantial amount of subsurface cultural material obtained from the excavation of TU-3, which mirrored the excavation results of TU-1, supported the interpretation of Feature D as a temporary use area for lithic quarrying and possible lithic workshop activities. More direct evidence for intermittent habitation along this short cliff face was supported at Feature C.

SITE 50-50-14-5544

Site -5544 encompassed an area of 25.5 m² and consisted of a rough rock paving. This site, constructed of small, sub-angular basalt cobbles and boulders, was located near the southern boundary of the project area and 16 m northeast of Makena-Keoneoi Road (Figure 24 and 25).

The long axis of the site was situated on an east/west axis at 80°/260° and measured 8.5 by 3 meters. This rough paving was constructed of small sub-angular *a`a* cobbles and boulders measuring to a maximum 0.35 m in diameter. The paving was a variable 1 to 2 courses high. Observed on the surface of the feature were one basalt flake, a ceramic sherd, and modern debris including tin cans, plastic, and cement fragments. One excavation unit (ST-4) was placed on the feature to assess feature function and evaluate the presence/absence of undisturbed subsurface cultural deposits.

ST-4 measured 0.50 by 1.0 m and was placed on the southern perimeter of the rock paving (see Figure 25). Apart from rock architecture, excavation revealed two sediment layers (Figure 26 and 27). Layer I (0–0.06 mbs) consisted of loose, very fine (less than 1 mm diameter) granular structured, very dark brown (10 YR 2/2, moist) silt with small roots (less than 1 mm diameter) and *a`a* pebbles and cobbles. No cultural material was observed in Layer I. Layer II (0.06–0.20 mbs) was composed of semi-compact, very fine (less than 1 mm diameter) granular structured, dark brown (10YR 3/3, moist) silt also containing small roots and *a`a* pebbles and cobbles. As in Layer I, no cultural material was observed. Excavation of ST-4 terminated upon contact with bedrock. The absence of subsurface cultural deposits suggests the feature was not



Figure 24: Site -5544 Rough Rock Paving. View to East.

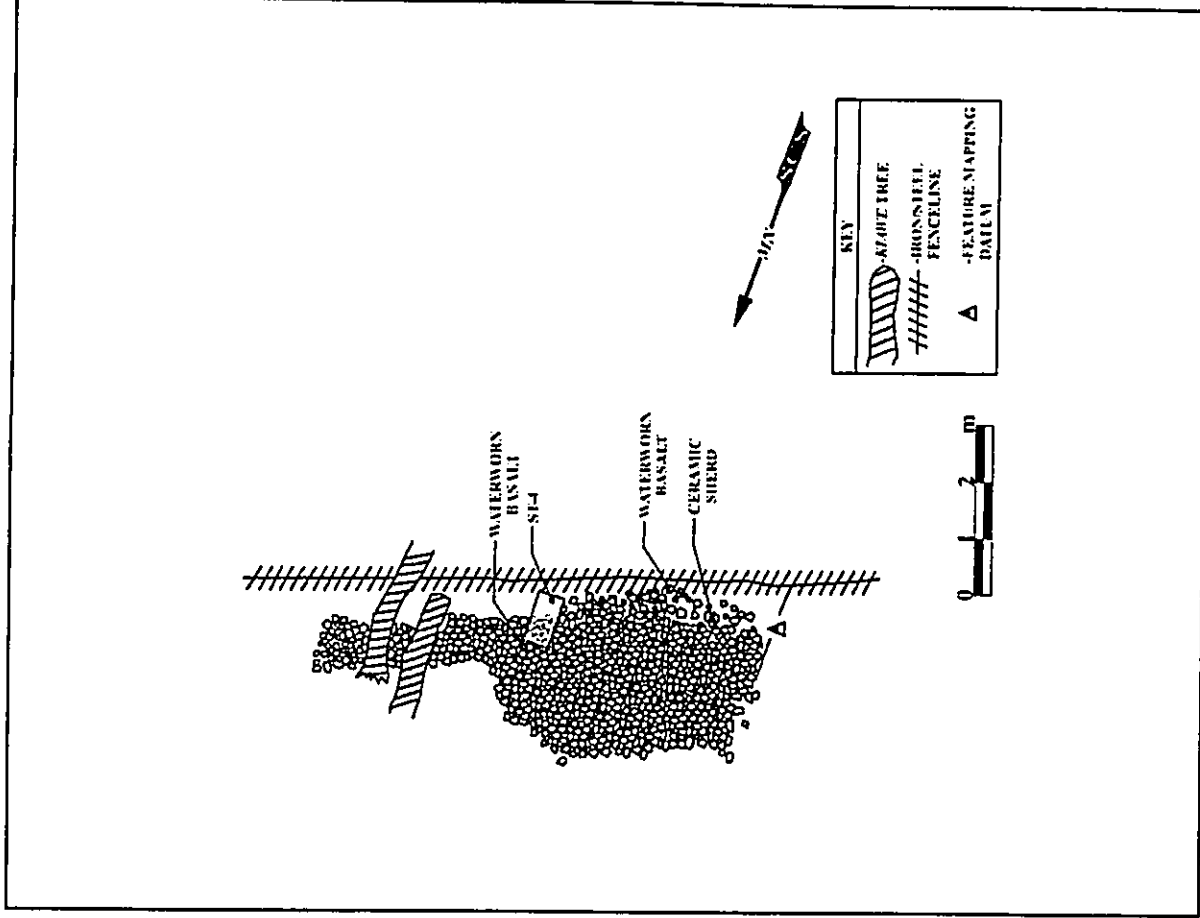


Figure 25: Site -5544 Rough Rock Paving Plan View Drawing with Stratigraphic Trench 4 Location.

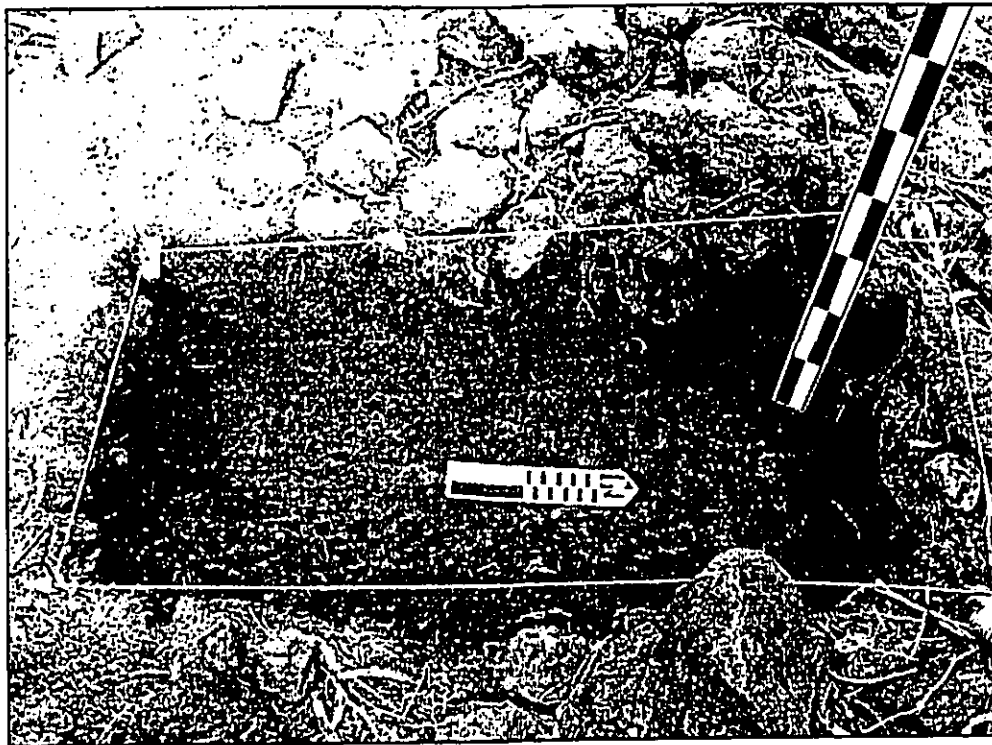


Figure 26: Stratigraphic Trench 4 Post-excitation. View to West.

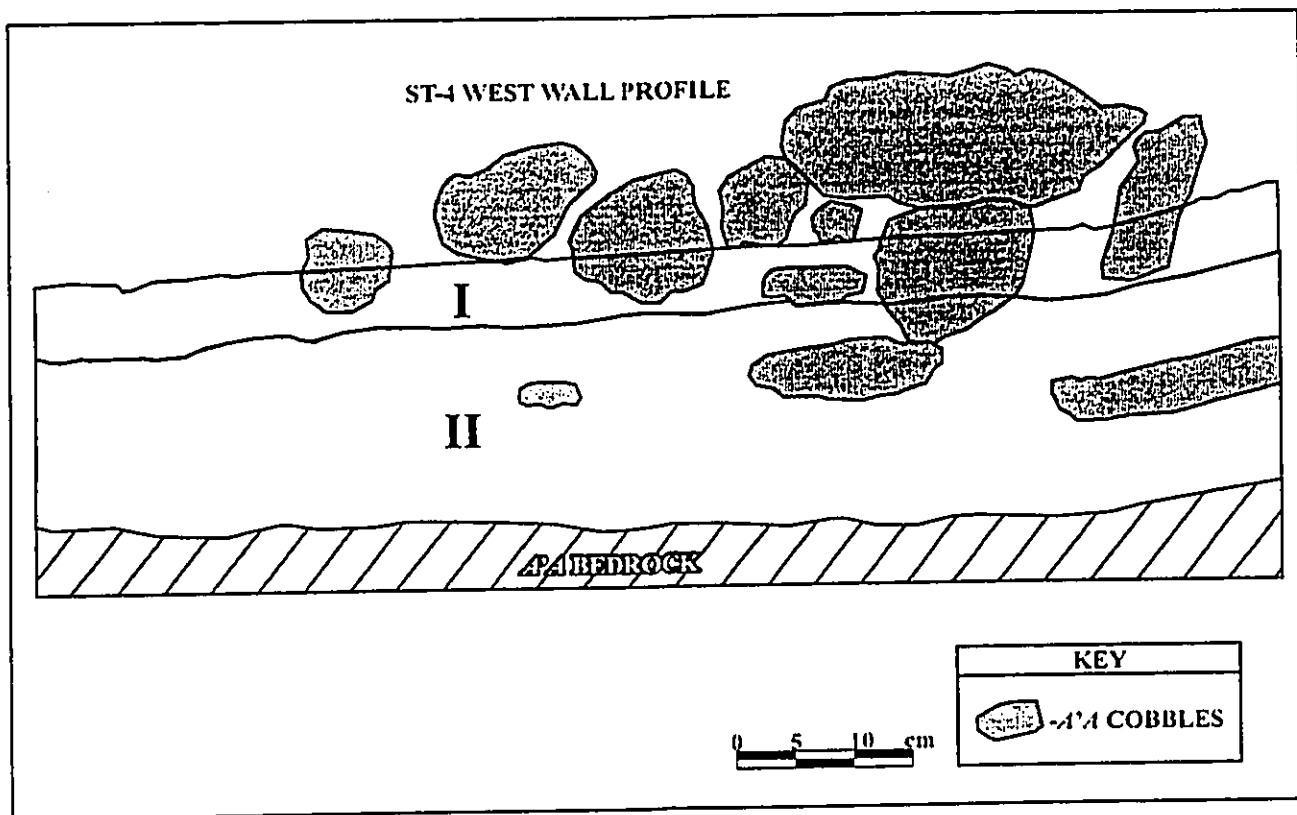


Figure 27: Stratigraphic Trench 4 West Wall Stratigraphic Profile Drawing.

utilized as an area for food preparation/consumption or tool manufacture but may have served as a temporary staging area prior to inland travel. It is equally plausible that this feature had been heavily modified and signatures for its function have been eradicated through time. This site occurs in an area of intensive landscape modifications near the main arterial road of the area. The single basalt flake located on the surface of the feature was likely of prehistoric waste material washed onto the feature during erosional episodes on the parcel.

SITE 50-50-14-5545

Site -5545 consisted of a free-standing rock wall along the northern boundary of the project area (Figure 28). The wall was constructed of stacked cobbles (15 cm average diameter) approximately 10 courses high and measured approximately 50 m long by 1 m wide by 1.5 m high, with some portions displaying collapse due to gravitational and erosional processes. The rock wall was not tested and was interpreted to represent a boundary wall as it runs the northern length of the property boundary.



Figure 28: Site -5545 Rock Wall. View to East.

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DISCUSSION AND CONCLUSION

Four archaeological sites were identified on a 3.51-acre parcel in coastal Makena (TMK: 2-1-07:09). Sites -5542, -5543, and -5544 are interpreted as having been constructed and/or utilized during pre-Contact times. Site -5545 was interpreted as an historic-period boundary wall.

Feature B (rockshelter) at Site -5542 is suggested to have been occupied on an intermittent basis during prehistoric through modern times. Due to massive disturbance of deposits in the rockshelter and the commingling of prehistoric and modern deposits, the chronology for occupation remains extremely imprecise. Based on recovered cultural deposits, at the least, the rockshelter was occupied at some juncture during pre-contact times and has recently been utilized as a trash deposition area. The high concentration of modern beer cans and bottles in the shelter suggests recent intermittent use of the shelter by miscreants with little regard for waste deposit vehicles.

Based on the excavation results of Site -5542, the Feature A stacked rock alignment is interpreted as a remnant terrace utilized in prehistoric times for habitational purposes. Modern debris found within the feature's architecture suggests dumping actions by residents located to the north of the feature. The Site -5542, Feature B rockshelter is interpreted as temporary habitation locus utilized during traditional times.

Subsurface testing of Features C and D within Site -5543 suggest that the site was a temporary (read: intermittent) habitation loci, with the Feature C overhang and C-shape being utilized during two prehistoric episodes and the lithic quarry being used as a quick source of raw material for lithic tool manufacture, also during prehistoric times (radiocarbon dates pending). Based on the presence of traditional cultural materials and absence of historic materials, Features C (intermittent occupation area) and D (lithic scatter) are interpreted as temporary activity loci utilized during traditional times. Radiocarbon dating of the Feature C cultural deposit is pending.

Site -5544 appeared to be a temporary occupation feature that may have been constructed during pre-Contact times. However, no subsurface archaeological deposits were found during testing to more firmly support this interpretation. As a result, Site -5544 is tentatively interpreted as a temporary occupation feature that may have been a rest area exclusive of activities such as food processing or tool manufacture. The absence of subsurface cultural deposits suggests the

feature was not utilized as an area for food or tool manufacture but may have served as a temporary staging area prior to inland travel. Intensive landscape modifications in this portion of the project area may have deleted more firm archaeological interpretations of this feature. The single basalt flake located on the surface of the feature was likely of prehistoric origin that washed onto the feature during erosional episodes on the parcel.

Site -5545 was interpreted to as a boundary wall constructed during historic times. The wall runs due course across the northern flank of the parcel and defines a topographical change from flatter, plateau-like land above the fairly steep topographical movement within the project area toward the coastline. Site -5545, a long, well-constructed wall, was interpreted as a boundary wall that was constructed during Makena's ranching period and as it exactly parallels the northern perimeter of the 3.51-acre tax map key. The course of the wall suggested a visual reinforcement of property boundaries.

Overall, several time periods of land use are evident across the subject parcel in the form of built environment and landscape modifications. A majority of the natural structures (shelters) were utilized during pre-contact times and represent intermittent-use locales associated with food preparation/consumption and lithic manufacturing. Constructed architecture spanned a time range of pre-contact (Site -5542, Feature C Rock Overhang with alignment) to historic times (Site -5545). Modern intrusions in the form of landscape disturbance (Site -5544) and trash deposition (Site -5542, Feature B) have altered the sites themselves and confused site function and temporal affiliation. These latter sites are not amenable to additional evaluation through testing as they are basically destroyed.

When comparing the site-elevation model proposed by Cordy and Athens (1988; see above) which suggests that certain site types may be associated with specific elevation zones and time periods, the data gleaned from the current project area show that pre-contact, temporary habitation loci (Sites -5542, -5543, and -5544) do occur within .25 miles of the coastline. These findings support the model primarily because the project area landscape is more conducive to temporary rather than permanent occupation. Mostly composed of great topographical changes, flat area common for larger, permanent structures is at a minimum here. The lack of local water resources also makes permanent occupation more tenuous. Permanent housing settlements of the *ahupua`a* were found to be more common at higher elevations, specifically in the uplands. At these higher elevations, staple crops such as banana, dryland taro, and sweet potato were readily cultivated. These plants would be more adept to survive for extended periods of time, in contrast to crops located at lower elevations and in such places as the arid Makena region. Given the

aforementioned, and the record for few permanent habitation loci found within coastal Makena, temporary habitation would be more abundant at lower elevations, especially for the Makena region. Furthermore, activities such as fishing, supplemented by small scale agriculture (*i.e.*, sweet potato) would more likely be dominate types of subsistence strategies along coastal Makena. This is also supported by the oral and historic literature (see Handy and Handy 1972 and Sterling 1988). Certainly the timing of these sites, when clarified through radiocarbon analysis, will aid in more fully determining when temporary use of the area commenced/terminated in relation to known permanent house sites in the area (see Cordero and Dega 2001).

SIGNIFICANCE ASSESSMENTS

Four archaeological sites, -5542, -5543, -5544, -5545 composed of six features were documented and tested during this Inventory Survey research. All four sites were considered significant under Criterion D. Site -5543, Feature C was also considered as significant under Criterion E, due to the presence of single human tooth commingled in feature midden deposits. Based on the level of recordation and excavation during this project, however, all four sites are no longer considered significant under Criterion D. Site -5543, Feature C is no longer considered significant under Criterion E as further testing failed to demonstrate the presence of a burial at the feature.

RECOMMENDATIONS

Four archaeological sites were identified on the Makena property and were documented during Archaeological Inventory Survey. All four sites have been subject to data collection, documentation, and limited excavation (minus the Site -5545 wall). As noted above, these sites are no longer significant. The most significant site, Site -5543, was subject to additional testing beyond the scope of Inventory Survey to assess the presence/absence of a human burial. It is our recommendation that no further work be required for this project area. The ambiguous nature of Site -5542 and -5544 has been created through modern disturbance. Further testing in these areas would not yield undisturbed contexts. Site -5543 has been subject to additional testing and is pending radiocarbon dating, the results of which will be included in this report when received. The Site -5545 wall is not readily amenable to testing and dates to historic times. Archaeological Monitoring is not recommended during ground altering activities on this parcel primarily due to the complete absence of sand in the project area and due to the documentation occurring of all project area features during this Inventory Survey.

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APPENDIX A: HUMAN TOOTH IDENTIFICATION NOTICE

March 15, 2004

Mr. Bill Frampton
Frampton and Ward, LLC
33 Lono Avenue, Suite 450A
Kahului, HI 96732

Re: Additional Data on the Inadvertent Discovery of a Single Human Tooth

Dear Mr. Frampton:

Thank you for the telephone conference call on Friday. Per your request, this missive provides additional contextual information regarding the inadvertent discovery of the single human tooth identified during archaeological Inventory Survey by SCS on a 2.4 acre land parcel in Makena, Waipao portion of Papa'anui Ahupua'a, Honoula District, Maui Island, Hawai'i (TMK:2-1-07:09). This letter follows a notification letter previously submitted to you and a field visit with members of the MLIBC conducted by John Risedorf (SCS) on March 11, 2004. For your reference, the archaeological site of discussion has been assigned as Temporary Site #2. A permanent State Site Number will be issued for this site in the near future by Cathleen Dagher of SHPD.

TEMPORARY SITE #2 (TS-2)

Temporary Site #2 encompasses a total area of 102 m² and is located along the north/northeastern portion of the subject parcel. TS-2 consists of two features. The features were designated in the field as Features C and D (Features A and B are elsewhere on the property and are not affiliated with TS-2; these designations will change once permanent site numbers are provided). Feature C consists of an overhang and small internal cavity with a partially collapsed, low C-shape wall on the talus flank of the overhang. Feature D consists of a surface lithic scatter and small portion of overhang/cliff face located to the east of Feature C. These two features are only separated by a c. 5 foot ridge of bedrock outcrop. One excavation unit (ST-2) was placed at Feature C and two excavation units (TU-1, TU-3) were placed at Feature D. These units were excavated primarily to investigate the presence/absence of cultural materials associated with the overhang and C-shape wall. Testing was also accomplished to aid in assessing the function of Feature C and Feature D. Surface collections and point provenience locations were completed

during documentation of Feature D as lithics were identified on the surface of the area. This letter focuses on the excavation of recordation and excavation of Feature C.

Feature C

The Feature C overhang with the small internal cavity and C-shape was oriented on a north/south axis at 152°/332°. The interior height of the internal cavity was approximately 0.50 m while the basalt boulder C-shape wall in front was stacked three courses high (0.70 m above ground surface). This C-shape wall was partially collapsed on both its north and south flanks. The stacked basalt boulders occurred on the exterior side of the internal cavity and show some formalization of the feature. Scattered midden, consisting of pig bone and several marine shells, was identified on the surface of the feature. Flaking marks were evident on the Feature C cliff facing but did not display traditional flaking characteristics (e.g., bulb of percussion and flaking patterns). However, while not preferable high density basalt, flakes were procured from the cliff facing of Feature D. The cliff/overhang facing of Feature D thus represents a local resource for local use of the raw material. This material, oddly, does not appear to be the same as that composing the raw lithic material resources for the surface lithic scatter composing a portion of Feature D. Those materials were composed of more fine-grained basalt.

Testing

ST-2, measuring 0.50 m by 1.00 m was horizontally placed through the C-shape of Feature C to assess feature construction methods and to simultaneously reveal the presence/absence of associated archaeological deposits. The C-shape architecture was not dismantled during testing. In planview, the architecture divided the interior (closer to the overhang) and exterior (talus) portions of the excavation unit.

To summarize, ST-2 revealed three sedimentary layers. Layer I (0-0.08 mbs) was composed of semi-compact, very fine (less than 1 mm diameter), very dark brown (7.5YR 2.5/3, moist) silty clay with sparse amounts of eroding *a`a* pebbles. Marine invertebrates and several basalt flakes were recovered from Layer I. The cultural deposit of Layer I was very modest in quantity and quality. Layer II (0.08-0.30 mbs) consisted of semi-compact, very fine, very dark brown (10YR 2/2, moist) silt with small roots (less than 1 mm diameter). Only traditional

cultural materials were recovered from Layer II. These consisted of marine invertebrates, vertebrates, charcoal, basalt and volcanic glass debitage. One human tooth was recovered in association of these materials. Layer II was the predominant cultural stratum at the site.

One subsurface feature (SSFE-1), a rough basin-shaped charcoal stain, was encountered within Layer II at 0.20 mbs. The stain vertically terminated at 0.26 mbs. Based on the contents of the feature (charcoal) and its morphology (bowl-shaped), the stain was interpreted to represent a possible hearth. An *in situ* sample of charcoal, as well as a soil sample, was retrieved from this subsurface feature for radiocarbon and soil analyses. Layer III (0.30-0.36 mbs) was composed of semi-compact, very fine, dark brown (7.5YR 3/4, moist) silt with eroding *a`a* pebbles and small vegetative roots. Layer III was culturally sterile. ST-2 terminated at the base of Layer III.

Results

Based on the excavation results and stratigraphic profile drawings of ST-2, Layer II was interpreted to represent traditional-period occupation of Feature C. This occupation layer extended beneath the C-shaped wall. Essentially, the C-shape architecture was based in Layer I near the surface and was not associated with the Layer II cultural deposit. Layer III was sterile while Layer I represented the terminus of occupation at the feature. Utilizing metric weights and species counts from both the interior and exterior of ST-2 (C-shape architecture being in the center), it was revealed that the exterior portion of the unit contained far more cultural material than the interior of the unit. This patterning is common as most cultural resources are often recovered from talus proveniences of overhangs or small rockshelters.

The single human tooth of discussion was acquired from a bulk sample of Layer II, ST-2. This bulk sample was acquired from the exterior portion of ST-2 and was not in direct relationship with the C-shape architecture. The tooth was not recovered from the interior of ST-2. Importantly, the tooth was recovered in direct association of the Layer II cultural deposit. Based on stratigraphy, the C-shape architecture was constructed at a time near the terminus of feature occupation or after feature occupation. Layer II represented the most intensive time for use of the overhang area, as seen by the presence of faunal materials, lithics, charcoal, and the presence of a subsurface feature (possible hearth).

Based on location (the exterior of the C-shape), stratigraphic positioning (in the Layer II traditional cultural deposit), and the absence of additional human remains, a burial pit, stained soil commonly associated with burials, or any other empirical indicators, the tooth is interpreted to represent an isolated human remain. The age of deposition is interpreted to be during traditional use of the overhang area as it was identified in direct association (in the same bulk sample derivative) with traditional cultural materials. There were no cultural indicators for any historic period occupation of Feature C from any examined strata. Further, there were no empirical indicators, such as wood demarcating a coffin, historic cultural materials, or a headstone indicating that a historic burial was present. No other testing was completed in the direct vicinity of the unit yielding the one tooth.

Overall, Feature C is argued to represent a traditional-period activity area. The overhang and internal cavity of Feature C appear too small to represent a primary habitation locus and the material record of the feature appears to support use of the area for lithic material acquisition and manufacturing and possibly small-scale food preparation. The actual function of the C-shape remains somewhat ambiguous but may represent formalization of a temporary habitation locale. The single tooth recovered during testing is interpreted to represent an isolated find dating to traditional times as it was recovered in concert with the feature's traditional cultural deposit.

APPENDIX B: MIDDEN INVENTORY

STATE SITE 50-50-14-5542 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS

Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count	Remarks
17	A	SP-7	ARCH	Marine Invertebrates	2.8 grams	-	Species: <i>Celtana sandwicensis</i> , <i>Nerita picea</i>
17	A	SP-7	ARCH	Vertebrates	7.9 grams	-	Species: Fish, bird, small/medium mammal
17	A	SP-7	ARCH	Steel Bed Springs	-	2	-
17	A	SP-7	ARCH	Steel Bottle Caps	-	2	-
17	A	SP-7	ARCH	Bottle Glass Body Sherds	-	2	-
17	A	SP-7	ARCH	Cigarette Butt	-	1	-
17	A	SP-7	ARCH	Styrofoam	-	1	-
17	A	SP-7	ARCH	Hard Plastic	-	1	-
17	A	SP-7	ARCH	Sawn Mammal Bone	-	1	-
17	A	SP-7	ARCH	Aluminum Can Pull Tab	-	1	-
17	A	SP-7	ARCH	Soft Plastic	-	1	-
22	B	-	Surface	Glass Jug Base/Body Sherd	Existing Height: 8.5 cm Base Diameter: 4.2 cm	1	Incomplete, clear glass "Star Soda" bottle, body/base present, body painted red and white (front and back), body slightly flared near base, pontil-type scar located on body near base. Body front painted: STAR SODA 7 FL.OZ. Body back painted: 1st line: NET CONTENTS 7 FLUID, 2nd line: BOTTLED BY, 3rd line: STAR ICE & SODA WORKS, 4th line: WAILUKU, MAUI, -96793. Bottle manufacture date (based on painted label): post 1940.

STATE SITE 50-50-14-5542 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS							
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count	Remarks
23	B	-	Surface	Glass Bottle	Overall Height: 20.0 cm Body Height: 12.0 cm Mouth Diameter (inner): 3.3 cm Base Diameter: 6.6 cm	1	Complete, light green glass bottle, automatic machine made (base, two sides, and finish), english ring top finish, sloping shoulders, slightly tapered body, flat and embossed base. Base embossment: 1st line: B & Co LD, 2nd line: K, 3rd line: 13. Bottle manufacturer: Bagley & Co. of Knottingley, Yorks., England. Bottle manufacturer date (based on manufacturer starting to utilize bottle making machines): post 1899.
26	B	-	Surface	Glass Jug Base Sherd	Base Diameter: 22.0 cm	1	Light blue glass jug base sherd, automatic machine made (base and two sides), base embossed. Base embossment: 1st line: 203, 2nd line: manufacturer's stamp 1, 3rd line: 1933. The manufacturer's stamp is a horizontal diamond intersected by a vertical oval and in the intersection is a capital I. Bottle manufacturer: Owens Illinois Glass Co., of Toledo, Ohio. Bottle manufacturer date (based on the "1933" embossing on the base): 1933.
15	B	SP-5	II	Marine Invertebrates	1.5 grams	-	Species: <i>Cypraea</i> sp., Echinoidea
15	B	SP-5	II	Vertebrates	64.5 grams	-	Species: <i>Gallus gallus</i> , large mammal (cf. <i>Bos taurus</i>)

STATE SITE 50-50-14-5542 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS							
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count	Remarks
16	B	SP-6	I-II	Marine Invertebrates	26.6 grams	-	Species: <i>Cellana sandwicensis</i> , <i>Nerita picea</i> , <i>Littorina pintado</i> , <i>Planaxis labiosa</i> , <i>Cypraea</i> sp. (including <i>C. caputserpentis</i>), non-diagnostic marine shell, <i>Isognomon</i> sp. (including <i>I. californicum</i>), Crustacea, Echinoidea (including <i>Heterocentrotus mammillatus</i>)
16	B	SP-6	I-II	Vertebrates	2.0 grams	-	Species: Fish, small/medium mammal (cf. <i>Canis familiaris</i>)
16	B	SP-6	I-II	Coral	4.6 grams	-	Non-worked
16	B	SP-6	I-II	<i>Kukui</i>	5.9 grams	-	<i>Aleurites moluccana</i>
16	B	SP-6	I-II	Aluminum Foil	-	-	-
18	B	TU-8	I	Marine Invertebrates	29.1 grams	-	Species: <i>Cellana sandwicensis</i> , <i>Nerita picea</i> , <i>N. polita</i> , <i>Colocentrotus atratus</i>
18	B	TU-8	I	Freshwater Invertebrate	0.9 grams	-	<i>Corbicula fluminea</i> ; historically introduced from Asia
18	B	TU-8	I	Land Invertebrate	0.5 grams	-	<i>Achatina fulica</i> ; historically introduced
18	B	TU-8	I	Vertebrates	26.6 grams	-	Species: Fish, bird, <i>Sus scrofa</i> , <i>Bos taurus</i>
18	B	TU-8	I	Coral	2.5 grams	-	Non-worked
18	B	TU-8	I	<i>Kukui</i>	30.2 grams	-	<i>Aleurites moluccana</i>
18	B	TU-8	I	Butchered Small/Medium Mammal Bone	1.3 grams	1	Bone shows striking locations
18	B	TU-8	I	Marine Shell Scraper	-	1	<i>Cellana sandwicensis</i> scraper; modern tool associated with freshly discarded <i>Cellana sandwicensis</i>
18	B	TU-8	I	Sawn Mammal Bone	30.9 grams	11	<i>Bos taurus</i> bone
18	B	TU-8	I	Cement	-	-	-
18	B	TU-8	I	Window Pane Glass Sherd	-	1	-

STATE SITE 50-50-14-5542 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS							
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count	Remarks
18	B	TU-8	I	Bottle Glass Body Sherds	-	1	Clear
18	B	TU-8	I	Light Bulb Glass Sherd	-	1	-
18	B	TU-8	I	Clothespin Steel Spring	-	1	Steel
18	B	TU-8	I	Cigarette Butt	-	1	-
18	B	TU-8	I	Hard Plastic	-	1	-
18	B	TU-8	I	Styrofoam	-	1	-
18	B	TU-8	I	Aluminum Foil	-	1	-
18	B	TU-8	I	Tire Valve Core	-	1	-
18	B	TU-8	I	String	-	1	-
18	B	TU-8	I	Steel Common Wire Nail	-	1	Size 6d
18	B	TU-8	I	Steel Hinge	-	1	-
18	B	TU-8	I	Rubber Water Washer	-	1	-
18	B	TU-8	I	Rug Fiber	-	1	-
19	B	TU-8	II	Marine Invertebrates	4.6 grams	-	Species: <i>Cellana</i> sp., <i>Nerita picea</i> , <i>Cypraea</i> sp., <i>Isognomon</i> sp., <i>Colobocentrotus atratus</i>
19	B	TU-8	II	Vertebrates	4.6 grams	-	Species: Fish, <i>Sus scrofa</i>
19	B	TU-8	II	<i>Kukui</i>	8.9 grams	-	<i>Aleurites moluccana</i>
19	B	TU-8	II	Bottle Glass Body Sherd	-	1	Clear, exterior textured
19	B	TU-8	II	Light Bulb Glass Sherd	-	1	-
19	B	TU-8	II	Steel Screw	-	1	-
19	B	TU-8	II	Porcelain Body Sherd	-	1	Exterior and interior glazed
19	B	TU-8	II	Aluminum Foil	-	-	-

STATE SITE 50-50-14-5542 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS						
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count Remarks
19	B	TU-8	II	Non-Diagnostic Iron/Steel	-	-
20	B	TU-8	III/1	Marine Invertebrates	47.0 grams	- Species: <i>Cellana sandwicensis</i> , <i>Nerita picea</i> , <i>Theodoxus neglectus</i> , <i>Planaxis labiosa</i> , <i>Cypraea</i> sp. (including <i>C. maculifera</i> and <i>C. capuserpentis</i>), <i>Melampus castaneus</i> , <i>Isognomon</i> sp. (including <i>I. californicum</i>), non-diagnostic marine shell, Crustacea, <i>Colobocentrotus atratus</i>
20	B	TU-8	III/1	Vertebrates	6.0 grams	- Species: Scaridae, <i>Sus scrofa</i>
20	B	TU-8	III/1	Coral	5.9 grams	- Non-worked
20	B	TU-8	III/1	<i>Kukui</i>	5.9 grams	- <i>Aleurites moluccana</i>
20	B	TU-8	III/1	Charcoal	22.3 grams	-
20	B	TU-8	III/1	Window Pane Glass Sherd	-	1 Clear
20	B	TU-8	III/1	Bottle Glass Body Sherd	-	1 Clear
20	B	TU-8	III/1	Aluminum	-	-
20	B	TU-8	III/1	Clothespin Steel Spring	-	1 -
20	B	TU-8	III/1	Plastic	-	-
20	B	TU-8	III/1	Aluminum Foil	-	-
20	B	TU-8	III/1	Steel Duplex Head Nail	-	1 -
20	B	TU-8	III/1	Non-Diagnostic Iron/Steel	-	-

STATE SITE 50-50-14-5542 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS						
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count Remarks
21	B	TU-8	III/2	Marine Invertebrates	7.0 grams	- Species: <i>Nerita picea</i> , <i>Theodoxus neglectus</i> , <i>Cypraea</i> sp. (including <i>C. caputserpentis</i> and <i>C. maculifera</i>), <i>Conus</i> sp., Crustacea, <i>Colobocentrotus atratus</i>
21	B	TU-8	III/2	Vertebrates	6.0 grams	- Species: Fish, cf. <i>Sus scrofa</i>
21	B	TU-8	III/2	Charcoal	18.3 grams	-
21	B	TU-8	III/2	<i>Kukui</i>	0.8 grams	- <i>Aleurites moluccana</i>
21	B	TU-8	III/2	Sawn Mammal Bone	2.0 grams	1 cf. <i>Sus scrofa</i>
21	B	TU-8	III/2	Burnt Plastic	-	-
21	B	TU-8	III/2	Bottle Glass Body Sherd	-	1 Amber color
21	B	TU-8	III/2	Aluminum Foil	-	-

STATE SITE 50-50-14-5543 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS							
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count	Remarks
25	C	-	Surface	Coral	4.0 grams	1	Non-worked
9	C	ST-2 Interior	I	Coral	22.0 grams	-	Non-worked
10	C	ST-2 Interior	I	Marine Invertebrates	5.4 grams	-	Species: <i>Cyraea</i> sp., <i>Conus</i> sp., <i>Isognomon</i> sp., non-diagnostic marine shell
10	C	ST-2 Interior	I	Vertebrates	0.1 gram	-	Species: Fish, bird
10	C	ST-2 Interior	I	Coral	2.4 grams	-	Non-worked
13	C	ST-2 Interior	II	Marine Invertebrates	8.9 grams	-	Species: <i>Cellana</i> sp., <i>Nerita</i> sp., <i>Cypraea</i> sp., <i>Drupa ricina</i> , <i>Heterocentrotus mammillatus</i>
13	C	ST-2 Interior	II	Vertebrates	< 0.1 gram	-	Species: Fish, bird, <i>Rattus/Mus</i> sp.
13	C	ST-2 Interior	II	Coral	52.4 grams	-	Non-worked
13	C	ST-2 Interior	II	Charcoal	3.4 grams	-	-
5	C	ST-2 Exterior	I	Marine Invertebrates	4.0 grams	-	Species: <i>Cellana sandwicensis</i> , <i>Nerita picea</i> , <i>Theodoxus neglectus</i> , <i>Cypraea</i> sp.
6	C	ST-2 Exterior	II	Charcoal with Matrix	7.0 grams	-	-
27	C	ST-2b	I	Marine Invertebrates	34.5 grams	-	Species: <i>Cellana exarata</i> , <i>C. sandwicensis</i> , <i>Trochus intextus</i> , <i>Nerita picea</i> , <i>Theodoxus neglectus</i> , <i>Cypraea</i> sp., <i>Drupa morum</i> , <i>Conus</i> sp., <i>Tellina palatam</i>
27	C	ST-2b	I	Vertebrates	0.6 grams	-	Fish

STATE SITE 50-50-14-5543 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS						
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count Remarks
27	C	ST-2b	I	Coral	9.7 grams	- Non-worked
28	C	ST-2b	II	Marine Invertebrates	143.2 grams	- Species: <i>Cellana exarata</i> , <i>C. sandwicensis</i> , <i>Nerita picea</i> , <i>Theodoxus neglectus</i> , <i>Littorina pinnata</i> , <i>Cypraea</i> sp., <i>C. caputserpentis</i> , <i>Drupa morum</i> , <i>Mitrella bella</i> , <i>Conus</i> sp., <i>C. catus</i> , <i>C. distans</i> , <i>Tellina palatam</i> , non-diagnostic marine shell, <i>Heterocentrotus mammillatus</i>
28	C	ST-2b	II	Vertebrates	1.7 grams	- Species: Scaridae, bird, <i>Sus scrofa</i>
29	C	ST-2b	III	Charcoal	1.7 grams	-
				Marine Invertebrates	53.5 grams	- Species: <i>Cellana exarata</i> , <i>C. sandwicensis</i> , <i>Nerita picea</i> , <i>Theodoxus neglectus</i> , <i>Littorina pinnata</i> , <i>Cypraea</i> sp., <i>C. caputserpentis</i> , <i>Drupa</i> sp, <i>Mitrella fusiformis</i> , <i>Conus</i> sp., <i>C. catus</i> , <i>C. granifer</i> , <i>Melampus castaneus</i> , <i>Brachidontes crebristriatus</i> , <i>Isochnomon</i> sp., non-diagnostic marine shell, Echinoidea, <i>Echinothrix diadema</i> , <i>Heterocentrotus mammillatus</i>
29	C	ST-2b	III	Vertebrates	4.3 grams	- Species: Scaridae, bird, <i>Rattus/Mus</i> sp., <i>Sus scrofa</i>
29	C	ST-2b	III	Charcoal	3.6 grams	-
29	C	ST-2b	III	Coral	0.8 grams	-
30	C	TU-9	I-II	Marine Invertebrates	12.8 grams	- Species: <i>Nerita picea</i> , <i>Cypraea</i> sp., <i>Conus</i> sp., <i>C. catus</i> , Echinoidea

STATE SITE 50-50-14-5543 MIDDEN INVENTORY WITHOUT TRADITIONAL ARTIFACTS						
Field Bag	Feature	Unit	Layer	Collected Material	Measurements	Count Remarks
30	C	TU-9	I-II	Vertebrates	0.8 grams	- Species: Scaridae, <i>Rattus/Mus</i> sp. (MNI-2), cf. <i>Herpestes aurojunctatus</i>
7	C/ SSF-1	ST-2 Exterior	II	Soil Sample	680.4 grams	- Soil sample from Subsurface Feature I
14	C	ST-2 Exterior	II	Marine Invertebrates	60.6 grams	- Species: <i>Cellana sandwicensis</i> , <i>Merita picea</i> , <i>Theodoxus neglectus</i> , <i>Liitorina pintado</i> , <i>Cypraea</i> sp., <i>Drupa ricina</i> , <i>Anachis miser</i> , <i>Conus</i> sp., <i>Melampus castaneus</i> , <i>Isognomon</i> sp., <i>Tellina palatam</i> , non-diagnostic marine shell, <i>Echinometra mathaei</i> , <i>Heterocentrotus mammillatus</i>
14	C	ST-2 Exterior	II	Vertebrates	3.4 grams	Species: Scaridae, small mammal (cf. <i>Felis catus</i> , <i>Canis familiaris</i>)
14	C	ST-2 Exterior	II	Coral	4.5 grams	Non-worked
14	C	ST-2 Exterior	II	Charcoal	4.7 grams	-
2	D	TU-1	I	Marine Invertebrate	0.2 grams	- <i>Cypraea</i> sp.
2	D	TU-1	I	Charcoal	3.2 grams	-
8	D	TU-3	I	Marine Invertebrate	0.3 grams	- <i>Cypraea</i> sp.
8	D	TU-3	I	Vertebrate	9.7 grams	-

STATE SITE 50-50-14-5542 TRADITIONAL ARTIFACTS

Field Bag	Feature	Unit	Layer	Artifact Number	Collected Material	Length (cm)	Width (cm)	Thickness (cm)	Count	Remarks
15	B	SP-5	II	-	Basalt Debitage	-	-	-	1	IF
16	B	SP-6	I-II	-	Worked Bone	-	-	-	2	Two fragments of small/medium mammal
16	B	SP-6	I-II	-	Basalt Debitage	-	-	-	18	Three IF; 2 PF; 13 NDF
18	B	TU-8	I	-	Basalt Debitage	-	-	-	6	One SF; 5 NDF
19	B	TU-8	II	-	Basalt Debitage	-	-	-	5	One IF; 1 SF; 3 NDF
20	B	TU-8	III/1	-	Volcanic Glass Debitage	-	-	-	1	IF
20	B	TU-8	III/1	-	Basalt Debitage	-	-	-	24	Two IF; 22 NDF; associated with 2 fractured stones
20	B	TU-8	III/1	2	Bone Fishhook	1.92	-	-	1	Knob/shank present; tip of one piece hook missing
21	B	TU-8	III/2	-	Basalt Debitage	-	-	-	2	Two NDF

PF = Primary Flake; IF = Intermediate Flake; SF = Secondary Flake; NDF = Non-Diagnostic Flake

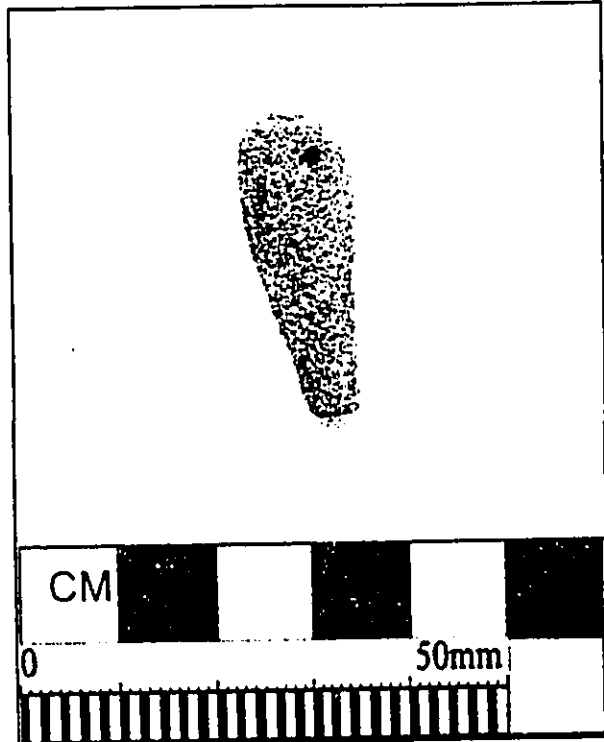
STATE SITE 50-50-14-5543 TRADITIONAL ARTIFACTS										
Field Bag	Feature	Unit	Layer	Artifact Number	Collected Material	Length (cm)	Width (cm)	Thickness (cm)	Count	Remarks
25	C	-	Surface	-	Basalt Debitage	-	-	-	1	SF (very large); associated with one piece of coral
3	C	ST-2 Interior	Surface	4	Basalt Core	11.90	9.60	6.00	1	Large cobble; single, unprepared striking platform
10	C	ST-2 Interior	I	-	Basalt Debitage	-	-	-	9	Nine NDF
13	C	ST-2 Interior	II	-	Basalt Debitage	-	-	-	14	One IF; 13 NDF; associated with 1 fragment of broken pebble
13	C	ST-2 Interior	II	-	Volcanic Glass Debitage	-	-	-	1	SF
4	C	ST-2 Exterior	I	-	Basalt Debitage	-	-	-	1	NDF
5	C	ST-2 Exterior	I	-	Basalt Debitage	-	-	-	4	Four NDF; associated with 1 fractured stone
14	C	ST-2 Exterior	II	-	Volcanic Glass Debitage	-	-	-	5	Five NDF
14	C	ST-2 Exterior	II	-	Basalt Debitage	-	-	-	45	Two IF; 3 SF; 2 PF; 38 NDF; associated with 2 fractured stones
14	C	ST-2 Exterior	II	5	Coral Abrader	3.22	1.10	0.82	1	Elongated piece, worked on at least 4 facets, tip missing
27	C	ST-2b	I	-	Basalt Debitage	-	-	-	5	Five NDF
27	C	ST-2b	I	-	Volcanic Glass Debitage	-	-	-	2	Two IF
28	C	ST-2b	II	-	Volcanic Glass Debitage	-	-	-	7	One IF; 6 NDF
28	C	ST-2b	II	-	Basalt Debitage	-	-	-	38	Five SF; 1 PF; 32 NDF
28	C	ST-2b	II	6	Basalt Flake with Polish	1.89	3.55	0.55	1	One polished surface
28	C	ST-2b	II	7	Basalt Core	10.25	8.78	7.04	1	Based on nodule; multiple, unprepared striking platforms
29	C	ST-2b	III	-	Basalt Debitage	-	-	-	39	Two IF; 1 SF; 36 NDF
29	C	ST-2b	III	-	Volcanic Glass Debitage	-	-	-	6	One SF; 5 NDF
29	C	ST-2b	III	8	Bone Fishhook	3.17	-	-	1	One piece fishhook; tip portion missing
30	C	TU-9	I-II	-	Basalt Debitage	-	-	-	3	Three NDF

PF = Primary Flake; IF = Intermediate Flake; SF = Secondary Flake; NDF = Non-Diagnostic Flake

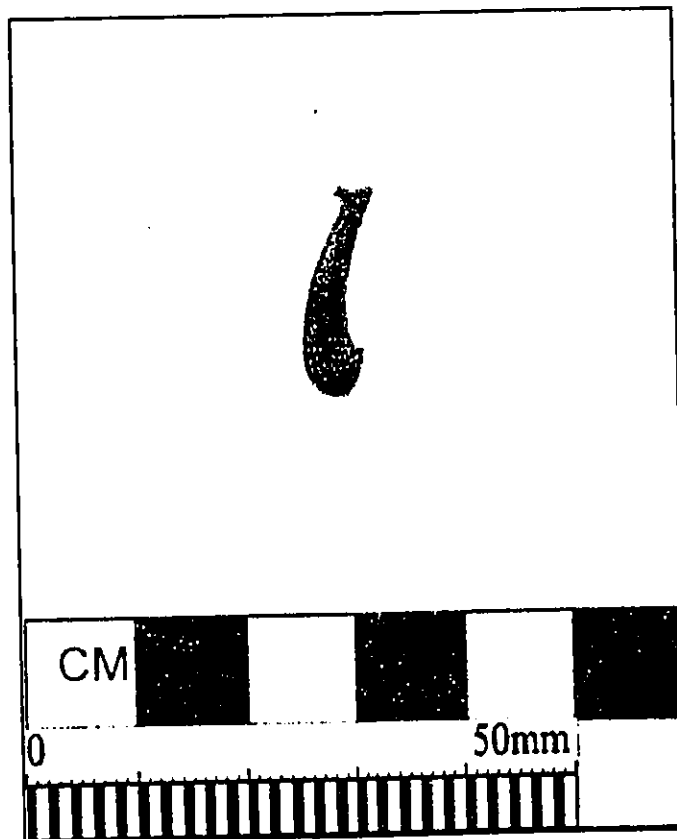
STATE SITE 50-50-14-5543 TRADITIONAL ARTIFACTS

Field Bag	Feature	Unit	Layer	Artifact Number	Collected Material	Length (cm)	Width (cm)	Thickness (cm)	Count	Remarks
24	D	-	Surface	1	Basalt Hammerstone	5.94	5.08	4.72	1	Small rounded cobble, lightly battered
24	D	-	Surface	2	Basalt Core	7.01	7.47	5.04	1	Prepared, single striking platform; piece is a large flake removed from a larger piece
24	D	-	Surface	3	Basalt Core	7.70	6.08	6.04	1	Multiple, unprepared striking platforms; based on cobble
24	D	-	Surface	-	Basalt Debitage	-	-	-	8	One PF; 7 NDF (one is very large)
1	D	TU-1	Surface	-	Basalt Debitage	-	-	-	1	NDF
2	D	TU-1	I	-	Basalt Debitage	-	-	-	1	SF
8	D	TU-3	I	-	Basalt Debitage	-	-	-	1	NDF

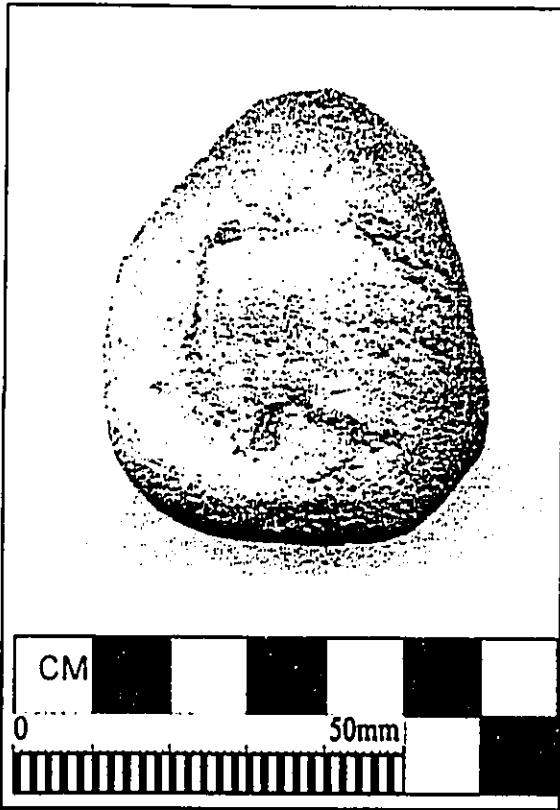
PF = Primary Flake; IF = Intermediate Flake; SF = Secondary Flake; NDF = Non-Diagnostic Flake



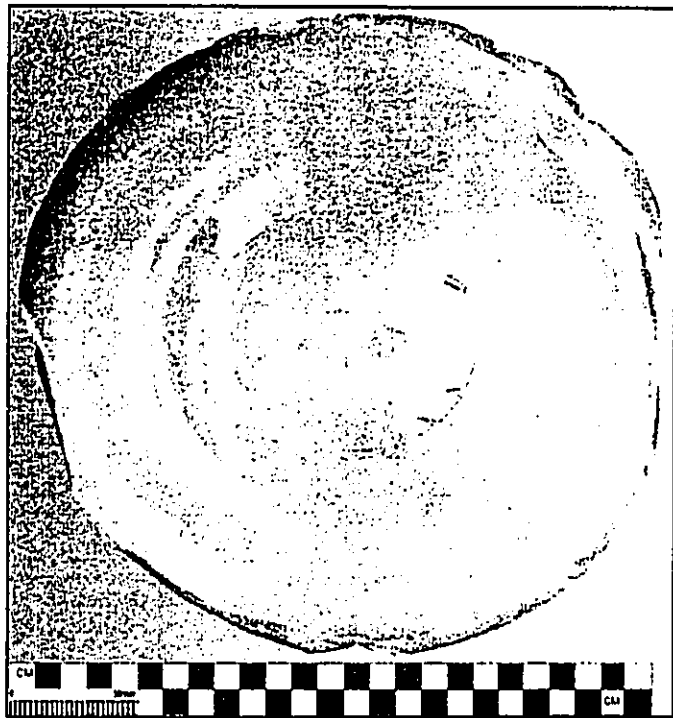
Feature C, Coral Abrader.



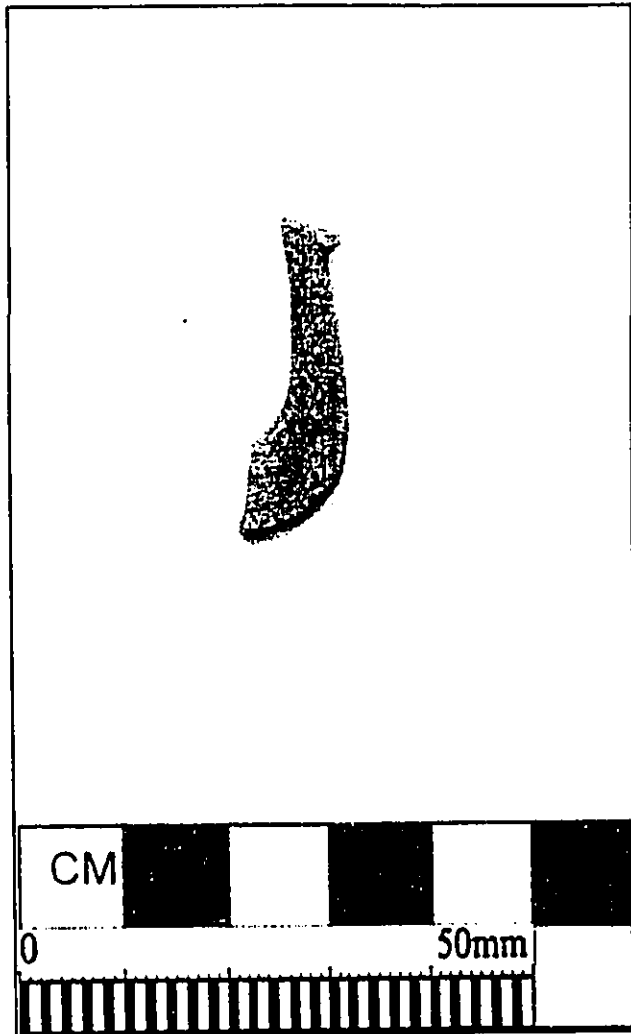
Feature B, Fishhook.



Feature D, Hammerstone



Feature B, Glass Jug base.



Feature C, Fishhook.

Appendix - D
Preliminary Engineering and Drainage Report

PRELIMINARY ENGINEERING REPORT

FOR

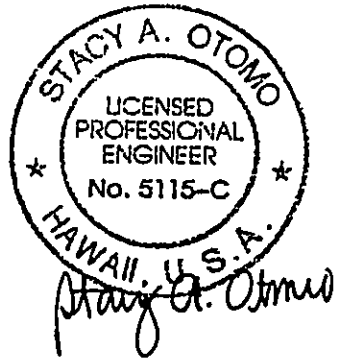
PAPAANUI, LLC SUBDIVISION

Makena, Honuaula, Maui, Hawaii

T.M.K.: (2) 2-1-007: 009

Prepared For:

**Papaanui, LLC
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Prepared By:



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March 2005

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**PRELIMINARY ENGINEERING REPORT
FOR
PAPAANUI, LLC SUBDIVISION
T.M.K.: (2) 2-1-007: 009**

1.0 INTRODUCTION

The purpose of this report is to provide information on the existing infrastructure which will be servicing the proposed project. It will also evaluate the adequacy of the existing infrastructure and anticipated improvements which may be required for the proposed project.

The subject property is identified as T.M.K.: (2) 2-1-007: 009 and contains approximately 3.51 acres. It is owned by Papaanui, L.L.C.. The developers plan to subdivide the property into 7 single family residential lots, ranging in size from 16,631 square feet to 23,600 square feet. The northern portion of the site is developed with an existing house, cottage, a few sheds, and concrete and asphalt concrete pavement driveways. The remainder of site is undeveloped and covered with weeds, trees and grasses.

The subject parcel is bordered by Old Ulupalakua Road to the north, vacant land to east and to the south, and Makena-Keoneoio Road to the west.

2.0 EXISTING INFRASTRUCTURE

2.1 ROADWAYS

Piilani Highway is the primary roadway linking Kihei, Wailea and Makena. Piilani Highway is a four lane highway which is owned and maintained by the State. The terminus of Piilani Highway is at its intersection with Wailea Ike Drive. Wailea Ike Drive is a two lane east-west roadway with a landscaped median which connects the Piilani Highway and Wailea Alanui Road.

Wailea Alanui Road is a two lane roadway which parallels Piilani Highway and connects the Wailea and Makena communities. Makena-Keoneoio Road is a two lane roadway which parallels Wailea Alanui Road and serves the residential areas east of Wailea Alanui Road.

The Old Ulupalakua Road once connected the Upcountry area with Makena. This roadway is presently not in use.

Access to the project site will be from Makena-Keoneoio Road and a portion of the Old Ulupalakua Road.

2.2 DRAINAGE

There are no drainage systems in the vicinity of the subject parcel. Runoff from the developed portion of the project site presently sheet flows in an east to west direction onto Makena-Keoneoio Road. Runoff from the undeveloped portion of the subject parcel sheet flows in a north to south direction. Ultimately, all runoff from the project sheet flows onto Makena-Keoneoio Road and into the ocean.

It is estimated that the present 50-year, 1-hour runoff from the developed portion of the project site is 1.8 cfs and 4.6 cfs from the undeveloped portion. The total runoff from the project site is 6.4 cfs.

2.3 SEWER

There is no County sewer system in close proximity of the project site. The nearest County-owned sewer system is located approximately 1,400 feet to the north of the project site. The facility consists of a wastewater pump station located at the intersection of Wailea Alanui Road and Makena-Keoneoio Road.

The Hale O Makena project, located south of the Wailea Alanui Road and Makena-Keoneoio Road intersection, installed a private sewer system which connected to said County sewer pump station. Any sewer system expansion along this section of Makena-Keoneoio Road may need to coordinate connection to this private system.

Wastewater collected from the Makena area is transported to the Kihei Wastewater Treatment Plant located above Piilani Highway and south of the Silversword Golf Course.

2.4 WATER

Domestic water and fire flow will be provided by the County's water system. There is an 8-inch waterline along Makena-Keoneoio Road.

A 1.5 million gallon concrete water tank on Kaukahi Street provides storage for the area. This tank is known as the Diamond Resort tank (elevation 220 feet) and is located approximately 6,000 feet to the north of the project site.

The source for the water system is the Mokuhou wells located in Happy Valley.

2.5 ELECTRIC, TELEPHONE AND CABLE TV

The existing electrical distribution system in the vicinity of the project site is overhead. It presently traverses along the eastern portion of the subject property.

3.0 ANTICIPATED INFRASTRUCTURE IMPROVEMENTS

3.1 ROADWAYS

The subject subdivision consists of seven lots. Three lots located within the existing developed area will access onto Old Ulupalakua Road. The remaining four lots within the undeveloped area will access onto Makena-Keoneoio Road. Both roadways will be improved to standards set forth by the County for roadways in the rural district, in accordance with the provisions of the Kihei-Makena Community Plan.

The right-of-way of Makena-Keoneoio Road is established to the north and south of the subject parcel. Although the existing roadway improvements physically traverses through a portion of the southerly section of the property, there is no established right-of-way. The developers will provide for a roadway lot within the property for Makena-Keoneoio Road to match the northerly and southerly ends. The roadway lot will be dedicated to the County.

A traffic impact assessment letter dated July 13, 2004 was prepared by Phillip Rowell and Associates, which concludes the following:

"The conclusion of the trip generation analysis is that the project will generate a minimal amount of traffic. The inbound and outbound traffic is distributed and assigned separately and will be distributed between two driveways along Makena Keoneoio Road and Old Ulupalakua Road.

The Institute of Transportation Engineers recommends that a traffic impact study should be performed if, in lieu of another locally preferred criterion, development generates an additional 100 vehicle trips in the peak direction (inbound or outbound) during the site's peak hour. Based on the criterion, a traffic impact study is not warranted. To date, the County of Maui has not established criteria for projects within it's jurisdiction.

Lastly, I superimposed the estimated project generated traffic forecasts for Old Makena Road and performed a level-of-service analysis for the project driveway. I assumed only one driveway in order to assess a worse-case

condition. All the delays are estimated to be less than nine (9) seconds, which corresponds to Level-of-Service A, the highest level-of-service. The conclusion is that the driveways will operate at a Level-of-Service A, without a separate turn lane into the project, and the traffic impact of the project will be negligible. A full TIAR would have the same conclusion

Even though the estimated impacts are negligible, the project's civil engineer should perform a sight distance analysis to ensure that adequate sight distance is provided at the project driveways along Old Makena Road."

3.2 DRAINAGE

The post development runoff from the proposed project site will be intercepted by catch basins and/or a swale and conveyed to onsite detention basins or an underground perforated pipe drainage system. The detention basins and perforated pipe drainage systems will be sized to accommodate the increase in runoff from a 50-year, 1-hour storm. No increase in runoff will sheet flow from the project site onto Makena-Keoneoio Road after the development of the subdivision for this storm event.

Runoff from Lots 1, 2 and 3 (developed portion of the property) will be collected by grated catch basins and conveyed to an onsite underground perforated pipe drainage system which will be located on Lot 1. Runoff from Lots 4 to 7 will be conveyed to a detention basin which will be constructed on Lots 5 and 6 and the adjoining parcel owned by Makena Aina Resort T.M.K.: (2) 2-1-007: portion of 094).

It is estimated that the developed 50-year, 1-hour runoff from the project site is 11.5 cfs, an increase of 5.1 cfs. The required storage volume to accommodate the increase in runoff from Lots 4 to 7 is 1,929 cubic feet. The proposed detention basin will have a storage volume of approximately 39,000 cubic feet. The remaining capacity of the detention basin will be allocated to Makena Aina Resort for the future development of the adjacent properties. The increase in runoff from Lots 1, 2 and 3 will be conveyed to the underground perforated drainline which will be appropriately sized.

3.3 SEWER

The proposed 7-lot subdivision will generate approximately 2,450 gallons per day of wastewater when all homes are constructed. Since there is no existing sewer system in close proximity of the project site, each lot will install an aerobic individual wastewater system for sewerage disposal.

The lots will connect to the County system in the future as it becomes available.

3.4 WATER

In accordance with the Department of Water Supply's Domestic Consumption Guidelines for single family residential development, the average daily demand for the 7-lot subdivision is approximately 10,530 gallons per day. Fire flow demand for single family residential development is 1,000 gallons per minute for a 2 hour duration. Fire hydrants will be installed with a maximum spacing of 350 feet.

Presently, there are seven 3/4-inch water meters on the subject parcel. The water meters will be relocated to its correction location upon completion of the subdivision water improvements.

3.5 ELECTRIC, TELEPHONE AND CABLE TV

The proposed electrical, telephone and cable TV distribution systems in the subject subdivision will be installed underground from the existing overhead facilities traversing through the project site.

PRELIMINARY DRAINAGE REPORT

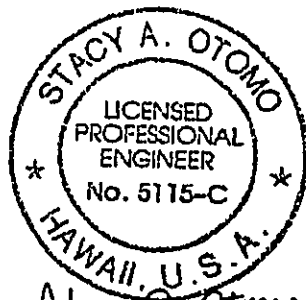
FOR

**PAPAANUI LLC SUBDIVISION
Makena, Honuaula, Maui, Hawaii**

**T.M.K.: (2) 2-1-007: 009, 060 & POR. 100 &
T.M.K.: (2)2-1-008: POR. 100**

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**PRELIMINARY DRAINAGE REPORT
FOR
PAPAANUI, LLC SUBDIVISION
Makena, Honuaula, Maui, Hawaii**

I. INTRODUCTION

The purpose of this report is to examine both the existing and proposed drainage conditions for the proposed project.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcels are identified as T.M.K.: (2) 2-1-007: 009, 060, portion of 94 and T.M.K.: (2) 2-1-008: portion of 100. Parcel 009 is the site of the subdivision, which encompasses an area of 3.51 acres. The subject subdivision parcel is bordered by Old Ulupalakua Road to the north, vacant land to east and to the south, and Makena-Keoneoio Road to the west.

The northern portion of the site is developed with an existing house, cottage, and a few sheds which presently occupy the parcel. The remainder of site is undeveloped and covered with weeds, trees and grasses.

The proposed project consists of the subdivision of the existing parcel into seven residential lots. The proposed lots range in size from 17,469 square feet to 23,713 square feet. Associated improvements will include roadway improvements to the adjacent streets and private driveways, underground utility connections, grading, drainage system, water and fire protection systems, and landscaping.

III. EXISTING TOPOGRAPHY AND SOIL CONDITIONS

The developed portion of the site slopes in an east to west direction ranging in elevation from approximately 80 feet to 52 feet above mean sea level, with an average slope of approximately 6.4%. The undeveloped portion of the site slopes in a north to south direction ranging in elevation from approximately 74 feet to 10 feet above mean sea level, with an average slope of approximately 27.8%.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Makena loam, stony complex. It is characterized as having moderately rapid permeability, slow to medium runoff, and a slight to moderate erosion hazard.

IV. EXISTING DRAINAGE CONDITIONS

There are no drainage systems in the vicinity of the subject parcel. Runoff from the developed portion of the project site presently sheet flows in an east to west direction onto Makena-Keoneoio Road. Runoff from the undeveloped portion of the subject parcel sheet flows in a north to south direction. Ultimately, all runoff from the project sheet flows onto Makena-Keoneoio Road and into the ocean.

It is estimated that the present 50-year, 1-hour runoff from the developed portion of the project site is 1.8 cfs and 4.6 cfs from the undeveloped portion. The total runoff from the project site is 6.4 cfs.

V. FLOOD AND TSUNAMI ZONE

According to Panel Number 150003 0330 B of the Flood Insurance Rate Map, June 1, 1981, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone C. Flood Zone C represents areas of minimal flooding.

VI. PROPOSED DRAINAGE PLAN

The post development runoff from the proposed project site will be intercepted by catch basins and/or a swale and conveyed to onsite detention basins or an underground perforated pipe drainage system. The detention basins and perforated pipe drainage systems will be sized to accommodate the increase in runoff from a 50-year, 1-hour storm. No increase in runoff will sheet flow from the project site onto Makena-Keoneoio Road after the development of the subdivision for this storm event.

Runoff from Lots 1, 2 and 3 (developed portion of the property) will be collected by grated catch basins and conveyed to an onsite underground perforated pipe drainage system which will be located on Lot 1. Runoff from Lots 4 to 7 will be conveyed to a detention basin which will be constructed on Lots 5 and 6 and the adjoining parcel owned by Makena Aina Resort T.M.K.: (2) 2-1-007: portion of 094).

It is estimated that the developed 50-year, 1-hour runoff from the project site is 11.5 cfs, an increase of 5.1 cfs. The required storage volume to accommodate the increase in runoff from Lots 4 to 7 is 1,929 cubic feet. The proposed detention basin will have a storage volume of approximately 39,000 cubic feet. The remaining capacity of the detention basin will be allocated to Makena Aina Resort for the future development of the adjacent properties. The increase in runoff from Lots 1, 2 and 3 will be conveyed to the underground perforated drainline which will be appropriately sized.

VII. HYDROLOGIC CALCULATIONS

The hydrologic calculations are based on the "Chapter 4 - Rules for the Design of Storm Drainage Facilities in the County of Maui," and the "Rainfall Frequency Atlas of the Hawaiian Islands," Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau.

Rational Formula Used: $Q = CIA$

Where Q = rate of flow (cfs)

C = rainfall coefficient

I = rainfall intensity for a duration equal to the time of concentration (inches/hour)

A = drainage area (Acres)

See Appendix A for Hydrologic Calculations

VIII. CONCLUSION

After the development of the proposed subdivision, it is estimated that the 50-year, 1-hour storm runoff will be 11.5 cfs, with an increase of 5.1 cfs. The runoff will be intercepted by catch basins and/or swales and conveyed to detention basins or underground perforated pipe drainage systems. The detention basins and perforated pipes will be sized to accommodate the increase in runoff from the project site for a 50-year, 1-hour storm. There will be no increase in runoff sheet flowing from the project onto Makena-Keoneoio Road or adjacent properties. This is in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui.

Therefore, it is our professional opinion that the proposed development will not have an adverse effect on the adjoining or downstream properties.

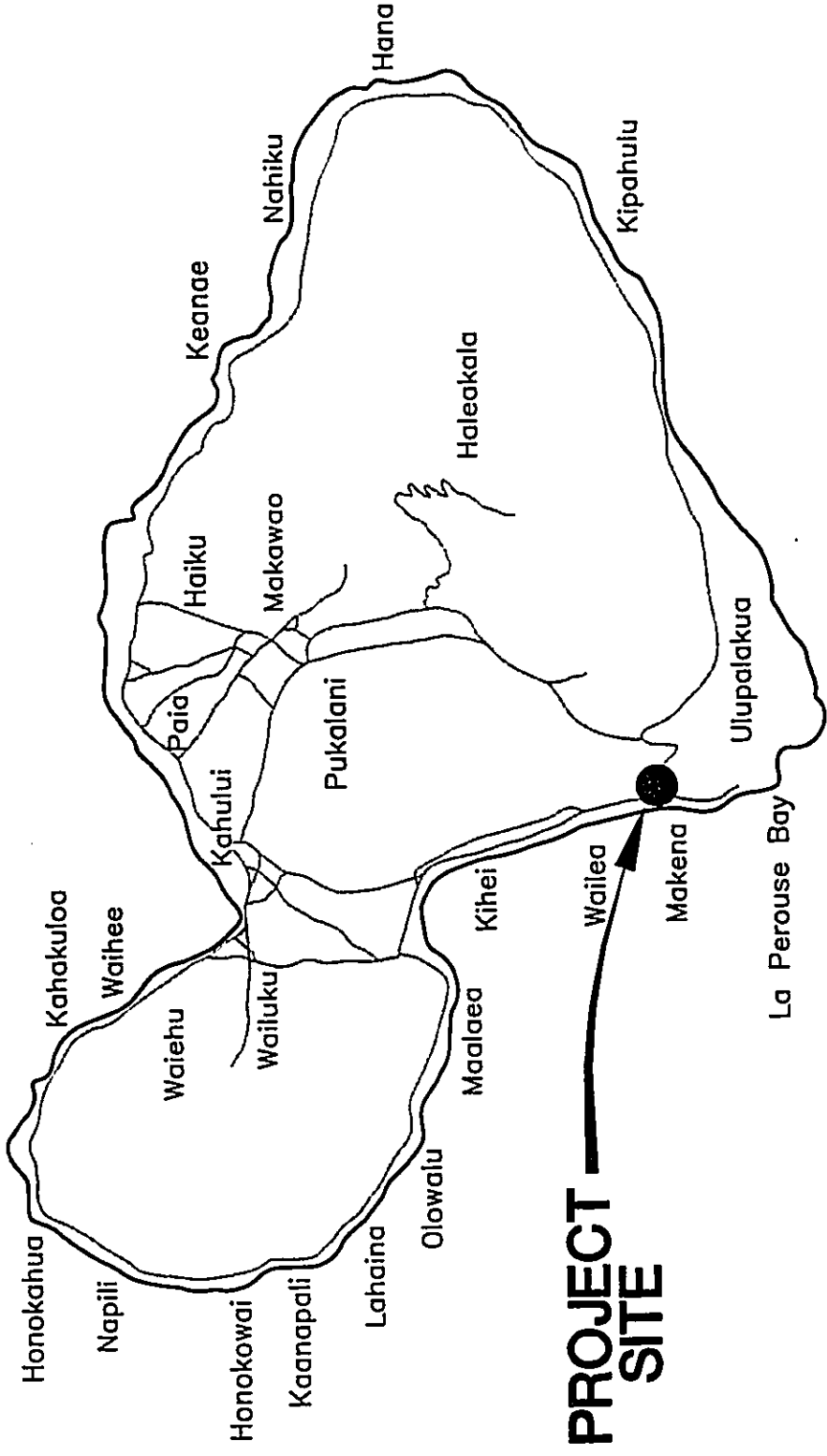
IX. REFERENCES

- A. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, August, 1972.
- B. Erosion and Sediment Control Guide for Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, March, 1981.

- C. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau, 1962.
- D. Flood Insurance Rate Maps of the County of Maui, June 1981.
- E. Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui, prepared by the Department of Public Works and Waste Management, County of Maui, 1995.

EXHIBITS

- 1 Location Map**
- 2 Vicinity Map**
- 3 Soil Survey Map**
- 4 Flood Insurance Rate Map**

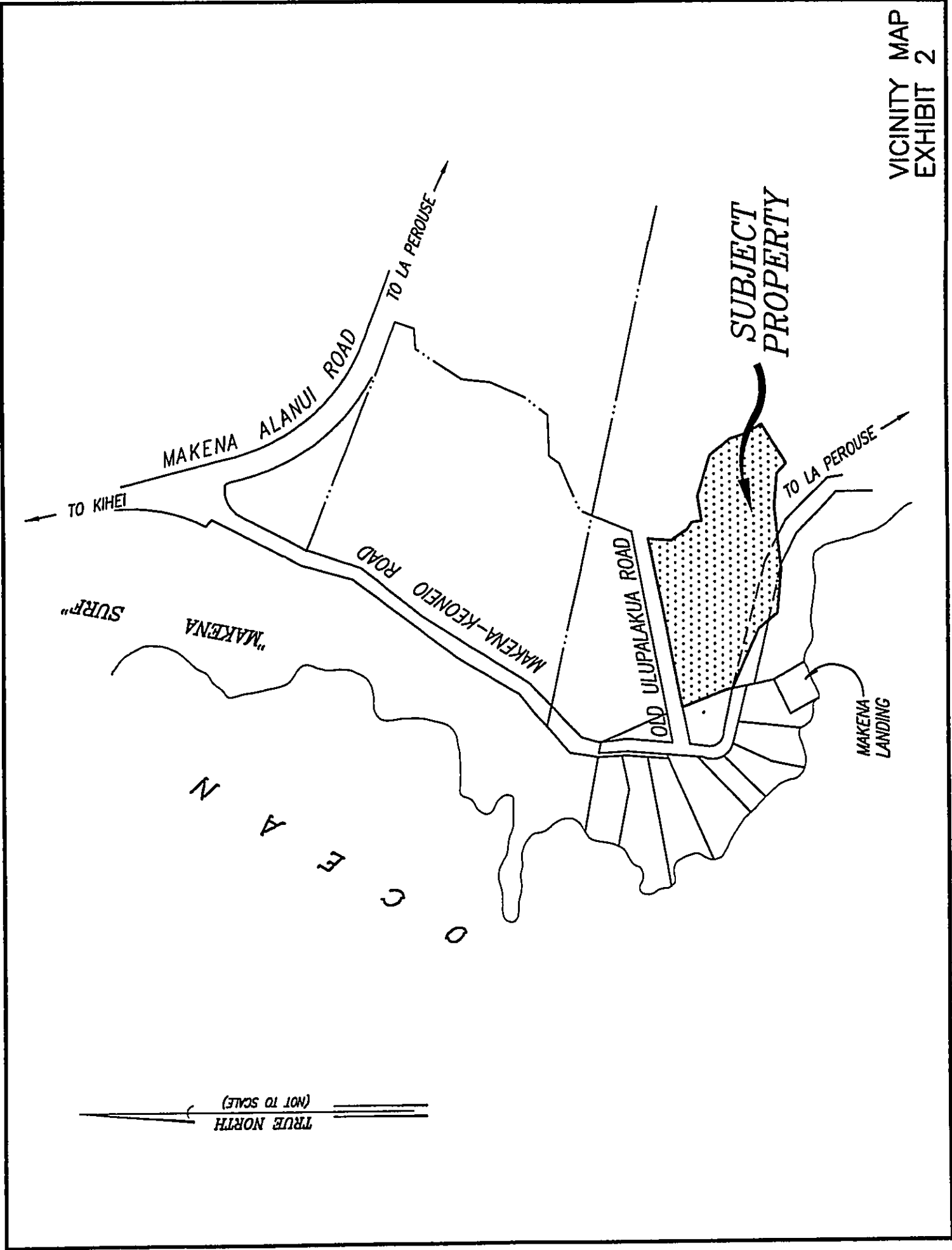


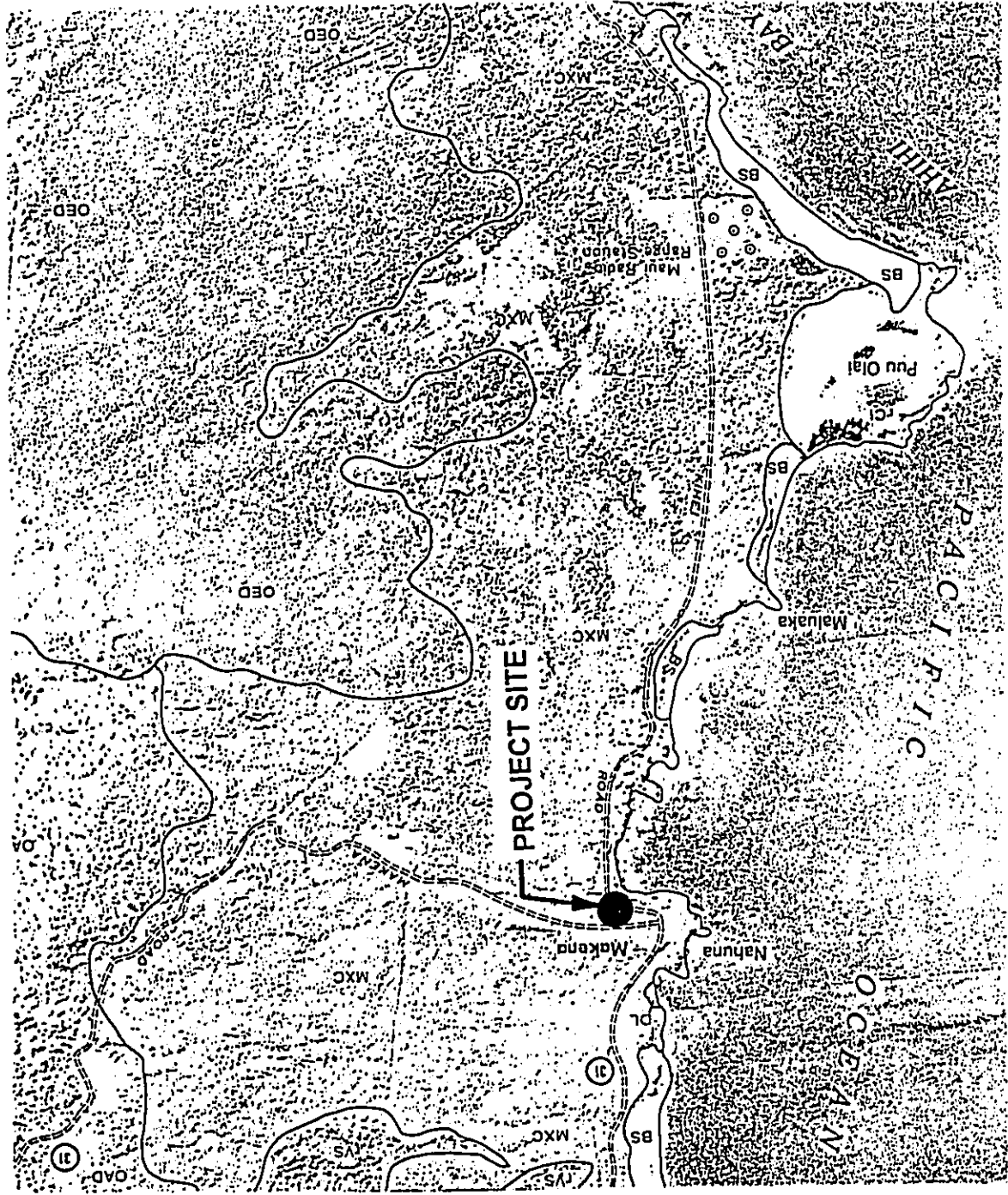
**PROJECT
SITE**



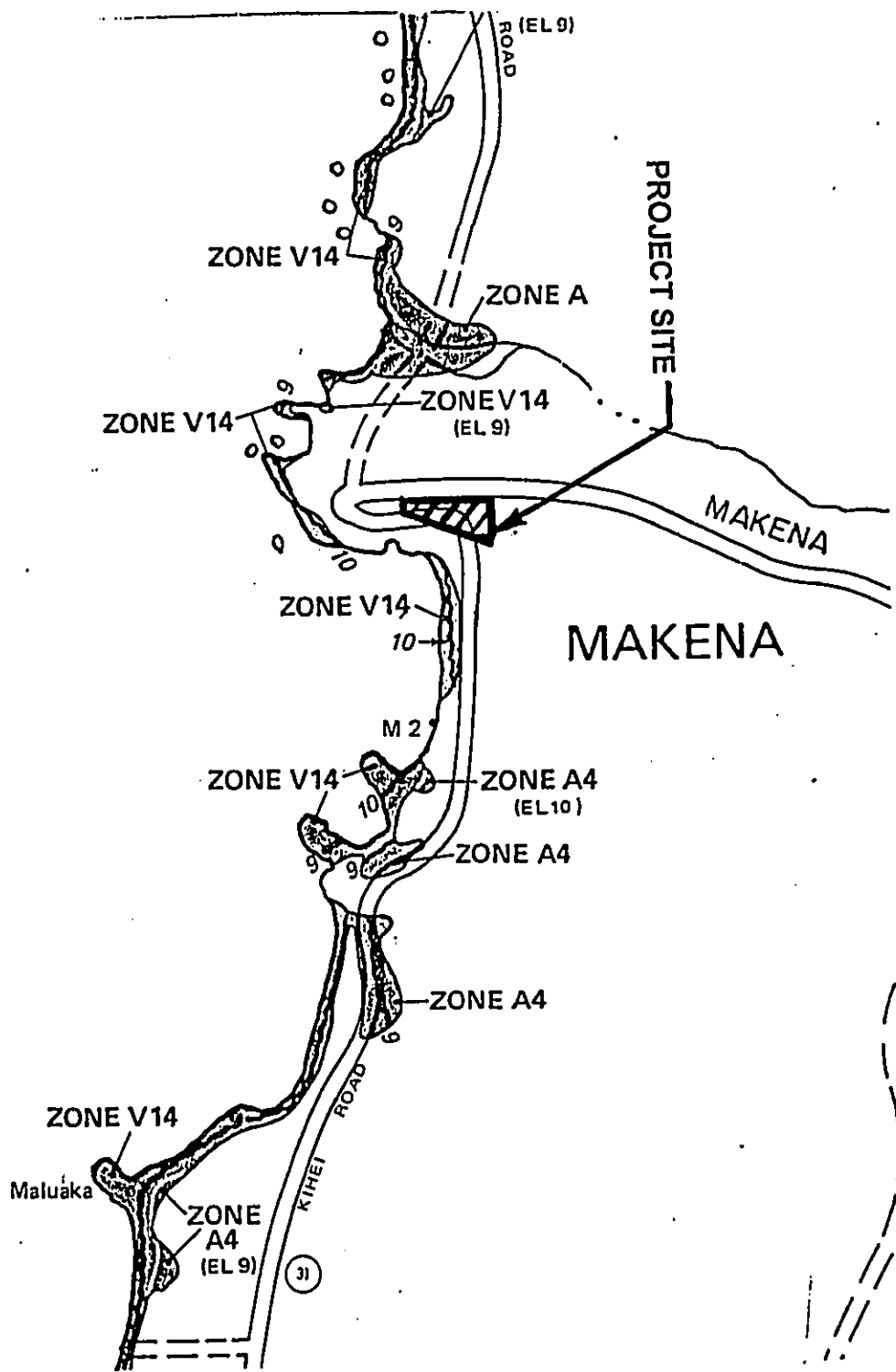
ISLAND OF MAUI
NOT TO SCALE

LOCATION MAP
EXHIBIT 1





SOIL SURVEY MAP
EXHIBIT 3



FLOOD INSURANCE
 RATE MAP
 EXHIBIT 4

APPENDIX A
HYDROLOGIC CALCULATIONS

Hydrologic Calculations

Purpose: Determine the increase in surface runoff from the development of the proposed project based on a 50-year, 1-hour storm.

A. Determine the Runoff Coefficient (C):

Landscaped Areas (Developed):

Infiltration (Medium)	= 0.07
Relief (Rolling)	= 0.03
Vegetal Cover (Good)	= 0.03
Development Type (Open)	= <u>0.15</u>
C	= 0.28

Landscaped Areas (Undeveloped):

Infiltration (Medium)	= 0.07
Relief (Steep)	= 0.08
Vegetal Cover (Good)	= 0.03
Development Type (Open)	= <u>0.15</u>
C	= 0.33

Roadway Areas:

Infiltration (Negligible)	= 0.20
Relief (Rolling)	= 0.03
Vegetal Cover (None)	= 0.07
Development Type (Pavement)	= <u>0.55</u>
C	= 0.85

Roof Areas:

Infiltration (Negligible)	= 0.20
Relief (Hilly)	= 0.06
Vegetal Cover (None)	= 0.07
Development Type (Roof)	= <u>0.55</u>
C	= 0.88

Developed Areas:

Infiltration (Slow)	= 0.14
Relief (Hilly)	= 0.06
Vegetal Cover (Good)	= 0.07
Development Type (Residential)	= <u>0.40</u>
C	= 0.67

Weighted C for Existing Developed Portion:

Open Area = 0.89 acres
Pavement Area = 0.06 acres
Roof Area = 0.09 acres
Developed Area = 1.04 acres
Weighted C = 0.36

B. Determine the 50-year, 1-hour rainfall:

$$i_{50} = 2.5 \text{ inches}$$

Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Developed Portion:

$$T_c = 11 \text{ minutes}$$
$$I = 4.9 \text{ inches/hour}$$

Existing Undeveloped Portion:

$$T_c = 8 \text{ minutes}$$
$$I = 5.6 \text{ inches/hour}$$

Developed Condition:

$$T_c = 8 \text{ minutes}$$
$$I = 5.6 \text{ inches/hour}$$

- C. Drainage Area (A) = 2.47 acres (Existing Undeveloped)
= 1.04 acres (Existing Developed)
= 3.51 acres (Total Project)

D. Compute the 50-year storm runoff volume (Q):

$$Q = CIA$$

Existing Undeveloped Portion:

$$\begin{aligned} Q &= (0.33)(5.6)(2.47) \\ &= 4.6 \text{ cfs} \end{aligned}$$

Existing Developed Portion:

$$\begin{aligned} Q &= (0.36)(4.9)(1.04) \\ &= 1.8 \text{ cfs} \end{aligned}$$

The existing runoff from the project site is $4.6 \text{ cfs} + 1.8 \text{ cfs} = 6.4 \text{ cfs}$.

Developed Condition:

$$\begin{aligned} Q &= (0.67)(4.9)(3.51) \\ &= 11.5 \text{ cfs} \end{aligned}$$

The increase in runoff due to the proposed development is $11.5 \text{ cfs} - 6.4 \text{ cfs} = 5.1 \text{ cfs}$.

Appendix - E
Traffic Assessment Letter

Phillip Rowell and Associates

47-273 'D' Hui Iwa Street

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Phone: (808) 239-8206

FAX: (808) 239-4175

Email: prowell@gte.net

October 26, 2004

Frampton & Ward, Inc.
33 Lono Avenue, Suite 450A
Kahului, Maui, HI 96732

Attn: Mr. Bill Frampton

Re: Papanui Project
TMK: 2-1-07:09

Dear Bill:

This letter is in response to your inquiry regarding preparation of the Traffic Impact Assessment Report (TIAR) for the above project.

The project is bounded by Makena Keoneio Road along the south and west, and by Old Ulupalakua Road along the north. Access to the area is via Makena Keoneio Road. Four of the lots will have access directly onto Makena Keoneio Road. The remaining three lots will have access onto Old Ulupalakua Road and then onto Makena Keoneio Road.

Makena Keoneio Road is a two-way roadway. In the vicinity of the project, the width does not provide two full width travel lanes. The roadway is narrow and winding. There are signs warning of limited sight distances. Adjacent development is residential. The posted speed limit is 15 miles per hour.

Old Ulupalakua Road is an "unimproved" road intersecting Makena Keoneio Road and providing access to several residences. Two-way traffic is allowed even though the width is not sufficient for two-full width travel lanes. There is no posted speed limit signs.

In order to respond to your inquiry, I performed a trip generation analysis of the proposed project. The analysis was performed using the data you provided in your fax dated July 1, 2004, relative to the number of and type of proposed dwelling units, and standard trip generation analysis procedures described by the Institute of Transportation Engineers¹. Generally, this methodology uses trip generation rates to estimate the number of trips that a proposed project will generate during the morning and afternoon peak hours.

I understand that the project will consist of seven (7) single-family detached units and that each single-family unit may have one (1) ohana unit. Therefore, the maximum build-out of the project could be seven (7) single-family plus seven (7) ohana units.

The Institute of Transportation Engineers provides trip generation rates for single-family, detached housing. The trip generation rates are based on the number of units, which is seven (7).

¹ Institute of Transportation Engineers, *Trip Generation Handbook*, 1998

There are no trip generation rates for ohana units in *Trip Generation*. In the past, we have estimated the number of trips generated by the ohana units using trip generation rates for apartments. These rates most likely result in an overestimation of the traffic from these units as some ohana units may be used by family members and some may be rented as an apartment. Use of the trip rates for apartments will result in conservative conclusions. Trip generation rates for apartments are based on the number of units, which is seven (7).

The trip generation analysis is summarized in Table 1. The trips shown are the peak hourly trips generated by the project, which typically coincide with the peak hour of the adjacent street. As shown, the project will generate 8 trips during the morning peak hour, 2 inbound and 6 outbound. During the afternoon peak hour, this phase will generate 7 inbound and 4 outbound trips for a total of 11 trips.

Table 1 Trip Generation Analysis

Period & Direction	Single Family Units			Ohana (Apartment) Units			Total Trips
	Trips per Unit or Percent	Units	Trips	Trips per Unit or Percent	Units	Trips	
AM Total	0.77	7	5	0.44	7	3	8
AM Peak Inbound	25%		1	18%		1	2
AM Peak Outbound	75%		4	82%		2	6
AM Total	1.02		7	0.54		4	11
AM Peak Inbound	64%		4	65%		3	7
AM Peak Outbound	36%		3	35%		1	4

The conclusion of the trip generation analysis is that the project will generate a minimal amount of traffic. The inbound and outbound traffic is distributed and assigned separately and will be distributed between two driveways along Makena Keoneio Road and Old Ulupalakua Road.

The Institute of Transportation Engineers recommends that a traffic impact study should be performed if, in lieu of another locally preferred criterion, development generates an additional 100 vehicle trips in the peak direction (inbound or outbound) during the site's peak hour.² Based on the criterion, a traffic impact study is not warranted. To date, the County of Maui has not established criteria for projects within its jurisdiction.

² Institute of Transportation, *Traffic Access and Impact Studies for Site Development, A Recommended Practice*, 1991, page 5.

Frampton & Ward
October 26, 2004
Page 3

Lastly, I superimposed the estimated project generated traffic onto traffic forecasts for Old Makena Road and performed a level-of-service analysis for the project driveway. I assumed only one driveway in order to assess a worse-case condition. All the delays are estimated to be less than nine (9) seconds, which corresponds to Level-of-Service A, the highest level-of-service. The conclusion is that the driveways will operate at Level-of-Service A, without a separate turn lane into the project, and that the traffic impact of the project will be negligible. A full TIAR would have the same conclusion.

Even though the estimated impacts are negligible, the project's civil engineer should perform a sight distance analysis to insure that adequate sight distance is provided at the project driveways along Old Makena Road.

Very truly yours,
PHILLIP ROWELL AND ASSOCIATES

Phillip J. Rowell

Phillip J. Rowell, P.E.
Principal

Appendix - F
Cultural Impact Assessment

SCS Project 481-CLA

**A CULTURAL IMPACT ASSESSMENT
FOR A 3.51-ACRE DEVELOPMENT IN
MĀKENA, PAPA'ANUI AHUPUA'A,
HONUA'ULA DISTRICT, MAUI ISLAND, HAWAII
[TMK: 2-01-07:09]**

Prepared by:
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and
Robert L. Spear, Ph.D.

Prepared for:
Frampton and Ward
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Kahului, Hawaii 96732

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ABSTRACT

Scientific Consultant Services, Inc. (SCS) has been contracted by Frampton and Ward, LLC to conduct a Cultural Impact Assessment on the proposed development of 3.51 acres in Mākena, Papa'anui Ahupua'a, Honua'ula District, Maui [TMK: 2-01-07:09]. Individuals and organizations, including the OHA on O'ahu, the OHA Community Resource Coordinator on Maui, Central Maui Hawaiian Civic Club, a Cultural Resource Planner in the Maui Planning Department, and were contacted by SCS in order to obtain information concerning cultural activities occurring at or in the vicinity of Parcel 9. Ms. Ester Nae'ole, granddaughter of the original landowner and one of the inheritors of the project area consulted with SCS. Based on community response, consultation provided by a consultant, and archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by renovations on Parcel 9. Because there were no activities identified, there are thus no adverse effects.

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INTRODUCTION

Scientific Consultant Services, Inc. (SCS) has been contracted by Frampton and Ward, LLC to conduct a Cultural Impact Assessment on the proposed development of 3.51 acres in Mākena, Papa'anui Ahupua'a, Honua'ula District, Maui [TMK: 2-01-07:09] (Figures 1 and 2). Currently, the lot is undeveloped and contains old ranching walls in the north and west sections of the property, two overhang/rock shelters, a modified outcrop, and a stone alignment identified during an archaeological reconnaissance conducted by SCS in 2004 (Tome and Dega 2004).

A Cultural Impact Assessment involves evaluating the probability of negative impact on cultural values and rights within the project area and its vicinity. According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs.

Act 50, enacted by the Legislature of the State of Hawaii (2000) with House Bill 2895, relating to Environmental Impact Statements, proposes that:

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights...[H.B. NO. 2895].

The purpose of Act 50 is to require that Environmental Impact Statements include an assessment of any impact on the cultural practices of the community and state. It also amends the definition of 'significant effect' to include adverse effects on cultural practices. Thus, Act 50 requires an assessment of cultural practices to be included in the Environmental Impact Statement and to be taken into consideration during the planning process. The concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or ahupua'a" (OEQC 1997). It was decided that the process should identify 'anthropological' cultural practices, rather than 'social' cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice. The discussion resulted in

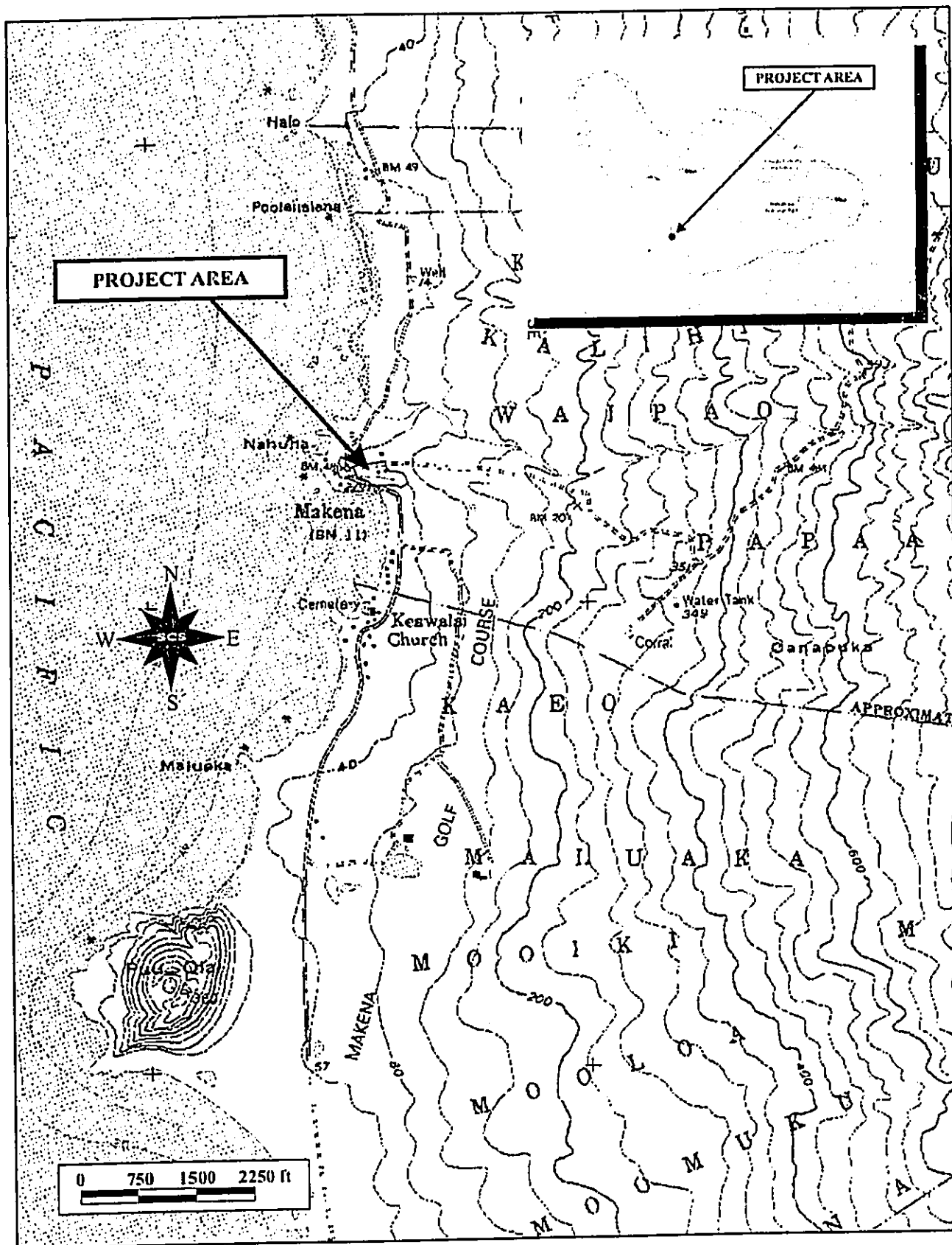


Figure 1: USGS Quad Showing Project Area Location..

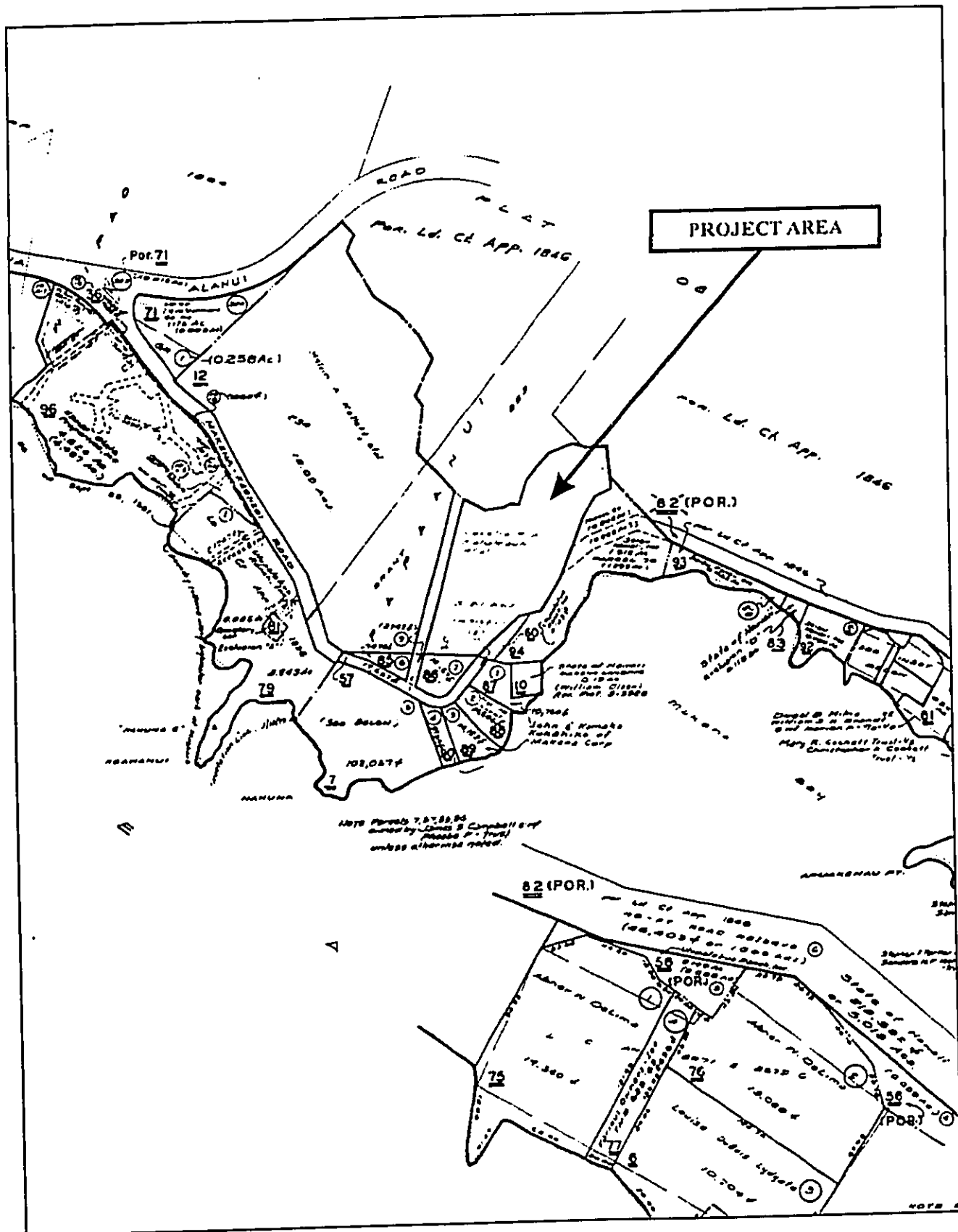


Figure 2: Tax Map Key (TMK) Map Showing Project Area.

the following workable definition for cultural practices:

- 1.) A traditional cultural practice that is being conducted [at present].
- 2.) Traditional, beliefs, practices, life ways, societal, history of a community and its traditions, arts, crafts, music, and related social institutions [Act 50, Cultural Impact Assessment 2001].

METHODOLOGY

This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the *Guidelines for Assessing Cultural Impacts* (OEQC 1997). This report contains archival and documentary research, as well as consultation with individuals or organizations with knowledge of the project area, its cultural resources, and its practices and beliefs. Based on this research, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps and land records such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological project reports.

CONSULTATION

Individuals and/or groups who have knowledge of traditional practices and beliefs associated with a project area or who know of historical properties within a project area were sought for consultation. Individuals who had particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area were invited to share their relevant information. Initial contact was made with the Office of Hawaiian Affairs (OHA) on O'ahu, the OHA Community Resource Coordinator on Maui, Central Maui Hawaiian Civic Club, a Cultural Resource Planner in the Maui Planning Department and a previous partial owner of the project area.

PROJECT AREA AND VICINITY

The project area consists of a parcel of land totaling 3.51 situated between c. 30-60 feet above mean sea level (amsl) along the leeward coast of Maui. The northern boundary abuts the Old 'Ulupalakua Road, the western flank of the property extends to existing residential

properties, the southern boundary is adjacent to Mākena-Keoneoi Road, with a small section crossing the road to the south near Mākena Landing, and the entire eastern boundary abuts undeveloped land. Several houses with rock walls defining the boundaries are located in the western section of the project area.

PAST POLITICAL BOUNDARIES

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha'ōhia, during the time of the *ali'i* Kaka'alaneo (Beckwith 1940:383; Fornander places Kaka'alaneo at the end of the 15th century or the beginning of the 16th century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali'i 'ai moku* (the *ali'i* who eats the island/district), which he held in trust for the gods. The title of *ali'i 'ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`~inana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua`a*, *'ili* or *'ili`~ina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*) that customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *'ili`~ina* or *'ili* were smaller land divisions next in importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`~ina* were narrow strips of land within an *'ili*. The land holding of a tenant or *hoa`~ina* residing in a *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located within the old district of Honoua`ula, in the *ahupua`a* of Papa`anui and was traditionally part of the "Waile`a lands", consisting of the *ahupua`a* of Paeahu, Palauea, Keauhou, Kalihi, Waipao, and Papaanui (Barrère 1975:30).

TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. During pre-Contact times, there were primarily two types of agriculture,

wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai`a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *`uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui was likely to have begun early in what is known as the Expansion Period ([A.D. 1200–1400] Kirch 1985). According to Handy, there was “a small community of native fishermen who from time to time cultivate small patches of potatoes when rain favors them” in the 1940s in Mākena. He writes:

For fishing, this coast is the most favorable on Maui...I think it is reasonable to suppose that the large fishing population which presumably inhabited this leeward coast ate more sweet potatoes than taro with their fish... Formerly, before deforestation of the uplands, it is said that there was ample rain in favorable seasons for planting the sweet potato, which was the staple here. A large population must have lived at Makena in ancient times for it is an excellent fishing locality, flanked by an extensive area along shore and inland that was formerly very good for sweet potato planting and even now is fairly good, despite frequent droughts... [Handy 1940:159].

North of the project area in vicinity of Kīhei, some of the most important royal fishponds had been constructed. Their origin is lost in antiquity, but rebuilding and repairing occurred as early as the reign of Pi`ilani in the 1500s and continued to the reign of Kekaulike (A.D. 1700s, [Cordy 2000]). These ponds provided fish for Kamehameha I and were still functioning in historic times. Wilcox (1921) noted that prisoners were sent from Kaho`olawe to repair its walls in the 1800s.

Not only excellent for its fishing and sweet potato agriculture, in the late 1700s the coastal region served as the ideal landing place for invading forces during the many battles between Maui and Hawaii Island:

In the year 1776 Kalani`opu`ū and the chiefs returned to war on Maui, and in the battle with Kahekili's forces at Wailuku were completely overthrown. The army landed at Keone`o`io, their double canoes extending to Mākena at Honua`ula. There they

ravaged the countryside, and many of the people of Honua'ula fled to the bush [Kamakau 1992:85].

WESTERN CONTACT

Early records, such as journals kept by explorers, travelers, and missionaries; Hawaiian traditions that survived long enough to be written down; and archaeological investigations have assisted in the understanding of past cultural activities. Unfortunately, early descriptions of this portion of the Maui coast are brief and infrequent. Captain King, Second Lieutenant on the *Revolution* during Cook's third voyage, briefly described what he saw from a vantage point of "eight or ten leagues" (approximately 24 miles) out to sea as his ship departed the islands in 1779 (Beaglehole 1967). He mentions Pu'u Ōla'i, but based on his description, Kīpahulu-Kaupo and ʻʻUlupalakua appear to have been his focus.

In the ensuing years, LaPérouse (1786), Nathaniel Portlock, and George Dixon (both also in 1786), sailed along the western coast of Maui. LaPérouse was the first recorded European to set foot on Maui south of the project area at Keoni`ō`io. His impressions of the leeward coastal region left no doubt as to its inhospitable environment:

The Indians of the villages of this part of the island hastened alongside in their canoes, bringing, as articles of commerce, hogs, potatoes, bananas, roots of arum, which the Indians call *taro*, with cloth and some other curiosities making part of their dress...I had no idea of a people so mild and so attentive...It was so late before our sails were handed, that I was obliged to postpone going on shore at this place till the next day...but we had already observed, that this part of the coast was altogether destitute of running water, the slope of the mountains having directed the fall of all the rains towards the weather side...

The soil of this island is entirely formed of decomposed lava, and other volcanic substances. The inhabitants have no other drink but a brackish water, obtained from shallow wells, which afford scarcely more than half a barrel a day. During our excursion we observe four small villages of about ten or twenty houses each, built and covered with straw in the same manner as those of our poorest peasants [Barrère 1975:13-18].

Archibald Menzies, a naturalist accompanying Vancouver stated, "...we had some canoes off from the latter island [Maui], but they brought no refreshments. Indeed, this part of the island appeared to be very barren and thinly inhabited" (Menzies 1920:102). According to Kahekili,

then chief of Maui, the extreme poverty in the area was the result of the continuous wars between Maui and Hawai'i Island causing the land to be neglected and human resources wasted (Vancouver 1984:85).

By 1828, western religious activities had expanded to Papa'anui with the establishment of the Mākena Church which also functioned as a missionary outstation and school. In 1855 in the adjacent *ahupua`a* of Ka`eo, Keawala`i Congregational Church was built, although the native population had been declining since the 1830s due to introduced foreign diseases (Schmitt 1973).

THE MĀHELE

In the 1840s, a drastic change in the traditional land tenure resulted in a division of island lands and a system of private ownership based on Western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III (Kamehameha III) was forced to establish laws changing the traditional Hawaiian society to that of a market economy (Daws 1968:111; Kuykendall Vol. I, 1938:145 *et passim*; Kame`eleihiwa 1992:169-70, 176).

Among other things, the foreigners demanded private ownership of land to insure their investments (Kuykendall Vol. I, 1938:138 *et passim*; Kame`eleihiwa 1992:178; Kelly 1998:4). Once lands were made available and private ownership was instituted, native Hawaiians including the *maka`āinana* (commoners) were able to claim the plots they were cultivating and living on, if they had been made aware of the foreign procedures (*kuleana* lands, LCAs). This land division, or *Māhele*, occurred in 1848. The awarded parcels were called Land Commission Awards (LCA). If occupation could be established through the testimony of witnesses, the petitioners were issued a Royal Patent number and could then take possession of the property (Chinen 1961:16). No LCAs were claimed in the project area. Those few awarded LCAs located along the *makai* region consisted mostly of houselots.

Most of Papa'anui Ahupua`a became government land and was eventually sold as part of a large land Grant (Gr. 223, 1,986 acres) that was sold to Linton L. Tolbert and William Slocum Wilcox between 1849 and 1850. Tolbert's Grant allowed him access to land extending from upland `Ulupalakua to the sea. The Tolbert Plantation became the nucleus of the Makee Ranch acquired in 1856 by Captain Makee and included an already producing sugar plantation and a landing at Mākena (just below the project area) to expedite the shipping of potatoes (from the uplands), animal stock, and sugar (Barrère 1975). In 1865, residents of Honua`ula were either employed by the Makee Plantation at `Ulupalakua or were fishermen living along the coast. The

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coastal population was described by Fornander as "...a thrifty, handy set of people, to judge from the general appearance of their houses, not a few of which were of wood, and many of the others, especially along the seaboard, being neatly built and looking tidy and clean within. The children seem to be numerous and those that I observed were decently clad and looked bright and healthy" (Fornander in Barrère 1975:58). With the decline of sugarcane in the late 1800s, cattle ranching became the primary focus of the Makee Plantation.

The harbor at Mākena had become one of the busiest on Maui and was a regular stop on the Honolulu to Hilo run. The harbor served as a loading port for the ranch and, after a breakwater and landing were constructed in 1877, sugarcane could also be transported from the location. By 1885, structures along the bay not only included the church and its cemetery and school, but a corral, the "old sugar house", a stone wall, and a total of nine houses, one being fashioned from grass (Jackson Map, No. 1337).

Throughout WWII, military activities including amphibious beach landings, were conducted along the coastal areas. Concrete bunkers were constructed on the beach and at other locations near the shoreline. Most recently, activities along the western coast have focused upon the development of large vacation resorts and golf courses. Cattle ranching continues on the upper slopes of Honua'ula.

CONSULTATION

Consultation was held with Ms. Ester Nae'ole, granddaughter of the original landowner and one of the inheritors of the project area on September 24, 2004 (Appendix A). Ester's grandmother, Daisy Mooloa Auwelo, traded a piece of land to the 'Ulupalakua Ranch for this parcel above Mākena Landing. Her Will and Testament, written in Hawaiian, bequeathed this piece of property to her children, who in turn passed it on to their children. Ester's portion came from her father, Harry. Daisy's wish was that the land was to be for her "children and her children's children". Ester has wonderful childhood memories of their property at Mākena. Every holiday and most weekends the whole family would gather on the land and be together. Other Families owning land near by would also arrive and activities shared by all included swimming, some fishing, cooking and eating, talking story, and generally having a wonderful time. As children, they would play in the cow pen on the property, or go down to the old Mākena landing below their property.

As the years went by the older generation who held the families close, passed on and the younger ones had to spend more time making ends meet. Vacation houses were first built on the land in the 1960s by Charles and Cecilia Aki, William and Elizabeth Kawai and later Wallace Kuloloio added a house. Family members would sleep at one or the other's house and the joy was in all being together. Visits by the extended family to the land became less, although some still lived there. Mākena has also changed drastically during the past twenty years. Landmarks and views once relished have been obliterated by modern construction and it is difficult to reclaim the close family association without the *kupuna* and in the areas' new incarnation. It was decided to sell the land. Ester does not remember any structures on the property except a stone wall, or any cultural activities other than the very traditional regular gathering of extended family.

CULTURAL ASSESSMENT

Individuals and organizations, including the OHA on O'ahu, the OHA Community Resource Coordinator on Maui, Central Maui Hawaiian Civic Club, a Cultural Resource Planner in the Maui Planning Department, and were contacted by SCS in order to obtain information concerning cultural activities occurring at or in the vicinity of Parcel 9. Ms. Ester Nae'ole, granddaughter of the original land owner and one of the inheritors of the project area consulted with SCS.

Based on community response, information provided by a consultant, and archival research it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by renovations on Parcel 9. Because there were no activities identified, there are thus no adverse effects.

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APPENDIX A: INTERVIEW

Interview with Ester Nae'ole, in Kula Maui.
Held on 24 Sept 2004 in Kula.
Present at interview: Leann McGerty [LM] and Ester Nae'ole [EN]



LM: ...and this is the twenty- fourth of Sept, 2005 [mistake], and I'm in Kula with Ester...Ester, would you spell your last name for me?

EN: "Nae'ole, N A E O L E. [Ester spells name]

LM: ...and you are from Maui? Born and raised Maui?

EN: Uhhuh.

LM: May I ask when you were born?

EN: Dec. 20, 1952.

LM: O.K. And all your life on Maui...and we're looking for information pertaining to a piece of land in Papa'anui, yeah? Which is, I guess, right around in here near Mākena? [looking at map] and this piece of land used to be in your family...

EN: Yeah.

LM: ...and, uh, so, you know, just tell me what you remember when you were growing when you were growing up about your connection to the land, your family's connection to the land, and things that you remember about this area while you were growing up.

EN: While I was growing up...there's things that, uh...I think it was around maybe the 60s that they started to build a house there.

LM: Who's "they"?

EN: Cecilia ...Charles and Cecilia Aki.

LM: O.K. Then these are your relatives? Family?

EN: Family. I think that...there was another house there, by William and Elizabeth Kawai, Senior. I think they built a small little house, too, and then Cecilia and Charles Aki, they built the second house over there. I think it all began in 1960. They started sometime in to the 60s...and, uh, my Dad, I gotta say this but...see, all I know from the past is what my Dad told me. It belonged to our grandmother, that place. Her name was Daisy Mo'oloa Auwelo...and she had a lot of children, too...and then it was past on to her children, but she had a "living will" that was made, it was all in Hawaiian. That I know because I have that piece of paper, I still have it.

LM: When was this done in the 19....?

EN: In the 1918, I think, yeah. I forget, you know...

LM: But around in there?

EN: Yeah, around in there. And she got this land from Ulupalakua Ranch. And before Ulupalakua Ranch had it, it belonged to one... another ranch I can't remember who it was, but. This is only what I heard from my Dad, Harry.

LM: Your Dad's name was Harry, uh?

EN: Uhuh...and what it stated in the deed was the land is...how she wrote it was supposed to be for children, for the children [the land], her children, her children's children, and all the way down till today! And this is only a three and a half acre lot, yeah? You know, today there's too much people already! But all I know that it was...why TuTu lady made it that way, I don't know. But there's gotta be a reason, yeah, for that, Yeah?

LM: I would think, yeah.

EN: 'Cause, she said for children and there children, and, you know, kept on going on, going on...There gotta be a reason why grandma made it, or she coulda say, like, you know, "O.K. I leave it to ..." a certain son or daughter or maybe just two sons, but its like supposed to go on for generation [s], the land. Only now I kinda realized that, after...but, nowadays is so hard for the people, nowadays, yeah for us. And everything is just so expensive, but, coming back to the land again... So, most of my growing up days that I can remember is that we had a lot of parties over there!

LM: The family would get together on the land and...

EN: Every holiday! Christmas, New Years, Thanksgiving, Easter, birthday parties, weddings...

LM: The whole family...

EN: The whole family!

LM: That's probably what she meant when she [grandmother] said, you know, all the children...that maybe that would be the gathering place for everybody to come together and...

EN: Uhuh, and as far as I can remember, there were only two houses at that time, first was Cecilia Aki and then Elizabeth Kawai. Then we had Uncle Wallace Kuloloio built a little shack there. And...I think that was it! And they were all fam....we would all gather together, have

family reunions, too...and then, I don't know, everybody started getting little more money and started to build little more fabulous little houses, and...

LM: On the same piece of land?

EN: On the same piece of land. Yeah.

LM: 'Cause everybody had a share in it, in the land?

EN: Yeah. And nobody could say where was there share, you know, it just went to anybody. You come, you put your little shack there and ...but there was so much parties there, and uhm...

LM: Was the fishing good in that area?

EN: Well, was mostly for swimming, you know, right below that area. We could go bamboo [fishing], bamboo, throw net down there, right below, and uhm...

LM: I was wondering, that very first cabin that was on there before Cecilia Aki build the house, people went out there just like for the weekend?

EN: uhuh. Gathering with their children, start to clean little bit the land. And then pretty soon you know it was like a small little house, just nough to have a toilet house, it became, a whole...you know, a little bigger house!

LM: And so finally it was decided to sell the land?

EN: Yeah. Always the family, every time some...ever thing is *make* now...everybody going to Mākena for one party. O.K. every weekend had something, you know. And the family on top of this property, we had another family that was below us by the landing, which was the Peters', we would all gather together too. If its not at the beach at the cow pen on top of this property, then we would all go down to the landing, 'cause there were more family down there. And, I don't know, was just so much parties! Even, you no can think so...and then, you know, while I was growing up too, we seen a lot, us children seen a lot growing up! But there was a lot of love, you know, from our *kupunās*, yeah? That already pass-on , went up to Jesus. And, uhuh, if I knew what I know today, twenty years ago...that's why our *kupunās* is very important, because it came from when this property was there already, you know. And, today, like right now, our

children below us [younger generation], yeah, and their children, yeah? They don't have that values like how we had, even if it was just a little shack...it could be twelve people, you know, sleeping in this little shack, you know? And then I had sisters living there at one time, too...two sisters living there with my Auntie Cecilia. They work hard on the property to be what it is today. And...well it's not what it is now 'cause they all died and went back home to Jesus, and now other people took over, and it's not the same like how it used to be before! If anything, that place would be so good for children, you know! I mean, I don't know, it got to be something to do with the children, you know...for whatever they planning to do, I don't know what, but whatever they are planning to do...

LM: The land isn't still with family members is it?

EN: Yeah! Family still living on top there, see the people who bought the place...I don't think I need to mention the names, the three men who bought, they're not ready to do anything right now.

LM: I see. So, they've...

EN: I don't know, I only hear. I think this people can stay there until they really decide what they're going do.

LM: These men, are they family members?

EN: No.

LM: No, so they're other guys that bought the land, but there are still family members...but you don't go and gather there anymore like you did before?

EN: No, but I know if you want to...

LM: They'll let you?

EN: They'll let you.

LM: That's good, that's good, until they....

EN: 'Cause they just had a *pā`ina* [party] down there last weekend...and Bill Frampton, he allowed to have them to come...an organization to come there hold their classes on the property, which was nice.

LM: Oh, that's good!

EN: 'Cause they're not ready to do ...I guess they just waiting until, I don't know what, but anyway, no need rush, yeah?

LM: So, basically, the family got together and eventually decided to sell the land and did!

EN: Yeah, you know, I had to say my mind long time, only because I'm just starting to build a house in Hawaiians Homes up here. And, what I thought I knew, I never know nothing! And I told...I kept on telling my son, I says, you know "I don't know, but I know this is what I want to do! Because, we no can build nothing, we need the money now, and I rather see the money now than when I go then there's nothing for you, too." 'Cause I only have one son. So, somehow, the word went out. And I told certain family that...I guess somebody else before me wanted to do it...'cause our *kupunas* all pass away already, and now, this is a different generation. I maybe saying that a...I don't know, it's just so hard nowadays.

LM: It is, especially if you're building a house!

EN: So, it's a beautiful place and it had so many meaning, we had so much good gatherings over there that I think it's about time to let her go because it was getting hard. Life here on Maui is hard, anyway! So, someone heard about it, and I thank God, 'cause this man came and approached me, one of buyers, and he heard what I wanted to do and then they helped me to go ahead. And I don't know if I was the cause of this mess, but anyway, it's a good one, because I'm pretty sure people are happy out there in the family. 'Cause they all equally got what they deserved and ...and uhm...

LM: It was a fair, a fair [distribution]

EN: Yeah, so I think I was the call of this mess, but anyway it was a goo mess.

LM: And, you know, Mākena is so changed!

EN: Yeah! It's not like...it's not beautiful like it used to be before!

LM: It's not like when you were growing up. Exactly! So, it's almost like the memories you have you want to hold on to those, and not remember Mākena the way it is now, you know?

EN: Yeah. Oh, it looks o.k., but it doesn't look like how Mākena was before.

LM: Even only thirty years ago!

EN: Yeah.

LM: And how neat that you're building...you're going to use, you know, the resources you have for building on Hawaiian Homes land. That's fabulous!

EN: And I know some of the family they really needed the money too, but if we wait to long, our children going suffer just how...But you know, was so easy, it's like it was meant to let 'um go already, you know? When this man approach me and he said, "I hear you want to do this" and can mention his name, and his name is George Santos. I said, "Yeah!" So he says, "Well, you know Auntie, I just here to let you know what we can do to help you folks". And they were very nice. Then somehow Bill Frampton came inside and we all talked story, we had little meetings and it was like...of course, we get some family kinda [undistinguishable] or holding back, but you know. But then we had a auntie who had the most interest there and she had the most interest in there that she decided that, "I think it's about time to let it go, too". 'Cause she having a hard time too and it's not like that we only looking for the money, but you know, it was like it was time already to let her go! No more head ache already, you know? And then that's how we let go the land. But I think it was meant to go, you know. And I believe these people...I know they're going to good something good for that property.

LM: Good, I hope so too.

EN: Yeah. I believe they're going do something good.

LM: When you were growing up, you don't remember like, on this land there was no, like fishing *ko`a* or anything like that, that uh...or any kind of structures on the land other than what you guys put up.

EN: Just a stone wall.

LM: And there were no stories or legends attached, or associated with the land or any place names you can remember?

EN: There was once called "Beverly Hills".[laughs]

LM: [laughs] That's not a real traditional Hawaiian name...Why was it called that? That's interesting, why?

EN: We had an Auntie, Mrs. Aki, Cecilia Aki. From her little shack, her and Charles Aki built it came to a fabulous house...up and downstairs house. It was made to accommodate all the family from all over, come. Plenty room, the house had.

LM: So, they opened it for everyone?

EN: For everyone, yeah. And we used to call that "Beverly Hills."

LM: Is that house still there?

EN: No...yeah, it is still there, that's the one, that house and Kauwai's, and Wally Kululoio's, Uncle Wally. The little house is still there.

LM: So, how many pieces, how many houses are on the land now?

EN: One. Two, three, and then there's somebody else house belong.

LM: So there's about four houses and still yet, people can go out and enjoy it.

EN: But, there's not too much gathering now for some. No more the *kupun*as, already. Our older *kupun*as all went home and...

LM: They were the ones that....

EN: Brought the loving, you know. Kept the family together, you know. Yeah, and when we...I see that today, you know, and me and my...I have a cousin, her name is "Lamalani", she

was born and raised here on Maui too, but she lived down in the landing with Perters' family. The same family with Cecilia, Elizabeth Kauwai, Cecilia Aki, and Helen Perters. That's three sisters, but she stayed down by closer to the beach and her granddaughter, we talk about it. I says, "You know, it's not like how it used to be before!" And even if you tried to do, and tried to bring all these family back, no can! It's like a cycle, we gotta go through this, yeah? We gotta go through this, but uh...a lot of good, but...to me it was more good...I mean there's a lot of bad...nothing bad but within the family, you know, every place you go they all...when they had a little bit too much [drink] but always had to grumble about the land! Too much already! Every time when they drink our *kupunā*s, some not all. Every time gotta go back again, talk about the land, the land, and us kids we listening all this! And then, uh...but I don't know, because only small place and I guess, you know, every body think this is a ...they like to hold things, you know.

LM: Sure. Now, your grandfather, how did he get the land? Was it...

EN: From his Mom. He was the only...

LM: So, it was your great grandmother...

EN: Yeah. My Dad was the only surviving child living.

LM: And your great...no, your grandmother, how did she get the land? Was it a....

EN: She did a exchange with Ulupalakua Ranch.

LM: Oh, that's right, she exchanged for Ulupalakua. Do you know what she gave them?

EN: I think a portion...I'm not to sure, I kinda forget, I can't believe it, *poina*, already! I know she did a exchange with Ulupalakua Ranch.

LM: Maybe she had land up *mauka* and they wanted that as part the ranch...

EN: Yeah! I think it was closer to Ulupalakua...

LM: Ahh, that's what I'm thinking, because, you know, I was talking to Purdy? Was it Purdy? When she was growing up she lived right below Ulupalakua Ranch! And there were a lot of

people that lived down there, and I think those were LCAs, I think they were Land Court Awards. So that's what she might have done, exchanged her land for something down on the beach, yeah?

EN: I believe that, too.

LM: May I ask her name, your grandmother?

EN: Mo`olua...Daisy.

LM: Mo`olua, that's right, Daisy Mo`olua Auwelo [Ester spells name for Leann].

EN: This is the main...main lady who had this property.

LM: Well, it's unfortunate how things do change, I'm thinking, you know, just...even like uh...I live out on the North shore on O`ahu and it used to be all, just like that, you know, all these little weekend houses and when you went out there to stay, you went out and stayed for a week. You know, it was big deal! And they were all just kinda thrown together and the family would come, and down like Mokuē`ia...I drive down that street now and, you know, these big, these big cement houses, with the big gates, and you think "Where did THAT come from!"

EN: And that's how it is across of this property!...no, a little more up, just around the bend when you're coming around. It's fabulous, but wow...

LM: Yeah, but it's not the same feeling is it?

EN: We look forward, coming around the turn and you can see the water already, first time. Now, you no can see nothing!

LM: And how exciting, all the families gathering, and your going to see your cousins and you guys can, you know, stay up late at night...

EN: We Couldn't wait till Fridays come, you know, to just pack up and go...and if they didn't go Mākena, they went to Kaupō!

LM: Oh, really, really!

EN: All the way to Kaupō! Family, I get that, you know some of them they gotta work, can not come out. Holidays, sometimes if it's not Mākena, it's in Kaupō!

LM: And you went?

EN: Yeah. When I was young, yeah.

LM: So, how long did it take you to get to Kaupō?

EN: OH, I think...I think it was more longer than now, you know.

LM: I would think cause there wasn't any night road, not that it's that great now, but it would have been really rough then!

EN: Was more rough than now. Didn't have all that lines. But the lines is crazy right now! But a, maybe over an hour. But the best part about going in there, is that when you reaching there! That's the best part,

LM: So, where did people stay in Kaupō?

EN: They stay Cecilia Aki's sons house. Charlie Aki Jr. in Kaupō. He works for Kaupō Ranch. Staying up Ma'ua, Ma'ua side, yeah? So everybody would gather inside there...if not, out here Mākena. And, I think this *kupunā* is the ones that keep us all together, you know!

LM: And that was the life-style then too. People are so rush, rush now.

EN: Now, no more...everybody to their own.

LM: That's right.

EN: But a, that's o.k.

LM: Well, I appreciate you giving me that background information. I don't know whether Bill has other people....

That gives me some background at least as to how the land came into the family and the things that you did there as families...So, I appreciate your time...

End of tape.

Appendix - G
Comment and Response Letters

Comment & Response Letters

1. State of Hawaii, Department of Hawaiian Homelands (11/22/04)
2. County of Maui, Department of Parks and Recreation (12/03/04)
3. Maui Electric Company (12/03/04)
4. Department of the Army (12/03/04)
5. County of Maui, Police Department (12/05/04)
6. County of Maui, Department of Water Supply (12/09/04)
7. State of Hawaii, Department of Land and Natural Resources (12/09/04)
8. State of Hawaii, Department of Health Maui Office (12/28/04)
9. State of Hawaii, Office of Hawaiian Affairs (12/28/04)
10. County of Maui, Department of Planning (12/29/04)
11. State of Hawaii, Office of Environmental Quality Control (01/06/05)
12. County of Maui, Department of Fire and Public Safety (01/21/05)
13. County of Maui, Department of Public Works and Environmental Management (02/10/05)
14. County of Maui, Department of Housing and Human Concerns (11/18/04)
15. State of Hawaii, Department of Accounting and General Services (11/19/04)
16. State of Hawaii, Land Use Commission (12/07/04)
17. United States Department of Agriculture, Natural Resources Conservation Service (12/08/04)
18. State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division (03/29/05)
19. State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division (03/30/05)

20. County of Maui, Department of Public Works and Environmental Management
(04/04/05)

Feb-01-05 04:37pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-898 P.03/03 F-348

LINDA LINGLE
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOMELANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAILANA K. PARK
EXECUTIVE ASSISTANT

November 22, 2004

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
05 JAN 26 P1:14

Mr. Michael W. Foley
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Foley:

Subject: Papaanui Single Family Subdivision and Related
Improvements, TMK: (2)2-1-007: 009

Thank you for the opportunity to review the subject report
located in the Makena area. The Department of Hawaiian Home
Lands has no comments to offer.

If you have any questions, please call me at (808) 586-3801
or call our Planning Office at (808) 586-3836.

Aloha and mahalo,

for
Janece Gayson
Micah A. Kane, Chairman
Hawaiian Homes Commission

RECEIVED
FEB 01 2005

CHAS HART & PARTNERS
Landscape Architecture & Planning

COPY

Bill Edwards



March 11, 2005

Mr. Micah A. Kane
Chairman
Hawaiian Homes Commission
State of Hawaii
Department of Hawaiian Homelands
P.O. Box 1879
Honolulu, Hawaii 96805


Dear Mr. Kane:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated November 22, 2004, regarding the above-
referenced project, which states that you have no comments to offer.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Jan-25-05 01:49pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242818

T-854 P.03/03 F-231

ALAN M. ARAKAWA
Mayor



GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director


DEPARTMENT OF PARKS & RECREATION
700 Hall'a Nako'a Street, Unit 2, Wailuku, Hawaii 96793

(808) 270-7230
Fax (808) 270-7934

MEMORANDUM

December 3, 2004

TO: Michael Foley, Department of Planning, Director

FROM: 
Glenn T. Correa, Director

SUBJECT: Papaanui Single Family Subdivision
And Related Improvements
TMK: (2) 2-1-007:009
Special Management Area Permit Application - SM1 2004/0023
Change In Zoning Application - CIZ 2004/0016
Community Plan Amendment Application - CPA 2004/0008
District Boundary Reclassification - DBA 2004/0008

Thank you for the opportunity to review and comment on the Special Management Area Permit Application, Change In Zoning Application, Community Plan Amendment Application, and the District Boundary Reclassification for the Papaanui Single Family Subdivision.

At this time we have no comment to offer regarding the aforementioned actions. Should you have any questions or need of additional information, please call me or Patrick Matsui, Chief of Parks Planning & Development, at extension 7387.

c: Patrick Matsui, Chief of Parks Planning & Development
Mary Kielty, South Maui Parks District Supervisor



March 11, 2005


Mr. Glenn T. Correa
Director
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawaii 96793

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 3, 2004, regarding the above-
referenced project, which states that you have no comments to offer at this time.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Senior Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File



'04 DEC -6 P12:30

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

December 3, 2004

Ms. Kivette A. Caigoy
Staff Planner
County of Maui
Department of Planning
250 S. High Street
Wailuku, HI 96793

Dear Ms. Caigoy:

Subject: Papanui Single Family Subd. And Related Improvements
TMK: 2-1-007:009
I.D.: SM1 2004/0023

Thank you for allowing us to comment on the subject project.

In reviewing the information transmitted and our records, we have no objection to the subject project. We encourage the developer's electrical consultant to meet with us as soon as practical to verify the project's electrical requirements so that service can be provided on a timely basis

If you have any questions or concerns, please call Dan Takahata at 871-2385.

Sincerely,

Neal Shinyama
Manager, Engineering

NS/dt:lh

Post-it® Fax Note 7671		Date	# of pages
To	Bill Frampton	2/13	1
From	R. Frampton		
Co./Dept.	Frampton + Ward	Co.	CEP
Phone #		Phone #	242-1955
Fax #	249-2333	Fax #	242-1954



March 11, 2005

Mr. Neal Shinyama
Manager, Engineer
Maui Electric Company, Ltd.
210 West Kamehameha Avenue
P.O Box 398
Kahului, Hawaii 96733-6898


Dear Mr. Shinyama:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 3, 2004, which states that your
company has no objections to the project. Per your request, we will have the project's
electrical consultant meet with your office as soon as is practical.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Dec-03-04 02:49pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-472 P.01/01 P-404



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

REPLY TO
ATTENTION OF: CEP0H-EC-T

'04 DEC -3 P1:28

December 3, 2004

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

DEC 03 2004

Civil Works Technical Branch

Mr. Kivette A. Caigoy, Staff Planner
County of Maui
Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Caigoy:

Thank you for the opportunity to review and comment on the Special Management Area Application and Draft Environmental Assessment (DEA) for the Papaanui Single Family Subdivision Project, Maui (TMK 2-1-7: 9). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

- a. Based on the information provided, a DA permit is not required for the project.
- b. We concur with the flood hazard information provided on page 10 of the DEA.

Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

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



March 11, 2005

Mr. James Pennaz, P.E.
Chief, Civil Works
Department of the Army
U.S. Army Engineer District
Honolulu, Fort Shafter, Hawaii 96858-5440

Dear Mr. Pennaz:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 3, 2004, regarding the above-
referenced project. Based upon your letter, we understand that a DA permit is not
required for this project and that the flood hazard information identified in our report is
correct.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Senior Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Jan-27-05 03:11pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242919

T-876 P.02/10 F-277



ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE

POLICE DEPARTMENT COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411



THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

December 5, 2004

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
04 DEC 13 AM 1:49

MEMORANDUM

TO : MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT : I.D. : EA 2004/0011; DBA 2004/0008; CPA
 : 2004/0008; CIZ 2004/0016; SM1 2004/0023
 TMK : (2) 2-1-007:009
 Project Name : Papaanui Single Family Subdivision and
 Related Improvements
 Applicant : Papaanui, LLC c/o Chris Hart & Partners

- No recommendation or comment to offer.
- Refer to enclosed comments and/or recommendations.

As always, thank you for giving us the opportunity to comment on this project. We are returning the application, assessment, survey, and reports which were submitted for our review.

Assistant Chief Sydney Kikuchi
For: THOMAS M. PHILLIPS
Chief of Police

Enclosures

Jan-27-05 03:11pm From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-876 P.03/10 F-277

COPY

*Recommendations.
Submit to Dept
of Planning.
C. J. [Signature]*

TO : THOMAS PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI
VIA : CHANNELS *12/26/04*
FROM : BRAD HICKLE, POLICE OFFICER III, DISTRICT VI KIHEI
**SUBJECT : SPECIAL MANAGEMENT AREA USE PERMIT (SMA)
PAPAANUI SINGLE FAMILY SUBD. TMK: (2) 2-1-007:009**

Sirs, on 11/24/04 this Officer received a copy of the Special Management Area Use Permit.

The application was prepared and submitted by Chris Hart & Partners on behalf of PAPAANUI, LLC.

The applicant is requesting the SMA, Change in Zoning, Community Plan Amendment and District Boundary Reclassification for the Papaanui, LLC.

I am familiar with the area. There have been many changes to this area in the past two years with virtually little or no roadway improvements. Egress/ingress may be a problem as there is limited sight visibility as the entrance to the property is located on a winding section of roadway.

I recommend the County provide signs indicating speed limits and signage warning of limited sight distance to slow motorist who may not be familiar with the area.

In regards to the Police Services provided to the Maalaea, Kihei, Makena and Wailea areas. Services are provided from the Kihei District Station, located at the Kihei Town Center.

Currently there are only 30 Uniform Patrol Officers assigned to the Kihei District and we are all investigative Officers. Although this facility is temporary this is the District Police Station and not a Police Substation as mentioned in this report.

Although the Papaanui project is only seven single-family homes it will combine with the many other housing projects scheduled to be constructed in the Maalaea, Kihei, Wailea and Makena areas. This will undoubtedly create a greater need for additional Police beats and Uniform Patrol Officers to meet the needs of the growing communities.

I recommend the developer use "Best Practices" in Crime Prevention Through Environmental Design (CPTED) when developing the site.

The CPTED concept has been utilized within many cities across the nation and has proven to be the most proactive method of deterring crime and criminal activities in communities and around businesses.

Page 2

For more information regarding the CPTED concepts you can visit the World Wide Web at. {<http://www.ncjrs.org> } which is the National Criminal Justice Reference Service.

Respectfully Submitted,

Officer Brad Hickle
11/25/04



E-9966
1030 hours

CONCERN WITH
EFC: HICKLE'S
RECOMMENDATIONS.

JE. [Signature]

12-21-04, 1900 7442



March 11, 2005

Mr. Thomas M. Phillips
Chief of Police
County of Maui, Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

Dear Mr. Phillips:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 5, 2004, regarding the above-
referenced project.


In response to your letter, we offer the following comments:

1. Sight Distance. The project's Civil Engineer will conduct a sight distance analysis in order to determine that adequate site distance is available at the subject driveways.
2. Speed Limit Signage. A speed limit sign (15 mph) currently exists along the mauka side of Makena-Keoneoio Road for vehicles traveling northbound. The applicant will work with the Department of Public Works and Environmental Management to determine appropriate road signage improvements.
3. Uniformed Patrol Officers. The Draft Environmental Assessment will be revised to incorporate your comments.
4. Crime Prevention Through Environmental Design (CPTED). CPTED practices will be incorporated into the project design to the maximum extent practicable.

Mr. Thomas Phillips
March 11, 2005
Page 2

Thank you for your consideration of our application. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

ALAN M. ARAKAWA
MAYOR



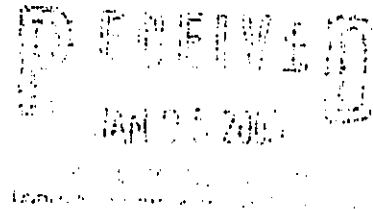
GEORGE Y. TENGAN
DIRECTOR
JEFFREY T. PEARSON,
P.E.

cc: Bill, Mike S.

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 270-7816 • Fax (808) 270-7833

December 9, 2004

Ms. Kivette Caigoy
Department of Planning
County of Maui
250 South High Street
Wailuku HI 96793



Re: I.D.: EA 2004/0011, DBA 2004/0008, CPA 2004/0008 CIZ 2004/0016, SM1 2004/0023
TMK: 2-1-07:009
Project Name: Papaanui Single Family Subd. and Related Improvements

Dear Ms. Caigoy: *Kivette*

Thank you for the opportunity to comment on this application. We provide the following information:

Source Availability and Consumption

The project area is served by the Central Maui System. The main sources of water for this system are the designated Iao aquifer, the Waihee aquifer, the Iao tunnel and the Iao-Waikapu Ditch. The Department will not issue temporary construction meters for Central Maui projects. Reclaimed water is readily available from the Department of Public Works and Environmental Management Wastewater Division. The subject property is served by seven 3/4-inch water meters. The Department does not guarantee that additional water, if needed, will be available for this project.

Water demand for single family development of subject property would be about 11,790 gpd based on system per acre standards. Based on empirical consumption data of single family services in the Makena area, demand would be about 14,640 gpd.

System Infrastructure

The subject property is served by a 8-inch waterline along Makena-Keoneoio Road and a two-inch line along Old Ulupalakua Road. The applicant will be required to provide for water service and fire protection in accordance with system standards. Required fire flow for single family subdivisions is 1,000 gpm for 2 hours duration and 350 ft hydrant spacing.

Conservation

We recommend that the following water conservation measures be included in project design and implementation to alleviate demand from the Central Maui system:

Use Non-potable Water: We encourage the applicant to pursue using brackish irrigation well water for all landscaping purposes. Reclaimed water, readily available at the Kihei Sewage Treatment Plant, or brackish water should be used for dust control during construction.

Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass water cooling is still manufactured into some models of air conditioners, freezers, and commercial refrigerators.

Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low-flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Water conserving washing machines, ice-makers and other units are also available.

Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Use Climate-adapted Plants: The project is located in the "Maui County Planting Plan" - Plant Zones 3 and 5. Native

Kivette Caigoy
Papaanui Single Family SD
Page 2

plants adapted to the area conserve water and protect the watershed from degradation due to invasive alien species. Please refer to the attached brochure: "Saving Water In The Yard - What and How to Plant In Your Area" for landscaping of common areas and for distribution to future homeowners.

Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers in common areas. Check and reset controllers at least once a month to reflect the monthly changes in evapo-transpiration rates at the site. As an alternative, provide the more automated, soil-moisture sensors on controllers.

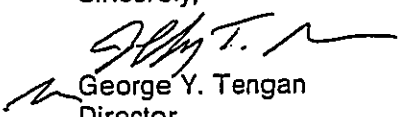
Pollution Prevention

The project overlies the Kamaole aquifer. In order to protect ground and surface water sources in the area, we encourage the applicant to utilize Best Management Practices (BMPs) designed to minimize infiltration and runoff from construction. We have attached sample BMPs for reference. Additional mitigation measures are enumerated below and should be implemented during construction.

- Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water
- Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work
- Retain ground cover until the last possible date
- Stabilize denuded areas by sodding or planting as soon as possible. Replanting should include soil amendments, fertilizers and temporary irrigation. Use high seeding rates to ensure rapid stand establishment
- Avoid fertilizers and biocides, or apply only during periods of low rainfall to minimize chemical run-off.
- Keep run-off on site
- Construct drainage control features, such as berms
- Maintain drainage structures, detention, silting and debris basins
- Control dust by proper stockpiling and use non-potable water for dust control
- Cover open vehicles carrying soils, gravel or other particulate matter.

Should you have any questions, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,


George Y. Tengan
Director
emb

c: engineering division
applicant, with attachments:

Ordinance No. 2108 - A Bill for an Ordinance Amending Chapter 16.20 of the Maui County Code, Pertaining to the Plumbing Code
Saving Water in the Yard-What and How to Plant in your Area
Selected BMP's from "Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters"-EPA

C:\WPdocs\Permcomm\Papaanui SF SD EA DBA CIZ CPA SM1.wpd



March 11, 2005

Mr. George Y. Tengan
Director
Department of Water Supply
County of Maui
P.O. Box 1109
Wailuku, Hawaii 96793-6109

Dear Mr. Tengan:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 9, 2004, regarding the above-
referenced project.

In response to your letter, we offer the following comments:


1. System Infrastructure. The applicant notes that an 8-inch waterline is situated along Makena-Keoneoio Road and a two-inch line is situated along Old Ulupalakua Road fronting the property. The applicant is aware of the requirement to provide water service and fire protection in accordance with system standards.
2. Water Demand. The applicant understands that water demand for single-family residential development of the subject property would be about 11,790 gpd based on system per acre standards and 14,640 gpd based on empirical consumption data of single-family residences in the Makena area.
3. Conservation Measures. The applicant will incorporate water conservation measures during the construction phase of the project. Future homeowners will be required to install water conserving, low flow fixtures. Future lot owners will be encouraged to:

Mr. George Y. Tengan
March 11, 2005
Page 2

- Incorporate water efficient landscaping (xeriscaping) into the landscape design.
 - Utilize properly planned and efficient irrigation systems; and
 - Select appropriate plants for the Makena area, thereby minimizing the need for irrigation.
4. Pollution Prevention. Please note that a National Pollution Discharge Elimination System (NPDES) permit will be required for the project. The NPDES permit, which is essentially an erosion control plan for construction activities, will incorporate Best Management Practices (BMP's) designed specifically to reduce the potential for non-point sources of pollution from impacting nearshore water quality. Many of the BMP's you identified will be incorporated into the plan.

Thank you for your consideration of our application. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Jan-27-05 03:12pm From-DEPT OF PLANNING COUNTY OF MAUI

808-242818

T-876 P.05/10 F-277

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 9, 2004
SM1 2004-0023.RCM

Honorable Michael W. Foley
Planning Director, County of Maui
Planning Department
250 S. High Street
Wailuku, Hawaii 96793

Dear Mr. Foley:

Subject: I.D. No.: SM1 2004/0023 Papanui, LLC
TMK: (2) 2-1-007: 009

Thank you for the opportunity to review and comment on the subject matter.

The Department of Land and Natural Resources' (DLNR) Land Division made available or distributed a copy of the document pertaining to the subject matter to the following DLNR Divisions for their review and comment:

- Division of Forestry and Wildlife
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Enclosed please find a copy of the Engineering Division and Commission on Water Resource Management comments and the Division of Forestry and Wildlife response.

The Department of Land and Natural Resources has no other comment to offer on the subject matter. If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: MDLO

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

LD-NAV

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
04 DEC 10 P1:15

Jan-27-05 03:12pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-876 P.06/10 F-277

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION



2004 NOV 26 A 10:57



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

November 19, 2004
SM1 2004-0023-CMT
PAPAANUISUBDIVISION

LD/NAV
Suspense Date: 12/3/04

MEMORANDUM:

TO: XXX Division of Forestry & Wildlife
 XXX Engineering Division
 XXX Commission on Water Resource Management
 XXX Office of Conservation and Coastal Lands
 XXX Land-Maui District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: SPECIAL MANAGEMENT AREA PERMIT and CHANGE IN ZONING
I.D. Nos: SM1 2004/0023, DBA 2004/008, CUP 2004/0016
Project: Papaanui Single Family Subdivision
Applicant: Papaanui, LLC/Chris Hart & Partners
Authority: County of Maui Department of Planning

Please review the attached document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A. Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: _____

Signed: Paul J. Conry

Date: NOV 22 2004

Print Name: PAUL J. CONRY, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

Jan-27-05 03:13pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-876 P.07/10 F-277

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION



2004 NOV 24 A 11:13



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER

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

November 19, 2004
SM1 2004-0023.CMT
PAPAANUISUBDIVISION

LD/NAV
Suspense Date: 12/3/04

MEMORANDUM:

TO: XXX Division of Forestry & Wildlife
✓ XXX Engineering Division
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Maui District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: SPECIAL MANAGEMENT AREA PERMIT and CHANGE IN ZONING
I.D. Nos: SM1 2004/0023, DBA 2004/008, CUP 2004/0016
Project: Papaanui Single Family Subdivision
Applicant: Papaanui, LLC/Chris Hart & Partners
Authority: County of Maui Department of Planning

NOV 22 11:14 AM ENGINEERING

Please review the attached document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A. Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

() We have no comments.

Comments attached.

Division: Engineering

Signed: Eric T. Hirano

Date: 11/24/04

Print Name: ERIC T. HIRANO, CHIEF ENGINEER

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LA/NAV

Ref.: SM1 2004-0023.CMT
PAPAANUISUBDIVISION

COMMENTS

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone C. The National Flood Insurance Program does not have any regulations for development within Zone C.
- () Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone.
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- () Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Bearn, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- () Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.
- () Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
- () Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
- () Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

() Additional Comments: _____

() Other: _____

Should you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0229.

Signed: Eric T. Hirano
ERIC T. HIRANO, CHIEF ENGINEER

Date: 1/24/05

LINDA LINGLE
00-68-08 OF MAUI



RECEIVED
LAND DIVISION

PETER T. YOUNG
CHAIRMAN

MEREDITH J. CHING
CLAYTON W. DELA CRUZ
JAMES A. FRAZIER
CHIYOME L. FUKINO, M.D.
LAWRENCE H. MIKE, M.D., J.D.
STEPHANIE A. WHALEN

2004 NOV 30 A 9:57

YVONNE Y. IZU
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 521
HONOLULU, HAWAII 96809

November 29, 2004

TO: Ms. Dede Mamiya, Administrator
Land Division

FROM: Yvonne Y. Izu, Deputy Director ^R
Commission on Water Resource Management (CWRM)

SUBJECT: Papaanui SF 7-lot Subd. (Makena) SMA & Zone Change

FILE NO.: SM1 2004-0023.CMT

-- Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

- We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.
- We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- We are concerned about the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.
- The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.
- Groundwater withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.
- If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).
- If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.
- OTHER:

The document projects water demand at about 10,530 gpd. The primary water source for this project is now a ground-water management area under the State Commission on Water Resource Management (CWRM) Permits will initially be issued for uses existing as of July 21, 2003. New uses initiated after that will be addressed after existing uses are considered. If pumpage from Iao is restricted, it could result in restrictions of use within the service area. New uses within the Central Maui Service Area not relying on Iao sources may also be affected if Iao sources are restricted.

If there are any questions, please contact Charley Ice at 587-0251.

Jan-27-05 03:14pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242818

T-876 P.10/10 F-277

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED



04 NOV 22 P1:22



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

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

TYORNE Y. EDU
DEPUTY DIRECTOR - WATER

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

November 19, 2004
SM1 2004-0023.CMT
PAPAANUISUBDIVISION

LD/NAV
Suspense Date: 12/3/04

MEMORANDUM:

TO: XXX Division of Forestry & Wildlife
XXX Engineering Division
✓ XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Maui District Land Office

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: SPECIAL MANAGEMENT AREA PERMIT and CHANGE IN ZONING
I.D. Nos: SM1 2004/0023, DBA 2004/008, CUP 2004/0016
Project: Papaanui Single Family Subdivision
Applicant: Papaanui, LLC/Chris Hart & Partners
Authority: County of Maui Department of Planning

Please review the attached document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A. Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

() We have no comments.

(X) Comments attached.

Division: CWRM

Signed: Charles Ice

Date: 11/27/04

Print Name: Charles Ice



March 11, 2005

Ms. Dierdre S. Mamiya
Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
Post Office Box 621
Honolulu, Hawaii 96809

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.


Thank you for your letter dated December 9, 2004, regarding the above-
referenced project.

In response to your letter, the Applicant acknowledges the following comments
from your agency:

1. That the project site, according to the Flood Insurance Rate Map (FIRM), is
located in Zone C, which is an area of minimal flooding and not subject to
flood hazard regulations.
2. That the Iao Aqifer is now a ground-water management area under the State
Commission on Water Resource Management (CWRM). If pumpage from
the Iao Aquifer is restricted, it could result in restrictions of use within the
service area.

Thank you for your consideration of our application. Should you have any
questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at
242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

December 28, 2004

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH
LORRIN W. PANG, M.D., A
DISTRICT HEALTH OFFICER

Mr. Michael W. Foley
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

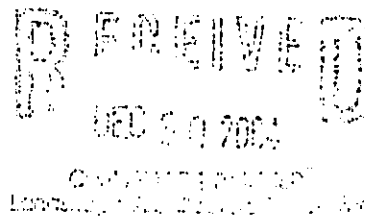
Attention: Kivette A. Caigoy

Dear Mr. Foley:

Subject: Papaanui Single Family Subdivision & Related Improvements
TMK: (2) 2-1-007: 009
EA 2004/0011, DBA 2004/0008, CPA 2004/0008, CIZ 2004/0016,
SM1 2004/0023

Thank you for the opportunity to comment on the Papaanui Subdivision project. The following comments are offered:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for this project. The Clean Water Branch should be contacted at 808 586-4309.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work.
3. Due to the nature and location of the project, there is a significant potential for fugitive dust emissions during site work preparations. It is recommended that a dust control management plan be developed. Implementation of adequate dust control measures during all phases of the project is warranted. Construction activities must comply with the provisions of HAR, Chapter 11-60.



Mr. Michael W. Foley
December 28, 2004
Page 2

4. The property may be harboring rodents that will be dispersed to the surrounding areas when any buildings are demolished or the site is cleared. The applicant is required by HAR, Chapter 11-26, "Vector Control" to eradicate any rodents prior to demolition or site clearing activities and to notify the Department of Health by submitting Form VC-12 to the Maui Vector Control program when such action is taken. Rodent traps and/or rodenticides should be set out on the project site for at least a week or until the rodent activity ceases. The Maui Vector Control program phone number is 873-3560.
5. There are individual wastewater disposal systems (IWS) serving the existing dwellings on Lots 2 and 3. There are spacing requirements in HAR, Chapter 11-62 that apply to the IWSs. The locations of these systems are not clearly defined in the application. The approval of the subdivision is dependent upon compliance to the requirements of HAR, Chapter 11-62.

Should you have any questions, please call me at 984-8230.

Sincerely,



Herbert S. Matsubayashi
District Environmental Health Program Chief

c: Chris Hart & Partners, Inc.



March 11, 2005

Mr. Herbert S. Matsubayashi
District Environmental Health Program Chief
State of Hawaii
Maui District Health Office
54 High Street
Waikuku, Hawaii 96793

Dear Mr. Matsubayashi:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 28, 2004, regarding the above-
referenced project. We are pleased to address your comments as follows:


1. National Pollutant Discharge Elimination System (NPDES) Permit. The applicant is aware that a NPDES permit is required for this project. The Clean Water Branch will be contacted regarding the NPDES coverage.
2. Noise. Activities associated with the construction phase of the project, will comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control." Construction activities will take place during normal daylight working hours and it is not anticipated that a noise permit will be required.
3. Dust. The Applicant understands that a dust control management plan will be required prior to site work. Section III.A.5 of the report documents some of the dust control measures that will be implemented as part of a dust control management plan. The Applicant also understands that construction activities must comply with the provisions of HAR, Chapter 11-60.
4. Vector Control. The applicant will comply with Hawaii Administrative Rules, Chapter 11-26, "Vector Control", related to rodent eradication.

Mr. Herbert S. Matsubayashi
March 11, 2005
Page 2

5. Individual Wastewater Systems (IWS). Please note that since no existing public sewer system is in close proximity of the project site, each lot will install an individual wastewater system for sewerage disposal. The applicant understands that the proposed wastewater disposal system must comply with the requirements of HAR, Chapter 11-62.

Thank you for your consideration of the application. Should you have any questions, please contact myself, or Mr. Michael Summers, at 242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Jan-12-05 12:30pm From-DEPT OF PLANNING COUNTY OF MAUI

808-242818

T-744 P.03/06 F-025

PHONE (808) 594-1888

FAX (808) 594-1865



'05 JAN -5 P12:41

STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS DEPT OF PLANNING
711 KAPI'OLANI BOULEVARD, SUITE 500 COUNTY OF MAUI
HONOLULU, HAWAII 96813 RECEIVED

HRD04/1526B

December 28, 2004

Mr. Michael W. Foley, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Re: Special Management Area (SMA) Permit/Change in Zoning Application, Community Plan Amendment Application and District Boundary Reclassification, Papaanui, Makena, Maui, TMK: (2) 2-1-007:009 and 060 (portion of Makena Keoneio Road) and TMK: (2) 2-1-008: por. of 100 (portion of Old Ulupalakua Roadway).

Dear Mr. Foley:

The Office of Hawaiian Affairs (OHA) is in receipt of a Draft Environmental Assessment (DEA) from Chris Hart & Partners, Inc., regarding a proposal by Papaanui, LLC, to develop a 3.93 acre parcel into seven (7) single-family residential lots with associated infrastructure and site improvements including paved roadways, drainage improvements, underground utilities, water distribution and fire protection systems.

The once family owned parcel has some existing residential structures currently on it and the proposal is to provide for a denser development. An archaeological inventory survey was conducted on the parcel with limited results. A representative of the Hawaiian family, Ms. Ester Nae'ole, who once owned the property, was interviewed as part of the cultural assessment. OHA staff found this section and the archaeological survey report particularly useful in their review.

Overall, the application materials submitted and reviewed appear comprehensive and do not raise any serious concerns regarding potential impacts to native Hawaiian rights and resources in the area. Given the proximity of the proposed subdivision to the shoreline, and the likelihood of a substantially increased ground disturbance to the parcel, OHA would highly recommend that archaeological monitoring occur, at a minimum, during subsequent development of the individual residential parcels.

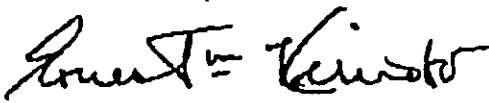
Michael W. Foley
December 28, 2004
Page 2

Ideally, additional subsurface testing should occur on individual residential lots in accordance with planned ground disturbance for those individual residences and their construction since buried cultural deposits, such as human burials, can predate the occupation of the parcel by the Nae'ole 'ohana.

OHA would request to be kept informed of future applications and approvals of this particular project.

... If you have any questions or concerns, please contact Kai Markell, Policy Advocate, at 594-1945 or kaim@oha.org. Once again, thank you for your patience during our review and assessment of this important matter.

'O wau iho nō,


for Clyde W. Nāmu'o
Administrator



March 11, 2005

Mr. Clyde W. Nāmu'o
Administrator
State of Hawaii
Office of Hawaiian Affairs
Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Dear Mr. Clyde W. Nāmu'o:


RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 28, 2004, regarding the above
referenced project, which states that the application materials submitted and reviewed
appear comprehensive and do not raise any serious concerns regarding potential impacts
to native Hawaiian rights and resources in the area.

Please also note that archaeological monitoring is not warranted during the
construction phase due to the absence of sand in the project area and because
documentation of all project area features occurred during the inventory survey (See:
Appendix C, "Archaeological Inventory Survey"). However, should Native Hawaiian
cultural or traditional deposits be found during ground excavation, work will cease, and
the appropriate agencies will be contacted pursuant to applicable law.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

ALAN M. ARAKAWA
Mayor

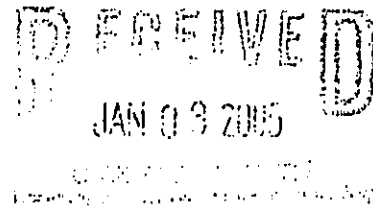
MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

December 29, 2004



Mr. Rory Frampton
Chris Hart & Partners
1955 Main Street
Wailuku, Hawaii 96793

Dear Mr. Frampton:

RE: Draft Environmental Assessment Prepared for the Proposed
Papaanui Rural Subdivision located at TMK: 2-1-007: 009, Makena-
Keoneoio Road, Island of Maui, Hawaii (EA 2004/0011)
(DBA 2004/0008) (CPA 2004/0008) (CIZ 2004/0016)
(SM1 2004/0023)

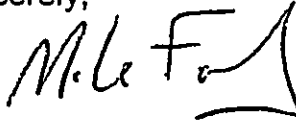
At its regular meeting on December 14, 2004, the Maui Planning Commission (Commission) reviewed the above-referenced document and provides the following comments:

1. Include discussions with Department of Public Works and Environmental Management (DPWEM) regarding connections to the County sewer system.
2. Clarify whether the CC&R's will have restrictions regarding building height, view corridors, and further subdivisions.
3. Identify the location of the proposed retention basin on the Site Plan.
4. Discuss the alternative of consolidating and reducing the number of accessways onto Makena-Keoneoio Road.
5. Discuss the provision of improving Makena-Keoneoio Road in the area fronting the property to allow on-street parking for users of Makena Landing. The Department recommends consulting with Department of Parks and Recreation regarding the parking at Makena Landing.

Mr. Rory Frampton
December 29, 2004
Page 2

Thank you for your cooperation. Should you require additional clarification, please contact Ms. Kivette Caigoy, Environmental Planner, of this office at 270-7735.

Sincerely,



MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar

c: Wayne Boteilho, Deputy Planning Director
Clayton Yoshida, Planning Program Administrator
Kivette A. Caigoy, Environmental Planner
EA Project File
General File
K:\WP_DOCS\PLANNING\EA\2004\11_PapaanuiSubd\MPC_DEAComments.wpd



March 11, 2005

Mr. Michael W. Foley
Planning Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 29, 2004, regarding the above-
referenced project. In response to your letter, we offer the following comments:

1. Wastewater. Please note that a meeting was held with Mr. Scott Rollins, Department of Public Works and Environmental Management, Wastewater Division, on December 14, 2004, regarding the proposed use of Individual Wastewater Systems (IWS) for each lot. Mr. Rollins concurred that for the following reasons IWS are appropriate for the project:
 - The proposed lots are not proximate to an existing County collection line or pump station; and
 - In order to connect to the nearest collection line, a pump station would be required for lots 4 through 7. It is not reasonable to install and dedicate a pump station for only four (4) lots.

A meeting was also held with Mr. Herbert Matsubayashi, District Environmental Health Program Chief, on January 6, 2005, to elicit any concerns his agency might have regarding the use of IWS. Mr. Matsubayashi indicated that DOH would not require the subdivision to hook-up to the County system. This was subsequently confirmed in a letter to the applicant dated February 15, 2005 (See: Attached letters dated January 13, 2005, and February 15, 2005).

Mr. Michael Foley
March 11, 2005
Page 2

2. CC&R's. Each individual lot will be sold with CC&R's that will include restrictions addressing view corridors, building heights, and re-subdivision of lots. The Applicant is currently preparing draft CC&R's that will be available at the time the Preliminary Compliance Report is filed with the County. It is anticipated that the following restrictions will be incorporated into the CC&R's:
 - Lot Nos. 4 and 5 will have house height restrictions to preserve ocean views for Lot Nos. 1, 2, and 3;
 - Lot Nos. 5, 6 and 7 will have height restrictions limiting the future height of residences to 75-feet amsl in order to allow for view planes to the ocean from mauka properties owned by Makena Aina Corporation;
 - Landscape planting around Lot Nos. 4, 5, 6, and 7 will not be allowed to exceed the roof heights; and
 - No further subdivision of lots will be allowed.
3. Retention Basin. Attached please find a revised site plan that shows the proposed detention basin. The detention basin will capture the runoff from lots 4 to 7 while the runoff from lots 1 to 3 will be conveyed to an underground perforated pipe. The Drainage and Erosion Control Report has been revised accordingly and will be included in the Final EA.
4. Driveways. The applicant is proposing a shared driveway for lot nos. 6 and 7 and individual driveways for lots 1 through 5. A shared driveway was considered for lot nos. 4 and 5, but is not proposed because the benefits associated with a shared driveway are minimal given the size, density, and traffic associated with the proposed lots.
5. On-street Parking for Makena Landing. In its letter dated February 10, 2005, the Department of Public Works and Environmental Management stated that on-street parking should not occur along Makena-Keoneoio Road and Old Ulupalakua Road fronting the project site.

In addition, during pre-consultation meetings the Makena Home Owners Association indicated that additional parking at Makena Landing or along Makena Keoneoio Road is not desirable.

The applicant is currently consulting with the Department of Parks and Recreation regarding improvements to Makena Landing. These improvements include trimming, irrigation, and planting of native plant species that will be undertaken in cooperation with Makena Aina

Mr. Michael Foley
March 11, 2005
Page 3

Corporation. The issue of on-street parking along Makena Keoneoio Road will also be discussed.

Should you have any questions, please contact myself, or Mr. Michael Summers, at 242-1955.

Sincerely,



Rory Frampton
Senior Planner

Attachments

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

January 6, 2004⁵

Mr. Bill Frampton
Papa'anui, LLC
c/o Frampton & Ward, LLC
2073 Wells Street, Suite 101
Wailuku, Hawai'i 96793

Ms. Kivette Caigoy
Maui Planning Department, for the
Maui Planning Commission
250 South High Street
Wailuku, Hawai'i 96793

Mr. Rory Frampton
Chris Hart & Partners, Inc.
1955 Main Street
Wailuku, Hawai'i 96793

Dear Messrs. Frampton and Frampton and Ms. Caigoy:

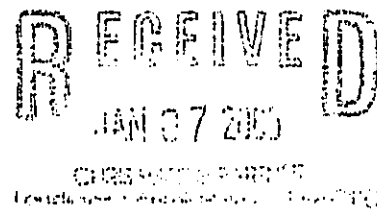
The Office of Environmental Quality Control has reviewed the draft environmental assessment for the Papa'anui 7-Lot Subdivision project, Tax Map Key (2nd) 2-1-007:009 and 060 at Makena, in the judicial district of Makawao, and offers the following comments for your consideration and response.

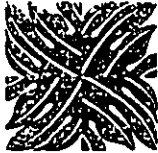
1. Archaeological/Historical Resources. Please include in Section III.7 a brief discussion on the historical nature of Makena Landing. The section speaks only of four archaeological sites.
2. Native Plant Landscaping and Sustainable Building Guidelines. Please visit our internet website at <http://www.state.hi.us/health/oeqc/index.html> and consider using the guidelines of native plants and sustainable building found therein.

Thank you for the opportunity to comment. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at (808) 586-4185.

Sincerely,

A handwritten signature in cursive script that reads "Genevieve Salmonson".
GENEVIEVE SALMONSON
Director





March 11, 2005

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

Dear Mr. Salmonson:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated January 6, 2005, regarding the above-referenced
project. In response to your letter, we offer the following comments:

1. Please note that Makena Landing is located on a State owned parcel (TMK
No. 2-1-007:010) makai of Makena Keoneoio Road approximately 100-
feet southwest of the property. A discussion on the historical nature of
Makena Landing is provided in Appendix C on page 9 of the
Archaeological Inventory Survey. A summary of this information will be
include in Section III.7.
2. The Applicant will consider incorporating applicable Native Plant
Landscaping and Sustainable Building Guidelines identified on your
website into the project design.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Senior Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File



March 11, 2005

Mr. Valeriano F. Martin
Captain, Fire Prevention Bureau
County of Maui, Department of Fire and Public Safety
200 Dairy Road
Kahului, Maui, Hawaii 96732

Dear Mr. Martin:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated January 21, 2005, regarding the above-referenced
project. In response to your letter, we offer the following comments:

1. The Applicant will provide water for fire protection at a minimum of
1,000 gallons a minute for a 2-hour duration as stated on page 23 of the
application. It is understood that the exact locations of the fire hydrants
will be approved at a later time and that they will be spaced no further
than 350 feet apart.
2. The Applicant understands that a minimum road width of 20 feet will
likely be required within the subdivision and that a turn-around for
emergency vehicles may also be required.

Should you have any questions, please contact myself, or Mr. Michael Summers,
at 242-1955.

Sincerely,


Rory Frampton
Senior Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Feb-15-05 04:12pm From-DEPT OF PLANNING COUNTY OF MAUI

808-242818

T-987 P.02/04 F-546

ALAN M. ARAKAWA
Mayor

MILTON M. ARAKAWA, A.I.C.P.
Director

MICHAEL M. MIYAMOTO
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT
200 SOUTH HIGH STREET, ROOM 322
WAILUKU, MAUI, HAWAII 96793

February 10, 2005

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

GARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
FEB 11 AM 9:37

MEMO TO: MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM: *for* MILTON M. ARAKAWA, A.I.C.P., DIRECTOR OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT

SUBJECT: APPLICATIONS FOR SPECIAL MANAGEMENT AREA USE PERMIT,
CHANGE IN ZONING, COMMUNITY PLAN AMENDMENT, DISTRICT
BOUNDARY RECLASSIFICATION AND ENVIRONMENTAL
ASSESSMENT
PAPAANUI - RESIDENTIAL SUBDIVISION IN MAKENA
TMK: (2) 2-1-007:009
SM1 20040023, CPA 20040008, EA 20040011, CIZ 20040016,
DBA 20040008

We reviewed the subject application and have the following comments:

1. We concur that there should not be any on-street parking along the affected portions of Makena-Keoneoio Road and Old Ulupalakua Road. No Parking signs shall be installed during the construction of the subdivision improvements designating such.
2. We do not concur that there should not be any street lights. As a minimum, a street light should be provided to illuminate the intersection of Makena-Keoneoio Road and Old Ulupalakua Road.
3. Include a plan for handling of construction waste.
4. The architect and owner are advised that the project is subject to possible tsunami and flood inundation. As such, said project must conform to Ordinance No. 1145, pertaining to flood hazard districts.

Memo to Michael W. Foley, Planning Director
February 10, 2005
Page 2

5. The road-widening lot provided for the Makena-Keoneio Road shall be improved to County standards. Said lot shall be dedicated to the County upon completion of the improvements.
6. All structures such as walls, trees, etc., shall be removed or relocated from the road-widening strip. The rear boundaries of the road-widening strip shall be clearly marked to determine if said structures have been properly removed and relocated.
7. A verification shall be provided by a Registered Civil Engineer that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties.
8. A detailed and final drainage report and a Best Management Practices Plan (BMP) shall be submitted with the grading plans for review and approval prior to issuance of grading permits. The drainage report shall include hydrologic and hydraulic calculations and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The BMP plan shall show the location and details of structural and non-structural measures to control erosion and sedimentation to the maximum extent practicable.
9. All existing features such as structures, driveways, drainage ways, edge of the pavement, etc. shall be shown on the project plat plan.
10. A site plan and a sight distance report to determine required sight distance and available sight distance at existing and proposed street intersections shall be provided for our review and approval.
11. Address ownership of "Old Ulupalakua Road" and future intentions of dedication.
12. Comply with the requirements of Title 18 (Subdivision Ordinance) of the Maui County Code.
13. All grading/grubbing work for the subject project shall comply with Chapter 20.08 (Soil Erosion and Sedimentation Control) of the Maui County Code. Best Management Practices shall be

Feb-15-05 04:13pm From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-987 P.04/04 F-546

Memo to Michael W. Foley, Planning Director
February 10, 2005
Page 3

implemented to the maximum extent practicable to prevent
pollutants including dust and sediment from discharging off the
project site.

If you have any questions regarding this memorandum, please call Michael
Miyamoto at 270-7845.

MMA:MMM:da
S:\LUCA\CM\21007009_Papaanui_Subd_sm1_cpa_ea_ciz_dba_da.wpd

Mr. Milton Arakawa
March 11, 2005
Page 2

5. Roadway Improvements along Makena Keoneoio Road. The applicant proposes to provide 30-feet of Right-of-Way and 20-feet of pavement width along Makena-Keoneoio Road fronting the project site. The proposed roadway geometric is consistent with the existing roadway condition on either side of the project and is also in accordance with the provisions of the Kihei-Makena Community Plan, which states that the traditional rural scale and character of existing portions of old Makena Road should be protected and preserved in a manner similar to that existing at Keawalai Church. The proposed ROW is also due to topographical constraints, i.e. rock out crops on the mauka side of the road and a steep drop-off on the makai side of the road.

It is our understanding that pursuant to MCC Sections 18.16.050 "Minimum right-of-way and pavement widths", 18.16.060 "Widening of existing rights-of-way, and 18.16.040 "Streets generally" the Director of the Department of Public Works and Environmental Management has flexibility to determine the appropriate ROW and pavement widths. We are hopeful that in consideration of the unique topographical conditions fronting the project site and the community's desire to maintain the traditional roadway scale and character of Makena-Keoneoio Road, that the proposed ROW will be acceptable.

The project will go through extensive public review and comment periods during the development permitting and entitlement process. We look forward to working with your Department during the course of this process to determine the appropriate standards.


6. Removal of Structures within Road-widening Strip. All structures will be removed or relocated from the road-widening strip and the rear boundaries of the strip will be clearly marked to determine that such structures have been properly removed and relocated.
7. Grading and runoff. A Preliminary Drainage Report was prepared by Otomo Engineering, Inc., a Licensed Professional Engineer in the State of Hawaii, which identifies the additional runoff to be generated by the project and necessary mitigation measures so that there will be no adverse impact on adjacent and downstream properties. The plan is in conformance with Chapter 4, Rules for the Design of Storm Drainage Facilities.
8. Final Drainage Report and Best Management Practices (BMP) Plan. A final drainage report and BMP plan will be submitted with the grading plans for review and approval prior to issuance of grading permits.
9. Existing Features. All existing features such as structures, driveways, drainage ways, edge of pavement, etc. will be shown on the project plat plan.

Mr. Milton Arakawa
March 11, 2005
Page 2

10. Sight Distance Analysis. A sight distance analysis to determine required sight distance and available sight distance will be provided to your department for review and approval.
11. Ownership of Ulupalakua Road. Ulupalakua Road is privately owned by Papanui, LLC, and will remain privately owned after the proposed development.
12. Compliance with Title 18 (Subdivision Ordinance). The applicant is aware that compliance with Title 18 of the Maui County Code is required.
13. Best Management Practices. The applicant is aware that all grading/grubbing work for the project must comply with Chapter 20.08 (Soil Erosion and Sedimentation Control) of the Maui County Code. Best Management Practices will be implemented to the maximum extent practicable to prevent pollutants including dust and sediment from discharging off the project site. Many of these mitigation measures are discussed in Sections III.A.5 and III.D.2 of the Draft EA.

Thank you for your consideration of the application. Should you have any questions, please contact myself, or Mr. Michael Summers, at 242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

ALAN M. ARAKAWA
Mayor
ALICE L. LEE
Director
HERMAN T. ANDAYA
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

November 18, 2004

DEPT. OF PLANNING
COUNTY OF MAUI
RECEIVED
04 NOV 22 09:47

TO: KIVETTE A. CAIGOY, Staff Planner
Department of Planning

FROM: ALICE L. LEE, Director
Department of Housing and Human Concerns

SUBJECT: I.D.: EA 2004/0011; DBA 2004/0008; CPA 2004/0008;
CIZ 2004/0016; SMI 2004/0023
TMK: (2)2-1-007:009
Project Name: Papaanui Single Family Subdivision and
Related Improvements

Applicant: Papaanui, LLC c/o Christ Hart & Partners

We have reviewed the subject applications and have determined that the proposed project is not subject to the County Administration's affordable housing guidelines as only seven (7) lots are proposed for development.

Thank you for the opportunity to comment. We are returning the applications for your use.

ETO:bp

Attachment

c: Housing Administrator

Post-It® Fax Note	7671	Date	11/23	# of pages	2
To	ROBY FRAMPTON	From	K. CAIGOY		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			



April 13, 2005

Ms. Alice L. Lee
Director
Department of Housing and Human Concerns
200 South High Street,
Wailuku, HI 96793

Dear Ms. Lee:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated November 18, 2004, regarding the above-
referenced project, which states that the subject project is not subject to the County's
affordable housing guidelines since only seven (7) lots are proposed for development.

Thank you for your consideration of this application. Should you have any
questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at
242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

LINDA LINGLE
GOVERNOR



RUSS K. SAITO
Comptroller

KATHERINE H. THOMASON
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
SURVEY DIVISION
P.O. BOX 119
HONOLULU, HAWAII 96810-0119

November 19, 2003

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

04 NOV 22 P 1:02

MEMORANDUM

TO: Michael W. Foley, Planning Director
Maui County Planning Department

ATTN: Kivette A. Caigoy, Environmental Planner

FROM: Melvin M. Masuda, Acting State Land Surveyor *mm*
DAGS, Survey Division

SUBJECT: I.D.: SM1 2004/0023
TMK: 2-1-007:009
Project Name: Papaanui Single Family Subdivision and Related
Improvements
Applicant: Papaanui, LLC c/o Chris Hart & Partners

The subject proposal has been reviewed and confirmed that no Government Survey Triangulation Stations or Benchmarks are affected. Survey has no objections to the proposed project.



April 13, 2005

Mr. Melvin M. Masuda
Acting State Land Surveyor
State of Hawaii
Department of Accounting and General Services
Survey Division
P.O. Box 119
Honolulu, Hawaii 96810-0119

Dear Mr. Masuda:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated November 19, 2004, which states that no
Government Survey Triangulation Stations or Benchmarks will be affected by the
project.

Thank you for your consideration of this application. Should you have any
questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at
242-1955.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Rory Frampton".

Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

LINDA LINGLE
GOVERNOR



ANTHONY J.H. CHING
EXECUTIVE OFFICER

'04 DEC 10 P1:14

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

December 7, 2004

Mr. Michael W. Foley, Planning Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Foley:


Subject: EA 2004/0011; DBA 2004/0008; CPA 2004/0008; CIZ 2004/0016; SM1 2004/0023
TMK: (2) 2-1-007: 009
Project Name: Papaanui Single Family Subdivision and Related Improvements
Applicant: Papaanui, LLC c/o Chris Hart & Partners

We acknowledge receipt of your transmittal dated November 16, 2004, regarding the above subject application.

Given the location, scope, and nature of the proposed activity, the State Land Use Commission defers to the judgment of the County of Maui in this matter. We have no comments to offer at this time.

Thank you for the opportunity to comment on the subject project. Please feel free to contact me at 587-3822, should you require clarification or any further assistance.

Sincerely,


ANTHONY J. H. CHING
Executive Officer

Post-It® Fax Note	7671	Date	12/15	# of pages	8
To	R. FRAMPTON	From	R. CALGUY		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			



April 13, 2005

Mr. Anthony J.H. Ching
Executive Officer
State of Hawaii
Department of Economic Development & Tourism
Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804-2359

Dear Mr. Ching:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 7, 2004, which states that you have no
comments to offer at this time.

Thank you for your consideration of this application. Should you have any
questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at
242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

04/10/07

United States Department of Agriculture



NRCS Natural Resources Conservation Service

Our People...Our Islands...In Harmony

210 Imi Kala Street, Suite #209, Wailuku, HI 96793-2100

December 8, 2004

Ms. Kivette A. Caigoy, Staff Planner
Department of Planning
County of Maui, Hawaii
250 South High Street
Wailuku, Hawaii 96793

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
04 DEC 13 P1:25

Regarding: Report for Papaanui Single Family Subdivision and Related Improvements in Makena, Maui, HI

Dear Ms. Caigoy,

I have reviewed the drainage report for the Papaanui Single Family Subdivision in Makena. The report does mention that each individual lot will be responsible for the increase in runoff after construction. However, due to the steep slopes of the site, soil erosion may be substantial during construction. Therefore, the potential contractors should take extreme caution by using silt fences and other erosion prevention methods.

Sincerely,

Diana L. Perry
Civil Engineer



April 13, 2005

Ms. Diana L. Perry
Natural Resources Conservation Service
210 Imi Kala Street, Suite 209
Wailuku, HI 96793-2100

Dear Ms. Perry:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated December 8, 2004, regarding the above-
referenced project.

Please note that Best Management Practices (BMP's) will be utilized during the
construction phase to prevent soil erosion and runoff during the construction phase.
Some of these measures will include:

- Installation of temporary silt screens fronting the makai side of the project site and within drainage swales along the project limits.
- Installation of temporary silt screens within or around the on-site detention basins.
- Rapid covering and stabilization of topsoil stockpiles.
- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase.
- Proper disposal of sediment and debris from construction activities.

Thank you for your consideration of this application. Should you have any
questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at
242-1955.

Ms. Diana L. Perry
April 13, 2005
Page 2

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Rory Frampton".

Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File



April 7, 2005

Ms. Melanie A. Chinen
Administrator, State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Dear Ms. Chinen:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

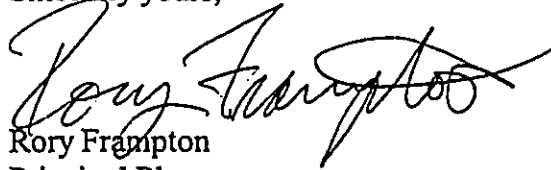
Thank you for your letter dated March 29, 2005, regarding the above-referenced project.

Please note that we received a letter dated March 30, 2005, addressed to Mr. Michael Dega, Ph.D., regarding the above-referenced project. Based upon the March 30 letter, we understand that the archaeological inventory survey adequately documented the project area and the four significant sites contained therein. Due to the cultural sensitivity of the Makena area, we understand that archaeological monitoring will be required. As such, an archaeological monitoring plan will be prepared and submitted to your office prior to the initiation of ground altering activities.

Thank you for your consideration of our application. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Ms. Melanie A. Chinen, Administrator
April 7, 2005
Page 2

Sincerely yours,



Rory Frampton
Principal Planner

Attachment

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

Apr-05-05 04:48pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-327 P.02/05 F-208

LINDA LINGLE
GOVERNOR OF HAWAII



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



05 APR -4 P1 54

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

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

March 30, 2005

Mike Dega, Ph.D.
Scientific Consultant Services, Inc.
711 Kapiolani Boulevard, Suite 975
Honolulu, Hawaii 96813

LOG NO: 2005.0578
DOC NO: 0503MK13

Dear Dr. Dega:

**SUBJECT: Historic Preservation Review - 6E-42 - Archaeological Inventory Survey of a 4.76 Acre Parcel of Land in Makena for Papa'anui LLC, c/o Frampton and Ward, LLC
Papa'anui Ahupua'a, Makawao District, Maui
TMK (2) 2-1-07:09; 2-1-08: por 100; 2-1-07:60**

Thank you for the opportunity to review this report which our staff first received on September 22, 2004 (Tome and Dega 2004, *Archaeological Inventory Survey Report for 4.76 Acres of land in Makena, Papa'anui Ahupua'a, Honua'ula District, Island of Maui, Hawaii* [TMK 2-1-07:09; 2-1-08: por. 100; 2-1-7: por.9; 2-1-7:60]... Scientific Consultant Services Inc., ms). Subsequent to the initial submittal, Mr. Bill Frampton of Frampton and Ward requested that we await a revised draft incorporating additional TMK into the report. These parcels were reflected in the initial submittal, but were not referenced by the appropriate TMK.

The background section acceptably establishes the ahupua'a settlement pattern and predicts the likely site pattern in the project area. The historical information provided summarizes the history of the post-contact period land uses. The summary of previous archaeological work in the area provides a baseline for the current work.

The survey has adequately covered the project area documenting four historic properties. The field work was conducted in two phases; the first phase examined the parcel in its entirety while the second phase conducted additional investigation of one feature. SIHP 50-50-14-5542 consists of a rock shelter and stacked rock alignment (a remnant terrace). Subsurface excavation at the site yielded both modern and sparse traditional artifacts (Feature B; basalt and volcanic glass debitage, worked bone and one bone fishhook). SIHP -5543 consisted of an overhang and a C-shape (Feature C) and a lithic scatter (Feature D). Traditional artifacts were recovered from excavations at Feature C and included both basalt and volcanic glass debitage, a coral abrader, bone fishhook, basalt cores and a hammer stone. A human tooth was also collected from a bulk sample from this feature. Upon further excavation/exploration, this was determined to be an isolated tooth. One radiocarbon assay obtained from Feature C yielded multiple ranges of 1000-1230 AD and 1030-1160 AD. SIHP -5544 consists of a cobble

Mike Dega, Ph.D.
Page 2

pavement. No cultural materials were obtained from this site, and the site has been interpreted as a temporary feature related to habitation, although function could not be precisely determined due to the absence of cultural material. SHP -5545 is a boundary that surrounds the parcel on the northern flank, defining a topographical change. It is interpreted as a ranching wall, given the fact that it coincides with the current parcel boundary on two sides.

We concur that all four sites are significant under Criterion "D" for their ability to provide information important to understanding the prehistory and history of the region. We also concur that the presence of the single human tooth at SHP 50-50-14-5543 suggests that this site is also significant under Criterion "E", for traditional cultural value.

We agree that all four sites have been adequately documented. However, given the cultural sensitivity of the Makena area, and the time depth during which we have documented occupation in the region, we agree that precautionary monitoring is warranted during ground disturbance on the parcel.

We find this report to be acceptable. We will await an archaeological monitoring plan prior to any proposed ground altering activities. As always, if you disagree with our comments or have questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Alpha,


MELANIE A. CHINEN, Administrator
State Historic Preservation Division

MK:jen

c: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Commission, Dept. of Ping, 250 S. High St, Wailuku, HI 96793

Apr-05-05 04:48pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242818

T-327 P.04/05 F-298

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

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

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

March 29, 2005

Mr. Michael Foley, Planning Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
15 MAR 31 P 10:00 AM
LOG NO: 2005.0510
DOC NO: 0303CD24

Dear Mr. Foley,

**SUBJECT: Chapter 6E-42 Historic Preservation Review – Environmental Assessment and Applications for Special Management Area Permit; Change in Zoning, Community Plan Amendment, & District Boundary Reclassification for the Proposed Papa’anui Single Family Subdivision and Related Improvements (Subject I.D.: EA 2004/0011; DBA 2004/0008; CPA 2004/0008; CIZ 2004/0016; SM1 2004/0023)
Papa’anui Ahupua`a, Makawao District, Island of Maui
TMK: (2) 2-1-007:009**

Thank you for the opportunity to review and comment on the Environmental Assessment and Applications for Special Management Area Permit; Change in Zoning, Community Plan Amendment, & District Boundary Reclassification for the Proposed Papa’anui Single Family Subdivision and Related Improvements, which was received by our staff November 18, 2005.

Based on the submitted documents, we understand the proposed undertaking consists of the subdivision of an approximately 3.93 acre property into seven single-family residential lots located in Makena. The lots will be sold unimproved and will be graded, grubbed, and improved by the individual lot owners. Four of the lots will have access directly onto Makena-Keoneoio Road and the remaining three lots will have access onto Old Ulupalakua Road and then onto Makena-Keoneoio Road. Additional infrastructure and site improvements include paved roadways; underground utilities; drainage improvements; and water distribution and fire protection system improvements. The portion of Old Ulupalakua Road and Makena-Keoneoio Road fronting the project site will be improved with a 20-foot wide Roadway and an 8-foot wide grassed swale. Three 3-foot high boulders will be placed abutting the mauka side of the right-of-way along a portion of Makena-Keoneoio Road within the applicant's property. The proposed alternatives include no action; the development of a 4-unit condominium; increasing the number of lots resulting in smaller lots; and or decreasing the number of lots resulting in larger individual lots.


Mr. Michael Foley, Planning Director
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In 2004 Scientific Consultant Services Inc., conducted an archaeological inventory survey of the proposed project area. We have received this report documenting the findings of the survey (Tome and Dega 2004) and it is currently under review. We have also received a copy of the cultural impact assessment (McGerty and Spear 2004), which will be reviewed by this office under separate cover.

Given the above information, we are unable to provide comments at this time. We will be better able to provide comments following the completion of our review of the archaeological inventory survey report.

If you have any questions, please call Cathleen A. Dagher at 692-8023.

Aloha,


Melanie Chinen, Administrator
State Historic Preservation Division

CD:jen



April 7, 2005

Ms. Melanie A. Chinen
Administrator, State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Dear Ms. Chinen:

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated March 30, 2005, regarding the above-referenced project.

Based upon your letter, we understand that the archaeological inventory survey adequately documented the project area and the four significant sites contained therein. Due to the cultural sensitivity of the Makena area, we understand that archaeological monitoring will be required. As such, an archaeological monitoring plan will be prepared and submitted to your office prior to the initiation of ground altering activities.

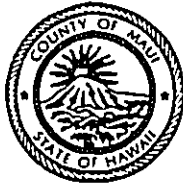
Thank you for your consideration of our application. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours,


Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

ALAN M. ARAKAWA
Mayor
MILTON M. ARAKAWA, A.I.C.P.
Director
MICHAEL M. MIYAMOTO
Deputy Director
Telephone: (808) 270-7845
Fax: (808) 270-7955



COUNTY OF MAUI
**DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT**
200 SOUTH HIGH STREET, ROOM 322
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration
TRACY TAKAMINE, P.E.
Wastewater Reclamation Division
CARY YAMASHITA, P.E.
Engineering Division
BRIAN HASHIRO, P.E.
Highways Division
Solid Waste Division

April 4, 2005

Mr. Rory Frampton
CHRIS HART & PARTNERS, INC.
1955 Main Street, Suite 200
Wailuku, Maui, Hawaii 96793


Dear Mr. Frampton:

SUBJECT: PROPOSED PAPAANUI SUBDIVISION
RESPONSE TO COMMENTS
TMK: (2)2-1-007:009

1. Frontage improvements should be consistent with County standards for urban designation.
2. We would not support the 30 foot right-of-way that the developer is proposing due to the fact previous subdivisions in that area were required to allow for a 48 foot right-of-way along the Makena-Keoneoio Road corridor.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,


MILTON M. ARAKAWA, A.I.C.P.
Director



April 13, 2005

Mr. Milton M. Arakawa, A.I.C.P.
Director
County of Maui
Department of Public Works
and Environmental Management
200 South High Street, Room 322
Wailuku, Maui, Hawaii 96793

RE: Draft Environmental Assessment and Special Management Area (SMA)
Permit for the Proposed Papaanui Residential Subdivision located along
Makena-Keoneoio Road, Makena, Maui, Hawaii on property identified as
TMK No. 2-1-007:009.

Thank you for your letter dated April 4, 2005, regarding the above-referenced project. We are pleased to address your comments as follows:

1. Frontage Improvements. As noted in our March 11, 2005, letter, the applicant is proposing to provide a Rural standard roadway, i.e. 30-feet of right-of-way and 20-feet of pavement width, along Makena-Keoneoio Road fronting the project site. There are two (2) primary reasons which support the applicant's proposal. First, the Kihei-Makena Community Plan states that the traditional rural scale and character of existing portions of old Makena Road should be protected and preserved in a manner similar to that existing at Keawalai Church. This recommendation is strongly supported by the Makena Homeowners Association. The proposed roadway geometric is consistent with this Kihei-Makena Community Plan recommendation while Urban standards are not. Second, there are severe topographical constraints, i.e. steep topography and rock outcrops on the mauka side and a steep drop-off on the makai side of the road, which make it extremely costly and impractical to comply with urban requirements. Specifically, in order to implement urban improvements within your suggested ROW of 48-feet a retaining wali with heights up to 16-feet would need to be constructed along the mauka edge of the ROW.
2. Right-of-Way Requirements. As noted above, there are both community-planning considerations and unique physical constraints that make it difficult to

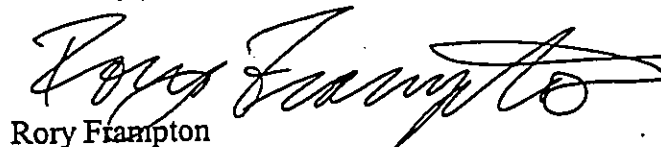
Mr. Milton M. Arakawa, A.I.C.P.
April 13, 2005
Page 2

comply with a 48-foot right-of-way requirement. We understand that the Director has the statutory authority to determine the appropriate ROW and pavement widths and in consideration of the issues discussed above we trust that the proposed standards are acceptable.

We understand your concern regarding precedent and your desire for the decision to reduce the dedication and improvement requirements to be made in a public forum. We would offer that the public review and decision making process which is required as part the Special Management Area Permit and Change in Zoning requests provide ample opportunity for public input and decision making on this issue.

Thank you for your consideration of this application. Should you have any questions, please contact myself, or Mr. Michael Summers, Chris Hart & Partners, at 242-1955.

Sincerely yours,



Rory Frampton
Principal Planner

cc. Mr. Bill Frampton, Frampton & Ward, LLC.
Project File

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